



# Township of North Stormont

## Agenda

### Special Meeting

Tuesday, March 4, 2025 @ 6:00 PM

Moose Creek Community Hall

Page

#### 1. CALL TO ORDER (OPENING REMARKS)

1.1. BE it resolved that this special meeting now open at \_\_\_\_ p.m.

#### 2. ADOPTION OF THE AGENDA AMENDMENT(S) ADDITION(S) OR DELETION(S)

2.1. BE it resolved that the agenda be approved as presented.

#### 3. DISCLOSURE OF PECUNIARY INTEREST AND NATURE THEREOF

#### 4. DELEGATIONS/PRESENTATIONS

4.1. Presentation Monica Shade of Shade Group Inc.

4 - 21

[Meeting to Consider - County Road 22 Project](#)

#### 5. RECEIVING OF MONTHLY STAFF REPORTS AND RECOMMENDATIONS

5.1. SDG County Road 22 widening and improvement project  
Morrow Brabec Branch of Cumming Municipal Drain

22 - 25

THAT the Council of the Township of North Stormont accepts and receives this Drainage Superintendent report to support and approve the Engineer's report to be passed provisionally by By-law prepared under Section 78(1) of the *Drainage Act* by Shade Group Inc. to enable alterations and provide amendments to the previously adopted Morrow Brabec Branch of Cumming Municipal drain.

[DRAIN01-2025Morrow Brabec Branch of Cumming Municipal Drain - Pdf](#)

5.2. SDG County Road 22 widening and improvement project  
County Road Branch of Cumming Municipal Drain (including Morrow Spur)

26 - 29

THAT the Council of the Township of North Stormont accepts and receives this Drainage Superintendent report to support and approve the Engineer's report to be passed provisionally by By-law prepared under Section 78(1) of the *Drainage Act* by Shade Group Inc. to enable alterations and provide amendments to the previously adopted County Road Branch of Cumming Municipal drain.

[DRAIN02-2025County Road Branch of Cumming Municipal Drain - Pdf](#)

5.3. SDG County Road 22 widening and improvement project

30 - 33

## **McRae Branch of McKenzie (including Brabant Branch) Municipal Drain**

THAT the Council of the Township of North Stormont accepts and receives this Drainage Superintendent report to support and approve the Engineer's report to be passed provisionally by By-law prepared under Section 78(1) of the *Drainage Act* by Shade Group Inc. to enable alterations and provide amendments to the previously adopted McRae Branch and Brabant Branch of McKenzie Municipal drain.

[DRAIN03-2025McRae Branch of McKenzie Municipal Drain - Pdf](#)

## **6. MUNICIPAL BY-LAWS**

- 6.1. **By-Law No. 15-2025 - Morrow Brabec Branch of Cumming Municipal Drain** 34 - 79
- BE it resolved that By-Law No. 15-2025, being a By-law to provide for updates to the Morrow Brabec Branch of Cumming Municipal Drain pursuant to *Section 78(1) of the Drainage Act, R.S.O. 1990, C.D.17*, be read a first and second time and provisionally adopted, signed and sealed this 4th day of March, 2025.
- [15-2025 - Morrow Brabec Br of Cumming Mun. Drain - 1st and 2nd Reading](#)  
[15-2025 Schedule A - Morrow Brabec Branch Realignment-Engineer's Final Report](#)
- 6.2. **By-Law No. 16-2025 - County Road Branch of Cumming Municipal Drain (including Morrow Spur)** 80 - 133
- BE it resolved that By-Law No. 16-2025, being a By-law to provide for updates to the County Road Branch of Cumming Municipal Drain (including Morrow Spur) pursuant to *Section 78(1) of the Drainage Act, R.S.O. 1990, C.D.17*, be read a first and second time and provisionally adopted, signed and sealed this 4th day of March, 2025.
- [16-2025 - County Rd Branch of Cumming Mun. Drain including Morrow Spur - 1st and 2nd Reading](#)  
[16-2025 Schedule A - County Road Branch Realignment + Morrow Spur \(Cumming\)-Engineer's Final Report](#)
- 6.3. **By-Law No. 17-2025 - McRae Branch of McKenzie Municipal Drain (including Brabant Branch)** 134 - 223
- BE it resolved that By-Law No. 17-2025, being a By-law to provide for updates to the McRae Branch of McKenzie Municipal Drain (including Brabant Branch) pursuant to *Section 78(1) of the Drainage Act, R.S.O. 1990, C.D.17*, be read a first and second time and provisionally adopted, signed and sealed this 4th day of March, 2025.
- [17-2025 - McRae Branch of McKenzie Mun. Drain including Brabant Branch - 1st and 2nd Reading](#)  
[17-2025 Schedule A - Brabant & McRae Realignment + McRae Enclosure-Engineer's Final Report](#)

## **7. CLOSED SESSION**



**8. RATIFICATION/CONFIRMING BY-LAW**

**8.1. By-Law No. 18-2025**

224

BE it resolved that By-Law No. 18-2025, being a By-law to adopt, confirm and ratify Council's actions at its special meeting of March 4, 2024, be read a first, second and third time, passed, signed and sealed in Open Council this 4th day of March, 2025.

[18-2025 - Ratify March 4 - Special](#)

**9. ADJOURNMENT**

9.1. BE it resolved that this special meeting adjourn at \_\_\_\_ p.m.

# County Road 22 Reconstruction Municipal Drain Realignment

## *Meeting to Consider*

McRae and Brabant Branch of the McKenzie Drain  
Morrow-Brabec Branch, County Road Branch, and Morrow Spur of the  
Cumming Drain

Major Improvement (Section 78(1)) Reports  
Presented by Monica Shade, P. Eng.



# Overview

- ❖ Purpose of Meeting
- ❖ Section 78 Initiation
- ❖ Drain History
- ❖ Engineer's Reports
- ❖ Consultation
- ❖ Next Steps

# Purpose of the Meeting to Consider

- ❖ Engineer to present reports;
- ❖ Council or initiating landowner may request changes or ask questions;
- ❖ Council may present provisional by-laws to adopt the reports.

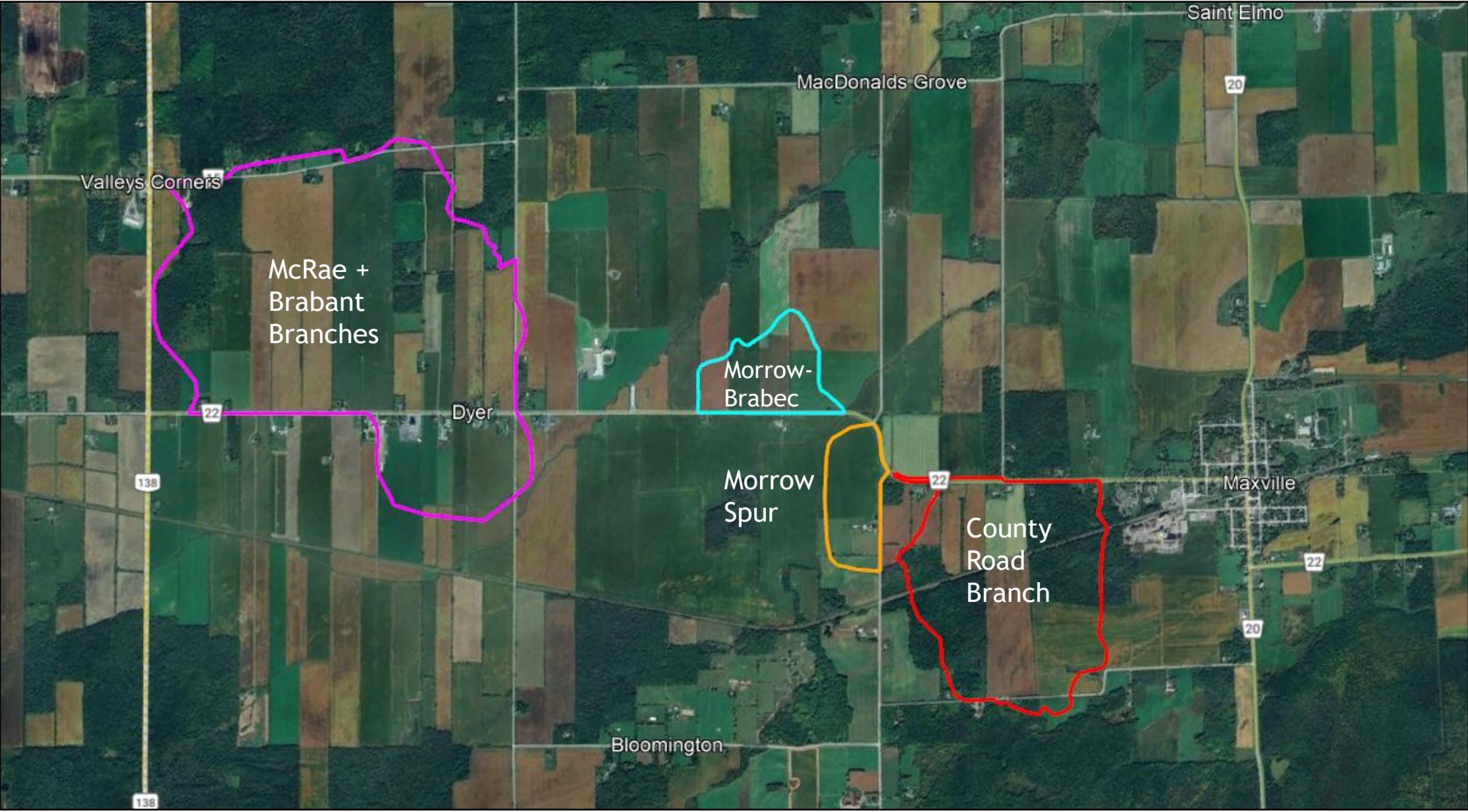
# Purpose of S.78 - Major Improvement



Relocation of municipal drains to accommodate the widening of County Road 22



Request for a partial enclosure of the McRae Branch - Lot 9, Concession 7





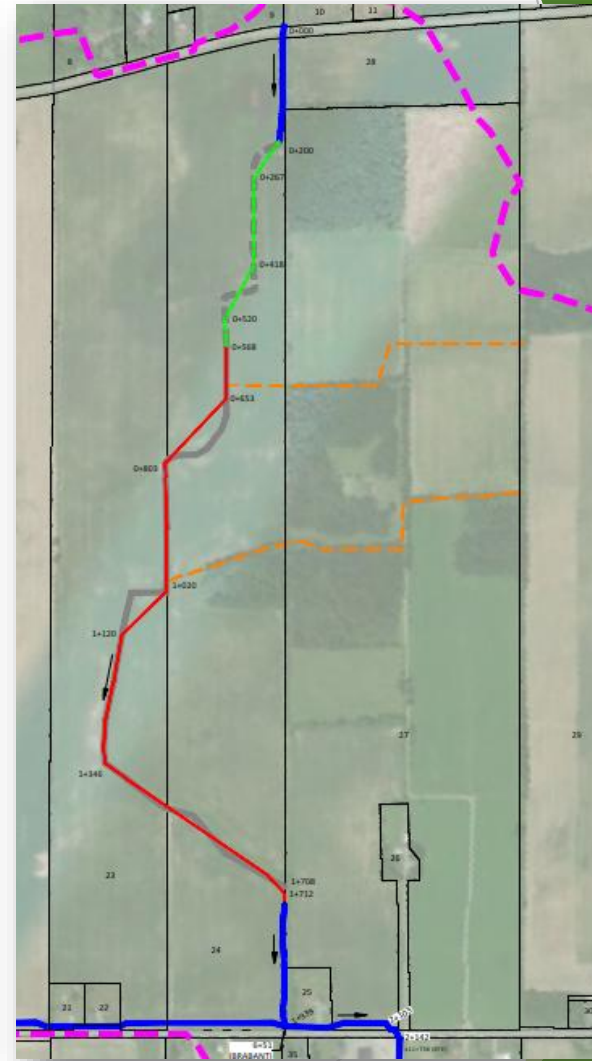
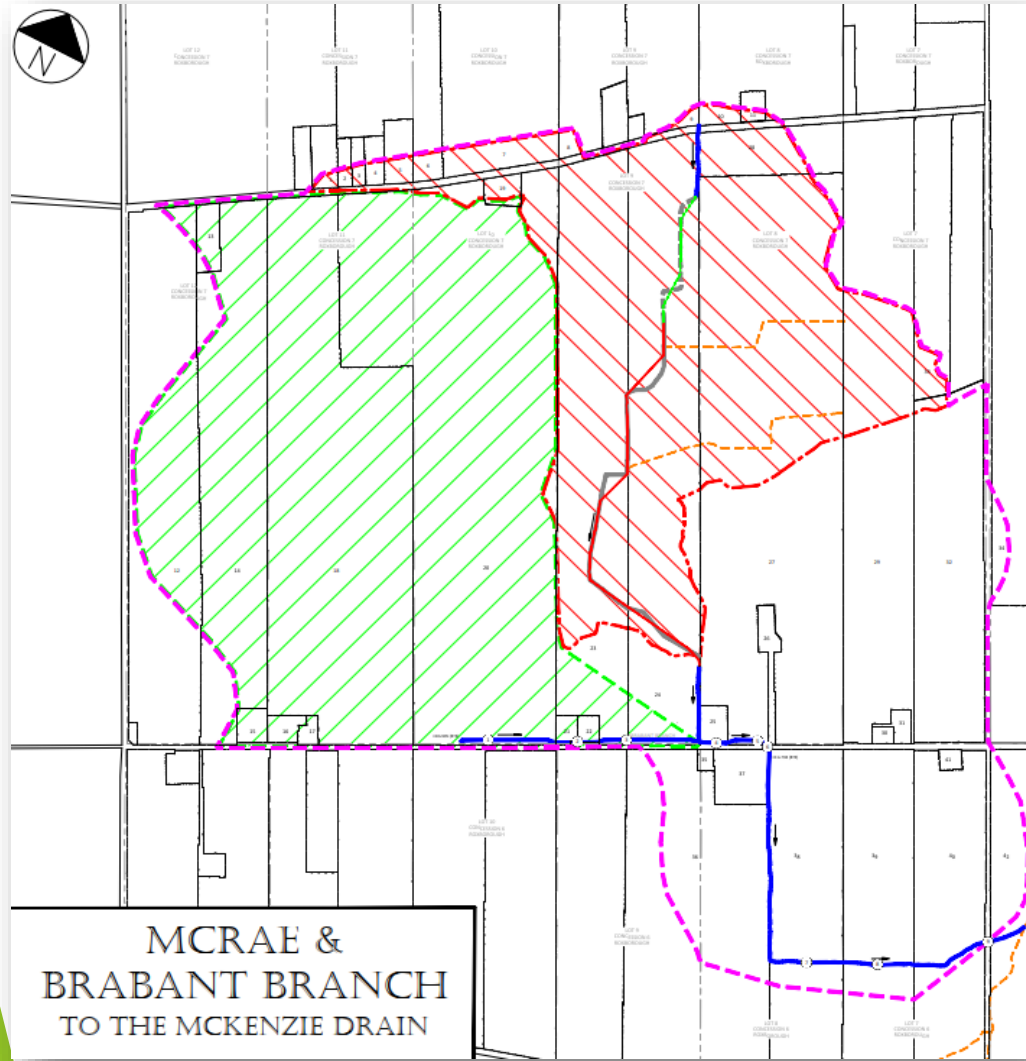
# McRae and Brabant Branches History

Last Updated in 1975



McRae Branch:  $\pm 3,438\text{m}$ , 401 ha  
Brabant Branch:  $\pm 651\text{m}$ , 157 ha

McRae Branch Enclosure:  $\pm$  Station 0+200 to  $\pm$  Station 1+712 -  
Lot 9, Concession 7  
Combined realignments and enclosures on Brabant and McRae  
Branches parallel County Road 22



# Morrow-Brabec Branch - History

Last Updated in 1974

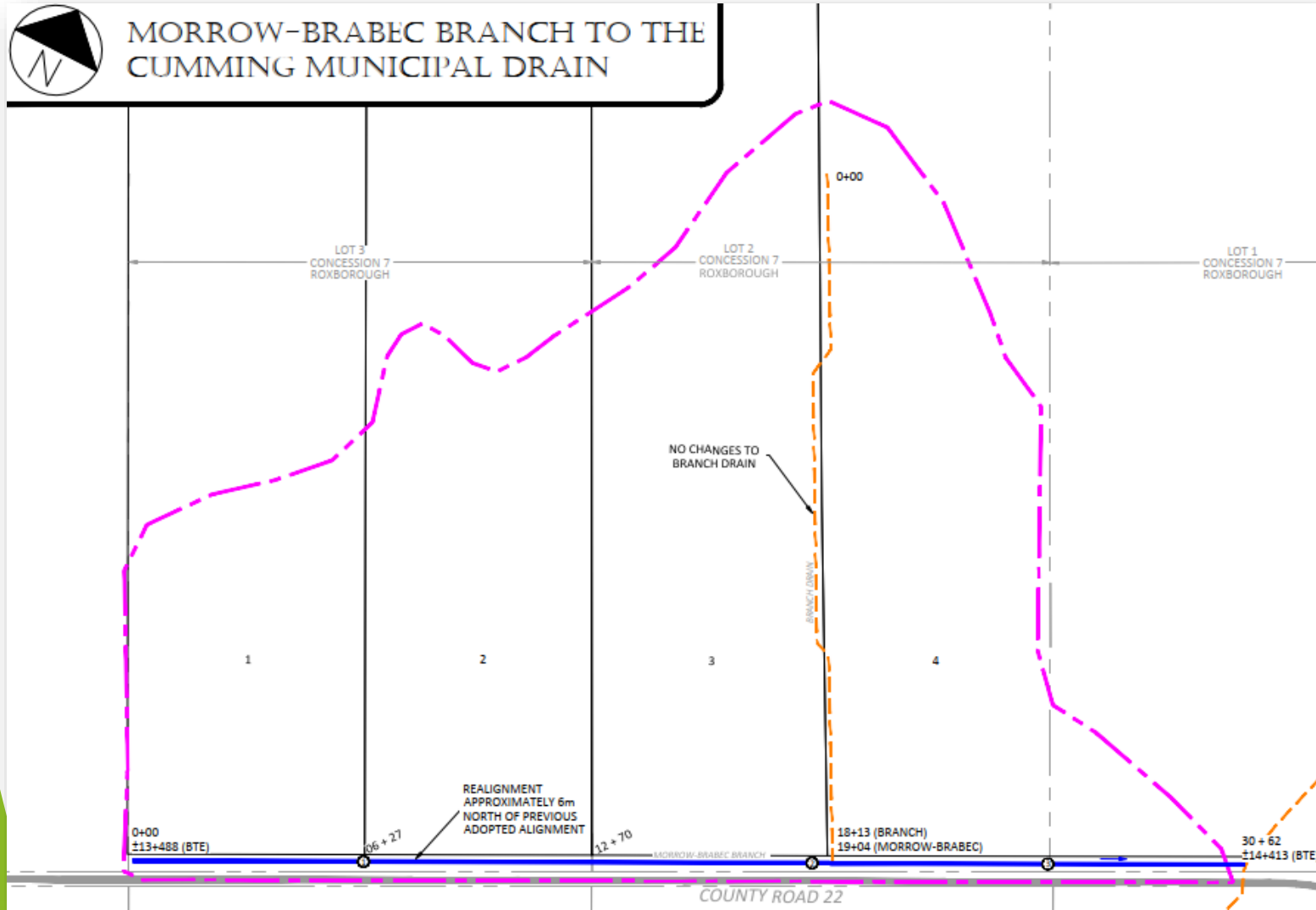


Length:  $\pm 3,062$  ft (933m)  
Serving  $\pm 38.5$  hectares

Entire drain relocated approx. 6m north of previous adopted alignment to accommodate road widening



# MORROW-BRABEC BRANCH TO THE CUMMING MUNICIPAL DRAIN

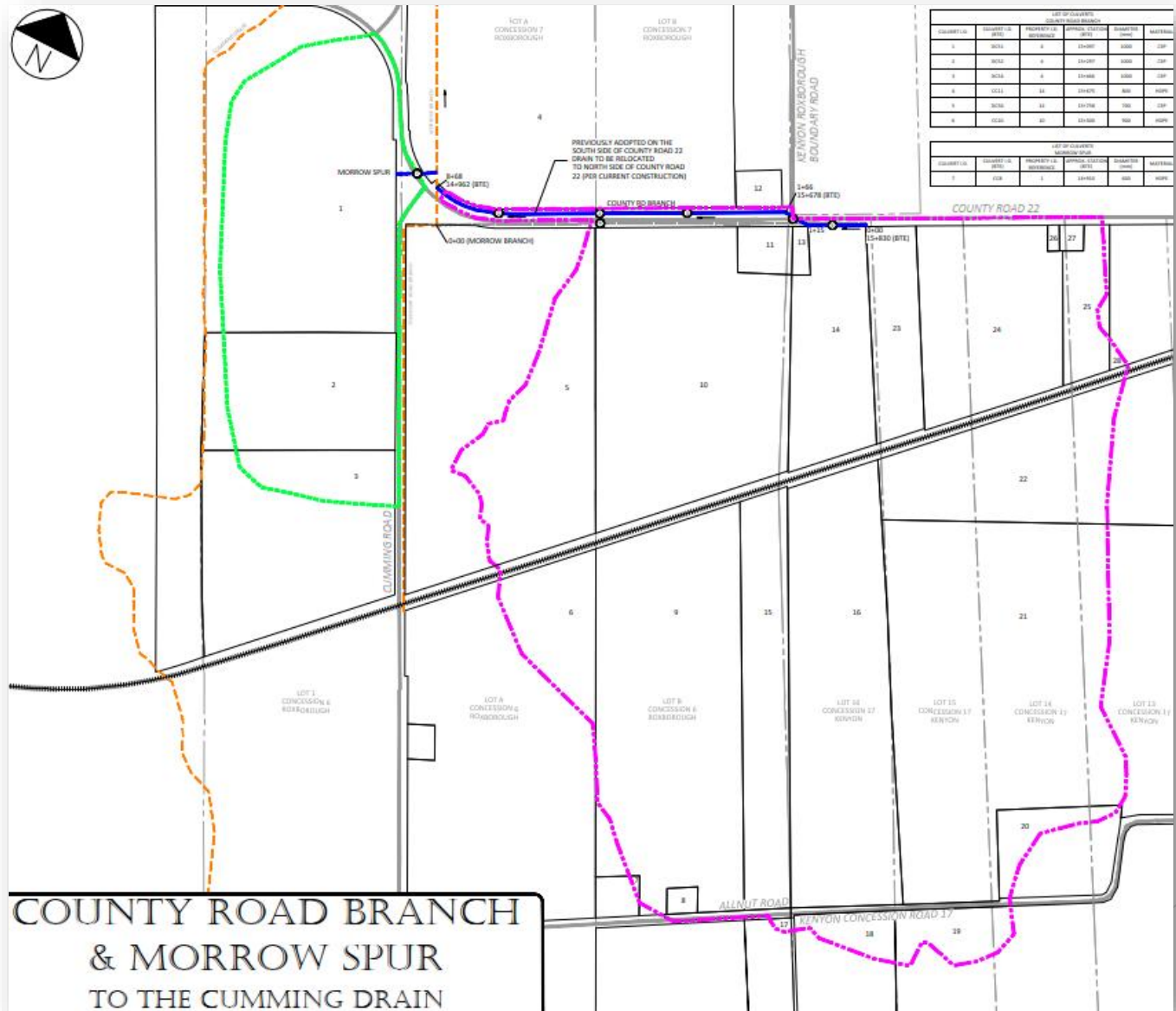


# County Road Branch + Morrow Spur History

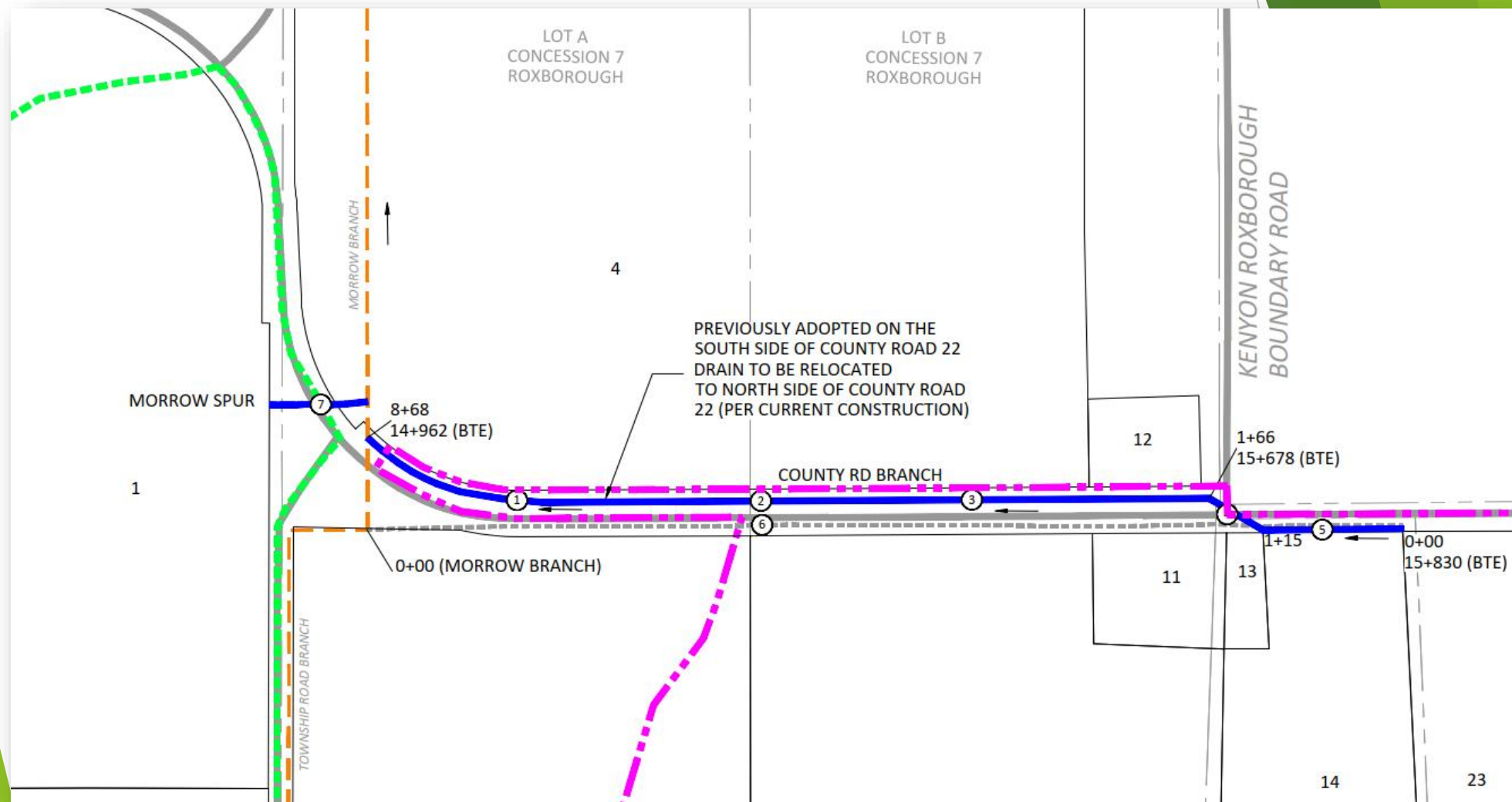
Last Updated in 1952

County Road Branch:  $\pm 868\text{m}$ , 158ha  
Morrow Spur:  $\pm 80\text{m}$ , 31ha

Sta. 1+15 - 8+68: formally relocated to north side of County Road 22  
Sta. 0+00 - 1+15: relocated further south to accommodate road widening







# Engineer's Report

- ❖ A description of the watershed.
- ❖ New Plan and Profile Drawings
- ❖ Plan View Drawing
- ❖ Hydrologic and hydraulic analysis of the enclosure on the McRae Branch
- ❖ Updated Assessment Schedules for future maintenance
- ❖ Other considerations such as the working space, spreading of material, construction specifications, etc.

# Assessment Schedules

- ❖ Updated Assessment Schedules for future maintenance
- ❖ Assessment calculated to reflect current land parcel information and land use
- ❖ Calculations account for lands acquired by County for road widening
- ❖ Assessment schedules intended for future maintenance - all current fees paid by the County, with the exception of the requested enclosure on the McRae Branch.
- ❖ McRae Branch enclosure - current engineering and initial construction being paid by the requesting landowner.



# Permitting / Consultation

- ▶ The project was circulated to:
  - ▶ Fisheries and Oceans Canada (DFO)
  - ▶ South Nation Conservation Authority (SNCA)
- ▶ On-going Consultation with:
  - ▶ Initiating Landowner
  - ▶ Township Drainage Superintendent
  - ▶ County Staff
  - ▶ County's engineer



# Next Steps

Council gives prescribed persons the opportunity to provide input;

Council decides if the projects should proceed;

Council provisionally adopts the Engineer's Reports;

Clerk circulates the provisional by-laws and notice of process to appeal to prescribed persons;

Projects proceed to construction.

# Appeal Opportunities

## Court of Revision

- appeals on assessments;

## Tribunal

- appeals for technical aspects of the work;


## Referee

- appeals on legal aspects of the work.





# Questions?

 <div> The Corporation of the Township of  <b>NORTH STORMONT</b> </div>		<b>Report No.</b> DRAIN-01- 2025
<b>Agenda Date:</b>	March 04, 2025	
<b>Subject:</b>	Morrow Brabec Branch of Cumming Municipal Drain	
<b>Attachments:</b>		

### 1.0 **RECOMMENDATION**

THAT the Council of the Township of North Stormont accepts and receives this Drainage Superintendent report to support and approve the Engineer's report to be passed provisionally by By-law prepared under Section 78(1) of the *Drainage Act* by Shade Group Inc. to enable alterations and provide amendments to the previously adopted Morrow Brabec Branch of Cumming Municipal drain.

### 2.0 **LEGAL DESCRIPTION**

### 3.0 **BACKGROUND**

On June 14, 2022, the Township of North Stormont received a request for drain relocations and improvements from SDG Counties. The proposed widening and improvement project to County Road 22 impacted multiple municipal drains running parallel to the road, which would require the existing alignment to be relocated and setback further from the road to enable the road widening. The Morrow Brabec Branch runs parallel to the road and is one of the drains affected by the road project.

The Counties further indicated that all costs associated with the Engineering and construction of the affected municipal drains resulting from the County Road 22 project would be borne by SDG Counties.

Shade Group Inc. was appointed by the Township of North Stormont as the drainage engineer on July 26, 2022 to update the necessary drain reports to legitimize all drainage works required to be completed as part of the County Road 22 project.

Numerous delays in the road design, legal surveying and other components meant the Township could only hold the "On-Site Meeting" for the Municipal

drains on July 12, 2023 at the Moose Creek Recreation Centre. All owners within the affected watersheds were invited, where the owners had the opportunity to provide input, ask questions and express concerns. Some of the feedback included;

- Concerns over land acquisitions required as a result of the road widening, especially along municipal drains where more land would be required.
- Some residential properties along other drains expressed concerns of relocating the drain closer to their homes, where there was not enough room to accommodate a relocation. At these locations, it was proposed to be enclosed into a buried pipe across the properties.
- Some farmers proposed continuing enclosing the drains into buried pipe along farmland instead of relocating open drains; as open drains result in more land acquisition.
- No concerns with flooding or capacity were received.

The drainage Engineer took note of all the comments, so they could be addressed during the design and preparation of the report.

#### **4.0 POLICY CONSIDERATION**

#### **5.0 ANALYSIS**

Following the on-site meeting, further delays (by others) were encountered throughout the road design and land acquisition process. The design of the drain relocation and culvert sizing along CR22 was undertaken by the Counties design Engineer (BT Engineering). Shade Group Inc reviewed the design by BT Engineering, before adopting the applicable components into the updated drain report.

After months of correspondence, revisions to the road design and obtaining permits/ approvals; Shade Group obtained the final design and required info to prepare the Engineer's report for the Morrow Brabec Branch of Cumming drain. The report was updated to reflect all changes to the drain as a result of the County Road 22 project, including updates to the assessment schedule.

The report was filed with the Township Clerk on February 6, 2025. Following this submission, an invitation to the Meeting to Consider was mailed out the landowners within the drain watershed. This notice included multiple methods that landowners could review the Engineer's report.

The Meeting to Consider will include:

- Presentation of the final report by the Engineer

- Opportunity for input by landowners within the watershed
- Council decision to proceed with the report or not

If Council wishes to adopt the report and proceed, a provisional by-law to adopt the report shall be passed (first and second reading) and the process will continue.

If there appears to be errors in the report or for any other reason the report should be reconsidered, Council may refer the report back to the Engineer. The

Engineer shall then reconsider the report and report back to Council. The new report would be subject to the same procedures as the original report.

If Council proceeds with provisionally adopting the by-Law and report, the next step is a 40-day appeals period including:

- Sending a copy of the provisional by-law, as well as a Notice of the Court of Revision to all landowners in the watershed. The Court of Revision may hear appeals relating to assessments only (no technical aspects of the report may be appealed to the COR).
- Appeals to the Drainage Tribunal or Referee may also be made within the appeals period, if applicable.

If no appeals are received, or after the appeals period has expired, Council may give the third reading to the by-law authorizing the report and its construction.

Work on the Municipal drain is anticipated to start as early as July 2025, after the expiration of the environmental “in water works” timing window.

## **6.0 ENVIRONMENTAL CONSIDERATIONS**

Permits have been obtained from SNCA for the construction work as well as a Department of Fisheries and Oceans “Letter of Advice”. These permits are included in the report.

All work is to be done in accordance with the conditions set out in the permits and associated Engineer’s report.

## **7.0 RECOMMENDED CONDITIONS**

That Council support the Engineers Report and approve the provisional By-law to be passed for amendments to the Morrow Brabec Branch of Cumming Municipal drain.

## 8.0 ALTERNATIVES

That Council refer the report back to the Engineer to make revisions, and report back to Council.

### FINANCIAL/STAFFING IMPLICATIONS

This item has been approved in the current budget:

Yes ☐ No ☐ N/A ☒

This item is within the approved budgeted amount:

Yes ☐ No ☐ N/A ☒

This item is mandated by the Provincial/Federal Government:

Yes ☒ No ☐ N/A ☐

**Prepared By:**

**Reviewed and  
submitted by:**

**Submitted for Council  
consideration by:**




**Sean MacDonald**  
Drainage  
Superintendent



**Lea Anne Munro**  
Deputy-Clerk



**Craig Calder**  
CAO/Clerk

 <div> The Corporation of the Township of  <b>NORTH STORMONT</b> </div>		<b>Report No.</b> DRAIN-02- 2025
<b>Agenda Date:</b>	March 04, 2025	
<b>Subject:</b>	County Road Branch of Cumming Municipal Drain	
<b>Attachments:</b>		

### 1.0 **RECOMMENDATION**

THAT the Council of the Township of North Stormont accepts and receives this Drainage Superintendent report to support and approve the Engineer's report to be passed provisionally by By-law prepared under Section 78(1) of the *Drainage Act* by Shade Group Inc. to enable alterations and provide amendments to the previously adopted County Road Branch of Cumming Municipal drain.

### 2.0 **LEGAL DESCRIPTION**

### 3.0 **BACKGROUND**

On June 14, 2022, the Township of North Stormont received a request for drain relocations and improvements from SDG Counties. The proposed widening and improvement project to County Road 22 impacted multiple municipal drains running parallel to the road, which would require the existing alignment to be relocated and setback further from the road to enable the road widening.

The Counties further indicated that all costs associated with the Engineering and construction of the affected municipal drains resulting from the County Road 22 project would be borne by SDG Counties.

Shade Group Inc. was appointed by the Township of North Stormont as the drainage engineer on July 26, 2022 to update the necessary drain reports to legitimize all drainage works required to be completed as part of the County Road 22 project.

Numerous delays in the road design, legal surveying and other components meant the Township could only hold the "On-Site Meeting" for the Municipal drains on July 12, 2023 at the Moose Creek Recreation Centre. All owners within the affected watersheds were invited, where the owners had the



opportunity to provide input, ask questions and express concerns. Some of the feedback included:

- Concerns over land acquisitions required as a result of the road widening, especially along municipal drains where more land would be required.
- Some residential properties along other drains expressed concerns of relocating the drain closer to their homes, where there was not enough room to accommodate a relocation. At these locations, it was proposed to be enclosed into a buried pipe across the properties.
- Some farmers proposed continuing enclosing the drains into buried pipe along farmland instead of relocating open drains; as open drains result in more land acquisition.
- No concerns with flooding or capacity were received.

The drainage Engineer took note of all the comments, so they could be addressed during the design and preparation of the report.

It was noted that the County Road Branch was located entirely on the South side of County Road 22 within the original engineer's report from 1952. At an unknown date since that time, a culvert was installed crossing the County Road, directing water from the upper limits of the drain to the North side of the road. The new alignment of the County Road Branch is proposed to be similar to how it currently functions; from its starting point to the Township Boundary Road will remain on the South side- before crossing to the North side of County Road 22 to its outlet into the Morrow Branch of Cumming drain.

The "Morrow Spur" was found to not have its own standalone assessment schedule within its previous report, so a new schedule was requested to ensure proper future maintenance breakdown.

#### **4.0 POLICY CONSIDERATION**

Section 78(1) of the *Drainage Act*, 1990 Municipal drain "*Major Improvement*"

#### **5.0 ANALYSIS**

Following the on-site meeting, further delays (by others) were encountered throughout the road design and land acquisition process. The design of the drain relocation and culvert sizing along CR22 was undertaken by the Counties design Engineer (BT Engineering). Shade Group Inc reviewed the design by BT Engineering, before adopting the applicable components into the updated drain report.

After months of correspondence, revisions to the road design and obtaining

permits/ approvals; Shade Group obtained the final design and required info to prepare the Engineer's report for the County Road Branch of Cumming drain. The report was updated to reflect all changes to the drain as a result of the County Road 22 project, including updates to the assessment schedule.

The report was filed with the Township Clerk on February 6, 2025. Following this submission, an invitation to the Meeting to Consider was mailed out the landowners within the drain watershed. This notice included multiple methods that landowners could review the Engineer's report.

The Meeting to Consider will include:

- Presentation of the final report by the Engineer
- Opportunity for input by landowners within the watershed
- Council decision to proceed with the report or not

If Council wishes to adopt the report and proceed, a provisional by-law to adopt the report shall be passed (first and second reading) and the process will continue.

If there appears to be errors in the report or for any other reason the report should be reconsidered, Council may refer the report back to the Engineer. The

Engineer shall then reconsider the report and report back to Council. The new report would be subject to the same procedures as the original report.

If Council proceeds with provisionally adopting the by-Law and report, the next step is a 40-day appeals period including:

- Sending a copy of the provisional by-law, as well as a Notice of the Court of Revision to all landowners in the watershed. The Court of Revision may hear appeals relating to assessments only (no technical aspects of the report may be appealed to the COR).
- Appeals to the Drainage Tribunal or Referee may also be made within the appeals period, if applicable.

If no appeals are received, or after the appeals period has expired, Council may give the third reading to the by-law authorizing the report and its construction.

Work on the Municipal drain is anticipated to start as early as July 2025, after the expiration of the environmental "in water works" timing window.

## **6.0 ENVIRONMENTAL CONSIDERATIONS**

Permits have been obtained from SNCA for the construction work as well as a Department of Fisheries and Oceans "Letter of Advice." These permits are included in the report.

All work is to be done in accordance with the conditions set out in the permits and associated Engineer's report.

#### **7.0 RECOMMENDED CONDITIONS**

That Council support the Engineers Report and approve the provisional By-law to be passed for amendments to the County Road Branch of Cumming Municipal drain.

#### **8.0 ALTERNATIVES**

That Council refer the report back to the Engineer to make revisions, and report back to Council.

#### **FINANCIAL/STAFFING IMPLICATIONS**

This item has been approved in the current budget:

Yes ☐ No ☐ N/A ☒

This item is within the approved budgeted amount:

Yes ☐ No ☐ N/A ☒

This item is mandated by the Provincial/Federal Government: Yes ☒ No ☐ N/A ☐

**Prepared By:**

**Reviewed and  
submitted by:**

**Submitted for Council  
consideration by:**




**Sean MacDonald**  
Drainage  
Superintendent



**Lea Anne Munro**  
Deputy-Clerk



**Craig Calder**  
CAO/Clerk

 <b>The Corporation of the Township of NORTH STORMONT</b>		<b>Report No. DRAIN-03- 2025</b>
<b>Agenda Date:</b>	March 04, 2025	
<b>Subject:</b>	McRae Branch of McKenzie Municipal Drain	
<b>Attachments:</b>		

### **1.0 RECOMMENDATION**

THAT the Council of the Township of North Stormont accepts and receives this Drainage Superintendent report to support and approve the Engineer's report to be passed provisionally by By-law prepared under Section 78(1) of the *Drainage Act* by Shade Group Inc. to enable alterations and provide amendments to the previously adopted McRae Branch and Brabant Branch of McKenzie Municipal drain.

### **2.0 LEGAL DESCRIPTION**

### **3.0 BACKGROUND**

On June 14, 2022, the Township of North Stormont received a request for drain relocations and improvements from SDG Counties. The proposed widening and improvement project to County Road 22 impacted multiple municipal drains running parallel to the road, which would require the existing alignment to be relocated and setback further from the road to enable the road widening. The McRae Branch and Brabant Branch of McKenzie drains were part of the affected drains that required alterations.

The Counties further indicated that all costs associated with the Engineering and construction of the affected municipal drains resulting from the County Road 22 project would be borne by SDG Counties.

Shade Group Inc. was appointed by the Township of North Stormont as the drainage engineer on July 26, 2022 to update the necessary drain reports to legitimize all drainage works required to be completed as part of the County Road 22 project.

Numerous delays in the road design, legal surveying and other components meant the Township could only hold the "On-Site Meeting" for the Municipal

drains on July 12, 2023 at the Moose Creek Recreation Centre. All owners within the affected watersheds were invited, where the owners had the opportunity to provide input, ask questions and express concerns. Some of the feedback included;

- Concerns over land acquisitions required as a result of the road widening, especially along municipal drains where more land would be required.
- Some residential properties along the McRae Branch and Brabant Branch expressed concern of relocating the drain closer to their homes, where there was not enough room to accommodate a relocation. At these locations, it was proposed that the drains be enclosed into a buried pipe across the properties.
- Some farmers proposed continuing enclosing the drains into buried pipe along farmland instead of relocating open drains; as open drains result in more land acquisition.
- One landowner acknowledged enclosing a section of the McRae Branch in his farmland and expressed desire to continue this enclosure across his property to improve farming efficiencies and reduce erosion. It was understood that all engineering, permits and construction costs associated with the enclosure was to be at the requesting owner's expense.
- No concerns with flooding or capacity were received

The drainage Engineer took note of all the comments, so they could be addressed during the design and preparation of the report.

#### **4.0 POLICY CONSIDERATION**

Section 78(1) of the *Drainage Act*, 1990. Municipal drain "*Major Improvement*"

#### **5.0 ANALYSIS**

Following the on-site meeting, further delays (by others) were encountered throughout the road design and land acquisition process. Shade Group conducted a field survey and design of the enclosure. The design of the drain relocations, enclosures and culvert sizing along CR22 was undertaken by the Counties design Engineer (BT Engineering). Shade Group Inc reviewed the design by BT Engineering, before adopting the applicable components into the updated drain report.

After months of correspondence, revisions to the road design and obtaining permits/ approvals; Shade Group obtained the final design and required info to prepare the Engineer's report for the McRae Branch of McKenzie drain (including Brabant Branch). This report includes the enclosure upstream of

CR22 within the farmland (at the landowner's expense) as well as the drain alterations to accommodate the CR22 project. Assessment schedules were updated to reflect all changes and property updates since the last drain report.

The report was filed with the Township Clerk on February 6, 2025. Following this submission, an invitation to the Meeting to Consider was mailed out the landowners within the drain watershed. This notice included multiple methods that landowners could review the Engineer's report.

The Meeting to Consider will include:

- Presentation of the final report by the Engineer
- Opportunity for input and questions by landowners within the watershed
- Council decision to proceed with the report or not

If Council wishes to adopt the report and proceed, a provisional By-Law to adopt the report shall be passed (first and second reading) and the process will continue.

If there appears to be errors in the report or for any other reason the report should be reconsidered, Council may refer the report back to the Engineer.

The Engineer shall then reconsider the report and report back to Council. The new report would be subject to the same procedures as the original report.

If Council proceeds with provisionally adopting the By-Law and report, the next step is a 40-day appeals period including:

- Sending a copy of the provisional by-law, as well as a Notice of the Court of Revision to all landowners in the watershed. The Court of Revision may hear appeals relating to assessments only (no technical aspects of the report may be appealed to the COR).
- Appeals to the Drainage Tribunal or Referee may also be made within the appeals period, if applicable.

If no appeals are received, or after the appeals period has expired, Council may give the third reading to the By-law authorizing the report and its construction.

Work on the Municipal drain is anticipated to start as early as July 2025, after the expiration of the environmental "in water works" timing window.

## **6.0 ENVIRONMENTAL CONSIDERATIONS**

Multiple permits from SNCA have been obtained, for both the enclosure and the work along CR22 (included in the report) as well as multiple Department of

Fisheries and Oceans "Letter of Advice".

All work is to be done in accordance with the conditions set out in the permits and associated Engineer's report.

#### **7.0 RECOMMENDED CONDITIONS**

That Council support the Engineers Report and approve the provisional By-law to be passed for amendments to the McRae Branch (and Brabant Branch) of McKenzie Municipal drain.

#### **8.0 ALTERNATIVES**

That Council refer the report back to the Engineer to make revisions, and report back to Council.

#### **FINANCIAL/STAFFING IMPLICATIONS**

This item has been approved in the current budget:

Yes ☐ No ☐ N/A ☒

This item is within the approved budgeted amount:

Yes ☐ No ☐ N/A ☒

This item is mandated by the Provincial/Federal Government:

Yes ☒ No ☐ N/A ☐

**Prepared By:**

**Reviewed and  
submitted by:**

**Submitted for Council  
consideration by:**



**Lea Anne Munro**  
Deputy-Clerk



**Sean MacDonald**  
Drainage  
Superintendent



**Craig Calder**  
CAO/Clerk

**THE CORPORATION OF THE TOWNSHIP OF NORTH STORMONT**

**BY-LAW NO. 15-2025**

**BEING** a By-law to provide for updates to the Morrow Brabec Branch of Cumming Municipal Drain pursuant to *Section 78(1) of the Drainage Act, R.S.O. 1990, C.D.17.*

**WHEREAS** the *Municipal Act, 2001*, c.25 s. 5(1) provides that the powers of a municipal corporation are to be exercised by its Council;

**AND WHEREAS** the *Municipal Act, 2001*, c.25 s. 5(3) provides that the powers of every Council are to be exercised by By-law;

**AND WHEREAS** the *Drainage Act, R.S.O. 1990, c.D.17 s. 78(1)* provides that if drainage works have been constructed under a By-law passed under the Act and Council considers it appropriate to undertake one or more of the major improvement projects listed in subsection 1.1 the municipality may undertake and complete the project in accordance with the report of an engineer appointed by it;

**AND WHEREAS** the Council of the Township of North Stormont has directed, under section 78(1) of the *Drainage Act, R.S.O. 1990*, that an Engineer's Report shall be prepared by Shade Group Inc. for the drain known as the Morrow Brabec Branch of Cumming Municipal Drain;

**AND WHEREAS** the appointed engineer has prepared an Engineer's Report dated February 6, 2025 and attached hereto as Schedule "A";

**AND WHEREAS** the Council of the Township of North Stormont has considered the Engineer's Report in accordance with Section 45(1) of the *Drainage Act, R.S.O. 1990* and is desirous of adopting the report.

**NOW THEREFORE** the Council of the Corporation of the Township of North Stormont hereby enacts as follows:

1. That the Engineer's Report prepared under Section 78(1) of the *Drainage Act, R.S.O. 1990* for the Morrow Brabec Branch of Cumming Municipal Drain, attached hereto as Schedule "A" is hereby adopted and the drainage works therein indicated and set forth is hereby authorized and shall be completed accordingly.
2. That this By-law shall come into force and effect upon its final passing.

**READ A FIRST, SECOND TIME AND PROVISSIONALLY ADOPTED** this 4<sup>th</sup> day of March 2025.

\_\_\_\_\_  
François Landry, Mayor

SEAL

\_\_\_\_\_  
Craig Calder, CAO/Clerk

**READ A THIRD AND FINAL TIME** and passed in open Council, signed and sealed this XX day of XX, 2025.

\_\_\_\_\_  
François Landry, Mayor

SEAL

\_\_\_\_\_  
Craig Calder, CAO/Clerk



**MORROW-BRABEC BRANCH  
OF THE CUMMING MUNICIPAL DRAIN  
PROPOSED PARTIAL REALIGNMENT  
S. 78 ENGINEER'S REPORT  
TOWNSHIP OF NORTH STORMONT**



**PREPARED BY**

SHADE GROUP INC  
4625 MARCH ROAD  
ALMONTE, ON  
K0A 1A0

**PREPARED FOR**

THE TOWNSHIP OF NORTH STORMONT  
15 UNION STREET  
BERWICK, ON  
K0C 1G0

**FEBRUARY 6, 2025**

## EXECUTIVE SUMMARY

This Engineer's Report has been prepared under Section 78 of the *Drainage Act, R.S.O. 1990, c. D. 17* (henceforth referred to as *the Act*). Section 78 refer to 'major improvements', which refer in this case to the intention to relocate the existing alignment of the Morrow-Brabec Branch to accommodate a road widening of part of County Road 22.

This report includes:

- A watershed map of the drain and its contributing area (**Appendix C**);
- Plan and Profile Drawings for the proposed realignment (**Appendix C**);
- An updated Schedule of Assessment for future maintenance of the system (**Appendix B**);

Available under separate cover, the following information has also been referenced in the preparation of this report

- Hydrology and hydraulic assessments (by others) of the municipal drainage system, including the driveway culverts;
  - Municipal Drain Assessment – Technical Memorandum – July 30, 2024 (BTE)
  - Culvert Replacement Recommendations – Technical Memorandum – July 30, 2024 (Sanchez Engineering Inc.)
- Construction specifications, which will be used for the initial construction and should be referenced (as applicable) for future maintenance.
  - Special Provisions – Tender Document

A map showing the location of the Morrow-Brabec Branch has been enclosed in **Appendix A**.

The Township of North Stormont was consulted about the history of the Morrow-Brabec Branch of the Cumming Municipal Drain as part of the preparation of this report. Per the supplied information, it is our understanding that the governing report for the Morrow-Brabec Branch is the *Morrow-Brabec Branch - Cumming Municipal Drain* prepared by Stidwill & Associates Limited dated December 5, 1974. Further historical information has been detailed in **Section 2.0**.

Shade Group Inc. (SGI) was appointed by resolution on July 26, 2022 (Resolution No. 219-2022) to "*update the necessary engineer's reports to legitimize all drainage works required to be completed as part of the SDG County Road 22 project*". Due to delays in the design of the road work (by others), a renewal resolution was completed July 18, 2023 (Resolution No. 219-2023). Copies of the resolutions have been enclosed in **Appendix D**.

Future maintenance works shall be assessed in accordance with the assessment schedule enclosed within **Appendix B**. Current construction costs as well as the current engineering costs associated with the realignment will be borne solely by the County as the project is required to accommodate road infrastructure.

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## APPENDICES

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APPENDIX E: AGENCY CONSULTATION & PERMITS

## REVISIONS & SUBMISSIONS

Revision #	Comments	Date
00	Draft Submission to Township	January 20, 2025
01	Formal Submission to Township	February 6, 2025

## 1.0 INTRODUCTION

This Engineer's Report has been prepared under Section 78 of the *Drainage Act, R.S.O. 1990, c. D. 17* (henceforth referred to as *the Act*). Section 78 refer to 'major improvements', which refer in this case to the intention to relocate the existing alignment of the Morrow-Brabec Branch to accommodate a road widening of part of County Road 22.

The Section 78 process was initiated at the request of the United Counties of Stormont, Dundas and Glengarry to accommodate the realignment of the Morrow-Brabec Branch of the Cumming Municipal Drain. The realignment of the Morrow-Brabec Branch is required to accommodate a widening of part of County Road 22. The existing right-of-way for County Road 22 is understood to be as narrow as +/- 16m in many areas along the project area, and the proposed County Road 22 project will see the right-of-way increased to 37m wide in the vicinity of the Morrow-Brabec Branch. The County has undertaken land acquisition as part of the road widening project, and therefore the realigned Morrow-Brabec Branch will continue to be within the County owned right-of-way. As the land has been acquired through other means, no allowances under the Drainage Act have been applied to this project.

This report includes updated Plan and Profile Drawings for the realignment which have been prepared by BT Engineering (BTE) as part of the road reconstruction project. As the supplied drawings are intended for the entirety of the road reconstruction (i.e. not just the drain realignment) – the author has highlighted the relevant information on the supplied plans for clarity. Only those pages relevant to the municipal drain have been included in this report. The entire road construction drawing package is available under separate cover.

This report also includes an updated Schedule of Assessment for future maintenance of the system. Updates were generally minor, as there have been minimal land use changes, however the updated assessment schedule reflects the proposed conditions, which includes additional lands to be owned by the County.

All proceedings associated with the preparation of this report have been completed in accordance with the specifications of *the Act*. Per the acceptance of the County of Stormont, Dundas and Glengarry, the County has agreed to pay all initial construction fees, as well as the drainage engineering fees associated with the realignment of the Morrow-Brabec Branch. Future maintenance of the system would be completed in accordance with Section 74 of the Drainage Act – and costs for future maintenance would be assessed in accordance with the assessment schedule found in **Appendix B**.

## 2.0 DRAIN HISTORY

The Township of North Stormont was consulted about the history of the Morrow-Brabec Branch of the Cumming Municipal Drain as part of the preparation of this report. Per the supplied

information, it is our understanding that the governing report for the Morrow-Brabec Branch is the *Morrow-Brabec Branch - Cumming Municipal Drain* prepared by Stidwill & Associates Limited dated December 5, 1974.

### 3.0 EXISTING CONDITIONS

#### 3.1 DESCRIPTION OF THE ALIGNMENT + AREA REQUIRING DRAINAGE

The Morrow-Brabec Branch is understood to have been constructed in 1974 under a report authored by Stidwell & Associates Ltd. The report describes the alignment of the drain as follows:

*"The drain will have its point of commencement at the southwest corner of Lot 3, Concession 7 of your township [Roxborough]. It will run in an easterly direction along the north side of County Road No. 22 to a good outlet in the Cumming Drain ... The total length of drain as laid out in the field is 3,062 feet."*

Morrow-Brabec Branch Engineer's Report, December 5, 1974 (page 1)

The report also mentions the creation of a branch drain that runs perpendicular to County Road 22 through the middle of Lot 2, Concession 7, but this branch drain will not be part of the scope of this report. No changes are proposed to the branch drain – and all specifications, including applicable maintenance of the branch drain – would remain as per the 1974 Engineer's Report.

The outlet for the Morrow-Brabec Branch is the Cumming Municipal Drain, intersecting at the south end of Lot 1, Concession 7.

The total contributing area for the Morrow-Brabec Branch is estimated to be approximately 38.5 ha.

### 4.0 PROPOSED IMPROVEMENTS

This project proposes to realign the Morrow-Brabec Branch by offsetting its alignment to provide the necessary space for the widening of County Road 22.

Design of the realignment of the Morrow-Brabec Branch was undertaken by the County's engineering consultants – BTE – as part of the road design for the County Road 22 reconstruction project. The applicable Plan and Profile drawings (C-012 – C-015) as taken from the *"County Road 22 – Reconstruction and Drainage Improvements from Highway-138 to 0.6km east of the Roxborough Kenyon Boundary Road"* Issued for Tender package (07/24) have been included in **Appendix C**. The associated technical reports discussing the hydrology and hydraulics associated with the channel cross-section and the applicable culverts are available under separate cover:

- 1) Municipal Drain Assessment – Technical Memorandum – July 30, 2024 (BTE)
- 2) Culvert Replacement Recommendations – Technical Memorandum – July 30, 2024 (Sanchez Engineering Inc.)

## 5.0 DRAINAGE ACT, 1990, PROCESS

### 5.1 TO DATE

Shade Group Inc. (SGI) was appointed by resolution on July 26, 2022 (Resolution No. 219-2022) to *“update the necessary engineer’s reports to legitimize all drainage works required to be completed as part of the SDG County Road 22 project”*. Due to delays in the design of the road work (by others), a renewal resolution was completed July 18, 2023 (Resolution No. 219-2023). Copies of the resolutions have been enclosed in **Appendix D**.

Shade Group was appointed early in the design stage of the road reconstruction project, and as the road design work took multiple years, there were certain delays in the preparation of the Engineer’s Report pending completion and permitting for the proposed drainage works associated with the road reconstruction.

An on-site meeting was held at the Moose Creek Community Centre on July 12, 2023. Approximately 12 property owners attended the meeting as well as representatives from the Township (CAO and Drainage Superintendent), representatives from BTE and representatives from the County.

Discussions at the on-site meeting were generally related to concerns with the improvements being proposed pertaining to the County Road 22 project, including concerns over land acquisition, and further requests for enclosures in areas alongside the road. The land acquisition component of the project was completed as part of the road widening project, and was undertaken separate from the Drainage Act component. The land acquisition was overseen by the County – not the Township or Drainage Engineer. As the land has been acquired through other means, allowances under the Drainage Act were not applied. No concerns were brought forth regarding the current performance of the drainage system, nor any concerns noted with respect to flooding or erosion of the system as it currently exists.

Throughout the time leading up to, and following the on-site meeting, Shade Group undertook on-going consultation with the Township’s Drainage Superintendent and the County’s project lead. Shade Group conducted high level peer review of the drainage design documents prepared by BTE as it pertains to the design of the realigned channel and associated culverts. Multiple iterations were provided however the final governing design documents are understood to be:

- 1) Drawings - “County Road 22 – Reconstruction and Drainage Improvements from Highway-138 to 0.6km east of the Roxborough Kenyon Boundary Road” Issued for Tender package (07/24) (BTE)



- 2) Municipal Drain Assessment – Technical Memorandum – July 30, 2024 (BTE)
- 3) Culvert Replacement Recommendations – Technical Memorandum – July 30, 2024 (Sanchez Engineering Inc.)

Ultimately the final design drawings will remain the liability of the design engineers (BTE/Sanchez Engineering Inc.)

## 5.2 NEXT STEPS

Following the formal submission of this report to the Township, the report will be brought to a Meeting to Consider (Section 42).

The clerk of the municipality shall send a copy of the report and a notice stating the date on which the report was filed, the name or designation of the drainage works; and the date of the council meeting at which the report will be considered, to the prescribed people (Section 41).

The Meeting to Consider is held by council, and council may adopt the report by provisional by-law by giving two readings (Section 45(1)).

Following the Meeting to Consider, and assuming a provisional by-law is adopted by two readings, a notice is sent, including a copy of the provisional by-law (exclusive of the Engineer's Report) of the time and place for the first sitting of the Court of Revision. This notice is sent to each body or person as entitled under Section 41 of the Drainage Act.

Following the completion of addressing all appeals; or the time for appealing has expired, Council may pass the provisional by-law by a third reading, thereby authorizing construction of the drainage works. Work may then be commenced as early as ten days after the by-law is passed, if no notice of intention to make an application to quash the by-law has been filed with the clerk of the council (Section 58(1)), assuming the limitations for construction can be met at such a time (e.g. compliance with any permitting restrictions with respect to timing windows).

It is understood that the County will be overseeing the tendering of the drainage works as part of the road reconstruction tender. It is anticipated that a combination of Township staff and Shade Group resources may be drawn upon during the construction to oversee the construction and the final walkthrough, on an as needed basis. All such involvement from Shade Group would be billed back to the County.

## 5.3 RESOLUTION AND BY-LAW

**Appendix D** has been included in this report as a place to attach the applicable resolution and by-law associated with this Section 78(1) undertaking. The resolutions for Shade Group's appointment have been enclosed with this submission; and it is recommended that the Drainage Superintendent (or applicable Township Staff) attach a copy of the report adoption by-law following its third reading for ease of future reference.

## 5.4 LIMITATIONS

The process overview provided in **Section 5.2** is provided as a general summary of the next steps to completion. Should the process described conflict with the specifications of the Drainage Act, the Drainage Act shall govern. The process described is provided as a summary only, the Township clerk shall be responsible for ensuring that the applicable administrative works are completed in accordance with the specifications of the Drainage Act.

## 6.0 DESIGN CONSIDERATIONS

All design works associated with the realignment have been undertaken by the County's engineering consultant (BTE). The governing design documents for the design of the Morrow-Brabec Branch realignment are understood to be as follows:

- 1) Drawings C-012 – C-015 - "County Road 22 – Reconstruction and Drainage Improvements from Highway-138 to 0.6km east of the Roxborough Kenyon Boundary Road" Issued for Tender package (07/24) (BTE)
- 2) Municipal Drain Assessment – Technical Memorandum – July 30, 2024 (BTE)
- 3) Culvert Replacement Recommendations – Technical Memorandum – July 30, 2024 (Sanchez Engineering Inc.)

Copies of the relevant drawings (C-012-C-015) can be found in **Appendix C**. In an effort to limit the size of this report, the remaining technical documents (Municipal Drain Assessment & Culvert Replacement Recommendations) remain available under separate cover.

## 7.0 PLAN, PROFILE & SPECIFICATIONS

It is intended that the accompanying design documents form part of this report, and that they together govern the performance of the work, including both the initial construction and future maintenance works.

The enclosed Watershed Map - Plan View (**Appendix C**) shows:

- The watershed boundary;
- The general course of proposed works;
- Property ID numbers have been assigned to each property for ease of reference to the assessment schedule. The use of Property IDs rather than names offers protection of private information and affords continuity of use as property ownership can change over time.

The enclosed Profile Drawings (C-012 – C-015) (**Appendix C**) show:

- The realigned alignment of the Morrow-Brabec Branch relative to the centerline of the road;

- Slopes and elevations associated with the open channel and applicable driveway culverts.

Specifications for the channel cross-section can be found in the Municipal Drain Assessment – Technical Memorandum (available under separate cover). The specifications note that the Morrow-Brabec Branch is to have a trapezoidal geometry with a bottom width of 0.5m; and side slopes of 3:1 or 4:1. Side slopes of 3:1 are proposed on the backslope of the municipal drain, while the 4:1 side slope is proposed on the foreslope (road-side). An extract from the aforementioned Technical Memorandum is provided in the figure below.

**Subject:** Municipal Drain Assessment

**Project:** BTE File 22-019, Stormont, Dundas and Glengarry Counties, County Road 22 Rehabilitation

**Date:** July 30, 2024

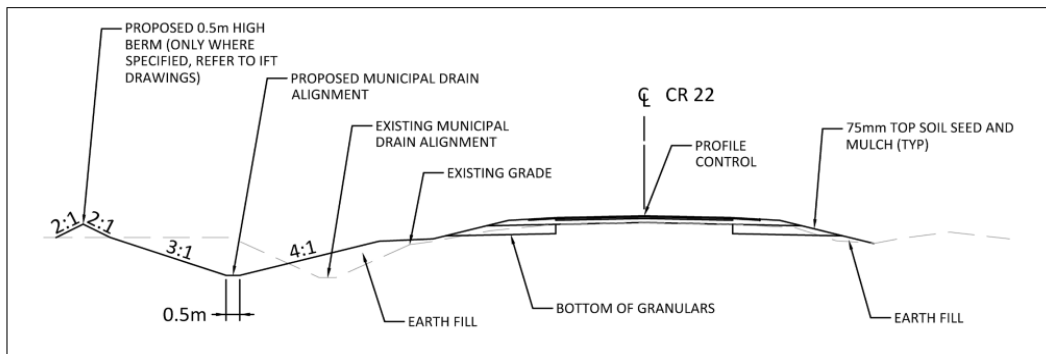


Figure 1: Typical Cross-Section - Per Municipal Drain Assessment - Technical Memorandum - Page 5

## 8.0 EXISTING ALIGNMENT – ABANDONMENT

The alignment of the Morrow-Brabec Branch as adopted in 1974 shall be considered abandoned and replaced with the alignment shown within the enclosed plans. The new alignment of the Morrow-Brabec Branch as reflected in the enclosed plans is to be adopted as the new governing alignment.

There are no changes proposed to the Branch Drain of the Morrow-Brabec Branch (see Watershed Map – **Appendix C**).

## 9.0 CULVERTS + FUTURE MAINTENANCE

Table 1 is provided as a summary of the culverts on the Morrow-Brabec Branch. Stations are referenced from drawings C-012 – C-015 - “County Road 22 – Reconstruction and Drainage Improvements from Highway-138 to 0.6km east of the Roxborough Kenyon Boundary Road” Issued for Tender package (07/24) (BTE)

Table 1: Morrow-Brabec Branch – Culvert Inventory

Culvert ID #	Property ID Reference	Station (BTE)	Column A Inventory Details <sup>A</sup>	Column B Equivalent Length w/ 2:1 Side Slopes <sup>B</sup>	Column C Difference assigned to Special Benefit <sup>C</sup>
DC42	1,2	±13+663	1000mm Ø C.S.P, 26.1 m	21.8 m	4.4 m
DC45	3	±14+042	1000mm Ø C.S.P, 24.7 m	18.1 m	6.6 m
DC46	4	±14+241	1200mm Ø C.S.P, 28.8 m	22.1 m	6.7 m

<sup>A</sup> Culvert lengths are as per BTE drawings.

<sup>B</sup> Length of culvert required if side slopes were specified at the minimum standard of 2:1.

<sup>C</sup> Difference between length specified by the County where greater than minimum standard of 2:1. Additional length is to be assessed as a special benefit to the United Counties of Stormont, Dundas and Glengarry when undertaking future replacement.

Per discussions with the County, we understand that the County standard for end treatment of culverts is 2:1. In a number of cases, BTE has designed to a greater standard, with many driveways specified with approximately 3:1 (+/- 33%) end treatments. With that, the proposed extra length of pipe is considered above the minimum standard and therefore considered a special benefit.

When undertaking future replacement of the driveway culverts, the replacement culverts shall be like-for-like replacement of the diameter and material specified in Column A; with the cost of the length of Column B assessed back to the drain; and the cost of the additional length (Column C) assessed solely to the County.

## 9.1 FUTURE MAINTENANCE AND REPLACEMENT – ENTRANCE CULVERTS

Future maintenance of entrance culverts is to be completed by the Township, as per the Section 74 of the Act. Per the Act:

### ***“Maintenance of drainage works and cost***

**74.** 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. R.S.O. 1990, c. D.17, s. 74.”

The maintenance and replacement of entrance culverts (DC42, DC45 and DC46) are to be at the expense of the upstream landowners, in the same apportionments as distributed in the enclosed

assessment schedule (**Appendix B**), with the exception of the additional lengths, which shall be assessed to the County as a Special Benefit. For more information on the split – refer to **Section 9.0**.

## **9.2 FUTURE MAINTENANCE – DRAINAGE CHANNEL**

Similar to the culverts, future maintenance of the drainage system is to be completed in accordance with Section 74 of the Drainage Act. Future maintenance works of the drainage channel would be expected to include such works as a bottom cleanout, reinstatement of side slopes, and other such general works required to restore the system to the original design. Where only a partial cleanout is completed, only those upstream of the works would be assessed. Where the entire drain is maintained, the entire watershed would be assessed. Whether partial or full maintenance, assessed costs would be in accordance with the assessment schedule enclosed in **Appendix B**.

## **10.0 ASSESSMENTS**

An update to the assessment schedule for the Morrow-Brabec Branch of the Cumming Municipal Drain has been undertaken to account for the lands acquired by the County from the properties adjacent to County Road 22 to accommodate the road widening project.

As per Section 21 of *the Act*, “*The engineer in the report shall assess for benefit, outlet liability and injuring liability, and shall insert in an assessment schedule, in separate columns, the sums assessed for each opposite each parcel of land and road liable therefor.*” As this is an existing drain and the scope of works does not include any works that would be considered injuring to lands or roads, injuring liability is not considered applicable for this project.

As the overall changes to the land use have been minimal *for lands directly abutting the drain*, and as it can reasonably be assumed that the overall benefit-to-outlet ratio of the drain can be considered to be relatively proportional today to that of the governing Engineer's Report from 1974 (i.e. the benefit area has not measurably changed in size); the total benefit apportionment has not been changed from that of the previous governing reports, and has instead been reapportioned amongst the lands who meet the definition of such an assessment. Under *the Act*, lands eligible for benefits assessment are defined as those “*lands, roads, buildings, utilities, or other structures that are increased in value or are more easily maintained as a result of the construction, improvement, maintenance or repair of a drainage works may be assessed for benefit. R.S.O. 1990, c. D.17, s. 22.*”

Finally, all lands within the watershed are assessed outlet liability, which is defined as “*lands and roads that use a drainage works as an outlet, or for which, when the drainage works is constructed or improved, an improved outlet is provided either directly or indirectly through the medium of*

*any other drainage works or of a swale, ravine, creek or watercourse, may be assessed for outlet liability. R.S.O. 1990, c. D.17, s. 23 (1)."*

The method for determining the appropriate apportionment of benefit and outlet liability assessment is the responsibility of the appointed Drainage Engineer. The Drainage Engineer shall use their best judgement to determine an apportionment that is considered fair to all those assessed.

For the purposes of assessing outlet and benefit across the lands within the watershed, the Drainage Engineer has generally followed the Factored Areas Method. Under this method, the areas of land within the watershed are assigned factors based on land use, proximity to the drain (distance factor), and general location in the watershed (sub-section factor). The summation of these factors provides a factored area that allows lands within the watershed to be compared on what has been considered a fair basis. The appropriate factors are assigned by the engineer, on a case-by-case basis, as deemed appropriate and fair by the engineer.

### 10.1 LAND USE FACTORS

Each property was assigned a land use factor based on current aerial mapping. The assigned values for the respective land use have been summarized in Table 2.

*Table 2: Land-use factors in the assessment of the Morrow-Brabec Branch.*

Land Use Description	Factor
Agricultural	1.0
Roads	2.0

### 10.2 DISTANCE FACTORS

Each property within the drain was assigned a distance factor based on offsetting measurements from the applicable channel. The distance factors for the Morrow-Brabec Branch were as follows:

*Table 3: Distance factors for the Morrow-Brabec Branch*

Offset (m)	Factor
0 – 100	1.0
100 – 200	0.75
200 – 300	0.50
300 – 400	0.25
>400	0.10

### 10.3 LENGTH FACTORS

Each property was assigned a factor between 0 and 1 based on their relative location in the watershed. Properties farthest upstream (top of the watershed) make use of the entire length of the drain and were assigned a factor of 1.0, while properties at the outlet of the drain only make use of a small relative apportionment of the total system; and were assigned a smaller factor.

Properties throughout the watershed were then assigned factors between 1.0 and 0.38 based on their relative location within the watershed. Factors were determined based on the approximate outlet station of where water from the property would be expected to enter the drain, and pro-rated accordingly.

For example, when calculating the assessments for a property draining halfway along the length of a given drain at 500m in length, the property would be assigned a factor of 0.5.

This would be calculated as follows:

$$(500-250) / 500 = 0.5$$

This calculation equates the total linear length of the drain used (500 – 250; where 500 is the total length of the drain in meters, and 250 is the approximate point at which the property's water enters the drain) and assigns that value as a factor.

Each of these factors (land use, offset, and length) was used to determine an equivalent area, which was used to determine the apportionment of the associated outlet liability for each property.

## **11.0 FEES**

### **11.1 INITIAL CONSTRUCTION FEES**

As the realignment of the municipal drain is being undertaken as part of the County Road 22 reconstruction contract, with all costs to be borne by the County as part of their capital project; no separate construction cost estimate has been prepared for the realignment.

### **11.2 ENGINEERING FEES**

All engineering fees associated with the preparation of this report have been borne by the County of Stormont, Dundas and Glengarry. As the County Road 22 project included multiple realignments, which were all undertaken simultaneously, it is difficult to separate out the specific engineering fees associated with the Morrow-Brabec component of the project. As all engineering fees have been agreed to be paid by the County, no separation of engineering costs specific to the Morrow-Brabec Branch has been completed.

### **11.3 FUTURE MAINTENANCE FEES**

As the fees associated with future maintenance works are not expected to be within the next 5-10 years, it is difficult to predict future costs and future inflation. With that, assessments associated with future maintenance have been estimated based on the same 1974 initial construction costs. Future maintenance fees would be assessed in the same apportionment as those reflected in the enclosed assessment schedule. E.g. if a property was assessed \$2,000 out of a total \$10,000 budget, their apportionment would be 20% of the total fees. Therefore, if future maintenance was to cost \$20,000, they would be assessed 20%, or \$4,000.



## 12.0 PERMITTING & SPECIAL CONSIDERATIONS

As part of the preparation of this report, Shade Group conducted a review of AgMaps, the Geographic Information System managed by the Ministry of Agriculture, Food and Rural Affairs. AgMaps identifies the Morrow-Brabec Branch as 'Class F' drains. Class F drains are defined as intermittent watercourses that are dry for at least 3 months of the year.

### 12.1 SOUTH NATION CONSERVATION AUTHORITY

The County of Stormont, Dundas and Glengarry submitted the applicable design documents to South Nation Conservation Authority for permitting. A copy of the final permit has been enclosed in **Appendix E**. This permit is limited to the initial construction – future maintenance works would be subject to applicable permitting requirements at the time of such work.

### 12.2 FISHERIES AND OCEANS CANADA

The County of Stormont, Dundas and Glengarry submitted the applicable design documents to Fisheries and Oceans Canada (DFO) for review and comment, through the Request for Review process. A copy of the "letter of advice" from DFO has been enclosed in **Appendix E**. This letter is limited to the initial construction – future maintenance works would be subject to applicable permitting requirements at the time of such work.

### 12.3 OTHER CONSIDERATIONS

#### UTILITIES

The contractor shall acquire applicable utility clearance prior to excavation as per the Ontario Underground Infrastructure Notification System Act. Should utility conflicts be identified, BTE is to be notified to address any redesign considerations. Any changes to the design would need to be incorporated into the Engineer's Report. Changes needed during construction may be eligible to be incorporated through 84.1 (1) of the Drainage Act, as outlined in O. Reg 500/21, Part III, Process for Amendments to an Engineer's Report.

#### WORKING SPACE

The Drainage Act specifies that works (both maintenance and initial construction) are to be completed within the working space designated in the Engineer's Report (Section 63(1)).

For the initial construction, the working space shall be considered to be 30m from the top of bank on both sides of the drain. For future maintenance, the working space is specified as 20m from the top of bank on either side of the drain. This working space will allow the Drainage Superintendent to complete works either from the south or north side of the drain. This working space is required to ensure that maintenance works can be performed and allows excavated materials to be spread within the working space.

Permanent obstructions should not be installed within the working space, including (but not limited to) trees, fences, structures, etc. Obstructions that impact future maintenance works

maybe removed by the Drainage Superintendent or the property owner – at the expense of the property owner. Where fences are installed – reinstatement costs would be the responsibility of the property owner.

#### SPREADING OF MATERIAL – FUTURE MAINTENANCE

When undertaking future maintenance, it is anticipated the sediment from the ditch bottom will need to be excavated out of the channel to restore the original drain design. The bottom of the ditch shall be excavated to an even grade so that no water may lay stagnant therein.

The excavated earth/silt from the drain cleanout shall be spread on the north side of the drain. In cultivated lands, the depth of spread materials shall not exceed 150mm (6 inches) above grade and relief channels shall be cut at a maximum spacing of 50m to allow surface water to continue to sheet flow into the drain – so as not to berm the adjacent lands by the excavated materials. Materials shall be taken a minimum of 3m back from the top of slope.

#### OFF-SITE DISPOSAL – OWNER'S EXPENSE

Where offsite disposal is requested by a property owner, the property owner may make arrangements with the Contractor to have the material hauled away. Costs would be borne solely by the requesting property owner – and a signed agreement between the Contractor and property owner would need to be presented to the Drainage Superintendent. The property owner would pay the Contractor directly for these additional works. Note that off-site removal may be subject to other legislative requirements, including the "Excess Soil Regulations".

#### ADDITIONAL CONSTRUCTION SPECIFICATIONS

Additional construction specifications can be found in the **Special Provisions** as taken from the County Road 22 Tender Document – available under separate cover. The entirety of the Special Provisions are available for completeness, however some provisions may be irrelevant to the specific drainage works and may not be relevant to future maintenance works. Applicability of the special provisions shall be at the discretion of the Drainage Superintendent, who shall be responsible for administering the maintenance works.

### **13.0 ADIP GRANTS**

Properties that are registered with the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) for the Farm Property Class Tax Rate Program may be eligible for a 1/3 grant from the Province. As the initial construction costs, including the engineering associated with this report, are being borne by the County as part of the capital works project, grant eligibility would only be applicable to future maintenance works.

## 14.0 CLOSING

This submission is respectfully submitted to the Council of the Township of North Stormont this February 6, 2025.

Should you have any questions or concerns, please do not hesitate to contact the undersigned.

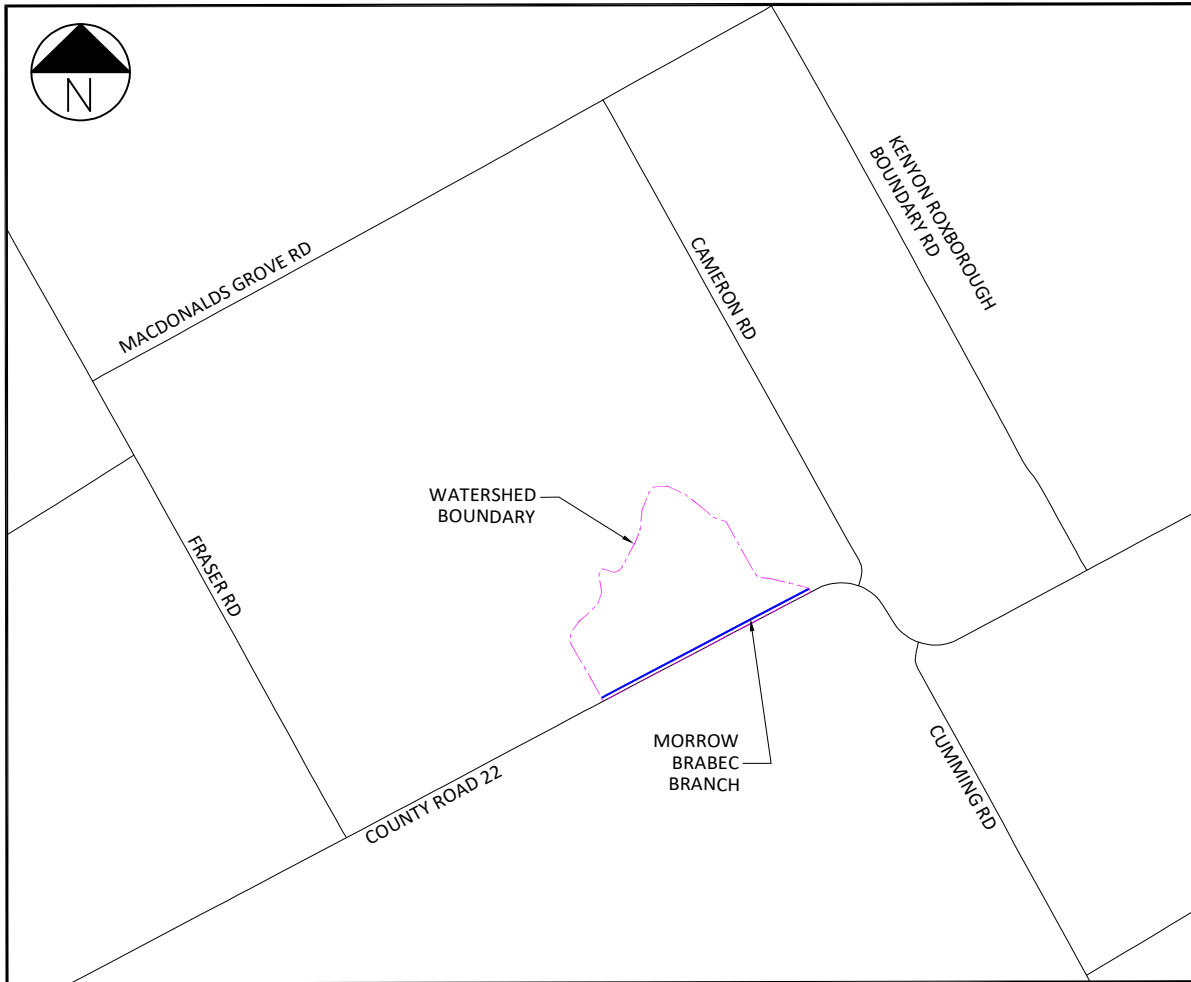


**Monica Shade, P. Eng.**  
Drainage Engineer  
**Shade Group Inc.**

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## **APPENDIX A**

### LOCATION PLAN



LOCATION PLAN  
N.T.S.

MORROW-BRABEC BRANCH OF THE  
CUMMING DRAIN  
TOWNSHIP OF NORTH STORMONT  
2025

**SHADE**  
**GROUP** INC

---

## **APPENDIX B**

### **ASSESSMENT SCHEDULE**

Assessment Schedule - Updated 2025  
**Schedule 'A'**  
**Morrow-Brabec Branch - Cumming Municipal Drain**  
**Future Maintenance**

Property ID No.	Roll No.	Con	Lot	Area Drained (ha)	Outlet (\$)	Benefit (\$)	Est Assess. (\$)*
1	0411016-009-35000	7	3	6.2	\$ 1,105.03	\$ 950.20	\$ <b>2,055.23</b>
2	0411016-009-34000	7	3	8.2	\$ 890.65	\$ 862.03	\$ <b>1,752.68</b>
3	0411016-009-33000	7	2	10.8	\$ 657.97	\$ 754.28	\$ <b>1,412.25</b>
4	0411016-009-32000	7	1, 2	11.2	\$ 610.71	\$ 842.44	\$ <b>1,453.15</b>
<b>Sub-Total</b>					\$ <b>3,264.36</b>	\$ <b>3,408.95</b>	\$ <b>6,673.31</b>

\*Estimated Assessment does not include Farm Tax Credit (FTC). Farm Tax Credit eligibility to be confirmed at time of maintenance.

**Roads**

ID/Name	Owner	Outlet (\$)	Benefit (\$)	Net Assessment (\$)
County Road 22	United Counties of Stormont, Dundas, and Glengarry	\$ 1,568.74	\$ 2,742.27	\$ <b>4,311.01</b>
<b>Sub-Total</b>		\$ <b>1,568.74</b>	\$ <b>2,742.27</b>	\$ <b>4,311.01</b>

**Summary**

Real Properties	\$ 3,264.36	\$ 3,408.95	\$ <b>6,673.31</b>
United Counties of Stormont, Dundas, and Glengarry - Roads	\$ 1,568.74	\$ 2,742.27	\$ <b>4,311.01</b>
<b>Sub-Total (Pre-Tax/Grant)</b>	\$ <b>4,833.10</b>	\$ <b>6,151.22</b>	\$ <b>10,984.32</b>



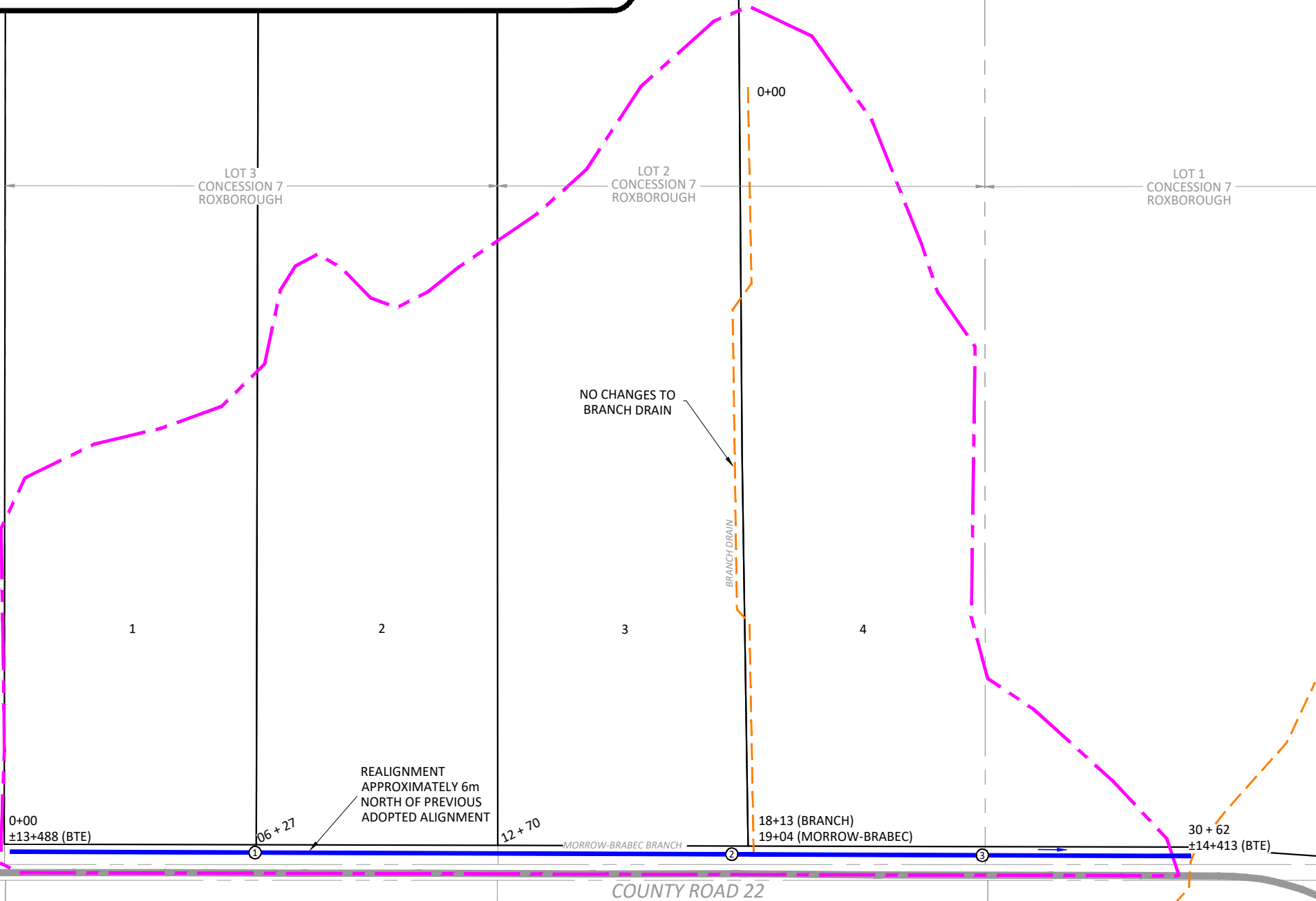
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## **APPENDIX C**

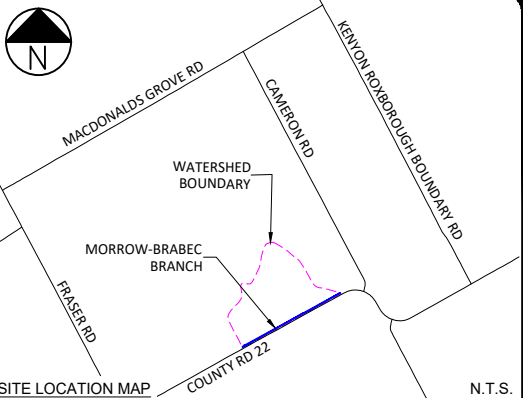
### ENGINEERING DRAWINGS



# MORROW-BRABEC BRANCH TO THE CUMMING MUNICIPAL DRAIN



MORROW-BRABEC BRANCH CULVERTS						
CULVERT I.D.	CULVERT I.D. (BTE)	PROPERTY I.D. REF.	APPROX. STATION (BTE)	DIAMETER (mm)	MATERIAL	LENGTH (m)
1	DC42	1,2	13+663	1000	CSP	26.1
2	DC45	3	14+042	1000	CSP	24.7
3	DC46	4	14+241	1200	CSP	28.8



ALL DIMENSIONS ARE IN METRES. DO NOT SCALE DRAWING

PAGE SIZE 11" x 17" SCALE 1 : 3,500

SHADE GROUP INC.  
4625 MARCH ROAD  
ALMONTE, ONTARIO  
K0A 1A0

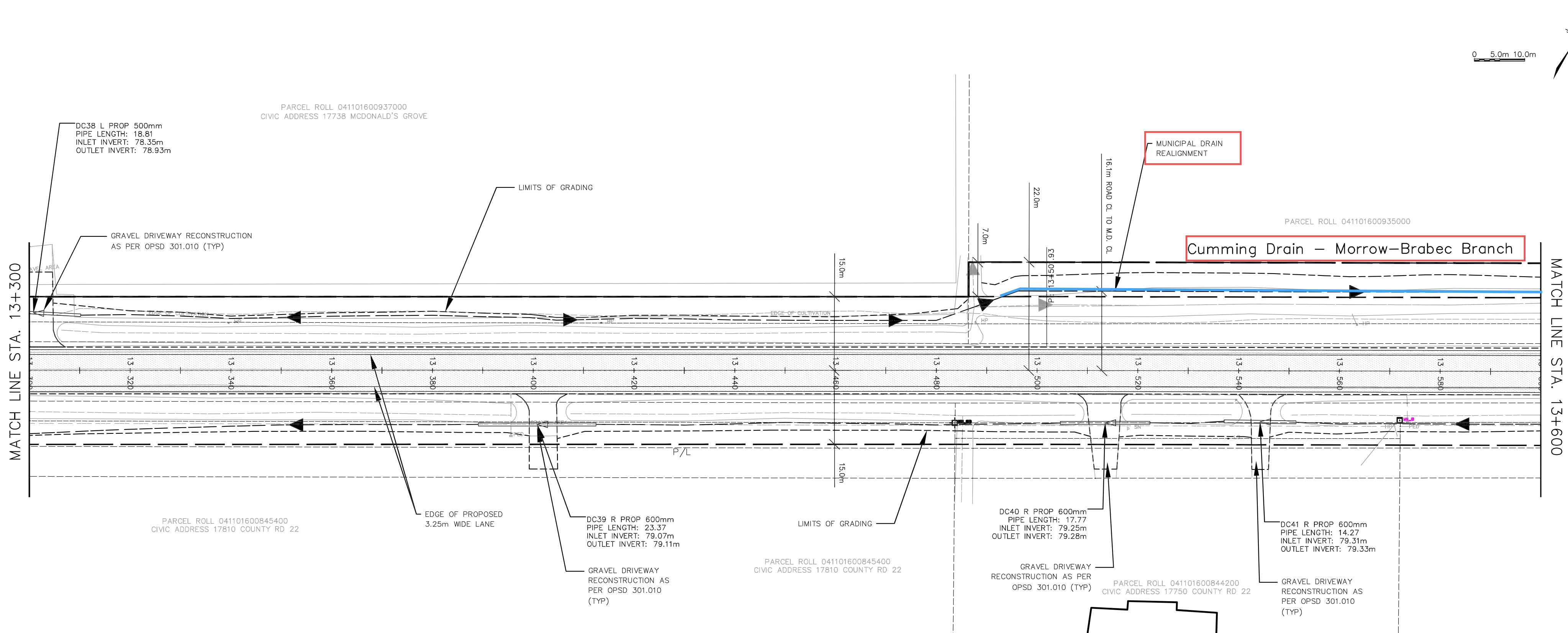


- LEGEND
- APPROX. PROPERTY LINES (GIS DATA)
  - MORROW-BRABEC BRANCH REALIGNMENT
  - WATERSHED BOUNDARY
  - WATERCOURSES
  - LOT AND CONCESSION LINES
  - ROAD
  - 0+00 STATIONS (FT) - PER 1974 ENGINEER'S REPORT
  - ±13+488 (BTE) STATIONS (m) - PER BTE PROFILE DRAWINGS
  - 1 PROPERTY ID REFERENCE REFER TO ASSESSMENT SCHEDULE
  - Ⓢ APPROX. LOCATION OF CULVERT
  - ➔ DIRECTION OF FLOW

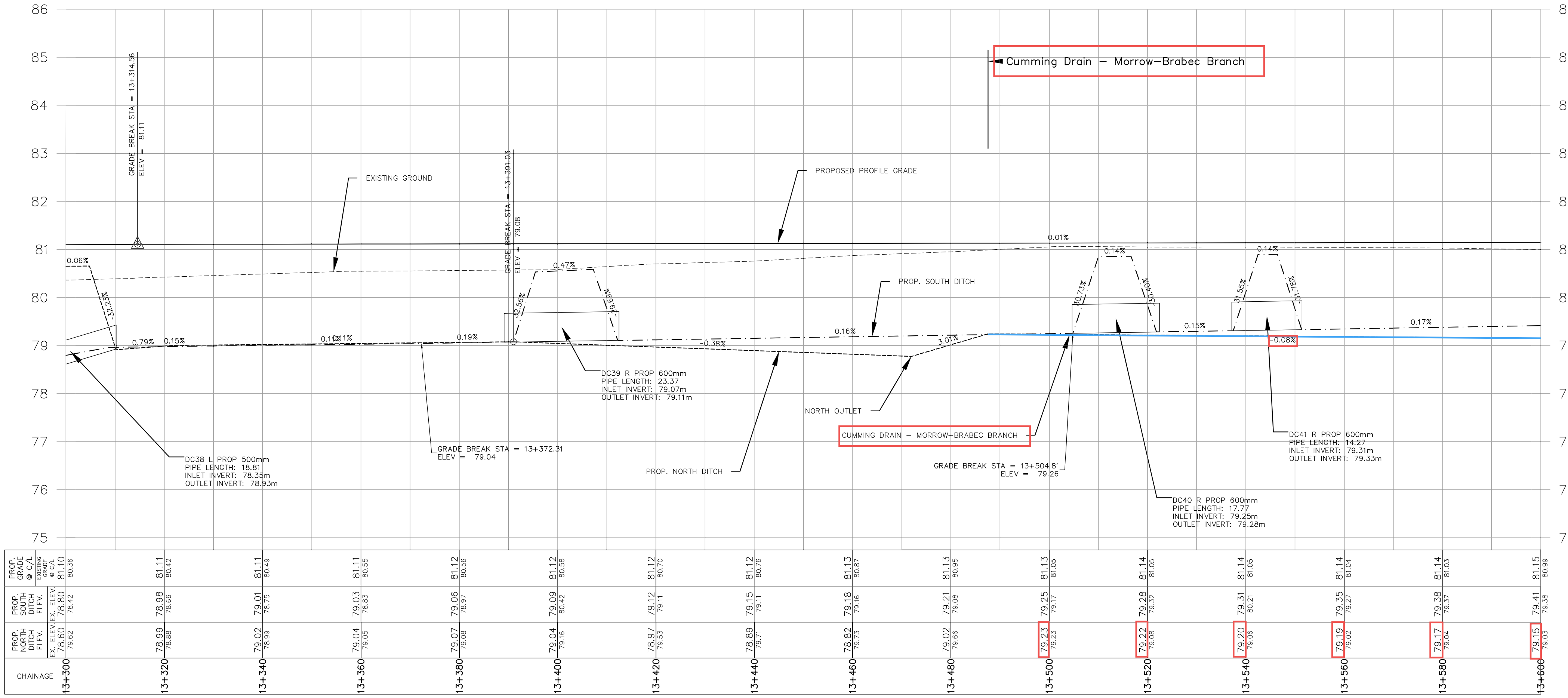
00	ISSUED WITH ENGINEER'S REPORT	FEB 6, 2025
REV.	DESCRIPTION	DATE



PROJECT TITLE	MORROW-BRABEC BRANCH TO THE CUMMING MUNICIPAL DRAIN
DRAWING TITLE	WATERSHED MAP PLAN VIEW
DRAWING NO.	1 OF 1



STORMONT, DUNDAS AND GLENGARRY COUNTY ROAD 22



- GENERAL NOTES
1. THE LOCATION OF UTILITIES IS APPROXIMATE ONLY. THE EXACT LOCATION SHOULD BE DETERMINED BY CONSULTING THE MUNICIPAL AUTHORITIES AND UTILITY COMPANIES CONCERNED. THE CONTRACTOR SHALL PROTECT THE LOCATION OF UTILITIES AND SHALL BE RESPONSIBLE FOR ADEQUATE PROTECTION FROM DAMAGE.
  2. DRAWINGS PLOTTED HALF SIZE (1:1) ARE NOT TO SCALE.
  3. ALL DISTURBED AREAS WHERE GRADING IS REQUIRED UNLESS OTHERWISE NOTED IN PLAN SHALL BE RESTORED WITH 100mm TOPSOIL SEED & MULCH.
  4. WHERE PAVED DRIVEWAY RECONSTRUCTION INDICATED IN PLAN PAVEMENT STRUCTURE SHALL BE 50mm H13 AND PAD WITH GRANULAR 'A' AS REQUIRED. WHERE GRANULAR DRIVEWAY RECONSTRUCTION INDICATED IN PLAN RECONSTRUCT WITH GRANULAR 'A' AS REQUIRED.
  5. ALL DRIVEWAY RECONSTRUCTIONS ARE TO MATCH EXISTING WIDTH AND OPD 301.010.
  6. 1.5m SHOULDER (1.0m PARTIALLY PAVED SHOULDER).
  7. PAVEMENT REHABILITATION  
- IN PLACE PROCESS TO 200mm DEPTH (SEE NOTE ON TYPICAL SECTIONS).  
- PLACE AND GRADE GRANULAR B IF NECESSARY (DEPTH VARIES).  
- ADD GRANULAR A AND COMPACT AS REQUIRED TO ACHIEVE THE TOP OF ASPHALT DESIGN ELEVATION (150mm MAX GRANULAR A DEPTH).  
- PLACE NEW ASPHALT COURSES.

LEGEND

— DRAIN BOTTOM

NOTES RELEVANT TO MORROW BRABEC BRANCH

INTEGRATION DATA			
SPECIFIED CONTROL POINTS (SCPs): XTM ZONE XX, NAD83 (ORIGINAL).			
COORDINATES TO A ***URBAN RURAL REMOTE*** ACCURACY PER SECTION 14 (2) OF OREGON 216/10.			
POINT ID	EASTING	NORTHING	
SCP 0082070142	505 079.67	5 011 904.17	
SCP 01019920466	511 131.14	5 013 326.41	
COORDINATES CANNOT IN THEMSELVES BE USED TO RE-ESTABLISH CORNERS OR BOUNDARIES SHOWN ON THIS PLAN.			
BENCHMARK DATA (SIB, IB AND RIB)			
EASTING	NORTHING	ELEVATION	
508069.487	5013731.809	79.359	
508146.858	5013774.367	80.072	
508146.922	5013774.282	79.952	

NO.	REVISIONS	DATE	APPROVED
1.	ISSUED FOR 90% REVIEW	MM/YY	S.J.T.
2.	ISSUED FOR TENDER	07/24	S.J.T.

COUNTY ROAD 22

UNITED COUNTIES OF STORMONT, DUNDAS AND GLENGARRY

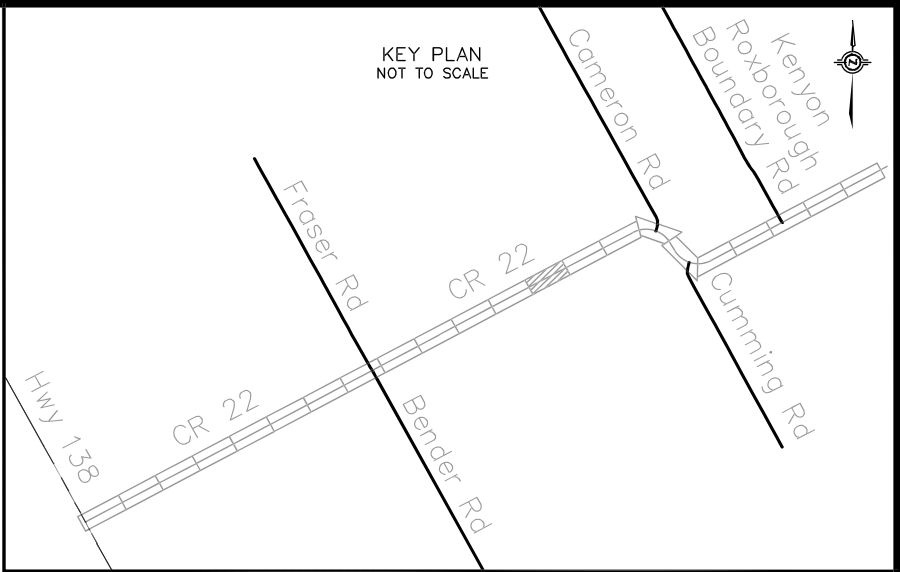
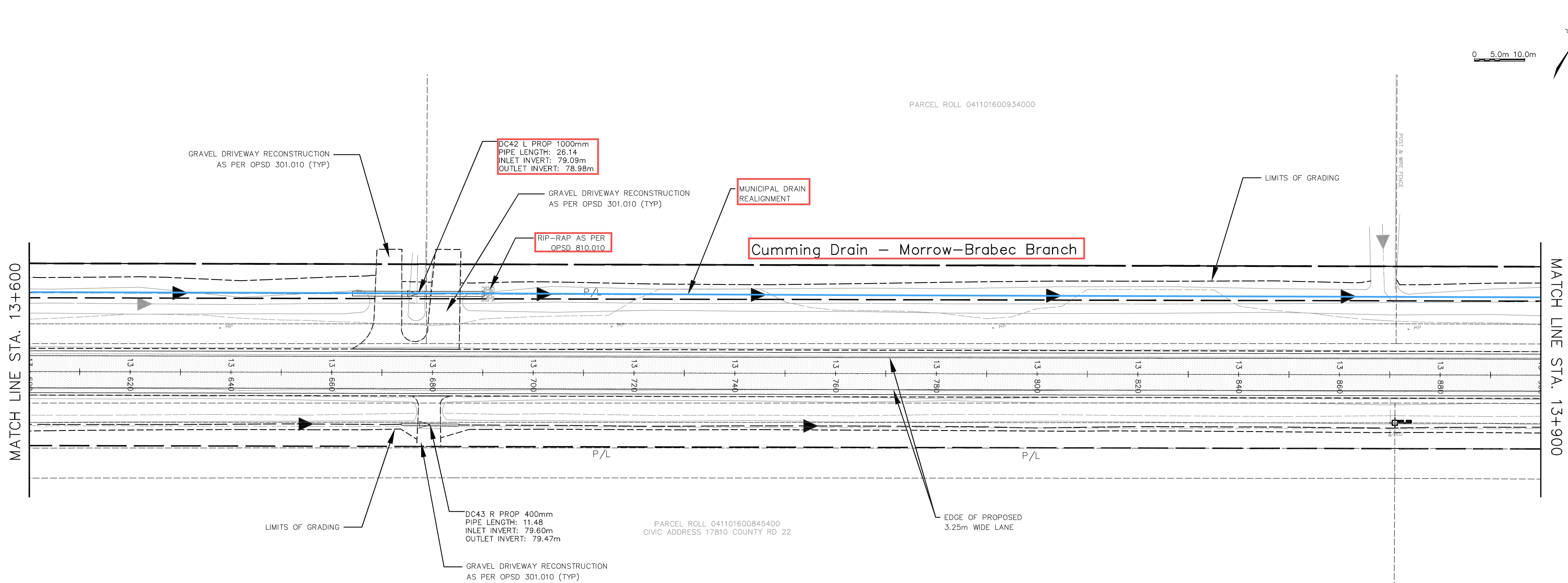
NEW CONSTRUCTION

STA. 13+300 TO STA. 13+600

BT ENGINEERING

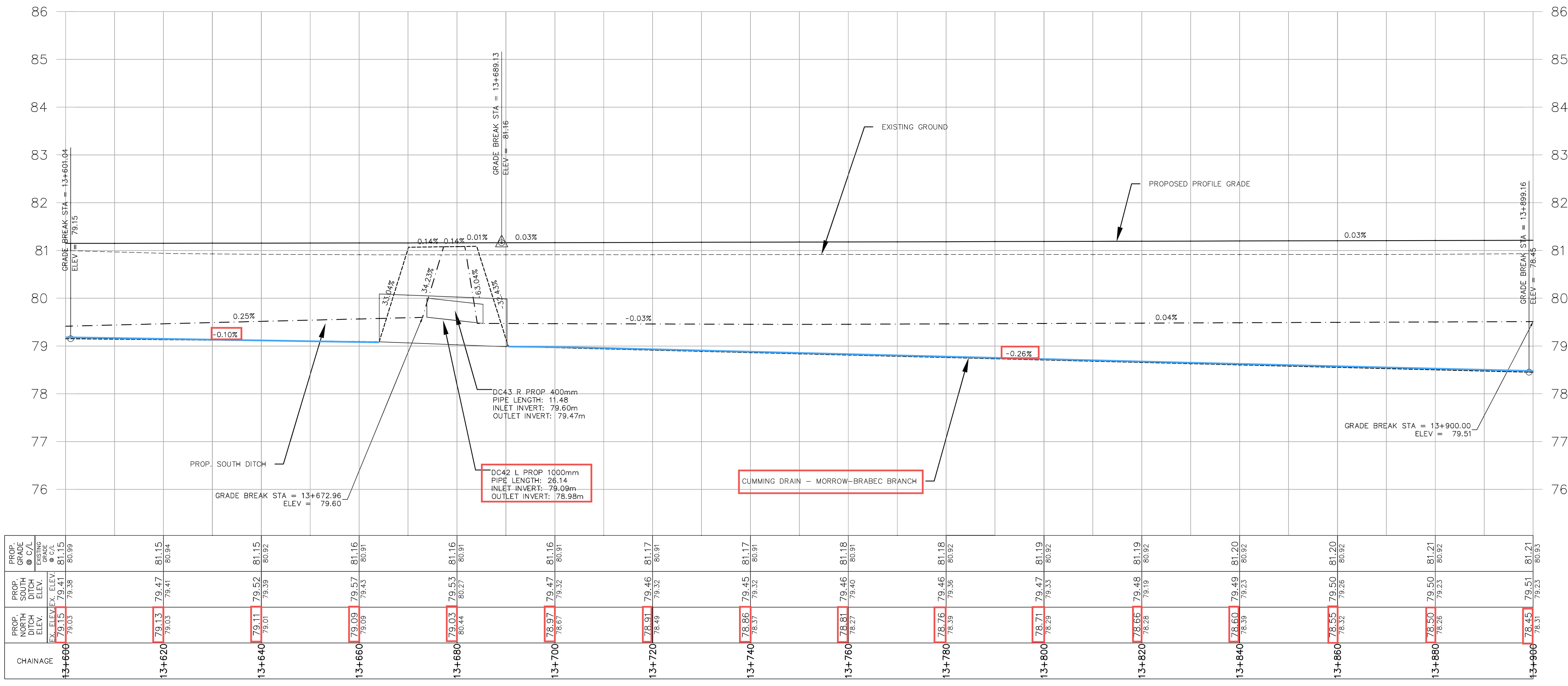
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DESIGN A.D.	DRAWN A.D.	SHEET NO. C-012
REVIEWED S.J.T.	DATE 2024.07	





- GENERAL NOTES
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    - PLACE NEW ASPHALT COURSES.
- LEGEND
- DRAIN BOTTOM
  - NOTES RELEVANT TO MORROW BRABEC BRANCH

STORMONT, DUNDAS AND GLENGARRY COUNTY ROAD 22



BENCH MARKS

INTEGRATION DATA			
SPECIFIED CONTROL POINTS (SCPs): XTM ZONE XX, NAD83 (ORIGINAL).			
COORDINATES TO A ***URBAN RURAL REMOTE*** ACCURACY PER SECTION 14 (2) OF O.Reg 216/10.			
POINT ID	EASTING	NORTHING	
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SCP 01019920466	511 131.14	5 013 326.41	
COORDINATES CANNOT IN THEMSELVES, BE USED TO RE-ESTABLISH CORNERS OR BOUNDARIES SHOWN ON THIS PLAN.			

BENCHMARK DATA (SIB, IB AND RIB)		
EASTING	NORTHING	ELEVATION
508410.044	5013916.33	79.774

NO.	REVISIONS	DATE	APPROVED
1.	ISSUED FOR 90% REVIEW	MM/YY	S.J.T.
2.	ISSUED FOR TENDER	07/24	S.J.T.

COUNTY ROAD 22

UNITED COUNTIES OF STORMONT, DUNDAS AND GLENGARRY

NEW CONSTRUCTION

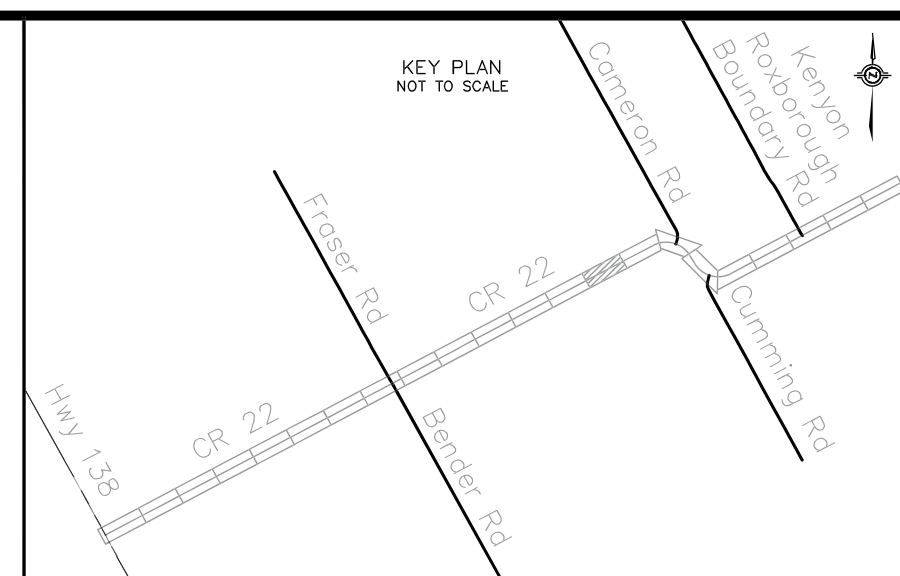
STA. 13+600 TO STA. 13+900

**BT ENGINEERING**

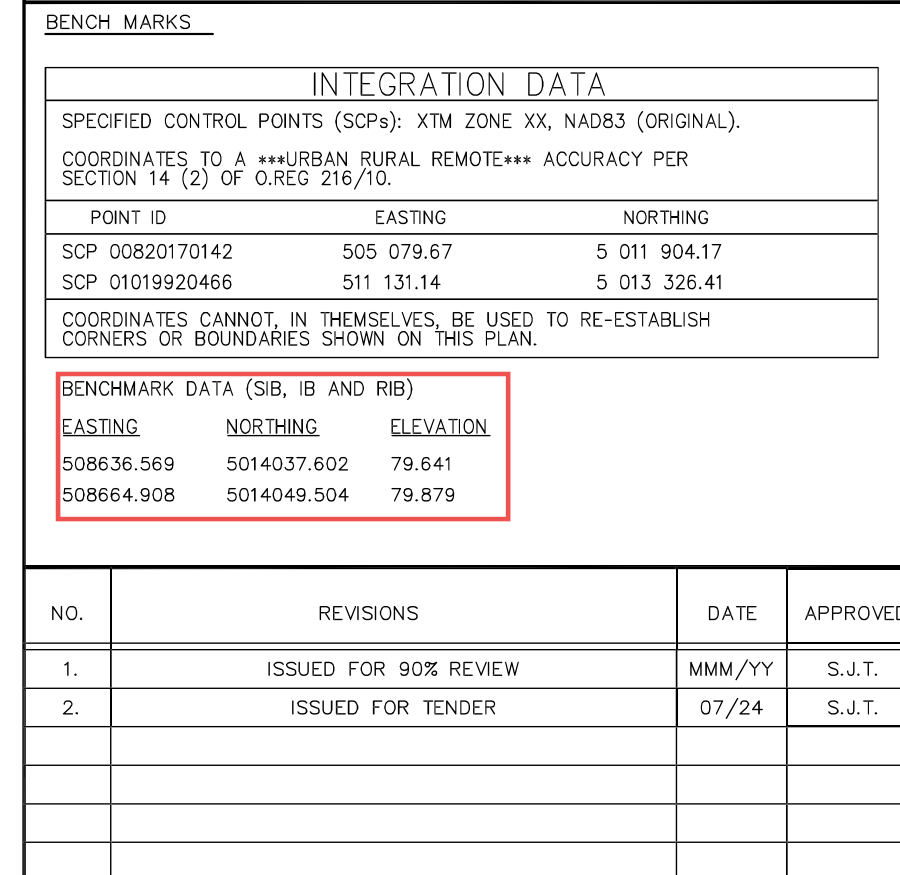
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REVIEWED S.J.T.	DATE 2024.07	

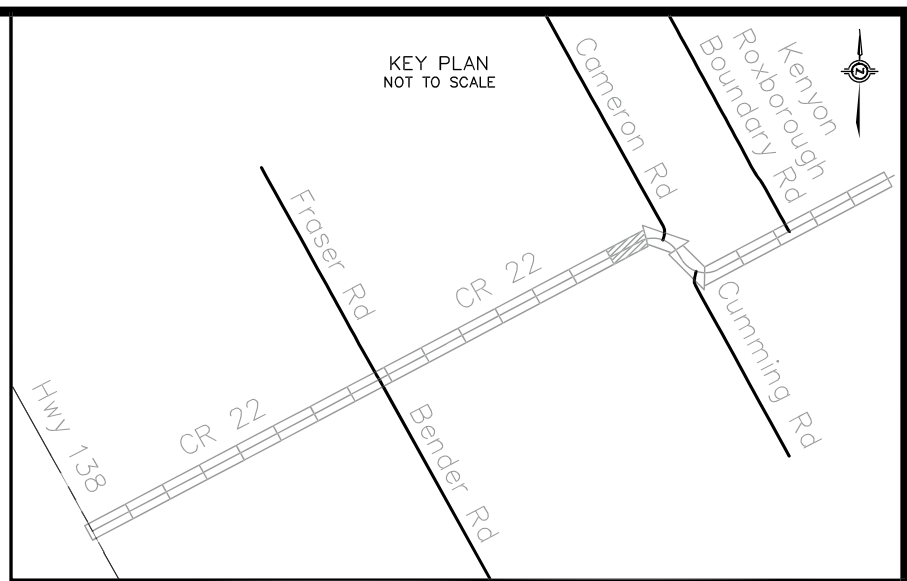
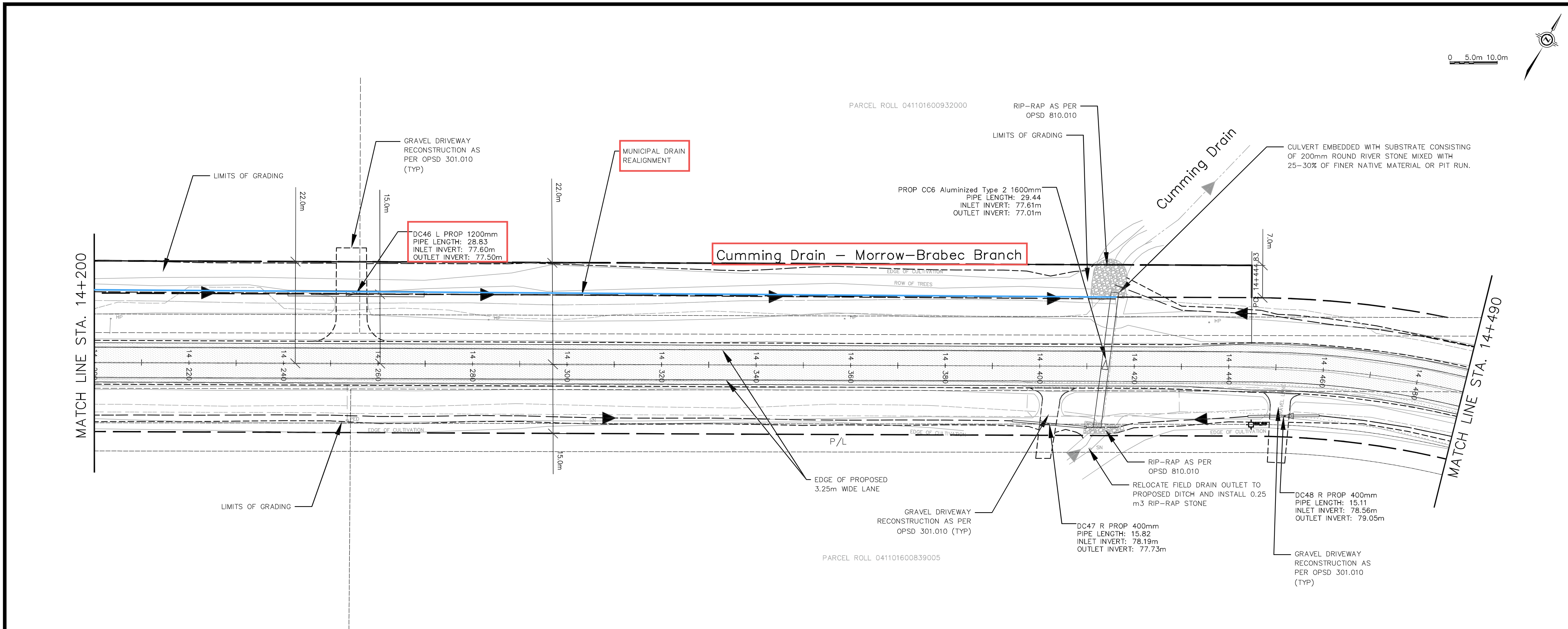




- LEGEND
- DRAIN BOTTOM
- NOTES RELEVANT TO MORROW  
BRABEC BRANCH

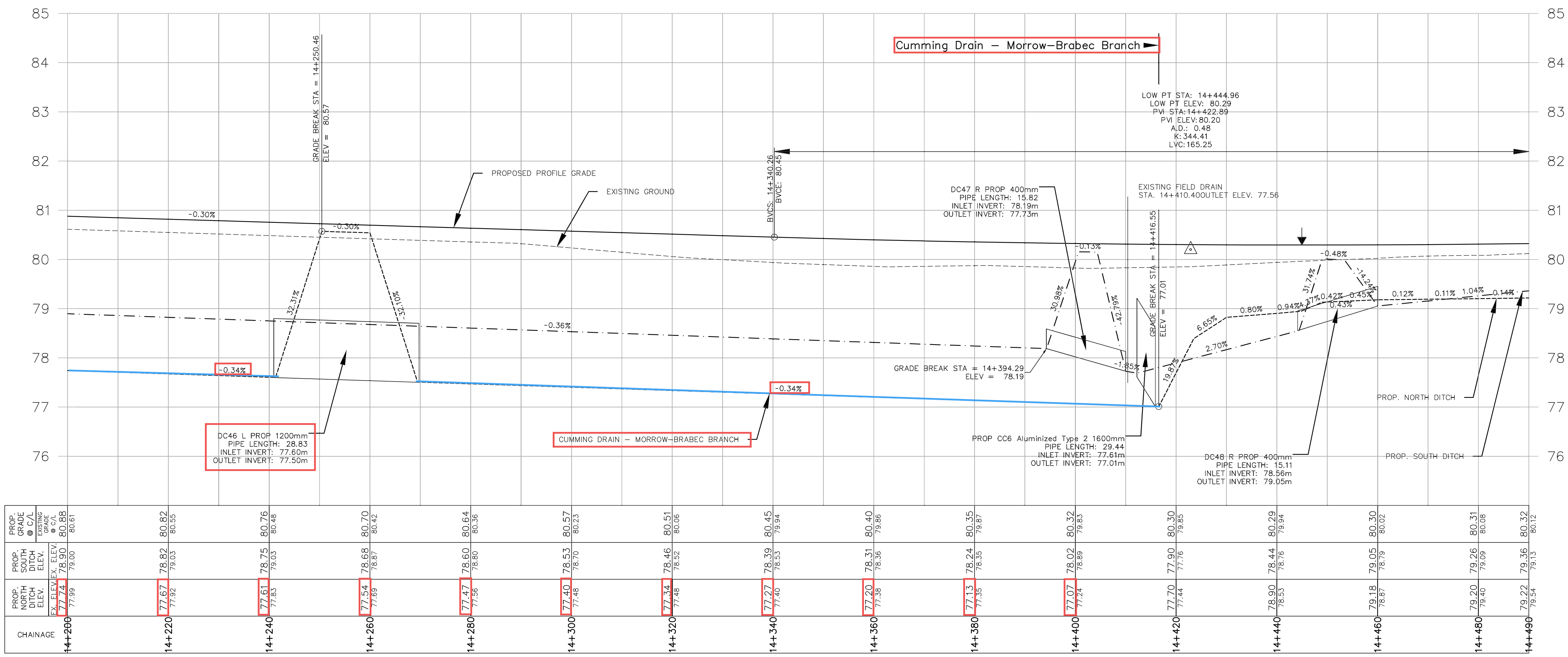






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- LEGEND**
- DRAIN BOTTOM
  - NOTES RELEVANT TO MORROW BRABEC BRANCH

# STORMONT, DUNDAS AND GLENGARRY COUNTY ROAD 22



**BENCH MARKS**

INTEGRATION DATA			
SPECIFIED CONTROL POINTS (SCPs): XTM ZONE XX, NAD83 (ORIGINAL).			
COORDINATES TO A ***URBAN RURAL REMOTE*** ACCURACY PER SECTION 14 (2) OF O. REG 216/10.			
POINT ID	EASTING	NORTHING	
SCP 0082070142	505 079.67	5 011 904.17	
SCP 01019920466	511 131.14	5 013 326.41	
COORDINATES CANNOT IN THEMSELVES BE USED TO RE-ESTABLISH CORNERS OR BOUNDARIES SHOWN ON THIS PLAN.			

**BENCHMARK DATA (SIB, IB AND RIB)**

EASTING	NORTHING	ELEVATION
508916.765	5014185.432	79.005

**REVISIONS**

NO.	REVISIONS	DATE	APPROVED
1.	ISSUED FOR 90% REVIEW	MM/YY	S.J.T.
2.	ISSUED FOR TENDER	07/24	S.J.T.

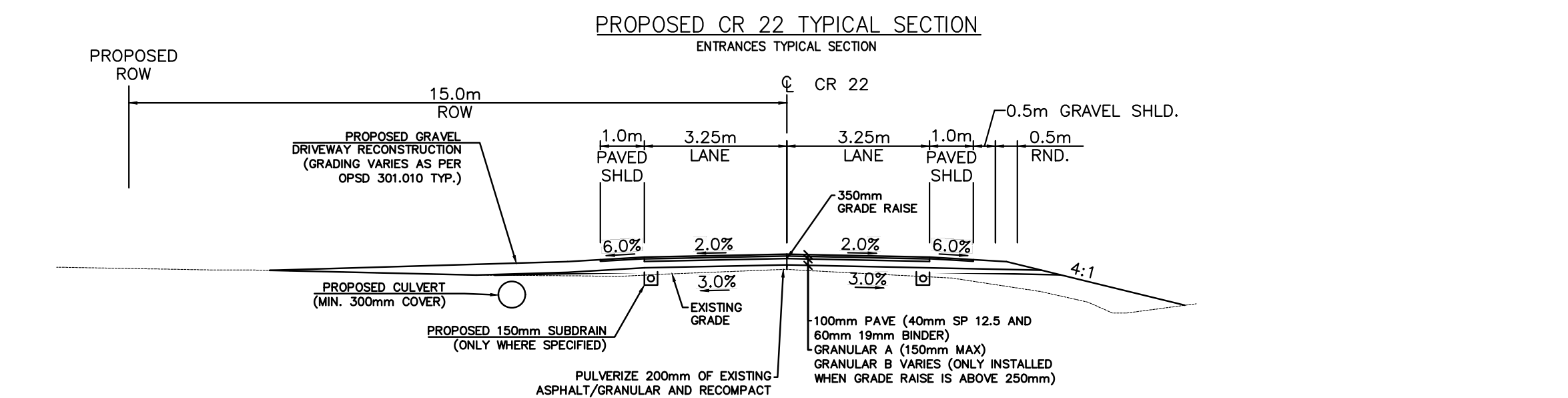
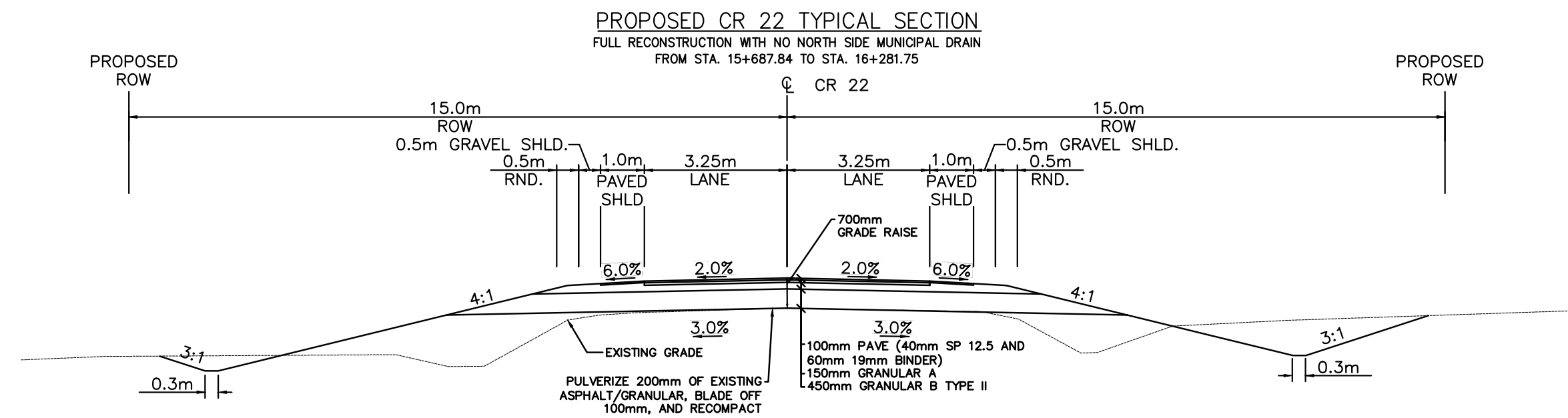
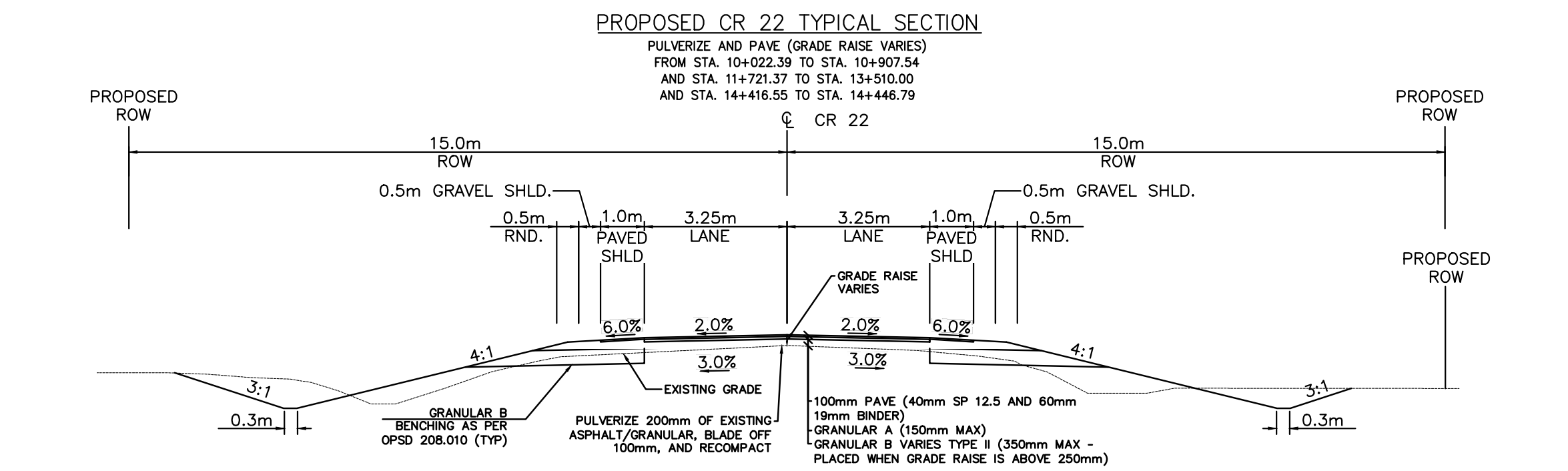
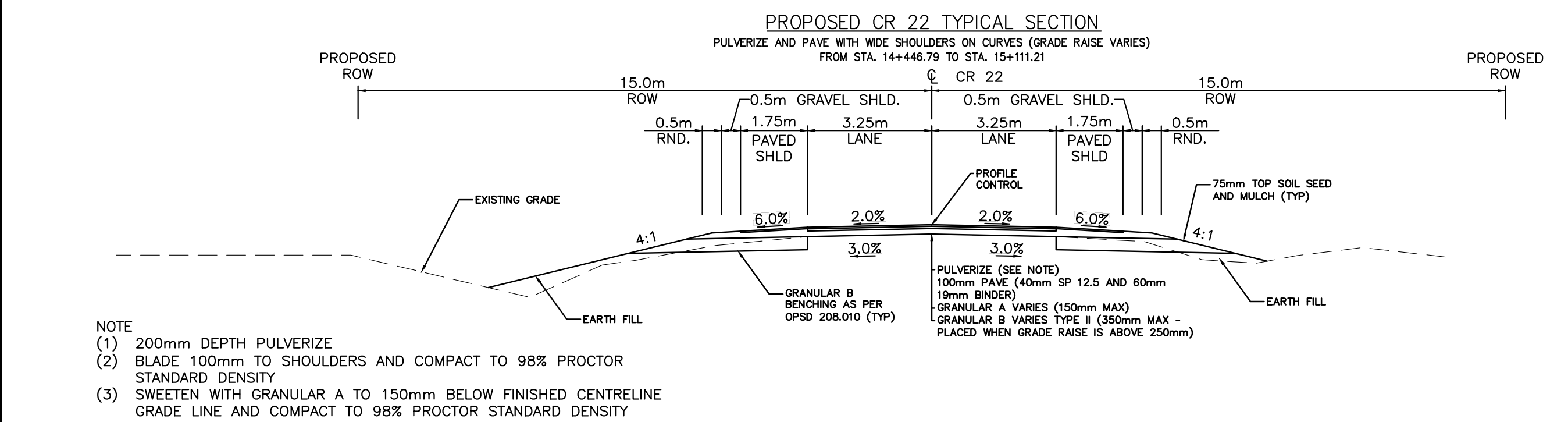
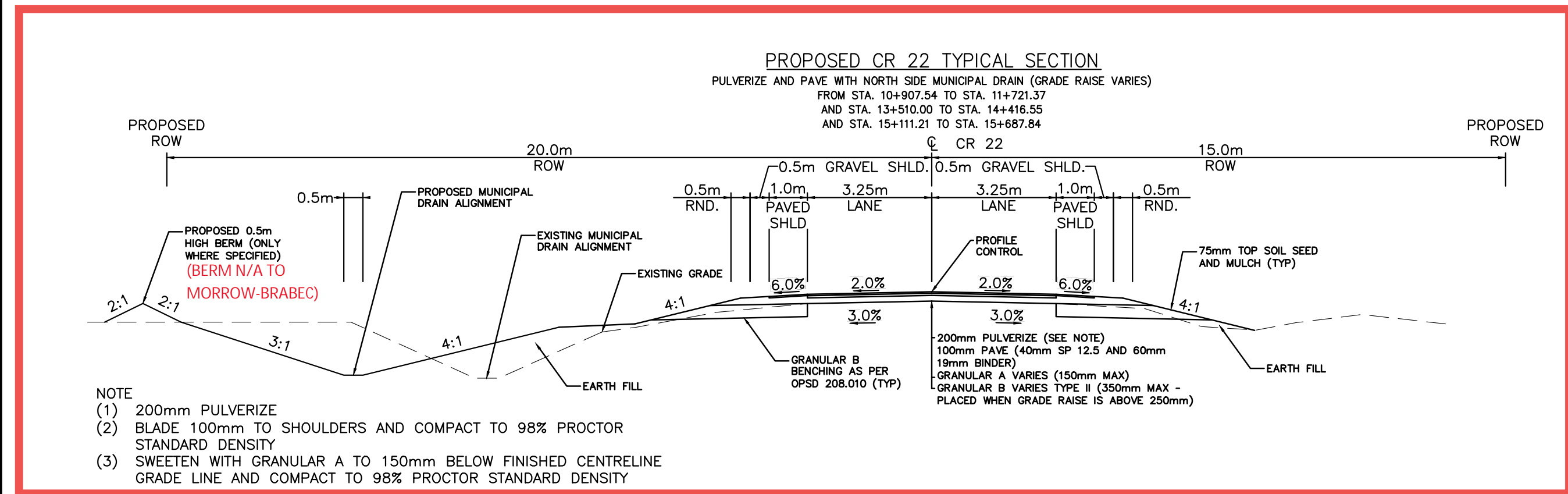
**COUNTY ROAD 22**  
UNITED COUNTIES OF STORMONT, DUNDAS AND GLENGARRY  
NEW CONSTRUCTION  
STA. 14+200 TO STA. 14+900

**BT ENGINEERING**  
**BTE**

SCALE: HOR. 1:500 VERT. 1:50  
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REVIEWED S.J.T. DATE 2024.07

CONTRACT NO. 2024-22-00000  
SHEET NO. C-015



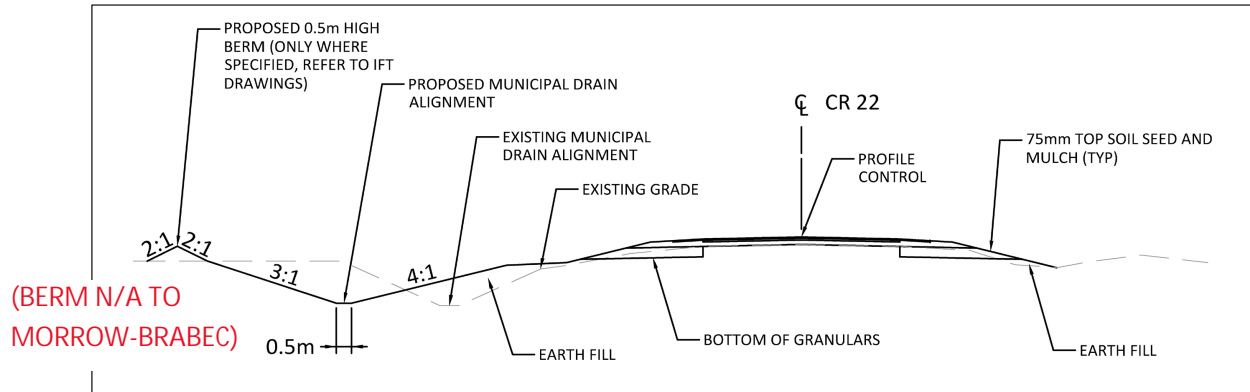


GENERAL NOTES	BENCH MARKS	NO.	REVISIONS	DATE	APPROVED			COUNTY ROAD 22 UNITED COUNTIES OF STORMONT, DUNDAS AND GLENGARRY TYPICAL SECTIONS	BT ENGINEERING <b>BTE</b>			
		1.	ISSUED FOR 90% REVIEW	MMM/YY	S.J.T.				SCALE HOR. N.T.S. VERT. N.T.S. CONTRACT NO.			
		2.	ISSUED FOR TENDER	07/24	S.J.T.				DESIGN A.D. DRAWN A.D. SHEET NO. CX-001			
									REVIEWED S.J.T. DATE 2024.07			

**Subject:** Municipal Drain Assessment

**Project:** BTE File 22-019, Stormont, Dundas and Glengarry Counties, County Road 22 Rehabilitation

**Date:** July 30, 2024



**Figure 3: Municipal Drain Typical Section**

## 7.0 RESULTS AND COMMENTS

### 7.1 Design Flows

Peak flows for the driveway culverts along the realigned drain sections are summarized in **Table 4**.

**Table 4: Proposed Municipal Drain Realignment Peak Flow Results**

Municipal Drain Branch	Design Flow (m <sup>3</sup> /s)
Brabant Branch	0.58
McRae Branch	1.66
Morrow-Brabec Branch	0.49
County Road Branch	1.21

### 7.2 Culvert Sizing

**Table 5** shows the recommended sizes for the driveway culverts to convey the minimum 10-year design flow. HEC-RAS Analysis Report and Results are presented in **Appendix A**.

**Table 5: Proposed Culvert Configuration**

Culvert ID	Branch	Start Station	Type	Size (mm)	Length (m)	Slope (m/m)
DC6	Roadside Ditch	10+464.578	Circular CSP	500	45.45	0.011
DC9	Roadside Ditch	10+654.500	Circular CSP	600	16.74	0.004
DC11	Roadside Ditch	10+759.487	Circular CSP	600	16.50	0.003
DC14	Brabant Branch	10+957.300	Circular CSP	900	33.96	0.008
DC16	Brabant Branch	11+166.137	Circular CSP	1100	117.34	0.004
DC21	Brabant Branch	11+341.302	Circular CSP	1100	27.90	0.003
DC22	McRae Branch	11+551.830	Circular CSP	1400	76.02	0.006
DC23	McRae Branch	11+695.744	Circular CSP	1400	18.51	0.012
DC42	Morrow-Brabec Branch	13+664.102	Circular CSP	1000	26.14	0.004



**Subject:** Municipal Drain Assessment

**Project:** BTE File 22-019, Stormont, Dundas and Glengarry Counties, County Road 22 Rehabilitation

**Date:** July 30, 2024



Culvert ID	Branch	Start Station	Type	Size (mm)	Length (m)	Slope (m/m)
DC45	Morrow-Brabec Branch	14+042.928	Circular CSP	1000	24.72	0.003
DC46	Morrow-Brabec Branch	14+240.913	Circular CSP	1200	28.83	0.003
DC51	County Road Branch	15+121.895	Circular CSP	1000	24.58	0.009
DC52	County Road Branch	15+319.935	Circular CSP	1000	23.96	0.004
DC54	County Road Branch	15+492.587	Circular CSP	1000	26.20	0.007

According to the MTO Highway Drainage Standards (2008), the ratio HW/D of the headwater depth upstream of the culvert (HW) to the diameter or rise of the culvert (D) must be less than 1.5. In addition, as indicated in the design criteria (**Table 1**), the headwater elevation must be below the driveway surface. The calculated ratios and freeboards comply with these requirements and are shown in **Table 6**.

**Table 6: Headwater/Diameter (Rise) Ratio and Freeboard for Proposed Culverts**

Culvert ID	HW/D	Freeboard (m)
DC6	0.63	0.57
DC9	0.91	0.66
DC11	0.93	0.57
DC14	0.72	0.98
DC16	0.51	0.69
DC21	0.58	0.82
DC22	0.79	0.45
DC23	0.75	0.40
DC42	0.62	1.02
DC45	0.61	1.16
DC46	0.47	1.54
DC51	1.00	0.43
DC52	0.58	0.74
DC54	0.33	1.09

### 7.3 Municipal Drain Size

The results of the hydrologic modelling of the municipal drain branches indicate that the proposed ditch capacity is appropriate to convey the 10-year flow with the proposed culvert configuration from **Table 5**. Cross sections and water surface elevations along the evaluated drains are presented in **Appendix A**.

---

## **APPENDIX D**

### **RESOLUTIONS + BY-LAW**



The Corporation of the Township of  
**NORTH STORMONT**  
**RESOLUTION**

**Date:** July 26, 2022

**Resolution No.** 219-2022

**MOVED BY:**

Deputy Mayor F. Landry \_\_\_\_\_  
Councillor S. Densham \_\_\_\_\_  
Councillor R. Douglas \_\_\_\_\_ ✓  
Councillor R. Villeneuve \_\_\_\_\_

**SECONDED BY:**

Deputy Mayor F. Landry \_\_\_\_\_  
Councillor S. Densham \_\_\_\_\_ ✓  
Councillor R. Douglas \_\_\_\_\_  
Councillor R. Villeneuve \_\_\_\_\_

THAT Council approves of the SDG Counties request, and appoint Shade Group Inc. under Section 78(1) of the Drainage Act, R.S.O 1990 Chapter D. 17 to update the necessary engineer's report to legitimize all drainage works required to be completed as part of the SDG County Road 22 project.

☒ **CARRIED**    ☐ **DEFEATED**    ☐ **DEFERRED**

**Mayor**

**Declaration of Conflict of Interest:** \_\_\_\_\_

☐ **Disclosed His/Her/Their Interest**

☐ **Vacated His/Her/Their Seat**

**RECORDED VOTE**

Councillor S. Densham \_\_\_\_\_  
Councillor R. Douglas \_\_\_\_\_  
Councillor R. Villeneuve \_\_\_\_\_  
Deputy Mayor F. Landry \_\_\_\_\_  
Mayor J. Wert \_\_\_\_\_



The Corporation of the Township of  
**NORTH STORMONT**  
**RESOLUTION**

**Date:** July 18, 2023

**Resolution No.** 219-2023

**MOVED BY:**

Mayor F. Landry  
Deputy Mayor S. Densham  
Councillor A. Bugelli  
Councillor A. McDonald  
Councillor C. Shane

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**SECONDED BY:**

Mayor F. Landry  
Deputy Mayor S. Densham  
Councillor A. Bugelli  
Councillor A. McDonald  
Councillor C. Shane

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

THAT Council receive this information report and extend the appointment of Shade Group Inc under Section 39(1) of the Drainage Act, as the Drainage Engineer appointed under Section 78 of the Drainage Act for the drains affected by the County Road 22 improvements.

☒ **CARRIED**    ☐ **DEFEATED**    ☐ **DEFERRED**

\_\_\_\_\_  
Mayor

**Declaration of Conflict of Interest:** \_\_\_\_\_

☐ **Disclosed His/Her/Their Interest**

☐ **Vacated His/Her/Their Seat**

**RECORDED VOTE**

Councillor C. Shane \_\_\_\_\_  
Councillor A. McDonald \_\_\_\_\_  
Councillor A. Bugelli \_\_\_\_\_  
Deputy Mayor S. Densham \_\_\_\_\_  
Mayor F. Landry \_\_\_\_\_

---

## APPENDIX E

### AGENCY CONSULTATION & PERMITS



**PERMIT FOR DEVELOPMENT ACTIVITY WITHIN A REGULATED AREA**

Section 28.1 of the *Conservation Authorities Act*, R.S.O. 1990, c. C.27  
& Ontario Regulation 41/24: Prohibited Activities, Exemptions and Permits



**Permit Holder:** United Counties of SDG  
Care of: Dana Grant  
26 Pitt Street  
Cornwall, ON  
K6J 3P2

**Decision:** **Approved With Conditions**

**Issued:** December 3, 2024  
**Expires:** December 3, 2026

**Work Description:** Relocate Municipal Drains as part of the County Road 22  
Reconstruction Project

**Location:** County Road 22, from Highway 138 to the Urban Limit of Maxville  
Township of North Stormont  
Geographic Township of Roxborough

The attached Schedules form part of this permit for the approved work and must be implemented in accordance with the stated conditions. A copy of this permit must be kept at the worksite.

The Permit Holder, by acceptance and in consideration of the issuance of this permit, agrees to the permit conditions.

Dated at Finch, Ontario, this 3<sup>rd</sup> day of December 2024.

Jennifer Boyer, M.Sc., MCIP RPP  
Managing Director, Approvals

South Nation Conservation  
[jboyer@nation.on.ca](mailto:jboyer@nation.on.ca)



### **SCHEDULE A: WORK DESCRIPTION**

SNC understands the following work will be completed (the "Work"):

1. County Road 22 will be reconstructed from Highway 138 to Roxborough Kenyon Boundary Road. The reconstruction design includes the relocation of several Municipal drain segments where the road will be widened.
2. The Permit Holder identified 8 locations where the road reconstruction will interfere with a watercourse:
  - I. **Howes Branch of the McKenzie Municipal Drain:** located across the road from 17404 County Road 22 and flows east to the southwest corner of 17499 County Road 22.
    - Approximately 650m of the drain will be relocated further away from the road. The proposed drain alignment does not differ substantially from the existing alignment. Along the front of residential properties, the municipal drain will follow the existing alignment and be enclosed.
  - II. **McRae Branch of the McKenzie Municipal Drain:** located on the southeast corner of 17499 County Road 22 and flows east for 180m.
    - 180m of the drain will be relocated further away from the road. The municipal drain will follow the existing alignment and be enclosed.
  - III. **McRae Branch of the McKenzie Municipal Drain:** located east of 17504 County Road 22.
    - The existing culvert on County Road 22 is a 1300mm diameter corrugated steel pipe (CSP) and is proposed to be replaced with a 1600mm diameter CSP.
  - IV. **Morrow Brabec Municipal Drain:** located across the road from 17750 County Road 22 and flows east for 925m.
    - Approximately 925m of the drain will be relocated further away from the road. The relocated drain will differ from the existing



alignment by approximately 1m, north or south, varying by location along the length of the drain.

- V. **Cumming Drain:** located approximately 400m east of the entrance to 17810 County Road 22.
- The existing culvert on County Road 22 is a 1500mm diameter CSP, and is proposed to be replaced with a 1600mm diameter CSP.
- VI. **County Road Branch of the Cumming Municipal Drain:** officially located on the south side of the Road from 18032 County Road 22 and flows west for approximately 850m.
- A 900mm CSP cross culvert was installed near the western entrance at 17996 County Road 22, and the flows were directed along the north side of County Road 22. There is another cross culvert near the residential entrance at 17946, returning flows to the south side of County Road 22.
  - The existing 900mm CSP cross culvert will be removed. A new 1000mm CSP cross culvert will be installed closer to Kenyon-Roxborough Boundary Road. The municipal drain will be located on the north side of County Road 22 and flow into the Morrow Branch of the Cumming Municipal Drain.
- VII. **Morrow Branch of the Cumming Municipal Drain:** the cross culvert is located approximately 135m west of the entrance to 17946 County Road 22.
- The existing twin 1600mm CSP will be replaced with a 1200mm x 1200mm concrete box culvert.
- VIII. **Morrow Spur Branch of the Cumming Municipal Drain:** the cross culvert is located approximately 200m west of the entrance to 17946 County Road 22.
- The existing 500mm CSP will be replaced with a 600mm CSP.





The details of the Work are outlined in the following documents forwarded to SNC:

1. South Nation Conservation Section 28.1 Permit Application Form – signed by Mike Jans on June 27, 2024.
2. Letter: “RE: County Road 22 Reconstruction – Project Context and Permit Application”, signed by Mike Jans, dated May 13, 2024.
3. Technical Memorandum: “Stormont, Dundas & Glengarry Counties Road 22 Rehabilitation, Culvert Replacement Recommendations”, signed, stamped, and dated by L. Sanchez, P. Eng, on June 11, 2024.
4. Drawing Package: “County Road 22 – Reconstruction and Drainage Improvements from Highway 138 to 0.6km East of the Roxborough Kenyon Boundary Road”, signed, stamped and dated by S.J. Taylor, P.Eng, and A. Allard-Dufour, P.Eng on 6/18/2024.
5. Memorandum: “Municipal Drain Assessment”, prepared by BT Engineering, signed, stamped, and dated by L. Sanchez, P. Eng, on June 7, 2024.
6. “SNCA Comments and Response Table – 2024”, not signed, or stamped, dated 2024, received via email from Mike Jans on September 3, 2024.
7. “CR 22 – Proposed Transverse Culverts”, not signed, stamped or dated, received via email from Mike Jans on September 3, 2024.
8. “SNCA Comment and Response Table – 2024”, prepared by BT Engineering, dated 2024, not signed, or stamped, received via email from Mike Jans on October 21, 2024.
9. Email Correspondence: “Follow-up: SDG Answers to SNCA Comments- County Road 22 Reconstruction”, sent by Steve Taylor on November 15, 2024.
10. Email Correspondence: “Re: County Road 22”, sent by Michael Jans on July 26, 2024.



### **SCHEDULE B: CONDITIONS**

The Permit Holder must adhere to the following conditions for permit compliance:

1. Erosion Control

- a) The Permit Holder must ensure no erosion occurs in or near a watercourse or waterbody that is in proximity to the Work.
- b) Any fill that is removed from the site and placed on land above the high-water mark is to be properly stabilized as required through the implementing of appropriate erosion control measures.
- c) SNC may visit the Work location anytime from application submittal through to the expiration of the permit to inspect the implementation of erosion control measures on site. SNC shall give reasonable notice of the entry to the Permit Holder or occupier of the property.
- d) Disturbed areas must be stabilized and revegetated as required upon completion of Work and restored to a pre-disturbed state or better.



**SCHEDULE C: ADDITIONAL COMMENTS**

SNC makes the following additional comments:

1. According to the construction drawings, the existing twin box culverts on the McKenzie Municipal Drain will be maintained and no watercourse interference is anticipated. However, the contractor should ensure there is sufficient erosion protection at this location prior to commencing road work.
2. This permit does not review, certify, or provide permission for any works that may be located outside the above noted property boundary.
3. Nothing in this permit relieves the Permit Holder(s) from obtaining, where necessary, regulatory approval from any other agency, government including the Majesty the King in Right of Ontario, municipality, landowner, or authority having legal jurisdiction regarding development at the above noted location or any adjacent lands that may be impacted by the Work. SNC makes no representation and has made no representation as to whether the Permit Holder(s) must obtain any other approval(s) regarding the Work. SNC hereby confirms that it is the Permit Holder(s)' sole and complete responsibility to ensure that it applies for and obtains all necessary regulatory approvals prior to undertaking the Work.
4. Permit review completed by L. Crites. Technical review completed by F. Forough.



## **SCHEDULE D: GENERAL CONDITIONS**

### **1. Term**

This permit is valid for 24 months from the date of issuance. No notice will be issued on expiration. It is the responsibility of the Permit Holder to ensure a valid permit is in effect at the time the Work is occurring. The Permit Holder may, at least 60 days before the expiry of the permit, apply to SNC and pay a fee for an extension of the permit.

### **2. Other Permits and Permissions**

This permit does not relieve the Permit Holder of the responsibility to obtain any other documents or permits that the Work may require from the Government of Canada, the Government of Ontario, or the local municipality. It is the responsibility of third-party agents to secure property owner permission to undertake the Work.

### **3. Right to Hearing**

A Permit Holder who disagrees with the conditions attached to their permit has the right to request a hearing before the SNC Board of Directors. Please contact our office for further details.

### **4. Property Entry**

SNC may enter the subject property where the Work is taking place during the permit's period of validity to ensure compliance with the conditions of the permit. SNC shall give reasonable notice of the entry to the Permit Holder or occupier of the property.

### **5. Cancellation of Permit**

SNC may cancel a permit or change the permit conditions if:

- a) false information was submitted as part of the permit application; or
- b) the Work deviates from the conditions of the permit without SNC's prior written approval.

### **6. Offences**

It is an offence to undertake work in a regulated area without a permit or to contravene the conditions of a permit. A person who commits an offence under the *Conservation Authorities Act* is liable on conviction:

- a) in the case of an individual,
  - (i) to a fine of not more than \$50,000 or to a term of imprisonment of not more than three months, or to both, and



- (ii) to an additional fine of not more than \$10,000 for each day or part of a day on which the offence occurs or continues; and
- b) in the case of a corporation,
  - (i) to a fine of not more than \$1,000,000, and
  - (ii) to an additional fine of not more than \$200,000 for each day or part of a day on which the offence occurs or continues.

Despite the maximum fines, a court that convicts a person of an offence may increase the fine it imposes on the person by an amount equal to the amount of the monetary benefit that was acquired by the person, or that accrued to the person, as a result of the commission of the offence.

In addition to any other remedy or penalty provided by law, the court, upon convicting a person of an offence, may order the convicted person to,

- a) remove, at the convicted person's expense, any development within such reasonable time as the court orders; and
- b) take such actions as the court directs, within the time the court may specify, to repair or rehabilitate the damage that results from or is in any way connected to the commission of the offence.

## **7. Liability**

The Permit Holder acknowledges that the sole function of this permit is to confirm the Work is consistent with Part VI of the *Conservation Authorities Act*, O. Reg. 41/24, and SNC policies. SNC makes no representations or warranties regarding any other aspect of the Work.

By accepting this permit, the Permit Holder agrees:

- a) to indemnify and save harmless, SNC and its officers, employees, and agents, from and against all damage, injury, loss, costs, claims, demands, actions, and proceedings, arising out of or resulting from any act or omission of the Permit Holder or of any of their agents, employees, or contractors relating to any of the particular terms or conditions of this permit; and
- b) that this permit shall not release the Permit Holder from any legal liability or obligation and remains in force subject to all limitations, requirements, and liabilities imposed by law.

SNC assumes no responsibility or liability for flood, erosion, or slope failure damage that may occur to the subject property, nor any activity undertaken by the Permit Holder affecting the property interests of adjacent landowners.



Fisheries and Oceans  
Canada

Ontario and Prairies Region  
Fish and Fish Habitat  
Protection Program  
867 Lakeshore Road  
Burlington, ON L7S 1A1

Pêches et Océans  
Canada

Région de l'Ontario et des Prairies  
Programme de la protection  
du poisson et de son habitat  
867 Lakeshore Road  
Burlington, ON L7S 1A1

October 22, 2024

*Our file      Notre référence*

24-HCAA-01679

United Counties of SD&G  
ATTENTION: Michael Jans  
Manager of Infrastructure  
26 Pitt St  
Cornwall, ON  
K6J 3P2

**Subject: Drain Realignment, Road Reconstruction, County Road 22, North Stormont – Implementation of Measures to Avoid and Mitigate the Potential for Prohibited Effects to Fish and Fish Habitat**

Dear Michael Jans:

The Fish and Fish Habitat Protection Program (the Program) of Fisheries and Oceans Canada (DFO) received your proposal on July 8<sup>th</sup>, 2024. We understand that you propose to:

- Realign approximately 1,840 m of class C, E and F municipal drains to accommodate road reconstruction activities on County Road 22.
- Enclose approximately 700 m of class F municipal drains in segments running through landowner driveways.
- Replace existing culvert crossings and driveway culverts of class C, E and F municipal drains to accommodate road reconstruction activities.

Our review considered the following information:

- Request for Review and supporting documents received on July 8<sup>th</sup>, 2024.
- Call with Michael Jans (The Counties), Derek McMillan (The Counties), Andrea Doherty (DFO) and Kirsten Luck (DFO) on August 21<sup>st</sup>, 2024.
- Additional information provided by Michael Jans following up the call from August 21<sup>st</sup>, 2024.

Your proposal has been reviewed to determine whether it is likely to result in:

- the death of fish by means other than fishing and the harmful alteration, disruption or destruction of fish habitat which are prohibited under subsections 34.4(1) and 35(1) of the *Fisheries Act*; and

Canada

- effects to listed aquatic species at risk, any part of their critical habitat or the residences of their individuals in a manner which is prohibited under sections 32, 33 and subsection 58(1) of the *Species at Risk Act*; and
- The introduction of aquatic species into regions or bodies of water frequented by fish where they are not indigenous, which is prohibited under section 10 of the *Aquatic Invasive Species Regulations*.]

The aforementioned outcomes are prohibited unless authorized under their respective legislation and regulations.

To avoid and mitigate the potential for prohibited effects to fish and fish habitat (as listed above), we recommend implementing the measures outlined in your plan, in addition to the following listed below:

- Plan in-water work, undertaking or activity to respect timing windows (i.e. NO in-water work between March 15 – July 15).
- Develop and implement an Erosion and Sediment Control Plan to avoid the introduction of sediment into any waterbody during all phases of the work, undertaking or activity.
- Restore the banks and riparian vegetation to their natural state, with native species suitable for the site.
- Aquatic invasive species are introduced and spread through transporting sands and sediments and using contaminated construction equipment. To prevent the spread of aquatic invasive species during construction in aquatic environments:
  - Clean, drain and dry any equipment used in the water; and,
  - Never move organisms or water from one body of water to another.
- Replace removed trees at a 1:1 replacement ratio onto the back-slopes of the channel.
- In areas where proposed realignment overlaps with existing realignment AND takes place in a class C or E drain, conduct work in the dry. If working in the dry is not possible, work in isolation of flow with pump bypass, fish salvage and silt fencing used in workable segments.
- Replace the Cumming Main Branch culvert (CC6) in isolation of flow with pump bypass, fish salvage, silt fencing, and riprap armouring along the eroded bank.

Provided that you incorporate these measures into your plans, the Program is of the view that your proposal will not require an authorization under the *Fisheries Act* or permit under the *Species at Risk Act*.

Should your plans change or if you have omitted some information in your proposal, further review by the Program may be required. Consult our website (<http://www.dfo-mpo.gc.ca/pnw-ppe/index-eng.html>) or consult with a qualified environmental consultant to determine if further review may be necessary. It remains your responsibility to remain in compliance with the *Fisheries Act*, the *Species at Risk Act* and the *Aquatic Invasive Species Regulations*.

It is also your *Duty to Notify* DFO if you have caused, or are about to cause, the death of fish by means other than fishing and/or the harmful alteration, disruption or destruction of fish habitat. Such notifications should be directed to (<http://www.dfo-mpo.gc.ca/pnw-ppe/contact-eng.html>).

Notify this office at least 10 days before starting any in-water works. Send your notification to Kirsten Luck ([kirsten.luck@dfo-mpo.gc.ca](mailto:kirsten.luck@dfo-mpo.gc.ca)) and the DFO 10 notification mailbox: [DFO.OP.10DayNotification-Notification10Jours.OP.MPO@dfo-mpo.gc.ca](mailto:DFO.OP.10DayNotification-Notification10Jours.OP.MPO@dfo-mpo.gc.ca). A copy of this letter should be kept on site while the work is in progress. It remains your responsibility to meet all other federal, territorial, provincial and municipal requirements that apply to your proposal.

If you have any questions with the content of this letter, please contact Kirsten Luck at our Burlington office at (506) 269-5694 or by email at [kirsten.luck@dfo-mpo.gc.ca](mailto:kirsten.luck@dfo-mpo.gc.ca). Please refer to the file number referenced above when corresponding with the Program.

Yours sincerely,



Elyjah Schimmens  
A/Senior Biologist  
Fish and Fish Habitat Protection Program  
Fisheries and Oceans Canada

COPY: Kirsten Luck – Fisheries and Oceans Canada



**THE CORPORATION OF THE TOWNSHIP OF NORTH STORMONT**

**BY-LAW NO. 16-2025**

**BEING** a By-law to provide for updates to the County Road Branch of Cumming Municipal Drain (including Morrow Spur) pursuant to *Section 78(1) of the Drainage Act, R.S.O. 1990, C.D.17.*

**WHEREAS** the *Municipal Act, 2001*, c.25 s. 5(1) provides that the powers of a municipal corporation are to be exercised by its Council;

**AND WHEREAS** the *Municipal Act, 2001*, c.25 s. 5(3) provides that the powers of every Council are to be exercised by By-law;

**AND WHEREAS** the *Drainage Act, R.S.O. 1990, c.D.17 s. 78(1)* provides that if drainage works have been constructed under a By-law passed under the Act and Council considers it appropriate to undertake one or more of the major improvement projects listed in subsection 1.1 the municipality may undertake and complete the project in accordance with the report of an engineer appointed by it;

**AND WHEREAS** the Council of the Township of North Stormont has directed, under section 78(1) of the *Drainage Act, R.S.O. 1990*, that an Engineer's Report shall be prepared by Shade Group Inc. for the drain known as the County Road Branch of Cumming Municipal Drain (including Morrow Spur);

**AND WHEREAS** the appointed engineer has prepared an Engineer's Report dated February 6, 2025 and attached hereto as Schedule "A";

**AND WHEREAS** the Council of the Township of North Stormont has considered the Engineer's Report in accordance with Section 45(1) of the *Drainage Act, R.S.O. 1990* and is desirous of adopting the report.

**NOW THEREFORE** the Council of the Corporation of the Township of North Stormont hereby enacts as follows:

1. That the Engineer's Report prepared under Section 78(1) of the *Drainage Act, R.S.O. 1990* for the County Road Branch of Cumming Municipal Drain (including Morrow Spur), attached hereto as Schedule "A" is hereby adopted and the drainage works therein indicated and set forth is hereby authorized and shall be completed accordingly.
2. That this By-law shall come into force and effect upon its final passing.

**READ A FIRST, SECOND TIME AND PROVISSIONALLY ADOPTED**  
this 4<sup>th</sup> day of March 2025.

\_\_\_\_\_  
François Landry, Mayor

\_\_\_\_\_  
Craig Calder, CAO/Clerk

SEAL

**READ A THIRD AND FINAL TIME** and passed in open Council, signed and sealed this XX day of XX, 2025.

\_\_\_\_\_  
François Landry, Mayor

\_\_\_\_\_  
Craig Calder, CAO/Clerk

SEAL

**COUNTY ROAD BRANCH + MORROW SPUR  
OF THE CUMMING MUNICIPAL DRAIN  
PROPOSED REALIGNMENT  
S. 78 ENGINEER'S REPORT  
TOWNSHIP OF NORTH STORMONT**



**PREPARED BY**

SHADE GROUP INC  
4625 MARCH ROAD  
ALMONTE, ON  
K0A 1A0

**PREPARED FOR**

THE TOWNSHIP OF NORTH STORMONT  
15 UNION STREET  
BERWICK, ON  
K0C 1G0

**FEBRUARY 6, 2025**

## EXECUTIVE SUMMARY

This Engineer's Report has been prepared under Section 78 of the *Drainage Act, R.S.O. 1990, c. D. 17* (henceforth referred to as *the Act*). Section 78 refer to 'major improvements', which refer in this case to the intention to relocate the existing alignment of the County Road Branch to accommodate a road widening of County Road 22. At the request of Township staff, a standalone assessment schedule for the Morrow Spur has also been included, as no such assessment existed in the prior governing reports.

This report includes:

- A watershed map of the drain and its contributing area (**Appendix C**);
- Plan and Profile Drawings for the proposed realignment (**Appendix C**);
- An updated Schedule of Assessment for future maintenance of the County Road Branch and the Morrow Spur (**Appendix B**).

Available under separate cover, the following information has also been referenced in the preparation of this report

- Hydrology and hydraulic assessments (by others) of the municipal drainage system, including the driveway culverts;
  - Municipal Drain Assessment – Technical Memorandum – July 30, 2024 (BTE)
  - Culvert Replacement Recommendations – Technical Memorandum – July 30, 2024 (Sanchez Engineering Inc.)
- Construction specifications, which will be used for the initial construction and should be referenced (as applicable) for future maintenance.
  - Special Provisions – Tender Document

A map showing the location of the County Road Branch and Morrow Spur has been enclosed in **Appendix A**.

The Township of North Stormont was consulted about the history of the County Road Branch of the Cumming Municipal Drain as part of the preparation of this report. Per the supplied information, it is our understanding that the governing report for the County Road Branch is the *Morrow Branch of Cumming Drain* authored by L.P. Stidwill July 7, 1952. While more recent reports have since been prepared for the Morrow Branch, none of the more recent reports include reference to the County Road Branch – which is described as "Ditch on S. Side of County Road 15" on the governing profile drawings. Further historical information has been detailed in **Section 2.0**.

Shade Group Inc. (SGI) was appointed by resolution on July 26, 2022 (Resolution No. 219-2022) to "update the necessary engineer's reports to legitimize all drainage works required to be completed as part of the SDG County Road 22 project". Due to delays in the design of the road

work (by others), a renewal resolution was completed July 18, 2023 (Resolution No. 219-2023). Copies of the resolutions have been enclosed in **Appendix D**.

Future maintenance works shall be assessed in accordance with the assessment schedule enclosed within **Appendix B**. Current construction and engineering costs associated with the realignment will be borne solely by the County as the project is required to accommodate road infrastructure.

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REVISIONS & SUBMISSIONS

Revision #	Comments	Date
00	Draft Submission to Township	January 24, 2025
01	Formal Submission to Township	February 6, 2025

## 1.0 INTRODUCTION

This Engineer's Report has been prepared under Section 78 of the *Drainage Act, R.S.O. 1990, c. D. 17* (henceforth referred to as *the Act*). Section 78 refer to 'major improvements', which refer in this case to the intention to relocate the existing alignment of the County Road Branch to accommodate a road widening of County Road 22. This report also seeks to legalize a realignment that appears to have been completed some years prior – as the drain has generally been operating on the opposite side of County Road 22 from where it was originally adopted. For more information – refer to **Section 2.0**.

This Section 78 process was initiated at the request of the United Counties of Stormont, Dundas and Glengarry to accommodate a realignment of the County Road Branch. The County Road Branch is a branch drain to the Morrow Branch, while the Morrow Branch serves as a branch drain to the Cumming Drain. For ease of following, we have simply referred to it as the County Road Branch moving forward within this report. The realignment of the County Road Branch is required to accommodate a widening of the County Road 22 road surface. The County Road Branch is also to be formally relocated to the north side of County Road 22 west of where it crosses the boundary road between the townships of North Stormont and North Glengarry. The existing right-of-way for County Road 22 is understood to be too narrow to meet current standards in many areas along the project area, and the proposed County Road 22 project will see the right-of-way increased to up to 39m wide in the vicinity of the County Road Branch. The County has undertaken land acquisition as part of the road widening project, and therefore the realigned County Road Branch will continue to be within the County owned right-of-way. As the land has been acquired through other means, no allowances under the Drainage Act have been applied to this project.

Current changes to the Morrow Spur are expected to be limited to the removal and replacement of the existing culvert under County Road 22, however it has been included in this report at the request of Township staff. Specifically, a standalone assessment schedule has been prepared as the former governing reports had included the Morrow Spur in with the Morrow Branch.

This report includes updated Plan and Profile Drawings for the realignment which have been prepared by BT Engineering (BTE) as part of the road reconstruction project. This report also includes an updated Schedules of Assessment for future maintenance of both the Morrow Spur and the County Road Branch.

All proceedings associated with the preparation of this report have been completed in accordance with the specifications of *the Act*. Per the acceptance of the County of Stormont, Dundas and Glengarry, the County has agreed to pay all initial construction fees, as well as the engineering fees associated with the realignment of the County Road Branch. This is understood to include the costs associated with the preparation of all documentation as required under the

Drainage Act. Future maintenance of the system would be completed in fitting with Section 74 of the Drainage Act – and costs for future maintenance would be assessed in accordance with the assessment schedules found in **Appendix B**.

## 2.0 DRAIN HISTORY

The Township of North Stormont was consulted about the history of the County Road Branch as part of the preparation of this report. Per the supplied information, it is our understanding that the governing report for the County Road Branch is the *Morrow Branch of Cumming Drain* prepared by L.P. Stidwill dated July 7, 1952. While updated reports have since been prepared for the Morrow Branch, none of the more recent reports or maps include reference to the County Road Branch – which is described as “Ditch on S. Side of County Road 15” on the governing profile drawings and within the Engineer's Report.

The Cumming Drain was first constructed as a municipal drain in 1930 under a report written by D.H. Weir. The Morrow Branch was subsequently constructed in 1952 under a report prepared by L. P. Stidwell, and this report included the County Road Branch and the Township Road Branch.

## 3.0 EXISTING CONDITIONS

### 3.1 DESCRIPTION OF THE ALIGNMENT + AREA REQUIRING DRAINAGE

At the time of the 1952 Engineer's report, the entire alignment of the County Road Branch was located on the south side of County Road 22 (formerly named County Road 15 at that time), with its upstream limit approximately 2,770 feet east along the County Road from its outlet into the Morrow Branch.

Although the exact timing is not known, at some point after 1952, a road crossing culvert was constructed under County Road 22 and runoff from the upper limits of the County Road Branch were redirected to the north side of County Road 22.

As part of the road widening project for County Road 22, the ditch on the north side of County Road 22 is to be relocated further north; and this new alignment is to be adopted as the new governing alignment for the County Road Branch. The upstream limits east of Roxborough Kenyon Boundary Road are also to be relocated, with the drainage channel to be moved further south to accommodate the road widening. With this, the entirety of the County Road Branch will be reconstructed under the works proposed by the County.

The total contributing area for the County Road Branch is estimated to be approximately 158 ha. The total contributing area for the Morrow Spur is estimated to be approximately 31 ha.



## 4.0 PROPOSED IMPROVEMENTS

This project proposes to provide the necessary space for the widening of County Road 22 by relocating the alignment of the County Road Branch along its entire length. The upstream limits are to remain on the south side of County Road 22 but will be moved further south; while the remainder of the drain is to be formally adopted as being on the north side of County Road 22.

Design of the realignment of the County Road Branch was undertaken by the County's engineering consultants – BTE – as part of the road design for the County Road 22 reconstruction project. The applicable Plan and Profile drawings (C-017 – C-020) as taken from the "*County Road 22 – Reconstruction and Drainage Improvements from Highway-138 to 0.6km east of the Roxborough Kenyon Boundary Road*" Issued for Tender package (07/24) have been included in **Appendix C**. The associated technical reports discussing the hydrology and hydraulics associated with the channel cross-section and the applicable culverts are available under separate cover:

- 1) Municipal Drain Assessment – Technical Memorandum – July 30, 2024 (BTE)
- 2) Culvert Replacement Recommendations – Technical Memorandum – July 30, 2024 (Sanchez Engineering Inc.)

## 5.0 DRAINAGE ACT, 1990, PROCESS

### 5.1 TO DATE

Shade Group Inc. (SGI) was appointed by resolution on July 26, 2022 (Resolution No. 219-2022) to "*update the necessary engineer's reports to legitimize all drainage works required to be completed as part of the SDG County Road 22 project*". Due to delays in the design of the road work (by others), a renewal resolution was completed July 18, 2023 (Resolution No. 219-2023). Copies of the resolutions have been enclosed in **Appendix D**.

Shade Group was appointed early in the design stage of the road reconstruction project, and as the road design work took multiple years, there were certain delays in the preparation of the Engineer's Report pending completion and permitting for the proposed drainage works associated with the road reconstruction.

An on-site meeting was held at the Moose Creek Community Centre on July 12, 2023. Approximately 12 property owners attended the meeting as well as representatives from the Township (CAO and Drainage Superintendent), representatives from BTE and representatives from the County.

Discussions at the on-site meeting were generally related to concerns with the improvements being proposed pertaining to the County Road 22 project, including concerns over land acquisition, and further requests for enclosures in areas alongside the road. The land acquisition component of the project was completed as part of the road widening project and was

undertaken separate from the Drainage Act component. The land acquisition was overseen by the County – not the Township or Drainage Engineer. As the land has been acquired through other means, allowances under the Drainage Act were not applied. No concerns were brought forth regarding the current performance of the drainage system, nor any concerns noted with respect to flooding or erosion of the system as it currently exists.

Throughout the time leading up to, and following the on-site meeting, Shade Group undertook on-going consultation with the Township's Drainage Superintendent and the County's project lead. Shade Group conducted high level peer review of the drainage design documents prepared by BTE as it pertains to the design of the realigned channel and associated culverts. Multiple iterations were provided however the final governing design documents are understood to be:

- 1) Drawings - "County Road 22 – Reconstruction and Drainage Improvements from Highway-138 to 0.6km east of the Roxborough Kenyon Boundary Road" Issued for Tender package (07/24) (BTE)
- 2) Municipal Drain Assessment – Technical Memorandum – July 30, 2024 (BTE)
- 3) Culvert Replacement Recommendations – Technical Memorandum – July 30, 2024 (Sanchez Engineering Inc.)

Ultimately the final design drawings will remain the liability of the design engineers (BTE/Sanchez Engineering Inc.)

## 5.2 NEXT STEPS

Following the formal submission of this report to the Township, the report will be brought to a Meeting to Consider (Section 42).

The clerk of the municipality shall send a copy of the report and a notice stating the date on which the report was filed, the name or designation of the drainage works; and the date of the council meeting at which the report will be considered, to the prescribed people (Section 41).

The Meeting to Consider is held by council, and council may adopt the report by provisional by-law by giving two readings (Section 45(1)).

Following the Meeting to Consider, and assuming a provisional by-law is adopted by two readings, a notice is sent, including a copy of the provisional by-law (exclusive of the Engineer's Report) of the time and place for the first sitting of the Court of Revision. This notice is sent to each body or person as entitled under Section 41 of the Drainage Act.

Following the completion of addressing all appeals; or the time for appealing has expired, Council may pass the provisional by-law by a third reading, thereby authorizing construction of the drainage works. Work may then be commenced as early as ten days after the by-law is passed, if no notice of intention to make an application to quash the by-law has been filed with the clerk

of the council (Section 58(1)), assuming the limitations for construction can be met at such a time (e.g. compliance with any permitting restrictions with respect to timing windows).

It is understood that the County will be overseeing the tendering of the drainage works as part of the road reconstruction tender. It is anticipated that a combination of Township staff and Shade Group resources may be drawn upon during the construction to oversee the construction and the final walkthrough, on an as needed basis. All such involvement from Shade Group would be billed back to the County.

### 5.3 RESOLUTION AND BY-LAW

**Appendix D** has been included in this report as a place to attach the applicable resolution and by-law associated with this Section 78(1) undertaking. The resolutions for Shade Group's appointment have been enclosed with this submission; and it is recommended that the Drainage Superintendent (or applicable Township Staff) attach a copy of the report adoption by-law following its third reading for ease of future reference.

### 5.4 LIMITATIONS

The process overview provided in **Section 5.2** is provided as a general summary of the next steps to completion. Should the process described conflict with the specifications of the Drainage Act, the Drainage Act shall govern. The process described is provided as a summary only, the Township clerk shall be responsible for ensuring that the applicable administrative works are completed in accordance with the specifications of the Drainage Act.

### 6.0 DESIGN CONSIDERATIONS

All design works associated with the realignment have been undertaken by the County's engineering consultant (BTE). The governing design documents for the design of the County Road Branch realignment and applicable changes to Morrow Spur are understood to be as follows:

- 1) Drawings C-017 – C-020 - "County Road 22 – Reconstruction and Drainage Improvements from Highway-138 to 0.6km east of the Roxborough Kenyon Boundary Road" Issued for Tender package (07/24) (BTE)
- 2) Municipal Drain Assessment – Technical Memorandum – July 30, 2024 (BTE)
- 3) Culvert Replacement Recommendations – Technical Memorandum – July 30, 2024 (Sanchez Engineering Inc.)

Copies of the relevant drawings (C-017-C-020) can be found in **Appendix C**. In an effort to limit the size of this report, the remaining technical documents (Municipal Drain Assessment & Culvert Replacement Recommendations) remain available under separate cover.

## 7.0 PLAN, PROFILE & SPECIFICATIONS

It is intended that the accompanying design documents form part of this report, and that they together govern the performance of the work, including both the initial construction and future maintenance works.

The enclosed Watershed Map - Plan View (**Appendix C**) shows:

- The watershed boundary;
- The general course of proposed works;
- Property ID numbers have been assigned to each property for ease of reference to the assessment schedule. The use of Property IDs rather than names offers protection of private information and affords continuity of use as property ownership can change over time.

The enclosed Profile Drawings (C-017 – C-020) (**Appendix C**) show:

- The realigned alignment of the County Road Branch relative to the centerline of the road;
- Slopes and elevations associated with the open channel and applicable driveway culverts;
- Applicable road crossing culverts, including that associated with the Morrow Spur.

Specifications for the channel cross-section can be found in the Municipal Drain Assessment – Technical Memorandum (available under separate cover). The specifications note that the County Road Branch is to have a trapezoidal geometry with a bottom width of 0.5m; and side slopes of 3:1 or 4:1. Side slopes of 3:1 are proposed on the backslope of the municipal drain, while the 4:1 side slope is proposed on the foreslope (road-side). An extract from the aforementioned Technical Memorandum is provided in the figure below.

**Subject:** Municipal Drain Assessment

**Project:** BTE File 22-019, Stormont, Dundas and Glengarry Counties, County Road 22 Rehabilitation

**Date:** July 30, 2024

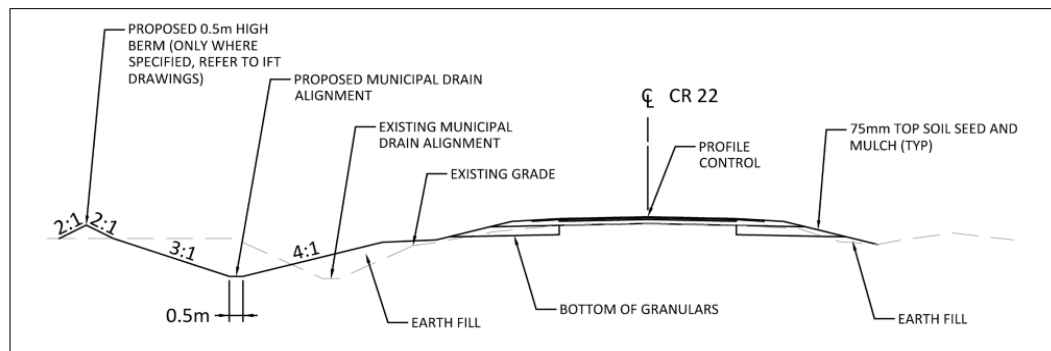


Figure 1: Typical Cross-Section - Per Municipal Drain Assessment - Technical Memorandum - Page 5

## 8.0 EXISTING ALIGNMENT – ABANDONMENT

The previous governing alignment of the County Road Branch shall be considered abandoned and replaced with the alignment shown within the enclosed plans. The new alignment of the County Road Branch as reflected in the enclosed plans is to be adopted as the new governing alignment.

There are no changes proposed to the Morrow Spur, short of the removal and replacement of the culvert under County Road 22 (see Watershed Map – **Appendix C**).

## 9.0 CULVERTS, BERM + FUTURE MAINTENANCE

Table 1 is provided as a summary of the culverts on the County Road Branch. Stations are referenced from drawings C-018 – C-020 - "County Road 22 – Reconstruction and Drainage Improvements from Highway-138 to 0.6km east of the Roxborough Kenyon Boundary Road" Issued for Tender package (07/24) (BTE).

Table 1: County Road Branch – Culvert Inventory

Culvert ID #	Property ID Reference	Station (BTE)	Column A Inventory Details <sup>A</sup>	Column B Length at 2:1 Side Slopes <sup>B</sup>	Column C Difference assigned to Special Benefit <sup>C</sup>
DC51	4	15+097	1000mm Ø C.S.P, 24.6m	19.2	5.4
DC52	4	15+297	1000mm Ø C.S.P, 24.0 m	19.0	5.0
DC54	4	15+466	1000mm Ø C.S.P, 26.2 m	20.5	5.7
CC11	14	15+675	800mm Ø HDPE, 41.5 m	N/A – Road Crossing Assessed to County per Section 26	
DC56	14	15+758	700mm Ø C.S.P, 14.3 m	11.1	3.2
CC10	10	15+295	900mm Ø HDPE, 24.5 m	N/A – Road Crossing Assessed to County per Section 26	

<sup>A</sup> Culvert lengths are as per BTE drawings.

<sup>B</sup> Length of culvert required if side slopes were specified at the minimum standard of 2:1.

<sup>C</sup> Difference between length specified by the County where greater than minimum standard of 2:1. Additional length is to be assessed as a special benefit to the United Counties of Stormont, Dundas and Glengarry when undertaking future replacement.

Per discussions with the County, we understand that the County standard for end treatment of culverts is 2:1. In a number of cases, BTE has designed to a greater standard, with many driveways specified with approximately 3:1 (+/- 33%) end treatments. With that, the proposed extra length of pipe is considered above the minimum standard and therefore considered a special benefit.

When undertaking future replacement of the driveway culverts, the replacement culverts shall be like-for-like replacement of the diameter and material specified in Column A; with the cost of the length of Column B assessed back to the drain in the apportionments reflected on the assessment schedule found in **Appendix B**; and the cost of the additional length (Column C) assessed solely to the County. Road crossing culverts are to be assessed to the road authority in fitting with Section 26 of the Drainage Act.

Table 2 has the associated details for the only crossing located on the Morrow Spur.

Table 2: Morrow Spur – Culvert Inventory

Culvert ID #	Property ID Reference	Station (BTE)	Column A Inventory Details <sup>A</sup>	Column B Length at 2:1 Side Slopes <sup>B</sup>	Column C Difference assigned to Special Benefit <sup>C</sup>
CC8	1	14+910	600mm Ø HDPE, 34.6m	N/A – Road Crossing Assessed to County per Section 26	

### 9.1 FUTURE MAINTENANCE AND REPLACEMENT – ENTRANCE CULVERTS

Future maintenance of entrance culverts is to be completed by the Township, as per the Section 74 of the Act. Per the Act:

***“Maintenance of drainage works and cost***

**74.** 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. R.S.O. 1990, c. D.17, s. 74.”

The maintenance and replacement costs of entrance culverts DC52 and DC56 are to be at the expense of the upstream landowners, in the same apportionments as distributed in the enclosed assessment schedule (**Appendix B**). Entrance culverts D51 and D54 are secondary and tertiary access points to a single property (Property ID 4) and the future replacement of the culverts is to be at the sole expense of Property ID 4. Note that under current grant eligibility, only one crossing per property is eligible for grant. Maintenance works of entrance culverts are expected to be minimal so maintenance works, including flushing of all entrance culverts is to be assessed in accordance with the assessment schedule to all upstream landowners.

## 9.2 FUTURE MAINTENANCE AND REPLACEMENT – ROAD CROSSINGS

The maintenance and replacement of road crossings along the County Road Branch and Morrow Spur are to be at the expense of the road authority, as per Section 26 of the Drainage Act. It should be highlighted that culvert CC10 (Station 15+300) has been installed to provide landowners on the south side of County Road 22 with continued outlet, as per the previous adopted County Road Branch. With that, this culvert shall be governed under the Drainage Act as part of this Engineer's Report – but future maintenance and replacement shall be at the expense of the road authority (currently the United Counties of Stormont, Dundas and Glengarry).

## 9.3 BERM SPECIFICATIONS

Per the engineering plans prepared by BTE, a berm is required along the north side of the realigned channel in order to contain the design storm event within the confines of the channel. Without this berm, runoff would be expected to crest the banks and cause flooding on the adjacent properties. As this berm is required to meet the minimum conveyance standard for a *municipal road*, the cost for any maintenance and reinstatement of this berm shall be assessed to the road authority, under Section 26 of the Drainage Act. As this berm is required for the channel to perform at the intended design standard, the berm shall be considered part of the drainage infrastructure and maintained in perpetuity under the Drainage Act.

Furthermore, as the berm serves to contain runoff within the channel and offset flooding onto the adjacent properties, while the adjacent properties are understood to surface drain into the Morrow Branch, these adjacent properties have been assigned Benefit Liability, as the blocking of the water would be considered a benefit to these lands.

The berm is to be 0.5m high and extends along the entire length of the County Road Branch where the County Road Branch is located on the north side of County Road 22. No berm is required where the County Road Branch is on the south side of County Road 22. The berm shall be constructed in conformance with the cross-section as shown in Figure 1 (see Section 7.0) and is expected to be constructed with suitable clean fill (anticipated to be excess earth fill generated from the road excavation). As shown on Figure 1, the berm is a continuation of the backslope of the ditch, extending up approximately 0.5m above the existing ground elevation of the field to the north. The side slopes of the berm are to be 2:1. The final conditions are to be seeded. This berm is understood as required to contain the 10-year storm event within the banks (see Municipal Drain Assessment – Technical Memo – prepared by BTE).

## 9.4 FUTURE MAINTENANCE – BERM

Future maintenance works would be expected to include such works as reinstatement of the berm as needed to maintain the original adopted design. Future maintenance works would also include reseeding of the berm after reshaping. As this berm is required to meet the minimum

conveyance standard for a *municipal road*, the cost for any maintenance and reinstatement of this berm shall be assessed to the road authority, under Section 26 of the Drainage Act.

## 9.5 FUTURE MAINTENANCE – DRAINAGE CHANNEL

Future maintenance of the open channel component of the drainage system is to be completed in accordance with Section 74 of the Drainage Act. Future maintenance works of the drainage channel would be expected to include such works as a bottom cleanout, reinstatement of side slopes, and other such general works required to restore the system to the original design. Where only a partial cleanout is completed, only those upstream of the works would be assessed. Where the entire drain is maintained, the entire watershed would be assessed. Whether partial or full maintenance, assessed costs would be in accordance with the assessment schedule enclosed in **Appendix B**.

## 10.0 ASSESSMENTS

An update to the assessment schedule for the County Road Branch of the Cumming Municipal Drain has been undertaken to account for the lands acquired by the County from the properties adjacent to County Road 22 to accommodate the road widening project.

As per Section 21 of *the Act*, “*The engineer in the report shall assess for benefit, outlet liability and injuring liability, and shall insert in an assessment schedule, in separate columns, the sums assessed for each opposite each parcel of land and road liable therefor.*” As this is an existing drain and the scope of works does not include any works that would be considered injuring to lands or roads, injuring liability is not considered applicable for this project.

As the overall changes to the land use have been minimal *for lands directly abutting the drain*, and as it can reasonably be assumed that the overall benefit-to-outlet ratio of the drain can be considered to be relatively proportional today to that of the governing Engineer's Report (i.e. the benefit area has not measurably changed in size); the total benefit apportionment has not been changed from that of the previous governing reports, and has instead been reapportioned amongst the lands who meet the definition of such an assessment. Where no such ratio was previously provided (e.g. Morrow Spur), a ratio of 90% outlet to 10% benefit has been used. Under *the Act*, lands eligible for benefits assessment are defined as those “*lands, roads, buildings, utilities, or other structures that are increased in value or are more easily maintained as a result of the construction, improvement, maintenance or repair of a drainage works may be assessed for benefit. R.S.O. 1990, c. D.17, s. 22.*”

Finally, lands within the watershed are assessed outlet liability, which is defined as “*lands and roads that use a drainage works as an outlet, or for which, when the drainage works is constructed or improved, an improved outlet is provided either directly or indirectly through the medium of*



*any other drainage works or of a swale, ravine, creek or watercourse, may be assessed for outlet liability. R.S.O. 1990, c. D.17, s. 23 (1)."*

The method for determining the appropriate apportionment of benefit and outlet liability assessment is the responsibility of the appointed Drainage Engineer. The Drainage Engineer shall use their best judgement to determine an apportionment that is considered fair to all those assessed.

For the purposes of assessing outlet and benefit across the lands within the watershed, the Drainage Engineer has generally followed the Factored Areas Method. Under this method, the areas of land within the watershed are assigned factors based on land use, proximity to the drain (distance factor), and general location in the watershed (sub-section factor). The summation of these factors provides a factored area that allows lands within the watershed to be compared on what has been considered a fair basis. The appropriate factors are assigned by the engineer, on a case-by-case basis, as deemed appropriate and fair by the engineer.

Assessment schedules have been enclosed in the following schedules:

Schedule 'A' – Township of North Stormont – County Road Branch

Schedule 'B' – Township of North Glengarry – County Road Branch

Schedule 'C' – Morrow Spur

Where a full maintenance is performed on the County Road Branch, it would be assumed that the entirety of Schedules 'A' and 'B' would be assessed for works performed. Where only a partial cleanout is performed, only those upstream of the works would be assessed.

### 10.1 LAND USE FACTORS

Each property was assigned a land use factor based on current aerial mapping. The assigned values for the respective land use have been summarized in Table 3.

*Table 3: Land-use factors*

Land Use Description	Factor
Agricultural	1.0
Roads	2.0

### 10.2 DISTANCE FACTORS

Each property within the drain was assigned a distance factor based on offsetting measurements from the applicable channel. The distance factors for the County Road Branch are shown in Table 4.

Table 4: Distance factors

Offset (m)	Factor
0 – 100	1.0
100 – 200	0.75
200 – 300	0.50
300 – 400	0.25
>400	0.10

### 10.3 LENGTH FACTORS

Each property was assigned a factor between 0 and 1 based on their relative location in the watershed. Properties farthest upstream (top of the watershed) make use of the entire length of the drain and were assigned a factor of 1.0, while properties at the outlet of the drain only make use of a small relative apportionment of the total system; and were assigned a smaller factor. Properties throughout the watershed were then assigned factors between 1.0 and 0.37 based on their relative location within the watershed. Factors were determined based on the approximate outlet station of where water from the property would be expected to enter the drain, and pro-rated accordingly.

For example, when calculating the assessments for a property draining halfway along the length of a given drain at 500m in length, the property would be assigned a factor of 0.5.

This would be calculated as follows:

$$(500-250) / 500 = 0.5$$

This calculation equates the total linear length of the drain used (500 – 250; where 500 is the total length of the drain in meters, and 250 is the approximate point at which the property's water enters the drain) and assigns that value as a factor.

Each of these factors (land use, distance, and length) was used to determine an equivalent area, which was used to determine the apportionment of the associated outlet liability for each applicable property.

## 11.0 FEES

### 11.1 INITIAL CONSTRUCTION FEES

As the realignments of the municipal drains is being undertaken as part of the County Road 22 reconstruction contract, with all costs to be borne by the County as part of their capital project; no separate construction cost estimate has been prepared for the realignments.

### 11.2 ENGINEERING FEES

All engineering fees associated with the preparation of this report have been borne by the County of Stormont, Dundas and Glengarry. As the County Road 22 project included multiple

realignments, which were all undertaken simultaneously, it is difficult to separate out the specific engineering fees associated with the County Road component of the project. As all engineering fees have been agreed to be paid by the County, no separation of costs for engineering has been completed.

### 11.3 FUTURE MAINTENANCE FEES

As the fees associated with future maintenance works are not expected to be within the next 5-10 years, it is difficult to predict future costs and future inflation. With that, assessments associated with future maintenance have been estimated based on reasonably assumed construction values.

Specifically, the Morrow Spur assessment schedule has been assumed using a \$1,000 construction cost (note this does not include the replacement cost of the road crossing culvert – which would be assessed solely to the road authority). The County Road Branch assessment schedule has been estimated using an assumed \$13,050 construction cost. Note again, this is based solely on a standard maintenance cleanout and would not include replacement of culverts (driveway nor road crossing).

Future maintenance fees would be assessed in the same apportionment as those reflected in the enclosed assessment schedule. E.g. if a property was assessed \$1,305 out of a total \$13,050 budget, their apportionment would be 10% of the total fees. Therefore, if future maintenance was to cost \$26,100, they would be assessed 10%, or \$2,610.

## 12.0 PERMITTING & SPECIAL CONSIDERATIONS

As part of the preparation of this report, Shade Group conducted a review of AgMaps, the Geographic Information System managed by the Ministry of Agriculture, Food and Rural Affairs. AgMaps identifies the County Road Branch as a 'Class C' drain. Class C drains are defined as watercourses with permanent flow but no sensitive fish species present.

No fisheries studies were conducted as part of Shade Group's scope.

### 12.1 SOUTH NATION CONSERVATION AUTHORITY

The County of Stormont, Dundas and Glengarry submitted the applicable design documents to South Nation Conservation Authority for permitting. A copy of the final permit has been enclosed in **Appendix E**. This permit is limited to the initial construction – future maintenance works would be subject to applicable permitting requirements at the time of such work.

### 12.2 FISHERIES AND OCEANS CANADA

The County of Stormont, Dundas and Glengarry submitted the applicable design documents to Fisheries and Oceans Canada (DFO) for review and comment, through the Request for Review process. A copy of the "letter of advice" from DFO has been enclosed in **Appendix E**. This letter

is limited to the initial construction – future maintenance works would be subject to applicable permitting requirements at the time of such work.

### 12.3 OTHER CONSIDERATIONS

#### UTILITIES

The contractor shall acquire applicable utility clearance prior to excavation as per the Ontario Underground Infrastructure Notification System Act. Should utility conflicts be identified, BTE is to be notified to address any redesign considerations. Any changes to the design would need to be incorporated into the Engineer's Report. Changes needed during construction may be eligible to be incorporated through 84.1 (1) of the Drainage Act, as outlined in O. Reg 500/21, Part III, Process for Amendments to an Engineer's Report.

#### WORKING SPACE

The Drainage Act specifies that works (both maintenance and initial construction) are to be completed within the working space designated in the Engineer's Report (Section 63(1)).

For the initial construction, the working space shall be considered to be 30m from the top of bank on both sides of the drain. For residential properties, this working space shall be reduced to 8m for the initial construction. For future maintenance, the working space is specified as 20m from the top of bank on either side of the drain. Where the working space impacts a residential property, the working space shall be reduced to 6m from the top of bank on the side impacting the residential property for future maintenance.

This working space will allow the Drainage Superintendent to complete works either from the south or north side of the drain. This working space is required to ensure that maintenance works can be performed and allows excavated materials to be spread within the working space (as applicable).

Permanent obstructions should not be installed within the working space, including (but not limited to) trees, fences, structures, etc. Obstructions that impact future maintenance works maybe removed by the Drainage Superintendent or the property owner – at the expense of the property owner. Where fences are installed – reinstatement costs would be the responsibility of the property owner.

#### SPREADING OF MATERIAL – FUTURE MAINTENANCE

When undertaking future maintenance, it is anticipated the sediment from the ditch bottom will need to be excavated out of the channel to restore the original drain design. The bottom of the ditch shall be excavated to an even grade so that no water may lay stagnant therein.

The excavated earth/silt from the drain cleanout shall be spread on the adjacent lands. Where the ditch is on the south side of the County Road, excavated material is to be spread on the south side of the ditch; where the ditch is on the north side of the County Road, excavated material is

to be spread on the north side, beyond the berm. In cultivated lands (where the drain is south of County Road 22), the depth of spread materials shall not exceed 150mm (6 inches) above grade and relief channels shall be cut at a maximum spacing of 50m to allow surface water to continue to sheet flow into the drain – so as not to berm the adjacent lands by the excavated materials. Materials shall be taken a minimum of 3m back from the top of slope.

Where the drain is located on the north side of County Road 22, the spreading of materials shall be beyond the backside of the berm, a minimum of 3m back from the top of slope. Relief channels are not required along the north side.

Where the drain fronts across residential properties with a property size <2ha, the excavated material is to be hauled off for disposal as part of the contract price; with the associated cost assessed to the drain in accordance with the adopted assessment schedule.

#### OFF-SITE DISPOSAL – OWNER'S EXPENSE

Where offsite disposal is requested by a property owner, the property owner may make arrangements with the Contractor to have the material hauled away. Costs would be borne solely by the requesting property owner – and a signed agreement between the Contractor and property owner would need to be presented to the Drainage Superintendent. The property owner would pay the Contractor directly for these additional works. Note that off-site removal may be subject to other legislative requirements, including the "Excess Soil Regulations".

The exception to this is when impacting a residential property with a property area of <2ha. Costs with offsite disposal in front of a residential property are considered part of the drain and are to be assessed in accordance with the adopted assessment schedule.

#### ADDITIONAL CONSTRUCTION SPECIFICATIONS

Additional construction specifications can be found in the **Special Provisions** as taken from the County Road 22 Tender Document – available under separate cover. The entirety of the Special Provisions are available for completeness, however some provisions may be irrelevant to the specific drainage works and may not be relevant to future maintenance works. Applicability of the special provisions shall be at the discretion of the Drainage Superintendent, who shall be responsible for administering the maintenance works.

### **13.0 ADIP GRANTS**

Properties that are registered with the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) for the Farm Property Class Tax Rate Program may be eligible for a 1/3 grant from the Province. As the initial construction costs, including the engineering associated with this report, are being borne by the County as part of the capital works project, grant eligibility would only be applicable to future maintenance works.

## 14.0 CLOSING

This submission is respectfully submitted to the Council of the Township of North Stormont this February 6, 2025.

Should you have any questions or concerns, please do not hesitate to contact the undersigned.

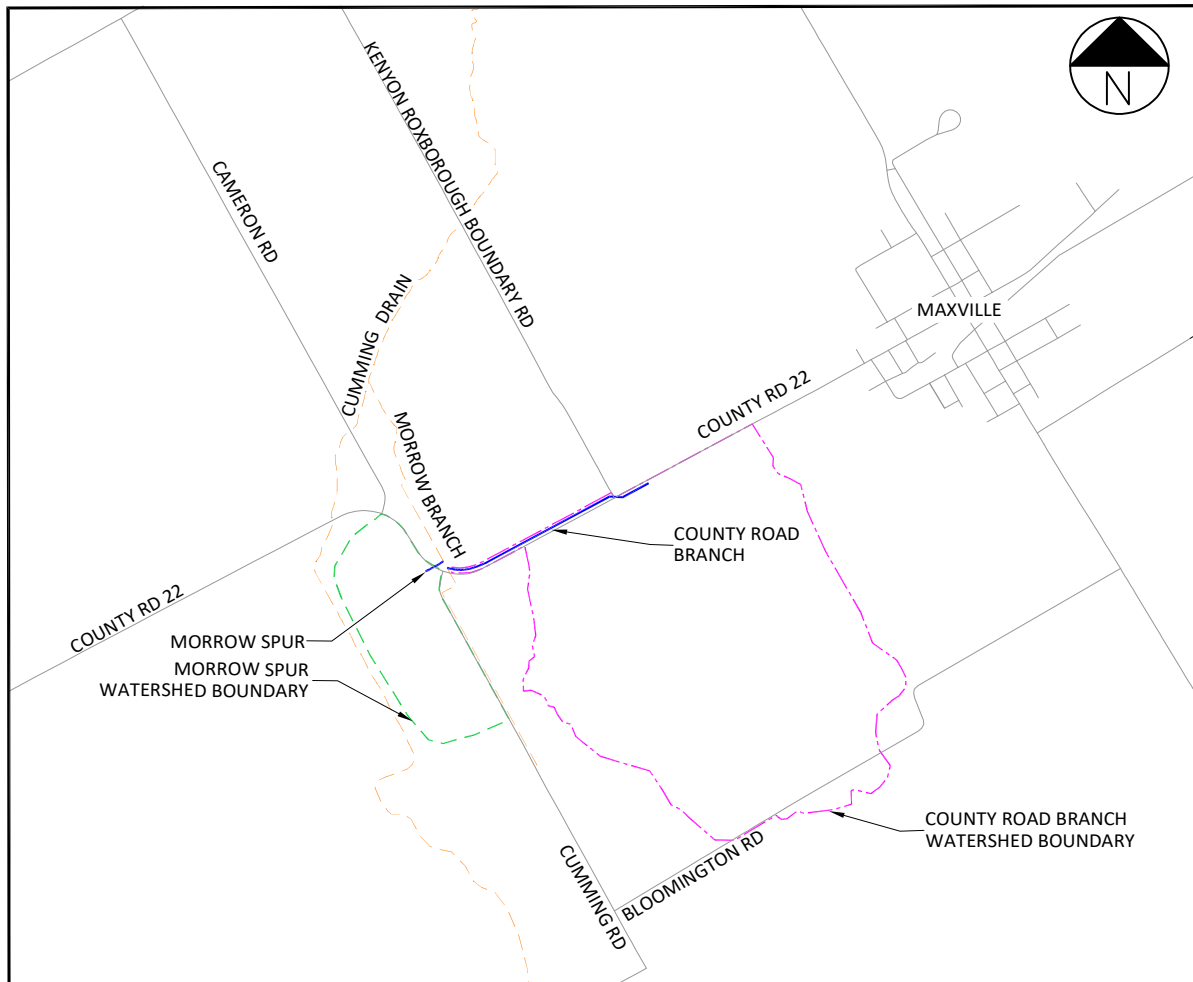


**Monica Shade, P. Eng.**  
Drainage Engineer  
**Shade Group Inc.**

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## **APPENDIX A**

### LOCATION PLAN



LOCATION PLAN  
N.T.S.

COUNTY ROAD BRANCH AND  
MORROW SPUR  
OF THE CUMMING DRAIN  
TOWNSHIP OF NORTH STORMONT  
2025

**SHADE**  
**GROUP** INC



---

## **APPENDIX B**

### **ASSESSMENT SCHEDULES**

Assessment Schedule - Updated 2025  
**Schedule 'A'**  
**Township of North Stormont**  
**Future Maintenance**

Property ID No.	Roll No.	Con	Lot	Area Drained (ha)	Outlet (\$)	Benefit (\$)	Est Assess. (\$)*
4	41101600835002	6	A,B	0.0	\$ -	\$ 918.53	\$ <b>918.53</b>
5	41101600835000	6	A,B	9.8	\$ 342.79	\$ -	\$ <b>342.79</b>
6	41101600836000	6	A	4.3	\$ 68.78	\$ -	\$ <b>68.78</b>
7	41101600834200	6	B	0.1	\$ 1.74	\$ -	\$ <b>1.74</b>
8	41101600834010	6	B	0.3	\$ 10.23	\$ -	\$ <b>10.23</b>
9	41101600834000	6	B	21.0	\$ 339.28	\$ -	\$ <b>339.28</b>
10	41101600832102	6	B	20.3	\$ 1,347.31	\$ 276.54	\$ <b>1,623.85</b>
11	41101600832100	B	B	1.0	\$ 291.65	\$ -	\$ <b>291.65</b>
12	41101600831003	6	B	0.0	\$ -	\$ 204.55	\$ <b>204.55</b>
15	41101600832000	6	B	7.8	\$ 125.50	\$ -	\$ <b>125.50</b>
17	41101600832010	6	B	0.1	\$ 2.83	\$ -	\$ <b>2.83</b>
<b>Sub-Total</b>					\$ 2,530.11	\$ 1,399.62	\$ <b>3,929.73</b>

\*Estimated Assessment does not include Farm Tax Credit (FTC). Farm Tax Credit eligibility to be confirmed at time of maintenance.



Assessment Schedule - Updated 2025  
**Schedule 'A'**  
**Township of North Stormont**  
**Future Maintenance**

Roads

ID/Name	Owner	Outlet (\$)	Benefit (\$)	Net Assessment (\$)
Allnut Road	Township of North Stormont	\$ 32.21	\$ -	\$ 32.21
County Road 22	United Counties of Stormont, Dundas and Glengarry	\$ 1,399.39	\$ 977.59	\$ 2,376.98
Railway	CN Rail	\$ 375.55	\$ -	\$ 375.55

Summary

Real Properties - Township of North Stormont	\$ 2,530.11	\$ 1,399.62	\$ 3,929.73
Township Roads - Township of North Stormont	\$ 32.21	\$ -	\$ 32.21
United Counties of Stormont, Dundas and Glengarry	\$ 1,399.39	\$ 977.59	\$ 2,376.98
CN Rail	\$ 375.55	\$ -	\$ 375.55
<b>Sub-Total (Pre-Tax/Grant)</b>	<b>\$ 4,337.26</b>	<b>\$ 2,377.21</b>	<b>\$ 6,714.47</b>

## Assessment Schedule - Updated 2025

## Schedule 'B'

## Township of North Glengarry

## Future Maintenance

Property ID No.	Roll No.	Con	Lot	Area Drained (ha)	Outlet (\$)	Benefit (\$)	Est Assess. (\$)*
13	11101101553102	17	16	0.3	\$ 105.32	\$ -	\$ 105.32
14	11101101553100	17	16	7.2	\$ 1,459.12	\$ 180.08	\$ 1,639.20
16	11101101553000	17	16	17.5	\$ 282.47	\$ -	\$ 282.47
18	11101101553010	17	16	1.3	\$ 49.45	\$ -	\$ 49.45
19	11101101552000	17	12-15	2.2	\$ 83.18	\$ -	\$ 83.18
20	11101101552100	17	13,14	1.6	\$ 58.10	\$ -	\$ 58.10
21	11101101552200	16	12-16	28.9	\$ 1,081.67	\$ -	\$ 1,081.67
22	11101400178200	17	9-16	9.3	\$ 348.18	\$ -	\$ 348.18
23	11101101551500	17	15,16	4.1	\$ 1,010.05	\$ 52.71	\$ 1,062.76
24	11101101551000	17	14,15	10.2	\$ 1,526.96	\$ -	\$ 1,526.96
25	11101101549000	17	13,14	2.3	\$ 19.97	\$ -	\$ 19.97
26	11101101551100	17	14	0.1	\$ 26.48	\$ -	\$ 26.48
27	11101101550000	17	14	0.3	\$ 0.09	\$ -	\$ 0.09
28	11101400066000	17	13	0.1	\$ 4.78	\$ -	\$ 4.78
<b>Sub-Total</b>					<b>\$ 6,055.82</b>	<b>\$ 232.79</b>	<b>\$ 6,288.61</b>

\*Estimated Assessment does not include Farm Tax Credit (FTC). Farm Tax Credit eligibility to be confirmed at time of maintenance.



Assessment Schedule - Updated 2025  
**Schedule 'B'**  
**Township of North Glengarry**  
**Future Maintenance**

Roads

ID/Name	Owner	Outlet (\$)	Benefit (\$)	Net Assessment (\$)
Concession Road 17	Township of North Glengarry	\$ 46.92	\$ -	\$ 46.92
Sub-Total		\$ 46.92	\$ -	\$ 46.92

Summary

Real Properties - Township of North Glengarry	\$ 6,055.82	\$ 232.79	\$ 6,288.61
Township Roads - Township of North Glengarry	\$ 46.92	\$ -	\$ 46.92
Sub-Total (Pre-Tax/Grant)	\$ 6,102.74	\$ 232.79	\$ 6,335.53

## Assessment Schedule - Updated 2025

## Schedule 'C'

**Cumming Municipal Drain - Morrow Spur of the Morrow Branch  
Future Maintenance**



Property ID No.	Roll No.	Con	Lot	Area Drained (ha)	Outlet (\$)	Benefit (\$)	Est Assess. (\$)*
1	0411016-008-39005	6	1	18.8	\$ 690.45	\$ 60.32	\$ 750.77
2	0411016-008-39000	6	1	7.9	\$ 69.09	\$ -	\$ 69.09
3	0411016-008-38000	6	1	2.9	\$ 20.31	\$ -	\$ 20.31
<b>Sub-Total</b>					<b>\$ 779.85</b>	<b>\$ 60.32</b>	<b>\$ 840.17</b>

\*Estimated Assessment does not include Farm Tax Credit (FTC). Farm Tax Credit eligibility to be confirmed at time of maintenance.

**Roads**

ID/Name	Owner	Outlet (\$)	Benefit (\$)	Net Assessment (\$)
Cumming Road	Township of North Stormont	\$ 37.61	\$ -	\$ 37.61
County Road 22	United Counties of Stormont, Dundas and Glengarry	\$ 82.54	\$ 39.68	\$ 122.22
<b>Sub-Total</b>		<b>\$ 37.61</b>	<b>\$ -</b>	<b>\$ 37.61</b>

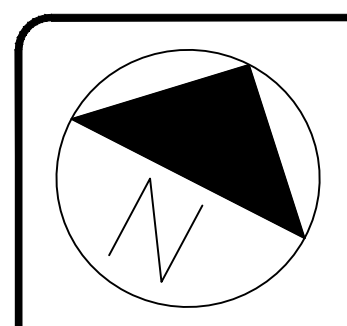
**Summary**

Real Properties - Township of North Stormont	\$ 779.85	\$ 60.32	\$ 840.17
Roads - Township of North Stormont	\$ 37.61	\$ -	\$ 37.61
United Counties of Stormont, Dundas and Glengarry	\$ 82.54	\$ 39.68	\$ 122.22
<b>Sub-Total (Pre-Tax/Grant)</b>	<b>\$ 900.00</b>	<b>\$ 100.00</b>	<b>\$ 1,000.00</b>

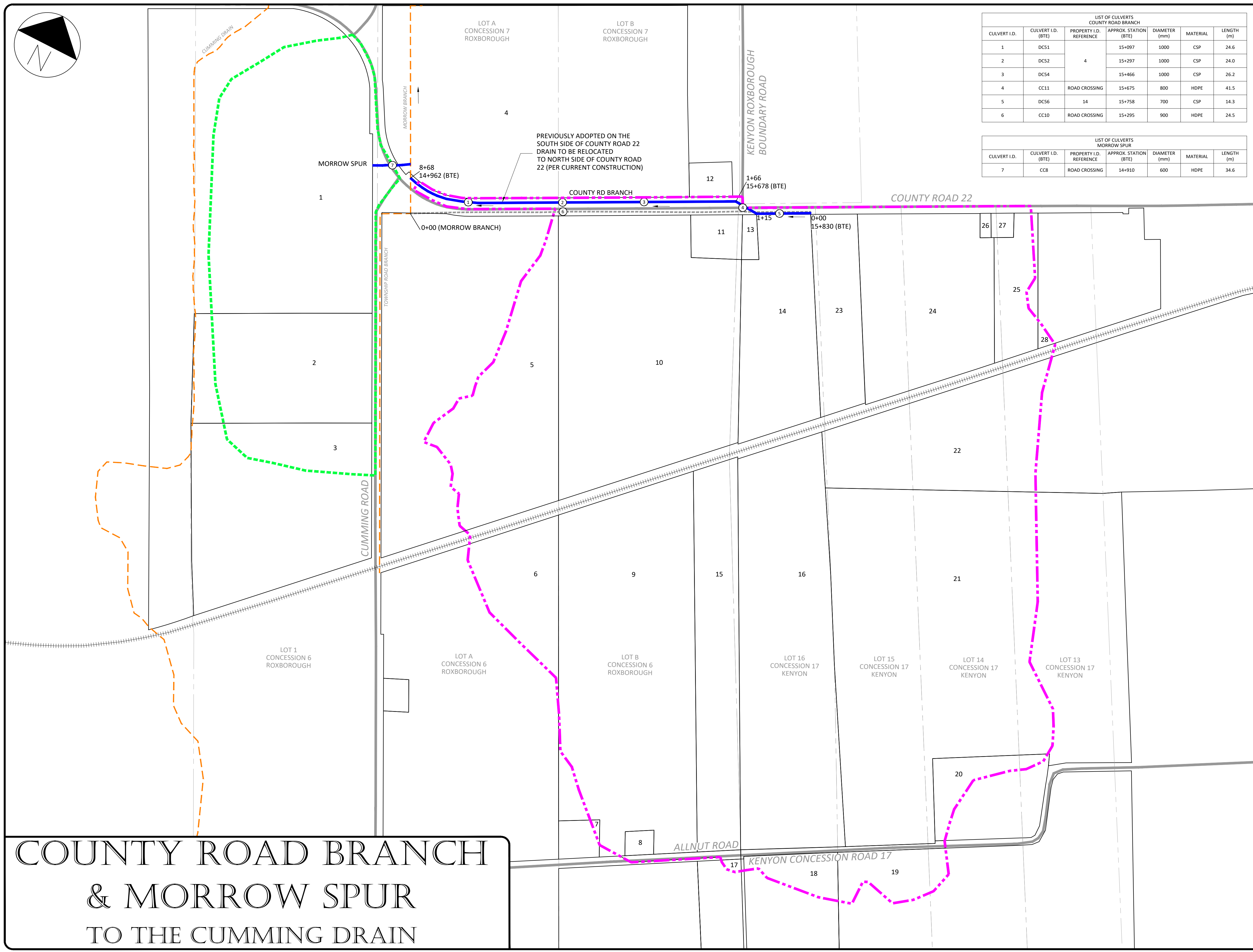
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## **APPENDIX C**

### **ENGINEERING DRAWINGS**

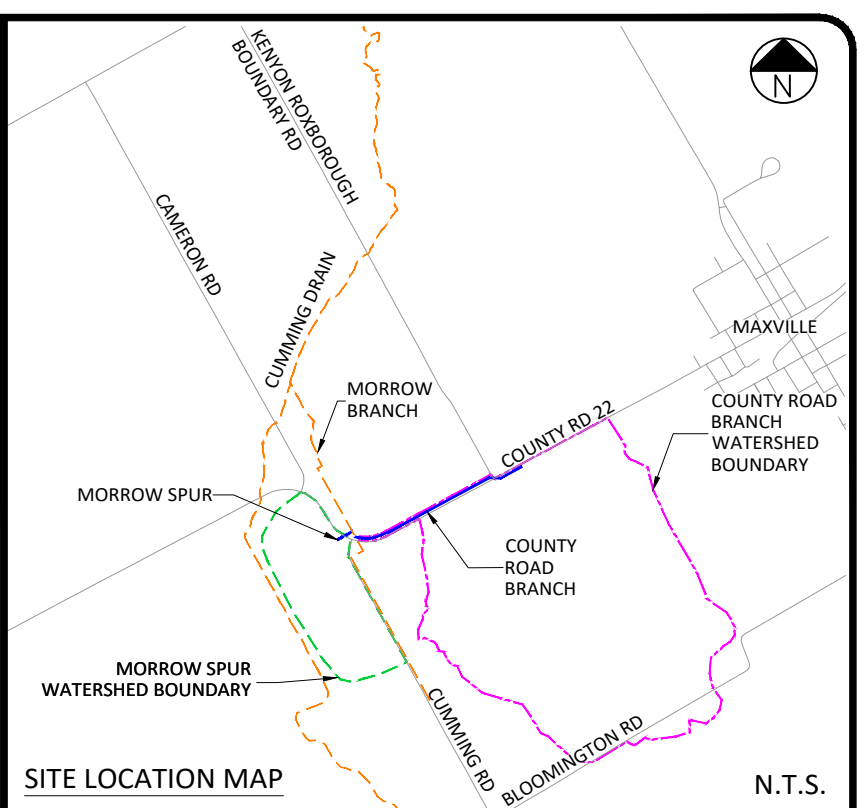


# COUNTY ROAD BRANCH & MORROW SPUR TO THE CUMMING DRAIN



LIST OF CULVERTS COUNTY ROAD BRANCH						
CULVERT I.D.	CULVERT I.D. (BTE)	PROPERTY I.D. REFERENCE	APPROX. STATION (BTE)	DIAMETER (mm)	MATERIAL	LENGTH (m)
1	DC51	4	15+097	1000	CSP	24.6
2	DC52		15+297	1000	CSP	24.0
3	DC54		15+466	1000	CSP	26.2
4	CC11	ROAD CROSSING	15+675	800	HDPE	41.5
5	DC56	14	15+758	700	CSP	14.3
6	CC10	ROAD CROSSING	15+295	900	HDPE	24.5

LIST OF CULVERTS MORROW SPUR						
CULVERT I.D.	CULVERT I.D. (BTE)	PROPERTY I.D. REFERENCE	APPROX. STATION (BTE)	DIAMETER (mm)	MATERIAL	LENGTH (m)
7	CC8	ROAD CROSSING	14+910	600	HDPE	34.6



SCALE BAR

DO NOT SCALE DRAWING

0 50 100 200 400m

ALL DIMENSIONS ARE IN METRES  
UNLESS OTHERWISE MARKED.

PAGE SIZE 24" x 36"

SCALE 1:3,500

SHADE GROUP INC.  
4625 MARCH ROAD  
ALMONTE, ON  
K0A 1A0

SHADE GROUP INC.

LEGEND

2024 PROPERTY LINES (GIS DATA)

COUNTY ROAD BRANCH REALIGNMENT

PREVIOUS ALIGNMENT OF COUNTY ROAD BRANCH (TO BE ABANDONED)

COUNTY ROAD BRANCH SUBWATERSHED

MORROW SPUR SUBWATERSHED

MEASURED STATIONS (m)

STATIONS (m) - PER BTE PROFILE DRAWINGS

ROAD

WATERCOURSES

LOT & CONCESSION LINES

APPROX. LOCATION OF CULVERT

RAILWAY

PROPERTY ID REFERENCE  
REFER TO ASSESSMENT SCHEDULES

DIRECTION OF FLOW

NOTES

1. ALL STATION LABELS ARE APPROXIMATE. THIS MAP IS FOR INFORMATION PURPOSES ONLY AND IMPLIES NO GUARANTEE OF ACCURACY. DO NOT SCALE DRAWING.

2. ALL PROPERTY LINES ARE AS SUPPLIED BY THE COUNTIES OF STORMONT, DUNDAS & GLENAGARRY, AS ACQUIRED FROM THEIR GEOGRAPHIC INFORMATION SYSTEM (GIS) AUGUST 2022. THIS IS NOT A LEGAL SURVEY.

3. THIS MAP AND THE WATERSHED BOUNDARY SHOWN HERE HAS BEEN PREPARED IN REFERENCE TO THE 1952 AND 1985 ENGINEER'S REPORT AS PREPARED BY SIDDWELL & ASSOCIATES LTD.

4. ALIGNMENT OF THE CUMMING DRAIN IS APPROXIMATE ONLY. FOR DETAILS PERTAINING TO THE ADOPTED FLOW PATH OF THE CUMMING DRAIN, PLEASE REFER TO THE APPROPRIATE ENGINEER'S REPORT.

00	ISSUED WITH ENGINEER'S REPORT	FEB 6, 2025
REV. #	REVISION DESCRIPTION	DATE

STAMP

PROJECT TITLE

COUNTY ROAD BRANCH & THE MORROW SPUR

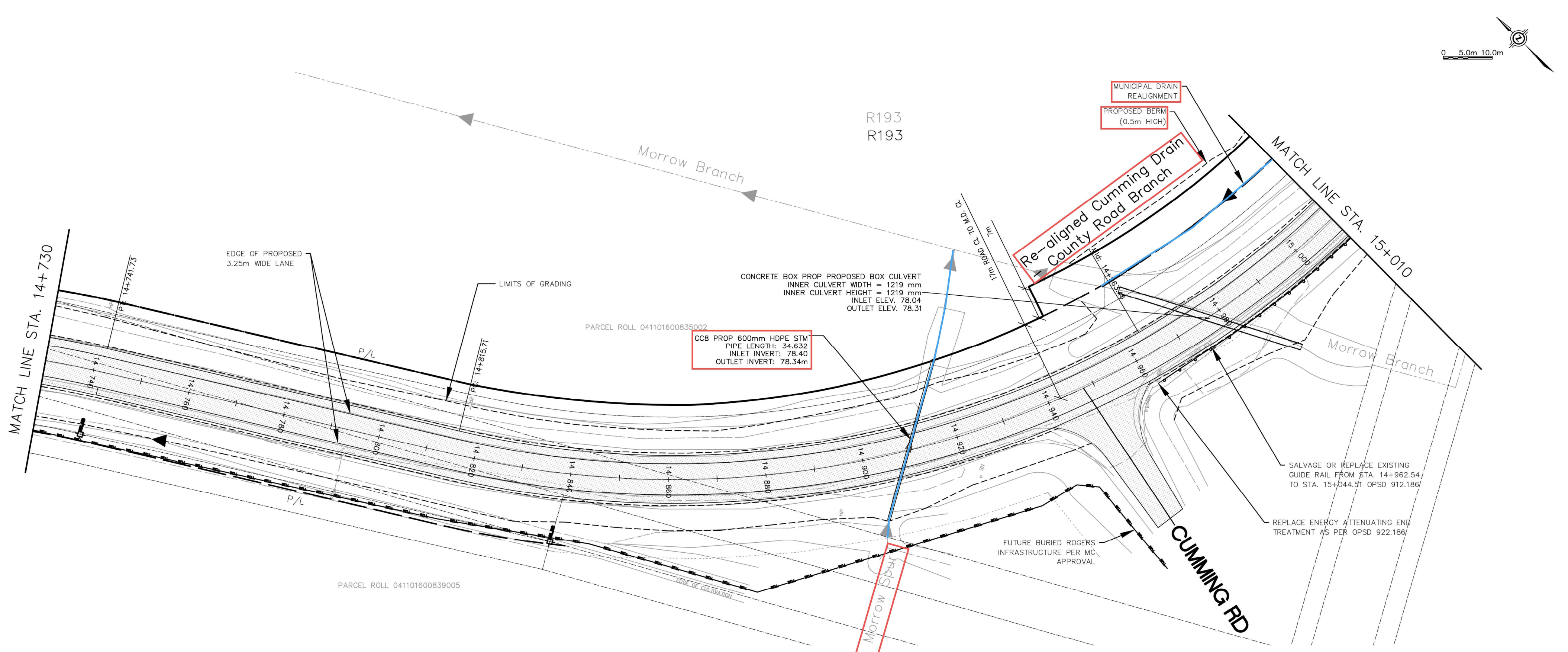
DRAWING TITLE

WATERSHED MAP  
PLAN VIEW

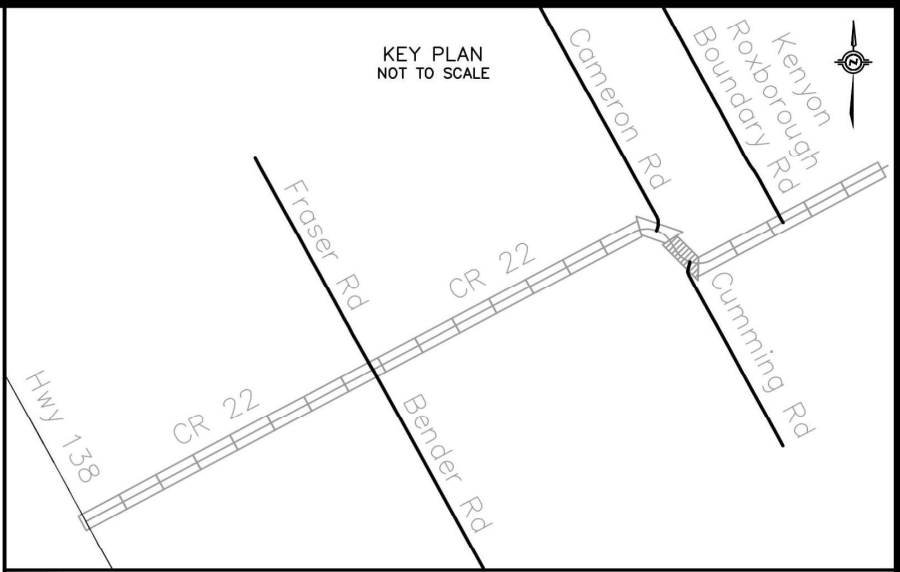
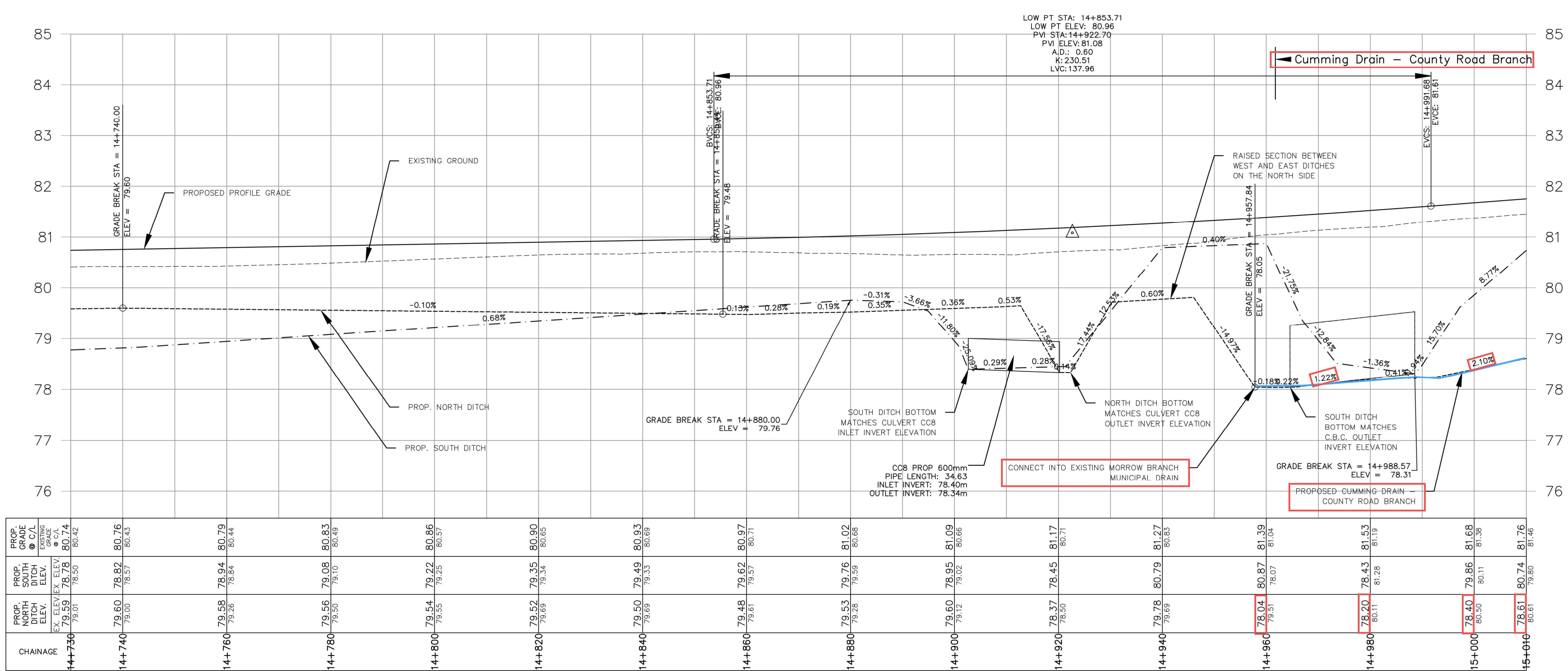
DRAWING NO.

1 OF 1





STORMONT, DUNDAS AND GLENGARRY COUNTY ROAD 22



- GENERAL NOTES
1. THE LOCATION OF UTILITIES IS APPROXIMATE ONLY. THE EXACT LOCATION SHOULD BE DETERMINED BY CONSULTING THE MUNICIPAL AUTHORITIES AND UTILITY COMPANIES CONCERNED. THE CONTRACTOR SHALL PROVE THE LOCATION OF UTILITIES AND SHALL BE RESPONSIBLE FOR ADEQUATE PROTECTION FROM DAMAGE.
  2. DRAWINGS PLOTTED HALF SIZE (11X17) ARE NOT TO SCALE.
  3. ALL DISTURBED AREAS WHERE GRADING IS REQUIRED UNLESS OTHERWISE NOTED IN PLAN SHALL BE RESTORED WITH 100mm TOPSOIL, SEED & MULCH.
  4. WHERE PAVED DRIVEWAY RECONSTRUCTION INDICATED IN PLAN PAVEMENT STRUCTURE SHALL BE 50mm H13 AND PAD WITH GRANULAR 'A' AS REQUIRED. WHERE GRANULAR DRIVEWAY RECONSTRUCTION INDICATED IN PLAN RECONSTRUCT WITH GRANULAR 'A' AS REQUIRED.
  5. ALL DRIVEWAY RECONSTRUCTIONS ARE TO MATCH EXISTING WIDTH AND OPSD 301.010.
  6. 1.5m SHOULDER (1.0m PARTIALLY PAVED SHOULDER).
  7. PAVEMENT REHABILITATION
    - IN PLACE PROCESS TO 200mm DEPTH (SEE NOTE ON TYPICAL SECTIONS).
    - PLACE AND GRADE GRANULAR B IF NECESSARY (DEPTH VARIES).
    - ADD GRANULAR A AND COMPACT AS REQUIRED TO ACHIEVE THE TOP OF ASPHALT DESIGN ELEVATION (150mm MAX GRANULAR A DEPTH).
    - PLACE NEW ASPHALT COURSES.
- LEGEND
- DRAIN BOTTOM
  - NOTES RELEVANT TO COUNTY ROAD BRANCH AND MORROW SPUR

BENCH MARKS

INTEGRATION DATA			
SPECIFIED CONTROL POINTS (SCPs): XTM ZONE XX, NAD83 (ORIGINAL).			
COORDINATES TO A ***URBAN RURAL REMOTE*** ACCURACY PER SECTION 14 (2) OF OREG 216/10.			
POINT ID	EASTING	NORTHING	
SCP 0082070142	505 079.67	5 011 904.17	
SCP 01019920466	511 131.14	5 013 326.41	
COORDINATES CANNOT IN THEMSELVES, BE USED TO RE-ESTABLISH CORNERS OR BOUNDARIES SHOWN ON THIS PLAN.			

BENCHMARK DATA (SIB, IB AND RIB)		
EASTING	NORTHING	ELEVATION
509157.909	5014119.035	79.001
509209.107	5014034.748	79.725

NO.	REVISIONS	DATE	APPROVED
1.	ISSUED FOR 90% REVIEW	MM/YY	S.J.T.
2.	ISSUED FOR TENDER	07/24	S.J.T.

COUNTY ROAD 22

UNITED COUNTIES OF STORMONT, DUNDAS AND GLENGARRY

NEW CONSTRUCTION

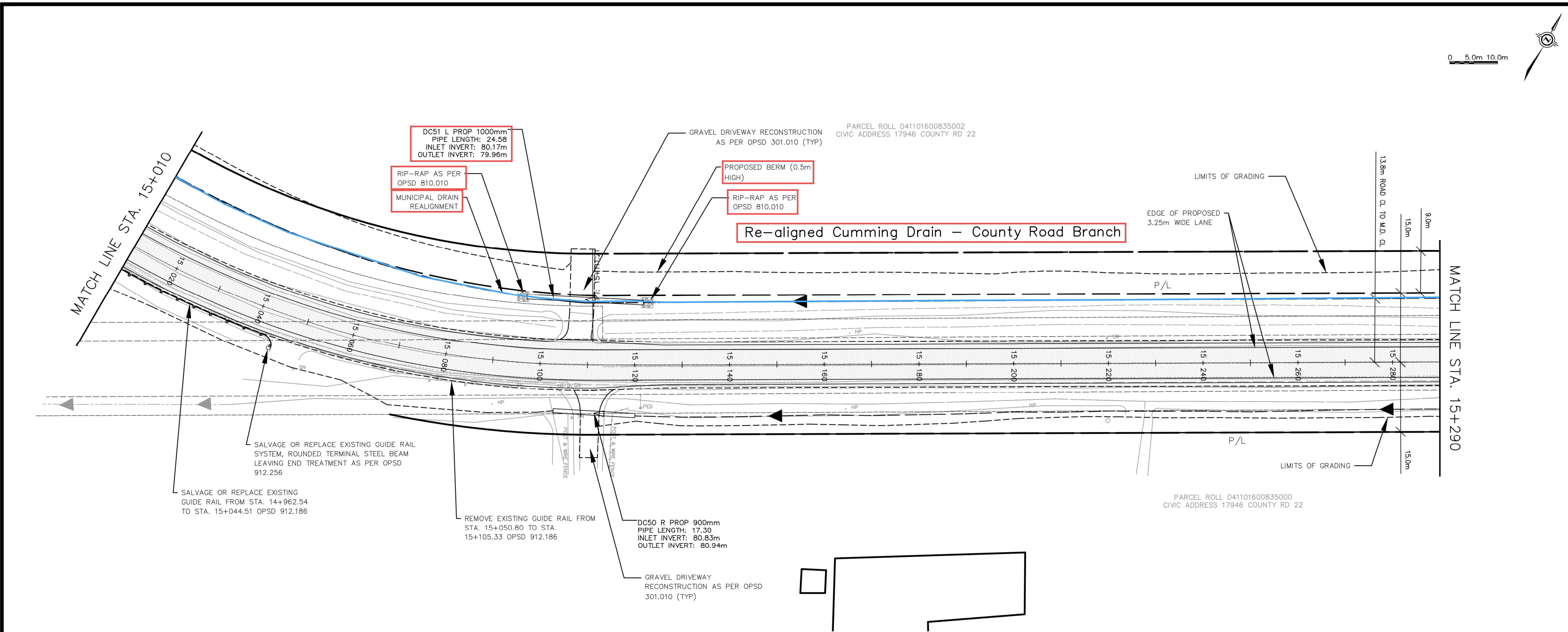
STA. 14+730 TO STA. 15+010

**BT ENGINEERING**

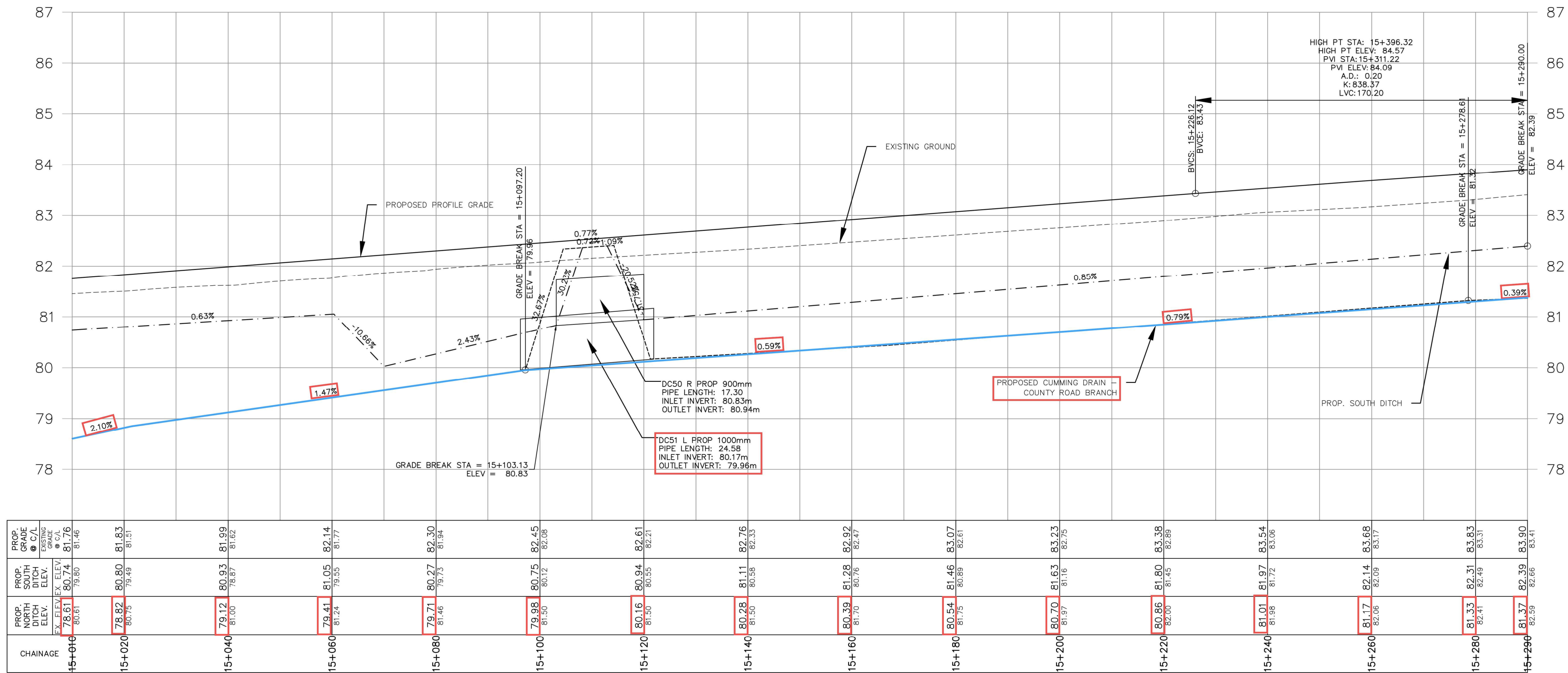
**BTE**

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DESIGN A.D.	DRAWN A.D.	SHEET NO. C-017
REVIEWED S.J.T.	DATE 2024.07	





STORMONT, DUNDAS AND GLENGARRY COUNTY ROAD 22



- GENERAL NOTES**
1. THE LOCATION OF UTILITIES IS APPROXIMATE ONLY. THE EXACT LOCATION SHOULD BE DETERMINED BY CONSULTING THE MUNICIPAL AUTHORITIES AND UTILITY COMPANIES CONCERNED. THE CONTRACTOR SHALL PROVE THE LOCATION OF UTILITIES AND SHALL BE RESPONSIBLE FOR ADEQUATE PROTECTION FROM DAMAGE.
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  4. WHERE PAVED DRIVEWAY RECONSTRUCTION INDICATED IN PLAN PAVEMENT STRUCTURE SHALL BE 50mm H1.3 AND PAD WITH GRANULAR 'A' AS REQUIRED. WHERE GRANULAR DRIVEWAY RECONSTRUCTION INDICATED IN PLAN RECONSTRUCT WITH GRANULAR 'A' AS REQUIRED.
  5. ALL DRIVEWAY RECONSTRUCTIONS ARE TO MATCH EXISTING WIDTH AND OPD 301.010.
  6. 1.5m SHOULDER (1.0m PARTIALLY PAVED SHOULDER).
  7. PAVEMENT REHABILITATION
    - IN PLACE PROCESS TO 200mm DEPTH (SEE NOTE ON TYPICAL SECTIONS).
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    - PLACE NEW ASPHALT COURSES.

**LEGEND**

- DRAIN BOTTOM
- NOTES RELEVANT TO COUNTY ROAD BRANCH AND MORROW SPUR

**BENCH MARKS**

INTEGRATION DATA			
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COORDINATES TO A ***URBAN RURAL REMOTE*** ACCURACY PER SECTION 14 (2) OF O. REG 216/10.			
POINT ID	EASTING	NORTHING	
SCP 0082070142	505 079.67	5 011 904.17	
SCP 01019920466	511 131.14	5 013 326.41	
COORDINATES CANNOT, IN THEMSELVES, BE USED TO RE-ESTABLISH CORNERS OR BOUNDARIES SHOWN ON THIS PLAN.			

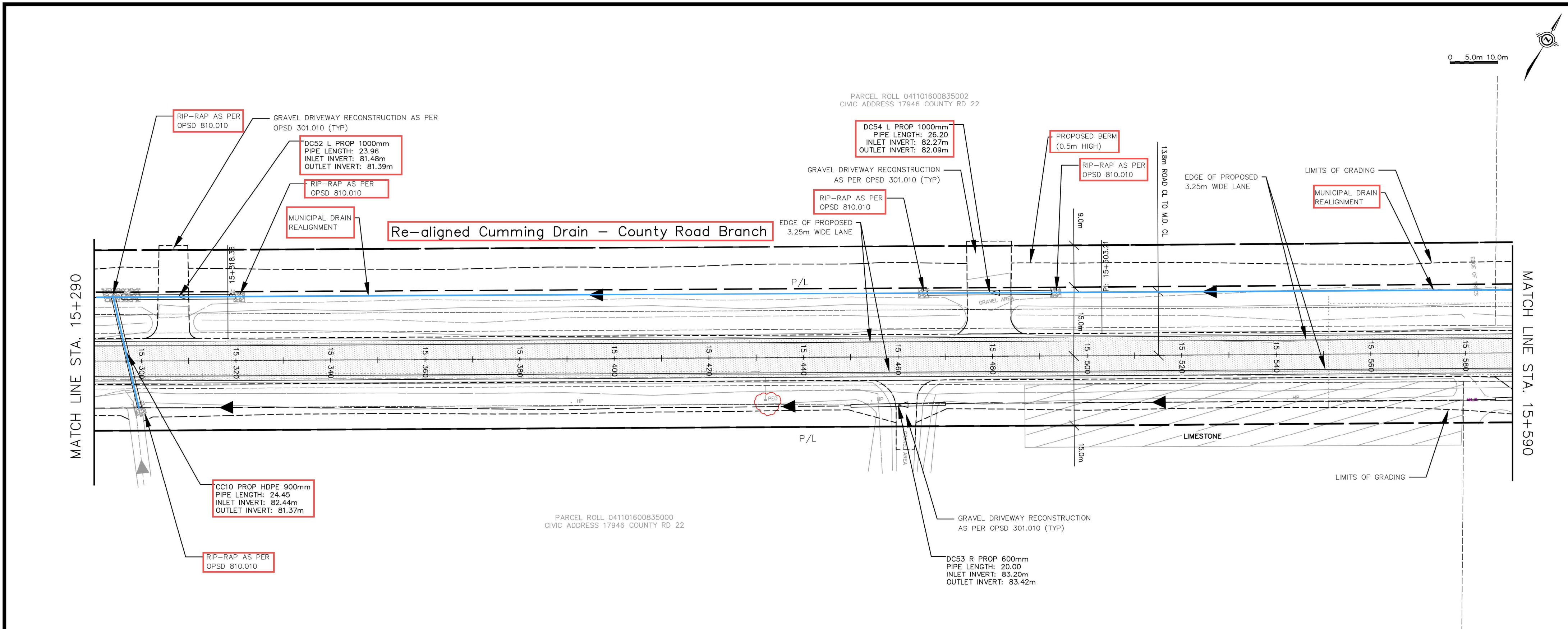
NO.	REVISIONS	DATE	APPROVED
1.	ISSUED FOR 90% REVIEW	MM/YY	S.J.T.
2.	ISSUED FOR TENDER	07/24	S.J.T.

**COUNTY ROAD 22**  
UNITED COUNTIES OF STORMONT, DUNDAS AND GLENGARRY  
NEW CONSTRUCTION  
STA. 15+010 TO STA. 15+290

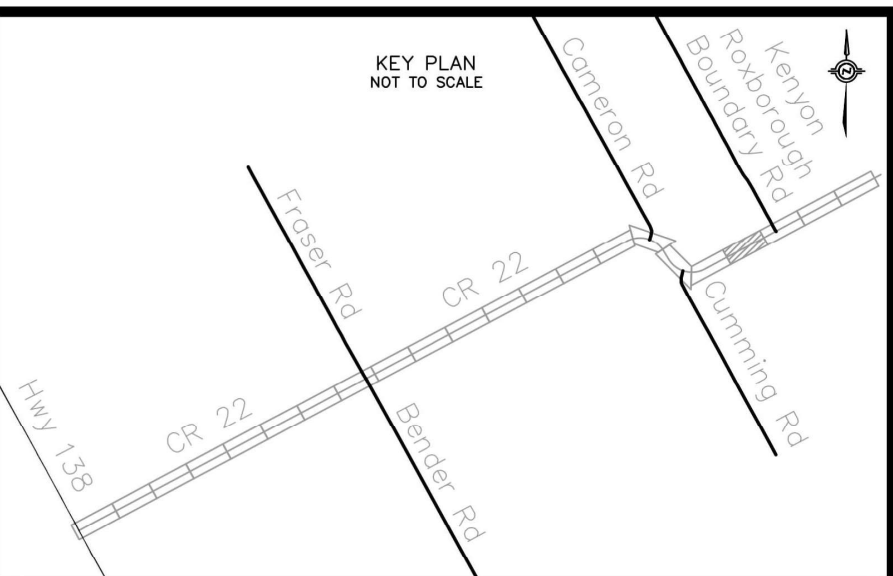
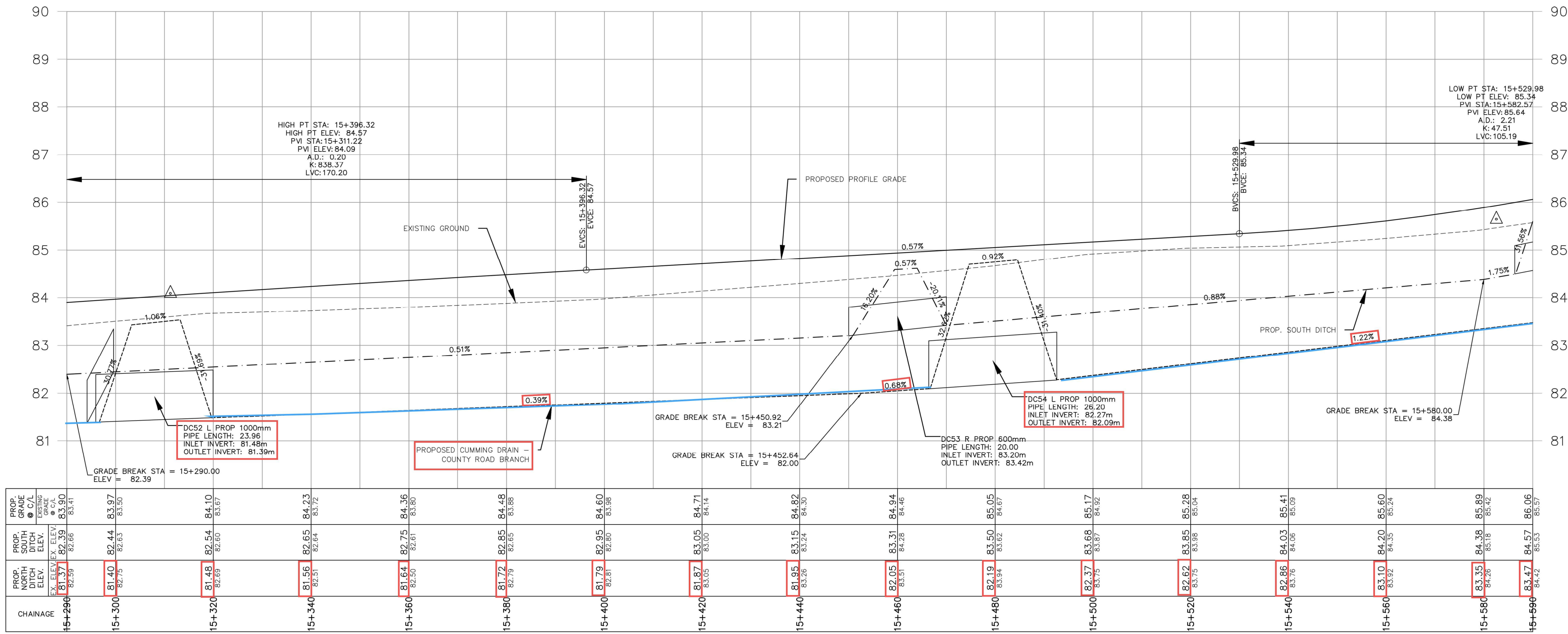
**BT ENGINEERING**  
**BTE**

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DESIGN A.D.	DRAWN A.D.	SHEET NO. C-018
REVIEWED S.J.T.	DATE 2024.07	





STORMONT, DUNDAS AND GLENGARRY COUNTY ROAD 22



**GENERAL NOTES**

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  - PLACE NEW ASPHALT COURSES.

**LEGEND**

- DRAIN BOTTOM
- NOTES RELEVANT TO COUNTY ROAD BRANCH AND MORROW SPUR

**BENCH MARKS**

INTEGRATION DATA			
SPECIFIED CONTROL POINTS (SCPs): XTM ZONE XX, NAD83 (ORIGINAL).			
COORDINATES TO A ***URBAN RURAL REMOTE*** ACCURACY PER SECTION 14 (2) OF O.R.E.D 216/10.			
POINT ID	EASTING	NORTHING	
SCP 0082070142	505 079.67	5 011 904.17	
SCP 01019920466	511 131.14	5 013 326.41	
COORDINATES CANNOT IN THEMSELVES BE USED TO RE-ESTABLISH CORNERS OR BOUNDARIES SHOWN ON THIS PLAN.			

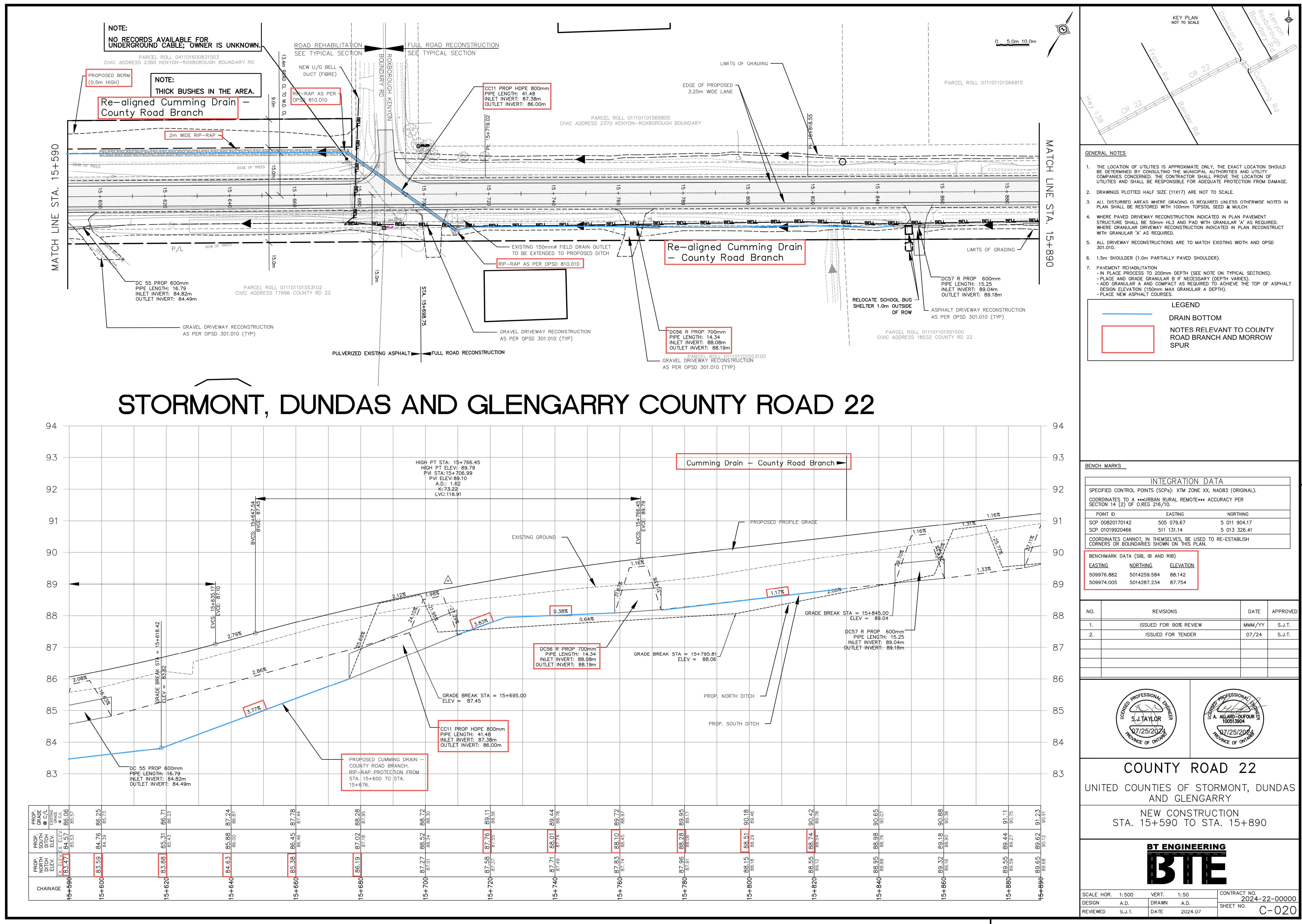
NO.	REVISIONS	DATE	APPROVED
1.	ISSUED FOR 90% REVIEW	MM/YY	S.J.T.
2.	ISSUED FOR TENDER	07/24	S.J.T.

**COUNTY ROAD 22**  
UNITED COUNTIES OF STORMONT, DUNDAS AND GLENGARRY  
NEW CONSTRUCTION  
STA. 15+290 TO STA. 15+590

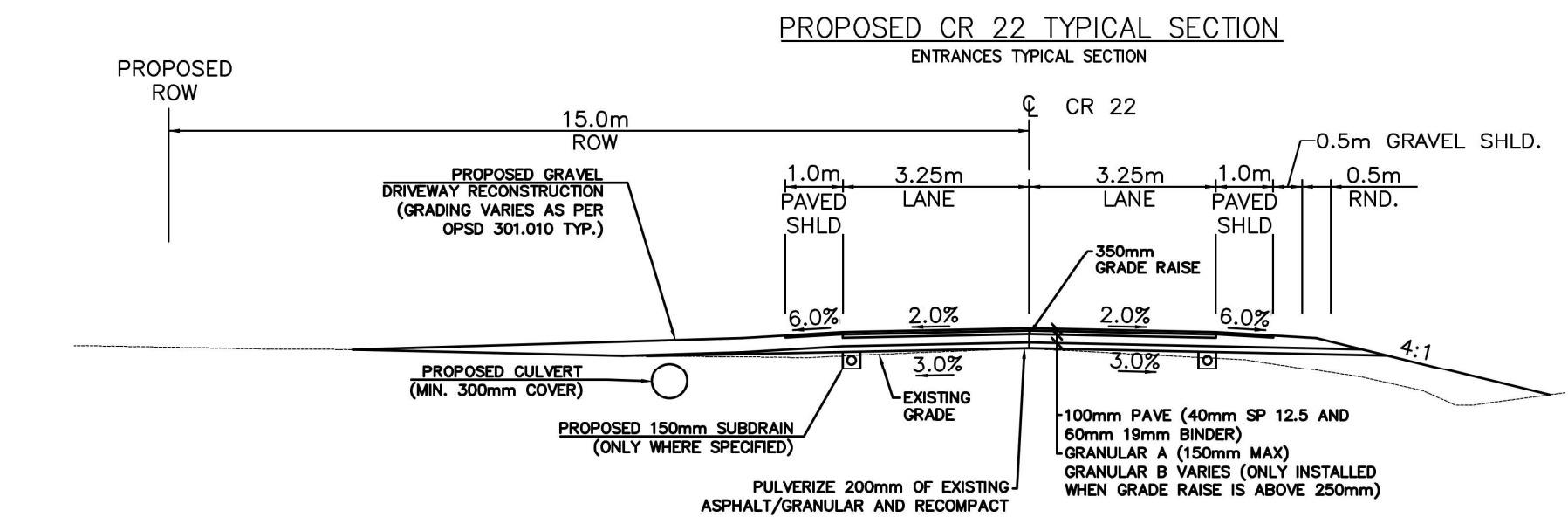
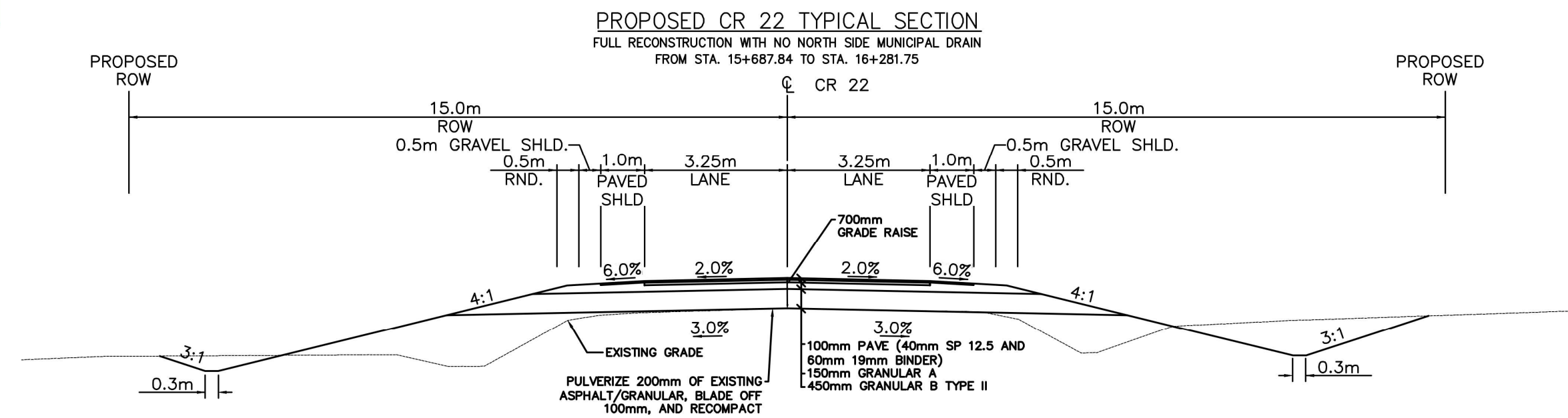
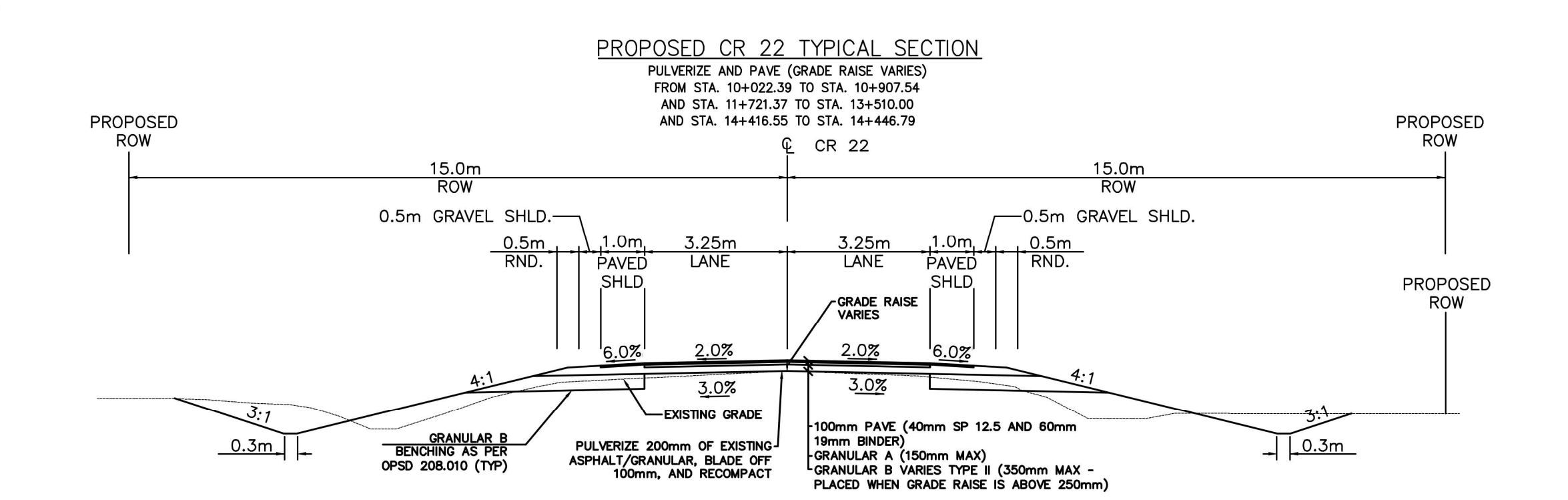
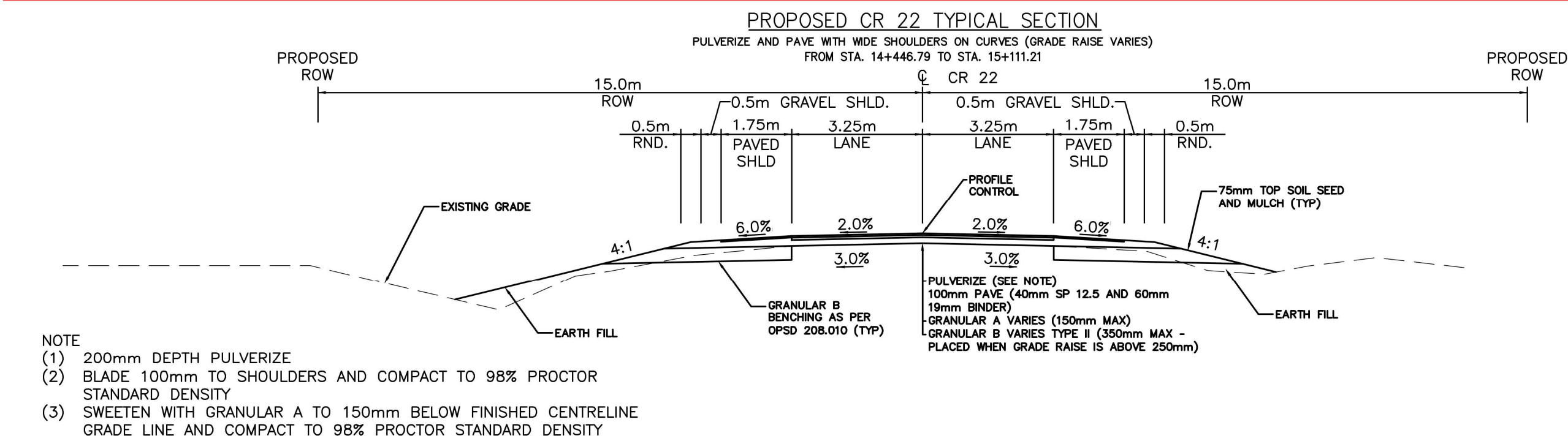
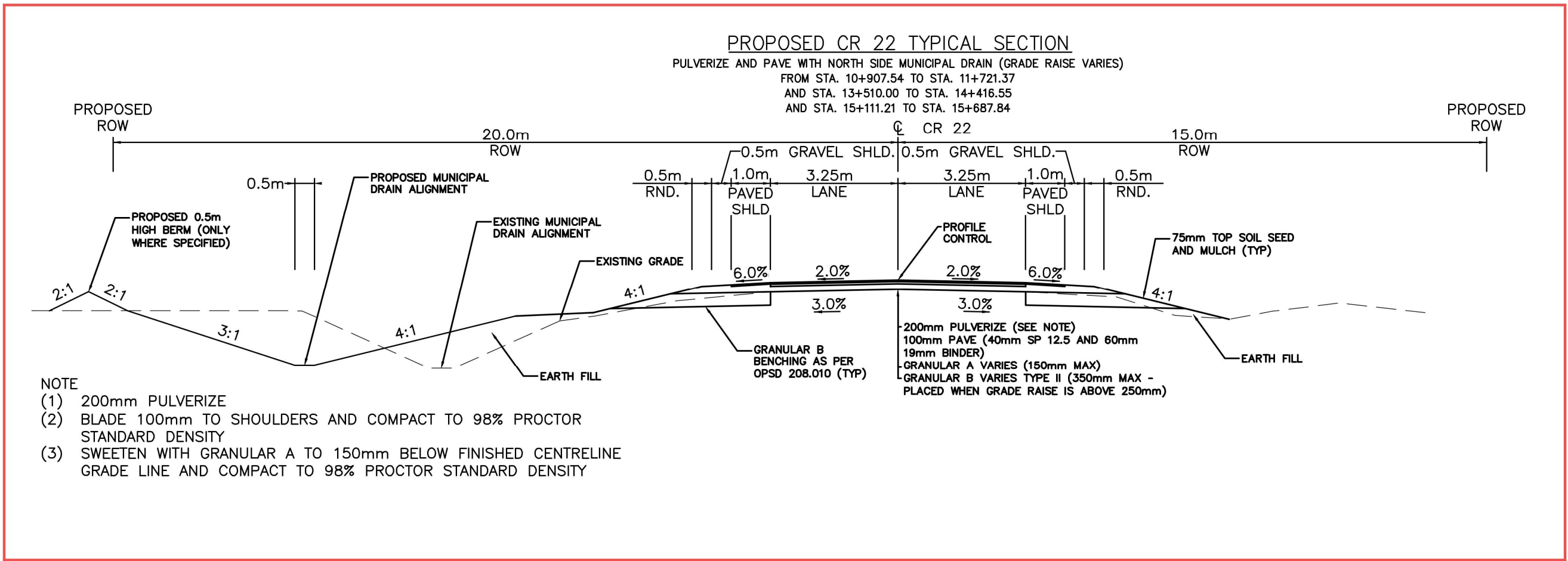
**BT ENGINEERING**  
**BTE**

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DESIGN A.D.	DRAWN A.D.	SHEET NO. C-019
REVIEWED S.J.T.	DATE 2024.07	







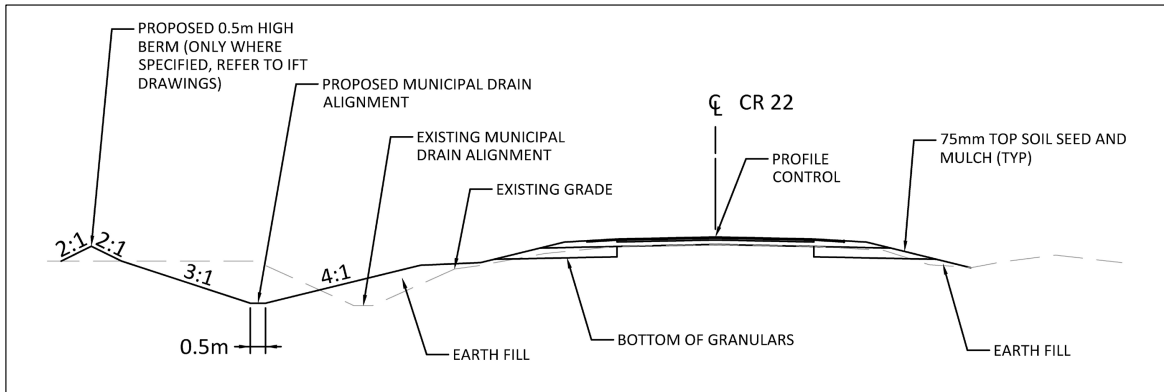


GENERAL NOTES	BENCH MARKS	NO.	REVISIONS	DATE	APPROVED			COUNTY ROAD 22 UNITED COUNTIES OF STORMONT, DUNDAS AND GLENGARRY TYPICAL SECTIONS	<b>BT ENGINEERING</b> <b>BTE</b>			
		1.	ISSUED FOR 90% REVIEW	MMM/YY	S.J.T.				SCALE HOR. N.T.S.	VERT. N.T.S.	CONTRACT NO.	
		2.	ISSUED FOR TENDER	07/24	S.J.T.				DESIGN A.D.	DRAWN A.D.	SHEET NO.	
									REVIEWED S.J.T.	DATE 2024.07	CX-001	

**Subject:** Municipal Drain Assessment

**Project:** BTE File 22-019, Stormont, Dundas and Glengarry Counties, County Road 22 Rehabilitation

**Date:** July 30, 2024



**Figure 3: Municipal Drain Typical Section**

## 7.0 RESULTS AND COMMENTS

### 7.1 Design Flows

Peak flows for the driveway culverts along the realigned drain sections are summarized in **Table 4**.

**Table 4: Proposed Municipal Drain Realignment Peak Flow Results**

Municipal Drain Branch	Design Flow (m <sup>3</sup> /s)
Brabant Branch	0.58
McRae Branch	1.66
Morrow-Brabec Branch	0.49
County Road Branch	1.21

### 7.2 Culvert Sizing

**Table 5** shows the recommended sizes for the driveway culverts to convey the minimum 10-year design flow. HEC-RAS Analysis Report and Results are presented in **Appendix A**.

**Table 5: Proposed Culvert Configuration**

Culvert ID	Branch	Start Station	Type	Size (mm)	Length (m)	Slope (m/m)
DC6	Roadside Ditch	10+464.578	Circular CSP	500	45.45	0.011
DC9	Roadside Ditch	10+654.500	Circular CSP	600	16.74	0.004
DC11	Roadside Ditch	10+759.487	Circular CSP	600	16.50	0.003
DC14	Brabant Branch	10+957.300	Circular CSP	900	33.96	0.008
DC16	Brabant Branch	11+166.137	Circular CSP	1100	117.34	0.004
DC21	Brabant Branch	11+341.302	Circular CSP	1100	27.90	0.003
DC22	McRae Branch	11+551.830	Circular CSP	1400	76.02	0.006
DC23	McRae Branch	11+695.744	Circular CSP	1400	18.51	0.012
DC42	Morrow-Brabec Branch	13+664.102	Circular CSP	1000	26.14	0.004

**Subject:** Municipal Drain Assessment

**Project:** BTE File 22-019, Stormont, Dundas and Glengarry Counties, County Road 22 Rehabilitation

**Date:** July 30, 2024



Culvert ID	Branch	Start Station	Type	Size (mm)	Length (m)	Slope (m/m)
DC45	Morrow-Brabec Branch	14+042.928	Circular CSP	1000	24.72	0.003
DC46	Morrow-Brabec Branch	14+240.913	Circular CSP	1200	28.83	0.003
DC51	County Road Branch	15+121.895	Circular CSP	1000	24.58	0.009
DC52	County Road Branch	15+319.935	Circular CSP	1000	23.96	0.004
DC54	County Road Branch	15+492.587	Circular CSP	1000	26.20	0.007

According to the MTO Highway Drainage Standards (2008), the ratio HW/D of the headwater depth upstream of the culvert (HW) to the diameter or rise of the culvert (D) must be less than 1.5. In addition, as indicated in the design criteria (**Table 1**), the headwater elevation must be below the driveway surface. The calculated ratios and freeboards comply with these requirements and are shown in **Table 6**.

**Table 6: Headwater/Diameter (Rise) Ratio and Freeboard for Proposed Culverts**

Culvert ID	HW/D	Freeboard (m)
DC6	0.63	0.57
DC9	0.91	0.66
DC11	0.93	0.57
DC14	0.72	0.98
DC16	0.51	0.69
DC21	0.58	0.82
DC22	0.79	0.45
DC23	0.75	0.40
DC42	0.62	1.02
DC45	0.61	1.16
DC46	0.47	1.54
DC51	1.00	0.43
DC52	0.58	0.74
DC54	0.33	1.09

### 7.3 Municipal Drain Size

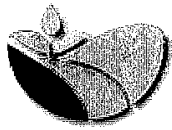
The results of the hydrologic modelling of the municipal drain branches indicate that the proposed ditch capacity is appropriate to convey the 10-year flow with the proposed culvert configuration from **Table 5**. Cross sections and water surface elevations along the evaluated drains are presented in **Appendix A**.

---

## **APPENDIX D**

### **RESOLUTIONS + BY-LAW**





The Corporation of the Township of  
**NORTH STORMONT**  
**RESOLUTION**

**Date:** July 26, 2022

**Resolution No.** 219-2022

**MOVED BY:**

Deputy Mayor F. Landry \_\_\_\_\_  
Councillor S. Densham \_\_\_\_\_  
Councillor R. Douglas \_\_\_\_\_ ✓  
Councillor R. Villeneuve \_\_\_\_\_

**SECONDED BY:**

Deputy Mayor F. Landry \_\_\_\_\_  
Councillor S. Densham \_\_\_\_\_ ✓  
Councillor R. Douglas \_\_\_\_\_  
Councillor R. Villeneuve \_\_\_\_\_

THAT Council approves of the SDG Counties request, and appoint Shade Group Inc. under Section 78(1) of the Drainage Act, R.S.O 1990 Chapter D. 17 to update the necessary engineer's report to legitimize all drainage works required to be completed as part of the SDG County Road 22 project.

☒ **CARRIED**    ☐ **DEFEATED**    ☐ **DEFERRED**

**Mayor**

**Declaration of Conflict of Interest:** \_\_\_\_\_

☐ **Disclosed His/Her/Their Interest**

☐ **Vacated His/Her/Their Seat**

**RECORDED VOTE**

Councillor S. Densham \_\_\_\_\_  
Councillor R. Douglas \_\_\_\_\_  
Councillor R. Villeneuve \_\_\_\_\_  
Deputy Mayor F. Landry \_\_\_\_\_  
Mayor J. Wert \_\_\_\_\_



The Corporation of the Township of  
**NORTH STORMONT**  
**RESOLUTION**

**Date:** July 18, 2023

**Resolution No.** 219-2023

**MOVED BY:**

Mayor F. Landry  
Deputy Mayor S. Densham  
Councillor A. Bugelli  
Councillor A. McDonald  
Councillor C. Shane

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**SECONDED BY:**

Mayor F. Landry  
Deputy Mayor S. Densham  
Councillor A. Bugelli  
Councillor A. McDonald  
Councillor C. Shane

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

THAT Council receive this information report and extend the appointment of Shade Group Inc under Section 39(1) of the Drainage Act, as the Drainage Engineer appointed under Section 78 of the Drainage Act for the drains affected by the County Road 22 improvements.

☒ **CARRIED**    ☐ **DEFEATED**    ☐ **DEFERRED**

\_\_\_\_\_  
Mayor

**Declaration of Conflict of Interest:** \_\_\_\_\_

☐ **Disclosed His/Her/Their Interest**

☐ **Vacated His/Her/Their Seat**

**RECORDED VOTE**

Councillor C. Shane \_\_\_\_\_  
Councillor A. McDonald \_\_\_\_\_  
Councillor A. Bugelli \_\_\_\_\_  
Deputy Mayor S. Densham \_\_\_\_\_  
Mayor F. Landry \_\_\_\_\_

---

## APPENDIX E

### AGENCY CONSULTATION & PERMITS



**PERMIT FOR DEVELOPMENT ACTIVITY WITHIN A REGULATED AREA**

Section 28.1 of the *Conservation Authorities Act*, R.S.O. 1990, c. C.27  
& Ontario Regulation 41/24: Prohibited Activities, Exemptions and Permits



**Permit Holder:** United Counties of SDG  
Care of: Dana Grant  
26 Pitt Street  
Cornwall, ON  
K6J 3P2

**Decision:** **Approved With Conditions**

**Issued:** December 3, 2024  
**Expires:** December 3, 2026

**Work Description:** Relocate Municipal Drains as part of the County Road 22  
Reconstruction Project

**Location:** County Road 22, from Highway 138 to the Urban Limit of Maxville  
Township of North Stormont  
Geographic Township of Roxborough

The attached Schedules form part of this permit for the approved work and must be implemented in accordance with the stated conditions. A copy of this permit must be kept at the worksite.

The Permit Holder, by acceptance and in consideration of the issuance of this permit, agrees to the permit conditions.

Dated at Finch, Ontario, this 3<sup>rd</sup> day of December 2024.

Jennifer Boyer, M.Sc., MCIP RPP  
Managing Director, Approvals

South Nation Conservation  
[jboyer@nation.on.ca](mailto:jboyer@nation.on.ca)



Fisheries and Oceans  
Canada

Ontario and Prairies Region  
Fish and Fish Habitat  
Protection Program  
867 Lakeshore Road  
Burlington, ON L7S 1A1

Pêches et Océans  
Canada

Région de l'Ontario et des Prairies  
Programme de la protection  
du poisson et de son habitat  
867 Lakeshore Road  
Burlington, ON L7S 1A1

October 22, 2024

*Our file      Notre référence*

24-HCAA-01679

United Counties of SD&G  
ATTENTION: Michael Jans  
Manager of Infrastructure  
26 Pitt St  
Cornwall, ON  
K6J 3P2

**Subject: Drain Realignment, Road Reconstruction, County Road 22, North Stormont – Implementation of Measures to Avoid and Mitigate the Potential for Prohibited Effects to Fish and Fish Habitat**

Dear Michael Jans:

The Fish and Fish Habitat Protection Program (the Program) of Fisheries and Oceans Canada (DFO) received your proposal on July 8<sup>th</sup>, 2024. We understand that you propose to:

- Realign approximately 1,840 m of class C, E and F municipal drains to accommodate road reconstruction activities on County Road 22.
- Enclose approximately 700 m of class F municipal drains in segments running through landowner driveways.
- Replace existing culvert crossings and driveway culverts of class C, E and F municipal drains to accommodate road reconstruction activities.

Our review considered the following information:

- Request for Review and supporting documents received on July 8<sup>th</sup>, 2024.
- Call with Michael Jans (The Counties), Derek McMillan (The Counties), Andrea Doherty (DFO) and Kirsten Luck (DFO) on August 21<sup>st</sup>, 2024.
- Additional information provided by Michael Jans following up the call from August 21<sup>st</sup>, 2024.

Your proposal has been reviewed to determine whether it is likely to result in:

- the death of fish by means other than fishing and the harmful alteration, disruption or destruction of fish habitat which are prohibited under subsections 34.4(1) and 35(1) of the *Fisheries Act*; and

Canada

- effects to listed aquatic species at risk, any part of their critical habitat or the residences of their individuals in a manner which is prohibited under sections 32, 33 and subsection 58(1) of the *Species at Risk Act*; and
- The introduction of aquatic species into regions or bodies of water frequented by fish where they are not indigenous, which is prohibited under section 10 of the *Aquatic Invasive Species Regulations*.]

The aforementioned outcomes are prohibited unless authorized under their respective legislation and regulations.

To avoid and mitigate the potential for prohibited effects to fish and fish habitat (as listed above), we recommend implementing the measures outlined in your plan, in addition to the following listed below:

- Plan in-water work, undertaking or activity to respect timing windows (i.e. NO in-water work between March 15 – July 15).
- Develop and implement an Erosion and Sediment Control Plan to avoid the introduction of sediment into any waterbody during all phases of the work, undertaking or activity.
- Restore the banks and riparian vegetation to their natural state, with native species suitable for the site.
- Aquatic invasive species are introduced and spread through transporting sands and sediments and using contaminated construction equipment. To prevent the spread of aquatic invasive species during construction in aquatic environments:
  - Clean, drain and dry any equipment used in the water; and,
  - Never move organisms or water from one body of water to another.
- Replace removed trees at a 1:1 replacement ratio onto the back-slopes of the channel.
- In areas where proposed realignment overlaps with existing realignment AND takes place in a class C or E drain, conduct work in the dry. If working in the dry is not possible, work in isolation of flow with pump bypass, fish salvage and silt fencing used in workable segments.
- Replace the Cumming Main Branch culvert (CC6) in isolation of flow with pump bypass, fish salvage, silt fencing, and riprap armouring along the eroded bank.

Provided that you incorporate these measures into your plans, the Program is of the view that your proposal will not require an authorization under the *Fisheries Act* or permit under the *Species at Risk Act*.

Should your plans change or if you have omitted some information in your proposal, further review by the Program may be required. Consult our website (<http://www.dfo-mpo.gc.ca/pnw-ppe/index-eng.html>) or consult with a qualified environmental consultant to determine if further review may be necessary. It remains your responsibility to remain in compliance with the *Fisheries Act*, the *Species at Risk Act* and the *Aquatic Invasive Species Regulations*.

It is also your *Duty to Notify* DFO if you have caused, or are about to cause, the death of fish by means other than fishing and/or the harmful alteration, disruption or destruction of fish habitat. Such notifications should be directed to (<http://www.dfo-mpo.gc.ca/pnw-ppe/contact-eng.html>).

Notify this office at least 10 days before starting any in-water works. Send your notification to Kirsten Luck ([kirsten.luck@dfo-mpo.gc.ca](mailto:kirsten.luck@dfo-mpo.gc.ca)) and the DFO 10 notification mailbox: [DFO.OP.10DayNotification-Notification10Jours.OP.MPO@dfo-mpo.gc.ca](mailto:DFO.OP.10DayNotification-Notification10Jours.OP.MPO@dfo-mpo.gc.ca). A copy of this letter should be kept on site while the work is in progress. It remains your responsibility to meet all other federal, territorial, provincial and municipal requirements that apply to your proposal.

If you have any questions with the content of this letter, please contact Kirsten Luck at our Burlington office at (506) 269-5694 or by email at [kirsten.luck@dfo-mpo.gc.ca](mailto:kirsten.luck@dfo-mpo.gc.ca). Please refer to the file number referenced above when corresponding with the Program.

Yours sincerely,



Elyjah Schimmens  
A/Senior Biologist  
Fish and Fish Habitat Protection Program  
Fisheries and Oceans Canada

COPY: Kirsten Luck – Fisheries and Oceans Canada



### **SCHEDULE A: WORK DESCRIPTION**

SNC understands the following work will be completed (the "Work"):

1. County Road 22 will be reconstructed from Highway 138 to Roxborough Kenyon Boundary Road. The reconstruction design includes the relocation of several Municipal drain segments where the road will be widened.
2. The Permit Holder identified 8 locations where the road reconstruction will interfere with a watercourse:
  - I. **Howes Branch of the McKenzie Municipal Drain:** located across the road from 17404 County Road 22 and flows east to the southwest corner of 17499 County Road 22.
    - Approximately 650m of the drain will be relocated further away from the road. The proposed drain alignment does not differ substantially from the existing alignment. Along the front of residential properties, the municipal drain will follow the existing alignment and be enclosed.
  - II. **McRae Branch of the McKenzie Municipal Drain:** located on the southeast corner of 17499 County Road 22 and flows east for 180m.
    - 180m of the drain will be relocated further away from the road. The municipal drain will follow the existing alignment and be enclosed.
  - III. **McRae Branch of the McKenzie Municipal Drain:** located east of 17504 County Road 22.
    - The existing culvert on County Road 22 is a 1300mm diameter corrugated steel pipe (CSP) and is proposed to be replaced with a 1600mm diameter CSP.
  - IV. **Morrow Brabec Municipal Drain:** located across the road from 17750 County Road 22 and flows east for 925m.
    - Approximately 925m of the drain will be relocated further away from the road. The relocated drain will differ from the existing





alignment by approximately 1m, north or south, varying by location along the length of the drain.

- V. **Cumming Drain:** located approximately 400m east of the entrance to 17810 County Road 22.
- The existing culvert on County Road 22 is a 1500mm diameter CSP, and is proposed to be replaced with a 1600mm diameter CSP.
- VI. **County Road Branch of the Cumming Municipal Drain:** officially located on the south side of the Road from 18032 County Road 22 and flows west for approximately 850m.
- A 900mm CSP cross culvert was installed near the western entrance at 17996 County Road 22, and the flows were directed along the north side of County Road 22. There is another cross culvert near the residential entrance at 17946, returning flows to the south side of County Road 22.
  - The existing 900mm CSP cross culvert will be removed. A new 1000mm CSP cross culvert will be installed closer to Kenyon-Roxborough Boundary Road. The municipal drain will be located on the north side of County Road 22 and flow into the Morrow Branch of the Cumming Municipal Drain.
- VII. **Morrow Branch of the Cumming Municipal Drain:** the cross culvert is located approximately 135m west of the entrance to 17946 County Road 22.
- The existing twin 1600mm CSP will be replaced with a 1200mm x 1200mm concrete box culvert.
- VIII. **Morrow Spur Branch of the Cumming Municipal Drain:** the cross culvert is located approximately 200m west of the entrance to 17946 County Road 22.
- The existing 500mm CSP will be replaced with a 600mm CSP.



The details of the Work are outlined in the following documents forwarded to SNC:

1. South Nation Conservation Section 28.1 Permit Application Form – signed by Mike Jans on June 27, 2024.
2. Letter: “RE: County Road 22 Reconstruction – Project Context and Permit Application”, signed by Mike Jans, dated May 13, 2024.
3. Technical Memorandum: “Stormont, Dundas & Glengarry Counties Road 22 Rehabilitation, Culvert Replacement Recommendations”, signed, stamped, and dated by L. Sanchez, P. Eng, on June 11, 2024.
4. Drawing Package: “County Road 22 – Reconstruction and Drainage Improvements from Highway 138 to 0.6km East of the Roxborough Kenyon Boundary Road”, signed, stamped and dated by S.J. Taylor, P.Eng, and A. Allard-Dufour, P.Eng on 6/18/2024.
5. Memorandum: “Municipal Drain Assessment”, prepared by BT Engineering, signed, stamped, and dated by L. Sanchez, P. Eng, on June 7, 2024.
6. “SNCA Comments and Response Table – 2024”, not signed, or stamped, dated 2024, received via email from Mike Jans on September 3, 2024.
7. “CR 22 – Proposed Transverse Culverts”, not signed, stamped or dated, received via email from Mike Jans on September 3, 2024.
8. “SNCA Comment and Response Table – 2024”, prepared by BT Engineering, dated 2024, not signed, or stamped, received via email from Mike Jans on October 21, 2024.
9. Email Correspondence: “Follow-up: SDG Answers to SNCA Comments- County Road 22 Reconstruction”, sent by Steve Taylor on November 15, 2024.
10. Email Correspondence: “Re: County Road 22”, sent by Michael Jans on July 26, 2024.



### **SCHEDULE B: CONDITIONS**

The Permit Holder must adhere to the following conditions for permit compliance:

1. Erosion Control

- a) The Permit Holder must ensure no erosion occurs in or near a watercourse or waterbody that is in proximity to the Work.
- b) Any fill that is removed from the site and placed on land above the high-water mark is to be properly stabilized as required through the implementing of appropriate erosion control measures.
- c) SNC may visit the Work location anytime from application submittal through to the expiration of the permit to inspect the implementation of erosion control measures on site. SNC shall give reasonable notice of the entry to the Permit Holder or occupier of the property.
- d) Disturbed areas must be stabilized and revegetated as required upon completion of Work and restored to a pre-disturbed state or better.



**SCHEDULE C: ADDITIONAL COMMENTS**

SNC makes the following additional comments:

1. According to the construction drawings, the existing twin box culverts on the McKenzie Municipal Drain will be maintained and no watercourse interference is anticipated. However, the contractor should ensure there is sufficient erosion protection at this location prior to commencing road work.
2. This permit does not review, certify, or provide permission for any works that may be located outside the above noted property boundary.
3. Nothing in this permit relieves the Permit Holder(s) from obtaining, where necessary, regulatory approval from any other agency, government including the Majesty the King in Right of Ontario, municipality, landowner, or authority having legal jurisdiction regarding development at the above noted location or any adjacent lands that may be impacted by the Work. SNC makes no representation and has made no representation as to whether the Permit Holder(s) must obtain any other approval(s) regarding the Work. SNC hereby confirms that it is the Permit Holder(s)' sole and complete responsibility to ensure that it applies for and obtains all necessary regulatory approvals prior to undertaking the Work.
4. Permit review completed by L. Crites. Technical review completed by F. Forough.



## **SCHEDULE D: GENERAL CONDITIONS**

### **1. Term**

This permit is valid for 24 months from the date of issuance. No notice will be issued on expiration. It is the responsibility of the Permit Holder to ensure a valid permit is in effect at the time the Work is occurring. The Permit Holder may, at least 60 days before the expiry of the permit, apply to SNC and pay a fee for an extension of the permit.

### **2. Other Permits and Permissions**

This permit does not relieve the Permit Holder of the responsibility to obtain any other documents or permits that the Work may require from the Government of Canada, the Government of Ontario, or the local municipality. It is the responsibility of third-party agents to secure property owner permission to undertake the Work.

### **3. Right to Hearing**

A Permit Holder who disagrees with the conditions attached to their permit has the right to request a hearing before the SNC Board of Directors. Please contact our office for further details.

### **4. Property Entry**

SNC may enter the subject property where the Work is taking place during the permit's period of validity to ensure compliance with the conditions of the permit. SNC shall give reasonable notice of the entry to the Permit Holder or occupier of the property.

### **5. Cancellation of Permit**

SNC may cancel a permit or change the permit conditions if:

- a) false information was submitted as part of the permit application; or
- b) the Work deviates from the conditions of the permit without SNC's prior written approval.

### **6. Offences**

It is an offence to undertake work in a regulated area without a permit or to contravene the conditions of a permit. A person who commits an offence under the *Conservation Authorities Act* is liable on conviction:

- a) in the case of an individual,
  - (i) to a fine of not more than \$50,000 or to a term of imprisonment of not more than three months, or to both, and



- (ii) to an additional fine of not more than \$10,000 for each day or part of a day on which the offence occurs or continues; and
- b) in the case of a corporation,
  - (i) to a fine of not more than \$1,000,000, and
  - (ii) to an additional fine of not more than \$200,000 for each day or part of a day on which the offence occurs or continues.

Despite the maximum fines, a court that convicts a person of an offence may increase the fine it imposes on the person by an amount equal to the amount of the monetary benefit that was acquired by the person, or that accrued to the person, as a result of the commission of the offence.

In addition to any other remedy or penalty provided by law, the court, upon convicting a person of an offence, may order the convicted person to,

- a) remove, at the convicted person's expense, any development within such reasonable time as the court orders; and
- b) take such actions as the court directs, within the time the court may specify, to repair or rehabilitate the damage that results from or is in any way connected to the commission of the offence.

## **7. Liability**

The Permit Holder acknowledges that the sole function of this permit is to confirm the Work is consistent with Part VI of the *Conservation Authorities Act*, O. Reg. 41/24, and SNC policies. SNC makes no representations or warranties regarding any other aspect of the Work.

By accepting this permit, the Permit Holder agrees:

- a) to indemnify and save harmless, SNC and its officers, employees, and agents, from and against all damage, injury, loss, costs, claims, demands, actions, and proceedings, arising out of or resulting from any act or omission of the Permit Holder or of any of their agents, employees, or contractors relating to any of the particular terms or conditions of this permit; and
- b) that this permit shall not release the Permit Holder from any legal liability or obligation and remains in force subject to all limitations, requirements, and liabilities imposed by law.

SNC assumes no responsibility or liability for flood, erosion, or slope failure damage that may occur to the subject property, nor any activity undertaken by the Permit Holder affecting the property interests of adjacent landowners.

**THE CORPORATION OF THE TOWNSHIP OF NORTH STORMONT**

**BY-LAW NO. 17-2025**

**BEING** a By-law to provide for updates to the McRae Branch of McKenzie Municipal Drain (including Brabant Branch) pursuant to *Section 78(1) of the Drainage Act, R.S.O. 1990, C.D.17.*

**WHEREAS** the *Municipal Act, 2001*, c.25 s. 5(1) provides that the powers of a municipal corporation are to be exercised by its Council;

**AND WHEREAS** the *Municipal Act, 2001*, c.25 s. 5(3) provides that the powers of every Council are to be exercised by By-law;

**AND WHEREAS** the *Drainage Act, R.S.O. 1990, c.D.17 s. 78(1)* provides that if drainage works have been constructed under a By-law passed under the Act and Council considers it appropriate to undertake one or more of the major improvement projects listed in subsection 1.1 the municipality may undertake and complete the project in accordance with the report of an engineer appointed by it;

**AND WHEREAS** the Council of the Township of North Stormont has directed, under section 78(1) of the *Drainage Act, R.S.O. 1990*, that an Engineer's Report shall be prepared by Shade Group Inc. for the drain known as the McRae Branch of McKenzie Municipal Drain (including Brabant Branch);

**AND WHEREAS** the appointed engineer has prepared an Engineer's Report dated February 6, 2025 and attached hereto as Schedule "A";

**AND WHEREAS** the Council of the Township of North Stormont has considered the Engineer's Report in accordance with Section 45(1) of the *Drainage Act, R.S.O. 1990* and is desirous of adopting the report.

**NOW THEREFORE** the Council of the Corporation of the Township of North Stormont hereby enacts as follows:

1. That the Engineer's Report prepared under Section 78(1) of the *Drainage Act, R.S.O. 1990* for the McRae Branch of McKenzie Municipal Drain (including Brabant Branch), attached hereto as Schedule "A" is hereby adopted and the drainage works therein indicated and set forth is hereby authorized and shall be completed accordingly.
2. That this By-law shall come into force and effect upon its final passing.

**READ A FIRST, SECOND TIME AND PROVISSIONALLY ADOPTED**  
this 4<sup>th</sup> day of March 2025.

\_\_\_\_\_  
François Landry, Mayor

SEAL

**READ A THIRD AND FINAL TIME** and passed in open Council, signed and sealed this XX day of XX, 2025.

\_\_\_\_\_  
François Landry, Mayor

SEAL

\_\_\_\_\_  
Craig Calder, CAO/Clerk

\_\_\_\_\_  
Craig Calder, CAO/Clerk

**MCKENZIE DRAIN  
MCRAE BRANCH & BRABANT BRANCH  
PROPOSED PARTIAL REALIGNMENT  
& PARTIAL ENCLOSURE  
S. 78 ENGINEER'S REPORT  
TOWNSHIP OF NORTH STORMONT**



**PREPARED BY**  
SHADE GROUP INC  
4625 MARCH ROAD  
ALMONTE, ON  
K0A 1A0

**PREPARED FOR**  
THE TOWNSHIP OF NORTH STORMONT  
15 UNION STREET  
BERWICK, ON  
K0C 1G0

**FEBRUARY 6, 2025**



## EXECUTIVE SUMMARY

This Engineer's Report has been prepared under Section 78 of the *Drainage Act, R.S.O. 1990, c. D. 17* (henceforth referred to as *the Act*). Section 78 refers to 'major improvements', which refers in this case to the intention to relocate a portion of the existing adopted municipal drain.

This Section 78 process was initiated at the request of the United Counties of Stormont, Dundas and Glengarry to accommodate partial realignments of the Brabant Branch and McRae Branch of the McKenzie Drain. The partial realignments of the Brabant Branch and McRae Branch are required to accommodate a widening of the County Road 22 road surface. In addition to accommodating partial realignments of the Brabant Branch and McRae Branch, this Section 78 report also seeks to adopt a partial enclosure of the McRae Branch, within lands described as Lot 9, Concession 7, Geographic Township of Roxborough. An approximately 327m enclosure had previously been completed by the landowner, and the landowner would like to enclose an additional approximately 1250m of open channel to facilitate more efficient farming practices.

Shade Group Inc. (SGI) was appointed by resolution on July 26, 2022 (Resolution No. 219-2022) to "update the necessary engineer's reports to legitimize all drainage works required to be completed as part of the SDG County Road 22 project". Due to delays in the design of the road work (by others), a renewal resolution was completed July 18, 2023 (Resolution No. 219-2023). Copies of the resolutions have been enclosed in **Appendix G**.

This report includes:

- A watershed map of the drain and its contributing area (**Appendix D**);
- Plan and Profile Drawings for the proposed realignment and enclosure (**Appendix D**);
- Updated Assessment Schedules (**Appendix B**);
- Hydrology and hydraulic analysis for the enclosure (**Appendix E**);

Available under separate cover, the following information has also been referenced in the preparation of this report

- Hydrology and hydraulic assessments (by others) of the municipal drainage system, including the driveway culverts;
  - Municipal Drain Assessment – Technical Memorandum – July 30, 2024 (BTE)
  - Culvert Replacement Recommendations – Technical Memorandum – July 30, 2024 (Sanchez Engineering Inc.)
- Construction specifications, which will be used for the initial construction and should be referenced (as applicable) for future maintenance.
  - Special Provisions – Tender Document

A map showing the location of the McRae Drain and Brabant Branch has been enclosed in **Appendix A**.

Design of the realignments of the Brabant Branch and McRae Branch along County Road 22 were undertaken by the County's engineering consultants – BTE – as part of the design of the County Road 22 reconstruction project while the design of the enclosure has been undertaken by Shade Group in consultation with the initiating landowner and in reference to the hydrologic and hydraulic analysis completed by Headway Engineering.

Future maintenance works for the McRae and Brabant branches shall be assessed in accordance with the assessment schedules enclosed within **Appendix B**. The assessment schedule for the McRae Branch is comprised of Schedules A through D while Schedule E is for future maintenance of the Brabant Branch. Construction cost estimates used for the associated assessment schedules can be found in **Appendix F**.

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## REVISIONS & SUBMISSIONS

Revision #	Comments	Date
00	Draft Submission to Township	January 22, 2025
01	Formal Submission to Township	February 6, 2025

## 1.0 INTRODUCTION

This Engineer's Report has been prepared under Section 78 of the *Drainage Act, R.S.O. 1990, c. D. 17* (henceforth referred to as *the Act*). Section 78 refers to 'major improvements' to existing adopting drainage systems.

This Section 78 process was initiated at the request of the United Counties of Stormont, Dundas and Glengarry to accommodate partial realignments of the Brabant Branch and McRae Branch of the McKenzie Drain. The partial realignments of the Brabant Branch and McRae Branch are required to accommodate a widening of the County Road 22 road surface. The existing right-of-way for County Road 22 is understood to be as narrow as ~12m in many areas along the project area, and the proposed County Road 22 project will see the right-of-way increased to 35m along the areas in the vicinity of the McRae Branch and Brabant Branch. The County has undertaken land acquisition as part of the road widening project, and therefore the realigned Brabant and McRae Branches will continue to be within the County owned right-of-way. As the land has been acquired through other means, no allowances under the Drainage Act have been applied to this project.

In addition to accommodating partial realignments of the Brabant Branch and McRae Branch, this Section 78 report also seeks to adopt a partial enclosure of the McRae Branch, within lands described as Lot 9, Concession 7, Geographic Township of Roxborough. An approximately 327m enclosure had previously been completed by the landowner, and the landowner would like to enclose an additional approximately 1250m of open channel. The reasoning for the previous and proposed enclosure is to facilitate more efficient farming practices across Lot 9, Concession 7, as the current meandering channel makes for inefficient work of the land in its current configuration.

This report includes updated Plan and Profile Drawings for the realignment and the enclosures. This report also includes an updated Schedule of Assessment for future maintenance of the system, which accounts for updates required to the assessment due to variances in the parcel fabric compared to the previous adopted report, and to appropriately distribute future maintenance costs associated with the changes to County Road 22, and the change in assessment for the enclosures.

All proceedings associated with the preparation of this report have been completed in accordance with the specifications of *the Act*.

## 2.0 DRAIN HISTORY

The Township of North Stormont was consulted about the history of the McRae Branch and Brabant Branch of the McKenzie Drain as part of the preparation of this report. Per supplied information, it is our understanding that the governing report (relevant to this project) for the

McRae Branch and Brabant Branch is the *Engineer's Report McRae Branch of the McKenzie Drain – Stidwill & Associates Limited, September 16, 1975*. This report includes for improvements to the McRae Branch as described as having originally been constructed around 1909, with intermittent maintenance having been carried out prior to 1935, and a major improvement (deepening) having been performed in 1951. The lower 1000 feet of the McRae Branch was then further deepened and improved in 1973, at the time of improvements to the McKenzie Drain. The 1975 report also included for the construction of a new branch – the Brabant Branch.

It's worth noting that various current available digital maps (including AgMaps and SDG GIS) refer to the "Howes Branch" rather than the Brabant Branch, however no records can be found for the "Howes Branch" – and it has been assumed that this is an error in the digital mapping – and should instead refer to the Brabant Branch.

### 3.0 EXISTING CONDITIONS

#### 3.1 DESCRIPTION OF THE ALIGNMENT + AREA REQUIRING DRAINAGE

The 1975 Engineer's Report described the McRae Drain and Brabant Branch as follows:

*The point of commencement of the McRae Drain is at the north limit of the given road through Concession 7, and at the line between Lots 8 and 9. The Brabant Branch starts at the south limit of Lot 10, Concession 7 and runs east into the McRae Drain at a point opposite the southwest corner of Lot 8, Concession 7.*

The outlet for the McRae Drain is the McKenzie Drain, intersecting at the North ½ of Lot 6, Concession 6.

The McRae Drain starts at the north limits of the road allowance for the road through Concession 7, at the line between Lots 8 and 9. At the time of this report, the road is known as McLean Road. The alignment as adopted in 1975 then zig-zags south and west through Lot 9, Concession 7 before turning southeasterly until it reaches the limits between Lot 8 and 9, Concession 7, where it continues south until it intersects with the road between Concession 6 and 7. The McRae Drain continues parallel to this road (known as County Road 22 at the time of this report) for approximately 180m before passing under the road, and continuing south, then ultimately east, out to the McKenzie Drain. The McRae Drain as described in the 1975 Engineer's Report was adopted with a total length of approximately 11,715 ft.

The area requiring drainage for this report shall be considered those lands upstream of any improvements. This area requiring drainage shall be described as Lots 7 – 12, Concession 7, Geographic Township of Roxborough. The lands within Concession 6 would not be expected to be impacted by any of the improvements made upstream; however the assessment schedule for the entire watershed has been updated to reflect current conditions.

The total contributing area for the Brabant Branch is estimated to be approximately 157 ha, while the McRae Branch is estimated to be approximately 401 ha.

A plan view illustrating the watershed boundary of the McRae Branch, including the subcatchment of the Brabant Branch, is enclosed in **Appendix D**.

### 3.2 PREVIOUS ENCLOSURE

An enclosure was conducted on the McRae Drain prior to the appointment of Shade Group. The enclosure has a point of commencement approximately 200m from the point of commencement of the McRae Drain. The first 200m of the McRae Drain remain as open channel, along the line between Lot 8 and 9, Concession 7, up until the point where the previous alignment began to zig-zag to the west. The approximate alignment of the enclosure has been shown on the attached Plan View, per information supplied by the landowner that completed the enclosure works.

As the works were completed prior to the appointment of this engineer, the alignment and profile as shown has been approximated based on information supplied by the owner. Per discussions with the Township's Drainage Superintendent, no measurable concerns have been observed as a result of the enclosure, even after significant rainfall events.

The enclosure was assumed to have been generally installed at the same slope as the previous drain profile, and hydrology and hydraulic calculations for the previous enclosure have been conducted as part of the preparation of this report to confirm the installed enclosure has adequate capacity to meet current design standards for service levels. For more on the hydrology and hydraulics, refer to **Section 6.0** of this report. A copy of the Hydrologic & Hydraulic Analysis Brief as prepared by Headway Engineering (July 12, 2024) can be found in **Appendix E**.

A profile drawing for the previous enclosure has been provided in **Appendix D**.

### 3.3 DOWNSTREAM CONDITIONS

The improvements being made under this report are limited to works upstream of County Road 22 (up to ~Station 74+84 per the 1975 Engineer's Report). The McRae Branch continues to exist further downstream of this point, from Stations 74+84 to 117+15 – in accordance with the design specifications as adopted under the 1975 Engineer's Report by Stidwill & Associates Limited. Future maintenance of the McRae Branch between 74+84 and 117+15 shall be conducted in accordance with the 1975 Engineer's Report's Plan, Profiles and Specifications. Maintenance works performed on the McRae Branch shall be assessed to those within the watershed in accordance with the updated assessment schedule enclosed within *this* Engineer's Report – both for works conducted upstream and downstream of County Road 22. Where only partial maintenance works are performed (i.e. not a full cleanout), the costs for such maintenance shall be assessed to those *upstream* of where the works were completed, in fitting with the directives of the Drainage Act.

## 4.0 PROPOSED IMPROVEMENTS

Proposed improvements that are part of this Section 78 undertaking include the following:

- Realignments of part of the Brabant Branch parallel County Road 22;
- Realignments of part of the McRae Branch parallel County Road 22;
- Enclosure of parts of the McRae Branch through Lot 9, Concession 7.

Design of the realignments of the Brabant Branch and McRae Branch along County Road 22 were undertaken by the County's engineering consultants – BTE – as part of the design of the County Road 22 reconstruction project. The relevant Plan and Profile have been included in **Appendix C**, and the associated technical reports discussing the hydrology and hydraulics associated with the channel cross-section and the applicable culverts, can be found under separate cover. The hydrologic and hydraulic analysis design works can be found in the following two documents, prepared by others:

- 1) Municipal Drain Assessment – Technical Memorandum – July 30, 2024 (BTE)
- 2) Culvert Replacement Recommendations – Technical Memorandum – July 30, 2024 (Sanchez Engineering Inc.)

Design of the enclosure has been undertaken by Shade Group, in consultation with the initiating landowner, an experienced tile drainage contractor and long-term farmer – and in reference to the hydrologic and hydraulic analysis completed by Headway Engineering. Profile drawings for the proposed enclosure can be found in **Appendix D**, while a copy of the Hydrologic & Hydraulic Analysis Brief as prepared by Headway Engineering (July 12, 2024) can be found in **Appendix E**.

## 5.0 DRAINAGE ACT, 1990, PROCESS

### 5.1 TO DATE

Shade Group Inc. (SGI) was appointed by resolution on July 26, 2022 (Resolution No. 219-2022) to *"update the necessary engineer's reports to legitimize all drainage works required to be completed as part of the SDG County Road 22 project"*. Due to delays in the design of the road work (by others), a renewal resolution was completed July 18, 2023 (Resolution No. 219-2023). Copies of the resolutions have been enclosed in **Appendix G**.

Shade Group was appointed early in the design stage of the road reconstruction project, and as the road design work took multiple years, there were certain delays in the preparation of the Engineer's Report pending completion and permitting for the proposed drainage works associated with the road reconstruction.

An on-site meeting was held at the Moose Creek Community Centre on July 12, 2023. Approximately 12 property owners attended the meeting as well as representatives from the



Township (CAO and Drainage Superintendent), representatives from BTE and representatives from the County.

Discussions at the on-site meeting were generally related to concerns with the improvements being proposed pertaining to the County Road 22 project, including concerns over land acquisition, and further requests for enclosures in areas alongside the road. The land acquisition component of the project was completed as part of the road widening project and was undertaken separate from the Drainage Act component. The land acquisition was overseen by the County – not the Township or Drainage Engineer. As the land has been acquired through other means, allowances under the Drainage Act were not applied. No concerns were brought forth regarding the current performance of the drainage system, nor any concerns noted with respect to flooding or erosion of the system as it currently exists.

Throughout the time leading up to, and following the on-site meeting, Shade Group undertook on-going consultation with the Township's Drainage Superintendent and the County's project lead. Shade Group conducted high level peer review of the drainage design documents prepared by BTE as it pertains to the design of the realigned channel and associated culverts. Multiple iterations were provided however the final governing design documents are understood to be:

- 1) Drawings - "County Road 22 – Reconstruction and Drainage Improvements from Highway-138 to 0.6km east of the Roxborough Kenyon Boundary Road" Issued for Tender package (07/24) (BTE)
- 2) Municipal Drain Assessment – Technical Memorandum – July 30, 2024 (BTE)
- 3) Culvert Replacement Recommendations – Technical Memorandum – July 30, 2024 (Sanchez Engineering Inc.)

Ultimately the final design drawings associated with the realignment works will remain the liability of the design engineers (BTE/Sanchez Engineering Inc.)

## 5.2 NEXT STEPS

Following the formal submission of this report to the Township, the report will be brought to a Meeting to Consider (Section 42).

The clerk of the municipality shall send a copy of the report and a notice stating the date on which the report was filed, the name or designation of the drainage works; and the date of the council meeting at which the report will be considered, to the prescribed people (Section 41).

The Meeting to Consider is held by council, and council may adopt the report by provisional by-law by giving two readings (Section 45(1)).

Following the Meeting to Consider, and assuming a provisional by-law is adopted by two readings, a notice is sent, including a copy of the provisional by-law (exclusive of the Engineer's

Report) of the time and place for the first sitting of the Court of Revision. This notice is sent to each body or person as entitled under Section 41 of the Drainage Act.

Following the completion of addressing all appeals; or the time for appealing has expired, Council may pass the provisional by-law by a third reading, thereby authorizing construction of the drainage works. Work may then be commenced as early as ten days after the by-law is passed, if no notice of intention to make an application to quash the by-law has been filed with the clerk of the council (Section 58(1)), assuming the limitations for construction can be met at such a time (e.g. compliance with any permitting restrictions with respect to timing windows).

Through discussions with Township staff, it is understood that the Township's Drainage Superintendent will oversee any hiring of a contractor for the proposed enclosure works. The Township's Drainage Superintendent is also understood to be undertaking any contract administration, construction supervision, and final walkthrough, as required, for the enclosure works. Should additional Shade Group involvement be required, any such additional would be assessed back to the initiating landowner.

It is understood that the County will be overseeing the tendering of the drainage realignment works as part of the road reconstruction tender. It is anticipated that a combination of Township staff and Shade Group resources may be drawn upon during the construction to oversee the construction and the final walkthrough, on an as needed basis. All such involvement from Shade Group to oversee the drain realignment works would be billed back to the County.

### 5.3 RESOLUTION AND BY-LAW

**Appendix G** has been included in this report as a place to attach the applicable resolution and by-law associated with this Section 78(1) undertaking. The resolutions for Shade Group's appointment have been enclosed with this submission; and it is recommended that the Drainage Superintendent (or applicable Township Staff) attach a copy of the report adoption by-law following its third reading for ease of future reference.

### 5.4 LIMITATIONS

The process overview provided in **Section 5.2** is provided as a general summary of the next steps to completion. Should the process described conflict with the specifications of the Drainage Act, the Drainage Act shall govern. The process described is provided as a summary only, the Township clerk shall be responsible for ensuring that the applicable administrative works are completed in accordance with the specifications of the Drainage Act.

## 6.0 DESIGN CONSIDERATIONS

### 6.1 ENCLOSURE ALIGNMENT CONSIDERATION

Minor changes are proposed to the previous adopted alignment to accommodate the proposed enclosure. The previous adopted alignment included a number of 90-degree bends throughout

the alignment, with the open channel zig-zagging across the lands. The proposed enclosure includes changing the 90-degree bends to 45-degree bends – which will reduce the overall length of travel and offer improved flow through the pipe compared to 90 degree elbows.

## 6.2 HYDROLOGIC + HYDRAULIC ANALYSIS – ENCLOSURE

A hydrologic and hydraulic analysis was conducted by Headway Engineering for both the existing enclosure and the proposed enclosure. Based on the design analysis, the existing 24" (600mm) smooth wall pipe is of appropriate size to meet current standard design practice, while the additional enclosure also meets current design standards as a smooth wall 24" (600mm) diameter HDPE pipe.

For a breakdown of the calculations, refer to the *Hydrologic & Hydraulic Analysis Brief* as prepared by Headway Engineering (July 12, 2024) found in **Appendix E**.

## 6.3 HYDROLOGIC + HYDRAULIC ANALYSIS – REALIGNMENTS

A hydrologic and hydraulic analysis was conducted by BTE and Sanchez Engineering Inc. as part of the County Road 22 reconstruction project.

The *Technical Memorandum* prepared by Sanchez Engineering Inc. (June 11, 2024) analyzes road crossing culverts within the County Road 22 project area – where "Culvert 2" within the report refers to the road crossing culvert on the McRae Branch, under County Road 22.

The *Technical Memorandum – Municipal Drain Assessment* prepared by BTE analyzes the entrance culverts and drain channel cross-section.

As both reports are quite lengthy, they have not been included with this report, however both of the Technical Memoranda can be found under separate cover.

## 6.4 EROSION CONSIDERATIONS

Erosion control measures have been proposed by the County's design engineer (BTE) as part of the road reconstruction project, including measures within the Brabant Branch and McRae Branch. Measures include recommendations such as the placement of rip-rap per OPSD 810.010. Slope flattening measures have also been proposed throughout the realignments – with the foreslope proposed at 4:1 and backslope at max 3:1, which is a considerable improvement over the 1975 design criteria that specified side slopes of 1-1/4 horizontal to 1 vertical for the entirety of the Brabant Branch and McRae Branch. Changes to side slopes are limited to areas along County Road 22 – in those areas specified on the enclosed plans. The specified erosion control measures can be found on the Plan and Profile drawings prepared by BTE, enclosed in **Appendix C**.

Erosion measures have also been proposed as part of the proposed enclosure project. Erosion measures are proposed at the inlet in the form of a sediment trap; and the outlet is proposed to be protected with rock protection.

Permanent erosion and sediment control measures have been shown on the enclosed engineering plans.

Temporary erosion and sediment control measures may be required to accommodate site conditions at the time of the work. Additional erosion and sediment control measures may be required at the direction of the engineer, municipality (upper and/or lower tier), SNCA or DFO, as needed to address site conditions at the time of the work, referring both to the new construction and future maintenance activities. The review and implementation of erosion and sediment control measures is intended to be a living practice, where additional measures may be required depending on the conditions at the time of the work.

## 7.0 PLAN, PROFILE & SPECIFICATIONS

It is intended that the accompanying Plan, Profile and Specifications form part of this report, and that they together govern the performance of the work.

The enclosed Watershed Map - Plan View (**Appendix D**) shows:

- The watershed boundary and subcatchment;
- The general course of proposed works (existing alignment to be abandoned + new alignment, enclosures);
- Turns and intersections have been referenced;
- Property ID numbers have been assigned to each property for ease of reference to the assessment schedule. The use of Property IDs rather than names offers protection of private information and affords continuity of use as property ownership can change over time.

The enclosed Profile Drawings (C-004 – C-006) (**Appendix C**) show:

- The realigned alignment of the Brabant and McRae Branches relative to the centerline of the road;
- Slopes and elevations associated with the open channel and applicable driveway culverts;
- Applicable road crossing culverts.

Specifications for the channel cross-section can be found in the Municipal Drain Assessment – Technical Memorandum (available under separate cover). The specifications note that the realigned Brabant and McRae Branches are to have a trapezoidal geometry with a bottom width of 0.5m; and side slopes of 3:1 or 4:1. Side slopes of 3:1 are proposed on the backslope of the municipal drain, while the 4:1 side slope is proposed on the foreslope (road-side). An extract from the aforementioned Technical Memorandum is provided in the figure below.

**Subject:** Municipal Drain Assessment

**Project:** BTE File 22-019, Stormont, Dundas and Glengarry Counties, County Road 22 Rehabilitation

**Date:** July 30, 2024

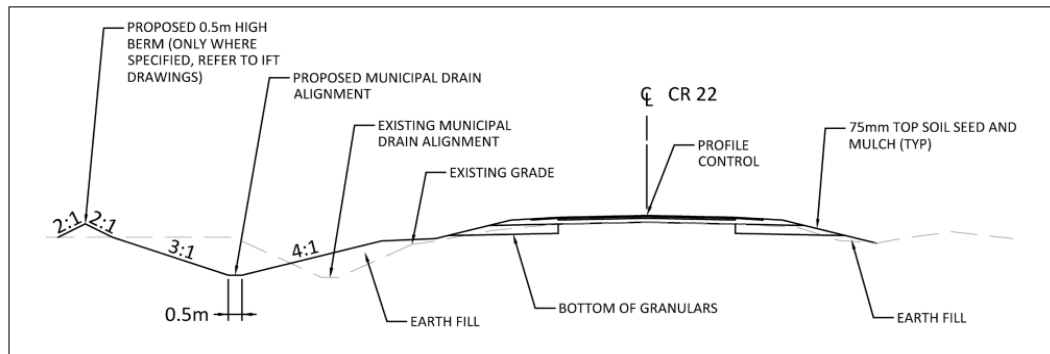


Figure 1: Typical Cross-Section - Per Municipal Drain Assessment - Technical Memorandum - Page 5

**Appendix D** also includes profile and plan view details for the proposed enclosure, including details associated with temporary and permanent erosion control measures and other such applicable details needed for construction and future maintenance.

## 8.0 EXISTING ALIGNMENT – ABANDONMENT

The alignment as adopted in 1975 shall be considered abandoned within the following stations:

- Station 7+55 to ~60+22 – the open channel is to be considered abandoned. This stretch of drain is to be replaced with a pipe which is to be adopted under this Section 78 report.
- The alignment of the Brabant Branch as adopted in 1975 shall be considered abandoned and replaced instead with the alignment shown within the enclosed plans. The new alignment of the Brabant Branch as reflected on the enclosed plans is to be adopted as the new governing alignment.
- The alignment of the McRae Branch between ~67+65 and 74+18 as adopted in 1975 is to be abandoned and shall be replaced with the alignment as reflected on the enclosed plans. The new alignment of the McRae Branch as reflected on the enclosed plans – between former station 67+65 and 74+18 – is to be adopted as the new governing alignment.

## 9.0 CULVERTS + FUTURE MAINTENANCE

Table 1 and 2 provides a summary of the culverts on the McRae Branch and Brabant Branch, and includes culverts within the improvement area and an updated summary of culverts downstream of the improvement area for completeness. No changes are proposed to culverts downstream of the improvement area.

Table 1: McRae Branch – Culvert Inventory

Culvert ID # (BTE)	Culvert ID # (Shade Group)	Property ID Reference	Station (2025 - Measured)	Column A	Column B	Column C
				Inventory Details <sup>A</sup>	Length at 2:1 Side Slopes <sup>B</sup>	Difference assigned to Special Benefit <sup>C</sup>
DC22	4	25	1+958	1400mm Ø C.S.P. 76.0m	N/A – See Note 1	
DC23	5	27	2+105	1400mm Ø C.S.P. 18.5m	17.0	1.5
CC2	6	-	2+123	1600mm Ø C.S.P. 37.2m	N/A – Road Crossing Assessed to County per Section 26	
-	7	38	2+816	1500mm Ø C.S.P. 9m	N/A – See Note 2	
-	8	39	3+006	1500mm Ø C.S.P. 9m		
-	9	-	3+325	1500mm Ø C.S.P. 9m	N/A – See Note 2 and 3	

Table 2: Brabant Branch – Culvert Inventory

Culvert ID #	Culvert ID # (Shade Group)	Property ID Reference	Station (BTE)	Column A	Column B	Column C
				Inventory Details <sup>A</sup>	Length at 2:1 Side Slopes <sup>B</sup>	Difference assigned to Special Benefit <sup>C</sup>
DC14	1	20	0+051	900mm Ø C.S.P. 34.0m	29.0	5.0
DC16	2	21,22	0+260	1100mm Ø C.S.P. 117.3m	N/A – See Note 1	
DC21	3	23	0+436	1100mm Ø C.S.P. 27.9m	22.4	5.5

<sup>A</sup> Culvert lengths are as per BTE drawings.

<sup>B</sup> Length of culvert required if side slopes were specified at the minimum standard of 2:1.

<sup>C</sup> Difference between length specified by the County at 3:1 or greater side slopes versus the minimum standard of 2:1. Additional length is to be assessed as a special benefit to the United Counties of Stormont, Dundas and Glengarry when undertaking future replacement.

**Note 1:** Two culverts – DC22 and DC16 – are proposed to be enclosures along the McRae and Brabant Branches respectively. These enclosures are required to accommodate the widening of the road. It is not possible to have the ditch remain as an open channel in these areas as the impacted properties are relatively small residential properties that do not have space to move an open channel further into their property. With that, the installation and future replacement of these enclosures is to be assessed to the road authority, as the enclosure requirement is a

direct result of impacts caused by the widening of the road. This assessment to the road authority is in fitting with Section 26 of the Drainage Act.

Furthermore, per discussions with the County, we understand that the County standard for end treatment of culverts is 2:1. In a number of cases, BTE has designed to a greater standard, with many driveways specified with 3:1 (+/- 33%) end treatments. With that, the proposed extra length of pipe is considered above the minimum standard and therefore considered a special benefit.

When undertaking future replacement of the driveway culverts, the replacement culverts shall be like-for-like replacement of the diameter and material specified in Column A; with the cost of the length of Column B assessed back to the drain; and the cost of the additional length (Column C) assessed solely to the County.

Note 2: The inventory of these culverts is as per information provided by the Drainage Superintendent. The lengths are based on continued reinstatement of headwalls on culverts 7, 8, 9. Headwalls are understood to be comprised of field stone. Reinstatement may be of hand laid field stone or approved equivalent.

Note 3: According to the available GIS information from the County, Culvert 9 is located within an unopened or unmaintained road allowance that is understood to be owned by the Township. As this is not an active road, and as this culvert primarily serves as passage for the adjacent private agricultural fields - I do not feel that Section 26 applies here, and instead future replacement of this culvert would be assessed to the landowners upstream.

## 9.1 FUTURE MAINTENANCE AND REPLACEMENT – ENTRANCE CULVERTS

Future maintenance of entrance culverts is to be completed by the Township, as per the Section 74 of the Act. Per the Act:

### ***“Maintenance of drainage works and cost***

**74.** 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. R.S.O. 1990, c. D.17, s. 74.”

The maintenance and replacement of standard entrance culverts (DC14, DC21 & DC23) are to be at the expense of the upstream landowners, in the same apportionments as distributed in the enclosed assessment schedule (**Appendix B**).

Costs associated with routine maintenance (flushing, etc.) and future replacement of the enclosures along County Road 22 (DC16, D22) shall be assessed solely to the County (or applicable road authority at the time of the work) in fitting with Section 26 of *the Act*.

Costs associated with the maintenance and/or replacement of the enclosure through Lot 9, Concession 7 shall be per the assessment schedules enclosed for the applicable works (**Appendix B**).

## 9.2 FUTURE MAINTENANCE AND REPLACEMENT – ROAD CROSSING CULVERTS

The maintenance and replacement of the road crossing (CC2) is to be at the expense of the road authority with ownership of the road, in fitting with Section 26 of *the Act*.

## 9.3 FUTURE MAINTENANCE – DRAINAGE CHANNEL

Similar to the culverts, future maintenance of the drainage system is to be completed in accordance with Section 74 of the Drainage Act. Future maintenance works of the drainage channel would be expected to include such works as a bottom cleanout, reinstatement of side slopes, and other such general works required to restore the system to the original design. Where only a partial cleanout is completed, only those upstream of the works would be assessed. Where the entire drain is maintained, the entire watershed would be assessed. Whether partial or full maintenance, assessed costs would be in accordance with the assessment schedule enclosed in **Appendix B**.

## 10.0 ASSESSMENTS

Updates to the assessment schedules for the McRae Branch and Brabant Branch have been undertaken to account for the lands acquired by the County from the properties adjacent to County Road 22 to accommodate the road widening project.

As per Section 21 of *the Act*, “*The engineer in the report shall assess for benefit, outlet liability and injuring liability, and shall insert in an assessment schedule, in separate columns, the sums assessed for each opposite each parcel of land and road liable therefor.*” As this is an existing drain and the scope of works does not include any works that would be considered injuring to lands or roads, injuring liability is not considered applicable for this project. And as the land acquisition was part of the County Road project (i.e. not the Drainage Act component), no allowances for land acquisition have been included.



As the overall changes to the land use have been minimal *for lands directly abutting the drain*, and as it can reasonably be assumed that the overall benefit-to-outlet ratio of the drain can be considered to be relatively proportional today to that of the governing Engineer's Report from 1975 (i.e. the benefit area has not measurably changed in size); the total benefit apportionment has not been changed from that of the previous governing reports, and has instead been reapportioned amongst the lands who meet the definition of such an assessment. Under *the Act*, lands eligible for benefits assessment are defined as those "*lands, roads, buildings, utilities, or other structures that are increased in value or are more easily maintained as a result of the construction, improvement, maintenance or repair of a drainage works may be assessed for benefit. R.S.O. 1990, c. D.17, s. 22.*"

Finally, all lands within the watershed are assessed outlet liability, which is defined as "*lands and roads that use a drainage works as an outlet, or for which, when the drainage works is constructed or improved, an improved outlet is provided either directly or indirectly through the medium of any other drainage works or of a swale, ravine, creek or watercourse, may be assessed for outlet liability. R.S.O. 1990, c. D.17, s. 23 (1).*"

The method for determining the appropriate apportionment of benefit and outlet liability assessment is the responsibility of the appointed Drainage Engineer. The Drainage Engineer shall use their best judgement to determine an apportionment that is considered fair to all those assessed.

For the purposes of assessing outlet and benefit across the lands within the watershed, the Drainage Engineer has generally followed the Factored Areas Method. Under this method, the areas of land within the watershed are assigned factors based on land use, proximity to the drain and general location in the watershed (sub-section factor). Calculations were initially completed using the distance factor as well (offset from the drain) but the results appeared to skew assessments in a manner that the engineer deemed to be unfair to certain landowners. With that, distance factor has not been considered in the calculations. The summation of these factors provides a factored area that allows lands within the watershed to be compared on what has been considered a fair basis. The appropriate factors are assigned by the engineer, on a case-by-case basis, as deemed appropriate and fair by the engineer.

As the cost for maintenance on an enclosed drain is generally considered lower compared to maintenance of an open channel (on a life-cycle analysis), separate assessment schedules have been prepared for maintenance versus replacement. Specifically, the following assessment schedules have been enclosed:

Schedule 'A' – McRae Branch Enclosure – New Construction (One-Time Use) – Stations  
0+568 – 1+712

Schedule 'B' – McRae Branch – Maintenance of Open Channel – Stations 1+712 – 3+438

Schedule 'C' – McRae Branch – Maintenance of Enclosure + Open Channel Upstream – Station 0+000 – 1+712

Schedule 'D' – McRae Branch – Replacement of Enclosure – Station 0+200 – 1+712

Schedule 'E' – Brabant Branch – Future maintenance

### 10.1 LAND USE FACTORS

Each property was assigned a land use factor based on current aerial mapping. The assigned values for the respective land use have been summarized in Table 2.

*Table 3: Land-use factors*

Land Use Description	Factor
Agricultural	1.0
Commercial/Industrial	4.0
Roads	2.0

### 10.2 LENGTH FACTORS

Each property was assigned a factor between 0 and 1 based on their relative location in the watershed. Properties farthest upstream (top of the watershed) make use of the entire length of the drain and were assigned a factor of 1.0, while properties at the outlet of the drain only make use of a small relative apportionment of the total system; and were assigned a smaller factor. Properties throughout the watershed were then assigned factors between 1.0 and 0.18 based on their relative location within the watershed. Factors were determined based on the approximate outlet station of where water from the property would be expected to enter the drain, and pro-rated accordingly.

For example, when calculating the assessments for a property draining halfway along the length of a given drain at 500m in length, the property would be assigned a factor of 0.5.

This would be calculated as follows:

$$(500-250) / 500 = 0.5$$

This calculation equates the total linear length of the drain used (500 – 250; where 500 is the total length of the drain in meters, and 250 is the approximate point at which the property's water enters the drain) and assigns that value as a factor.

Each of these factors (land use, offset, and length) was used to determine an equivalent area, which was used to determine the apportionment of the associated outlet liability for each property.

## 11.0 ESTIMATED FEES

### 11.1 REALIGNMENT ESTIMATED FEES

As the realignments of the municipal drains is being undertaken as part of the County Road 22 reconstruction contract, with all costs to be borne by the County as part of their capital project; no separate construction cost estimate has been prepared for the realignments. As the realignments are needed to accommodate the proposed road widening, it is generally understood that the *construction cost* associated with the realignments is not a concern to the County and the works would be expected to proceed at any cost.

### 11.2 ENCLOSURE ESTIMATED FEES

The estimated fees for the enclosure are anticipated to be \$505,960, plus any applicable taxes. This includes estimated construction costs, engineering fees, and associated permitting fees. A breakdown of the estimate fees has been enclosed in **Appendix F**. All costs associated with the enclosure, including applicable permitting fees, labour, equipment, material and engineering fees are to be assessed to the requesting landowner. Schedule 'A' shows the proposed assessment associated with this work. Although it is understood to be a single property owner, the impacted lands are two roll numbers – so the proposed costs have been assessed to both those roll numbers.

### 11.3 FUTURE MAINTENANCE FEES

Additional construction cost estimates have been prepared for future maintenance works. Note these are estimates only and are based on 2024/2025 pricing. Future pricing may be higher/lower depending on inflation at the time of the works. Shade Group is not aware of any intentions to undertake maintenance at this time, however these costs have been prepared to allow for the update to the associated assessment schedules. Future maintenance works would be assessed to the associated lands in the same apportionments as reflected in the enclosed assessment schedules.

Assessment Schedule 'B' breaks down the assessment for if works are done between the outlet of the new enclosure of the McRae Branch (Station 1+712) to the outlet of the McRae Branch (Station 3+438).

Assessment Schedule 'C' is the assessment schedule to be used for any *maintenance* works done between Station 0+000 to 0+200 (open channel) and 0+200 to 1+712 (enclosure). As maintenance costs are generally less on enclosed systems compared to open channels, these maintenance costs are to be assessed across all those upstream of the enclosure.

Assessment Schedule 'D' is for the replacement of the enclosure. For the replacement of the enclosure, the author has calculated what the equivalent maintenance costs would have been had the channel remained as open ditch, factoring in anticipated maintenance already performed. The author has assumed that two rounds of maintenance would have occurred

during the equivalent life cycle of the enclosure. The difference between these two values is what has then been assessed to the initiating landowner. This equates to 7% of the estimated future replacement costs being assessed to the drain (upstream of the enclosure); and the remaining 93% assessed solely to the original petitioning landowner as a Special Benefit.

It should be noted that the proposed enclosure would be expected to provide an overall improvement to the drainage system and reduced maintenance needs as the soils are known to be relatively sandy, and prone to erosion.

## 12.0 PERMITTING & SPECIAL CONSIDERATIONS

As part of the preparation of this report, the author conducted a review of AgMaps, the Geographic Information System managed by the Ministry of Agriculture, Food and Rural Affairs. AgMaps identifies the Brabant Branch (incorrectly labeled the Howes Branch) and the McRae Branch both as 'Class F' drains. Class F drains are defined as intermittent watercourses that are dry for at least 3 months of the year.

No fisheries studies were conducted as part of Shade Group's scope.

### 12.1 SOUTH NATION CONSERVATION AUTHORITY

The design of the enclosure (Lot 9, Concession 7) was circulated to the South Nation Conservation Authority (SNCA) for review and permit for the enclosure works. A separate application to SNCA was circulated for the realignments – as filed by the County. SNCA provides permits under the Conservation Authorities Act, R.S.O. 1990, c. C 27 for the Regulation of Development, Interference with Wetlands and Alterations to Shorelines and Watercourses.

The applicable permitting documents have been enclosed in **Appendix H**.

### 12.2 DEPARTMENT OF FISHERIES AND OCEANS

Consultation with Fisheries and Oceans Canada (DFO) was completed by both Shade Group and the County. Shade Group submitted a "Request for Review" for the proposed enclosure works; while the County submitted a "Request for Review" for the realignment works adjacent County Road 22. Both projects were issued a "Letter of Advice". Both letters can be found enclosed in **Appendix H**.

### 12.3 OTHER CONSIDERATIONS

#### BLIND INLETS

Blind inlets have been proposed at eleven locations along the enclosure through Lot 9, Concession 7. The location of the proposed blind inlets was provided by the initiating landowner (Lot 9, Con 7). These inlets are comprised of clear stone areas overtop of privately owned perforated pipe which will allow surface water to enter the enclosure along various points of the property. As the primary intention of these blind inlets is to ensure that surface water from the

adjacent lands is able to enter the drain, and as the blind inlets include perforated pipe that is assumed to be connected to the privately owned tile drainage system, these blind inlets will be considered private infrastructure – and the initial construction and continued maintenance of these blind inlets would be the responsibility of landowner on which the inlet is located. When required, the Township's Drainage Superintendent shall have the authority to repair, maintain and reinstate as required, at the sole expense of the landowner on which the blind inlet is located.

#### UTILITIES

The contractor shall acquire applicable utility clearance prior to excavation as per the Ontario Underground Infrastructure Notification System Act. Should utility conflicts be identified, BTE is to be notified to address any redesign considerations. Any changes to the design would need to be incorporated into the Engineer's Report. Changes needed during construction may be eligible to be incorporated through 84.1 (1) of the Drainage Act, as outlined in O. Reg 500/21, Part III, Process for Amendments to an Engineer's Report.

#### WORKING SPACE

The Drainage Act specifies that works (both maintenance and initial construction) are to be completed within the working space designated in the Engineer's Report (Section 63(1)).

For the initial construction, the working space shall be considered to be 30m from the top of bank on both sides of the drain. For residential properties, this working space shall be reduced to 8m for the initial construction. For future maintenance, the working space is specified as 20m from the top of bank on either side of the drain. Where the working space impacts a residential property, the working space shall be reduced to 6m from the top of bank on the side impacting the residential property for future maintenance.

This working space will allow the Drainage Superintendent to complete works either from the south or north side of the drain. This working space is required to ensure that maintenance works can be performed and allows excavated materials to be spread within the working space (as applicable).

Permanent obstructions should not be installed within the working space, including (but not limited to) trees, fences, structures, etc. Obstructions that impact future maintenance works maybe removed by the Drainage Superintendent or the property owner – at the expense of the property owner. Where fences are installed – reinstatement costs would be the responsibility of the property owner.

#### SPREADING OF MATERIAL – FUTURE MAINTENANCE

When undertaking future maintenance, it is anticipated the sediment from the ditch bottom will need to be excavated out of the channel to restore the original drain design. The bottom of the ditch shall be excavated to an even grade so that no water may lay stagnant therein.

The excavated earth/silt from the drain cleanout shall be spread on the north side of the drain. In cultivated lands, the depth of spread materials shall not exceed 150mm (6 inches) above grade and relief channels shall be cut at a maximum spacing of 50m to allow surface water to continue to sheet flow into the drain – so as not to berm the adjacent lands by the excavated materials. Materials shall be taken a minimum of 3m back from the top of slope.

#### OFF-SITE DISPOSAL – OWNER'S EXPENSE

Where offsite disposal is requested by a property owner, the property owner may make arrangements with the Contractor to have the material hauled away. Costs would be borne solely by the requesting property owner – and a signed agreement between the Contractor and property owner would need to be presented to the Drainage Superintendent. The property owner would pay the Contractor directly for these additional works. Note that off-site removal may be subject to other legislative requirements, including the "Excess Soil Regulations".

#### ADDITIONAL CONSTRUCTION SPECIFICATIONS

Additional construction specifications can be found in the **Special Provisions** as taken from the County Road 22 Tender Document – available under separate cover. The entirety of the Special Provisions are available for completeness, however some provisions may be irrelevant to the specific drainage works and may not be relevant to future maintenance works. Applicability of the special provisions shall be at the discretion of the Drainage Superintendent, who shall be responsible for administering the maintenance works.

### **13.0 ADIP GRANTS**

Properties that are registered with the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) for the Farm Property Class Tax Rate Program may be eligible for a 1/3 grant from the Province. As no current maintenance is planned, and as grant eligibility may vary year to year based on the property's registered status with the Farm Property Class Tax Rate Program, grant eligibility has not been reflected on the assessment schedules at this time.

Based on current ADIP policy:

*"The cost of enclosing or replacing an existing open ditch municipal drain with a buried pipe is not eligible for grant if, using normal design standards, more pipe flow capacity is required than can be provided by a single 300 millimeter (mm) diameter corrugated plastic pipe (or equivalent capacity)."*

As the current realignment works are being undertaken by the County as part of their capital roads project; and as the proposed enclosure through Lot 9, Concession 7 is greater than 300mm in diameter, it is not expected that any of the immediate planned improvement works would be eligible for grant. Future maintenance works however may be eligible for grant, depending on ADIP policy at the time of the maintenance works.

## 14.0 CLOSING

This submission is respectfully submitted to the Council of the Township of North Stormont this February 6, 2025.

Should you have any questions or concerns, please do not hesitate to contact the undersigned.

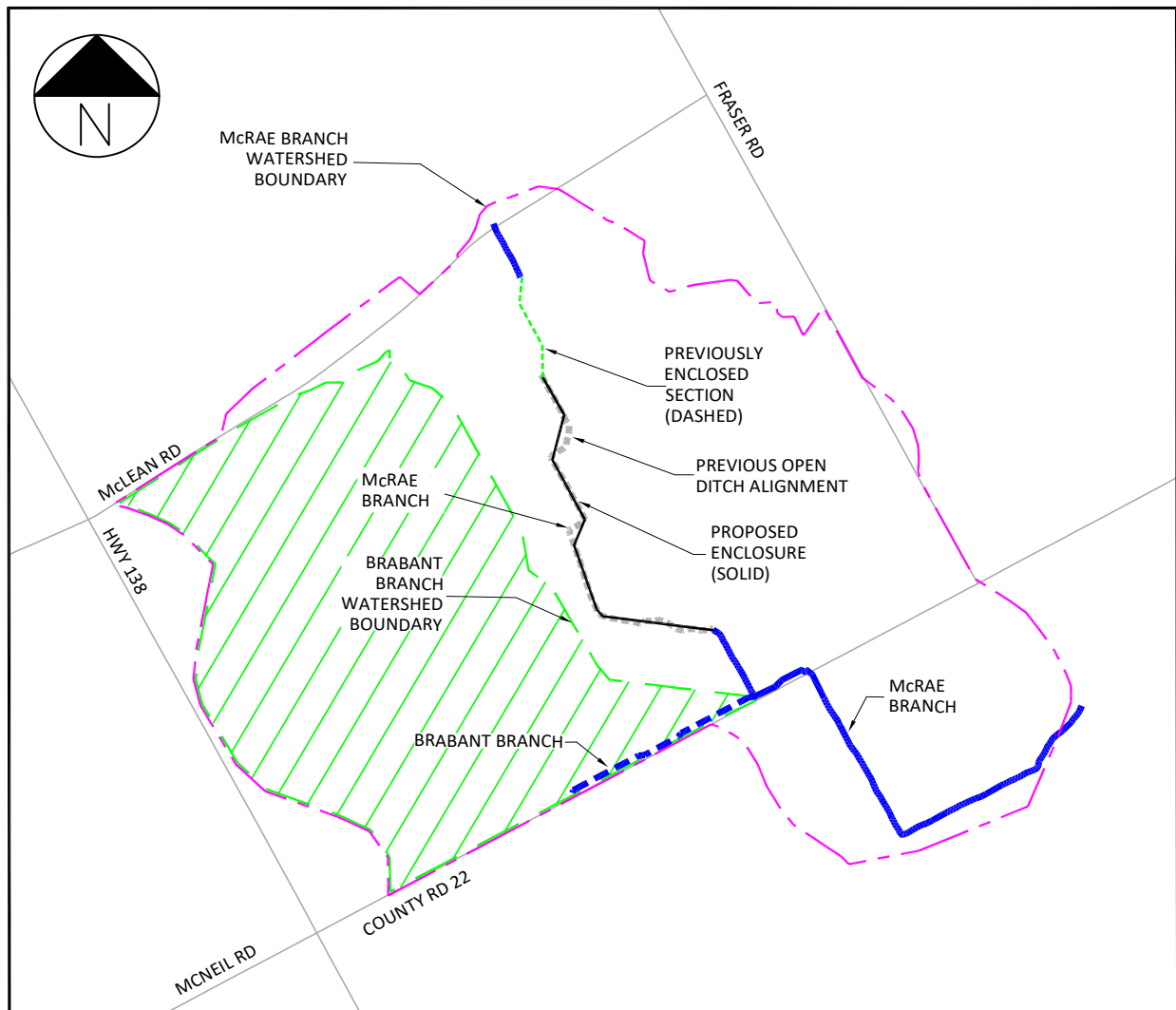


**Monica Shade, P. Eng.**  
Drainage Engineer  
**Shade Group Inc.**

## **APPENDIX A**

### **LOCATION PLAN**





LOCATION PLAN  
N.T.S.

MCRAE & BRABANT BRANCH  
OF THE MCKENZIE DRAIN  
TOWNSHIP NORTH STORMONT  
2025

**SHADE**  
**GROUP** INC

## **APPENDIX B**

### **ASSESSMENT SCHEDULES**



Assessment Schedule - Updated 2025  
Schedule 'A'

Station 0+568 - 1+712

Proposed Enclosure - Initial Construction - McRae Branch (One-Time Use)

Property ID No.	Roll No.	Con	Lot	Area drained (Acres)	% Length of Enclosure	Special Benefit (\$)*
23	41101600949001	7	9	73.3	49%	\$ 249,655.00
24	41101600948800	7	9	78.8	51%	\$ 259,845.00
Sub-Total						\$ 509,500.00

## Assessment Schedule - Updated 2025

## Schedule 'B'

## Station 1+712 - 3+438

## Future Maintenance of Open Channel - McRae Branch

Property ID No.	Roll No.	Con	Lot	Area drained (Acres)	Outlet (\$)	Benefit (\$)	Est Assess. (\$)*
1	41101600954000	7	11	0.6	\$ 27.50	\$ -	\$ 27.50
2	41101600952210	7	11	0.5	\$ 21.70	\$ -	\$ 21.70
3	41101600952205	7	11	0.6	\$ 24.35	\$ -	\$ 24.35
4	41101600952200	7	11	0.9	\$ 37.04	\$ -	\$ 37.04
5	41101600952005	7	11	1.4	\$ 60.24	\$ -	\$ 60.24
6	41101600951100	7	10	1.6	\$ 68.29	\$ -	\$ 68.29
7	41101600951000	7	10	6.2	\$ 134.70	\$ -	\$ 134.70
8	41101600950000	7	9	1.1	\$ 45.47	\$ -	\$ 45.47
9	41101600948000	7	9	0.8	\$ 35.02	\$ -	\$ 35.02
10	41101600947000	7	8	1.6	\$ 34.93	\$ -	\$ 34.93
11	41101600947002	7	8	0.6	\$ 24.24	\$ -	\$ 24.24
12	41101600957000	7	12	25.7	\$ 486.43	\$ -	\$ 486.43
13	41101600955002	7	12	2.6	\$ 111.93	\$ -	\$ 111.93
14	41101600955000	7	12	57.5	\$ 1,089.20	\$ -	\$ 1,089.20
15	41101600955010	7	12	1.8	\$ 69.72	\$ -	\$ 69.72
16	41101600953050	7	11	1.6	\$ 60.64	\$ -	\$ 60.64
17	41101600953400	7	11	0.8	\$ 30.26	\$ -	\$ 30.26
18	41101600953000	7	11	119.8	\$ 2,270.78	\$ -	\$ 2,270.78
19	41101600951200	7	10	2.0	\$ 74.39	\$ -	\$ 74.39
20	41101600951010	7	10	169.4	\$ 3,208.88	\$ -	\$ 3,208.88
21	41101600949200	7	9	1.0	\$ 37.39	\$ -	\$ 37.39
22	41101600949000	7	9	1.0	\$ 37.43	\$ -	\$ 37.43
23	41101600949001	7	9	73.3	\$ 1,580.24	\$ -	\$ 1,580.24
24	41101600948800	7	9	78.8	\$ 1,699.22	\$ 594.33	\$ 2,293.55
25	41101600944500	7	8	1.7	\$ 72.94	\$ 130.73	\$ 203.67
26	41101600946000	7	8	2.7	\$ 45.19	\$ -	\$ 45.19

## Assessment Schedule - Updated 2025

## Schedule 'B'

## Station 1+712 - 3+438

## Future Maintenance of Open Channel - McRae Branch

Property ID No.	Roll No.	Con	Lot	Area drained (Acres)	Outlet (\$)	Benefit (\$)	Est Assess. (\$)*
27	41101600946200	7	8	140.7	\$ 3,032.68	\$ 718.61	\$ 3,751.29
28	41101600947003	7	8	12.4	\$ 267.84	\$ -	\$ 267.84
29	41101600945400	7	7	55.8	\$ 1,203.92	\$ -	\$ 1,203.92
30	41101600945200	7	7	0.6	\$ 20.05	\$ -	\$ 20.05
31	41101600945000	7	7	1.2	\$ 39.69	\$ -	\$ 39.69
32	41101600944000	7	7	44.2	\$ 735.60	\$ -	\$ 735.60
33	41101600944007	7	7	2.6	\$ 55.29	\$ -	\$ 55.29
34	41101600943004	7	6	2.4	\$ 39.86	\$ -	\$ 39.86
35	41101600856000	6	8,9	0.6	\$ 23.75	\$ -	\$ 23.75
36	41101600857000	6	8,9	34.7	\$ 650.63	\$ 858.51	\$ 1,509.14
37	41101600855000	6	8	5.6	\$ 421.94	\$ 356.10	\$ 778.04
38	41101600854000	6	8	32.0	\$ 368.09	\$ 1,475.74	\$ 1,843.83
39	41101600853000	6	7	32.0	\$ 291.64	\$ 652.88	\$ 944.52
40	41101600852300	6	7	28.2	\$ 190.23	\$ 514.54	\$ 704.77
41	41101600852000	6	7	0.9	\$ 7.21	\$ -	\$ 7.21
42	41101600848000	6	6	9.5	\$ 37.24	\$ 130.75	\$ 167.99
Sub-Total					\$ 18,773.78	\$ 5,432.19	\$ 24,205.97



Assessment Schedule - Updated 2025  
**Schedule 'B'**  
**Station 1+712 - 3+438**  
**Future Maintenance of Open Channel - McRae Branch**

Roads

ID/Name	Owner	Outlet (\$)	Benefit (\$)	Net Assessment (\$)
County Road 22	United Counties of Stormont, Dundas and Glengarry	\$ 401.39	\$ 97.51	\$ 498.90
McLean Road	North Stormont	\$ 312.19	\$ -	\$ 312.19
Fraser Road		\$ 117.94	\$ -	\$ 117.94
Sub-Total		\$ 831.52	\$ 97.51	\$ 929.03

Summary

Real Properties	\$ 18,773.78	\$ 5,432.19	\$ 24,205.97
North Stormont - Roads	\$ 430.13	\$ -	\$ 430.13
United Counties of Stormont, Dundas, and Glengarry - Roads	\$ 401.39	\$ 97.51	\$ 498.90
Sub-Total (Pre-Tax/Grant)	\$ 19,605.30	\$ 5,529.70	\$ 25,135.00

## Assessment Schedule - Updated 2025

## Schedule 'C'

## Station 0+000 - 1+712

## Future Maintenance of Open Channel + Enclosure - McRae Branch

Property ID No.	Roll No.	Con	Lot	Area drained (Acres)	Outlet (\$)	Benefit (\$)	Est Assess. (\$)*
1	41101600954000	7	11	0.6	\$ 25.25	\$ -	\$ 25.25
2	41101600952210	7	11	0.5	\$ 19.81	\$ -	\$ 19.81
3	41101600952205	7	11	0.6	\$ 22.24	\$ -	\$ 22.24
4	41101600952200	7	11	0.9	\$ 33.82	\$ -	\$ 33.82
5	41101600952005	7	11	1.4	\$ 55.00	\$ -	\$ 55.00
6	41101600951100	7	10	1.6	\$ 62.35	\$ -	\$ 62.35
7	41101600951000	7	10	6.2	\$ 122.98	\$ -	\$ 122.98
8	41101600950000	7	9	1.1	\$ 41.52	\$ -	\$ 41.52
9	41101600948000	7	9	0.8	\$ 63.95	\$ 23.60	\$ 87.55
10	41101600947000	7	8	1.6	\$ 63.79	\$ 38.83	\$ 102.62
11	41101600947002	7	8	0.6	\$ 44.26	\$ -	\$ 44.26
19	41101600951200	7	10	1.5	\$ 49.29	\$ -	\$ 49.29
20	41101600951010	7	10	8.1	\$ 134.23	\$ -	\$ 134.23
23	41101600949001	7	9	60.9	\$ 2,369.89	\$ 803.38	\$ 3,173.27
24	41101600948800	7	9	64.0	\$ 2,489.84	\$ 1,313.26	\$ 3,803.10
27	41101600946200	7	8	74.4	\$ 1,859.64	\$ -	\$ 1,859.64
28	41101600947003	7	8	8.5	\$ 247.77	\$ 89.59	\$ 337.36
29	41101600945400	7	7	16.4	\$ 202.99	\$ -	\$ 202.99
32	41101600944000	7	7	0.8	\$ 6.27	\$ -	\$ 6.27
33	41101600944007	7	7	2.6	\$ 20.94	\$ -	\$ 20.94
Sub-Total					\$ 7,935.83	\$ 2,268.66	\$ 10,204.49



Assessment Schedule - Updated 2025  
Schedule 'C'

Station 0+000 - 1+712

Future Maintenance of Open Channel + Enclosure - McRae Branch

Roads

ID/Name	Owner	Outlet (\$)	Benefit (\$)	Net Assessment (\$)
McLean Road	North Stormont	\$ 215.17	\$ 30.34	\$ 245.51
Sub-Total		\$ 215.17	\$ 30.34	\$ 245.51

Summary

Real Properties	\$ 7,935.83	\$ 2,268.66	\$ 10,204.49
North Stormont - Roads	\$ 215.17	\$ 30.34	\$ 245.51
Sub-Total (Pre-Tax/Grant)	\$ 8,151.00	\$ 2,299.00	\$ 10,450.00



Assessment Schedule - Updated 2025  
**Schedule 'D'**  
**Station 0+200 - 1+712**  
**Future Enclosure Replacement - McRae Branch**

Property ID No.	Roll No.	Con	Lot	Area drained (Acres)	Outlet (\$)	Benefit (\$)	Special Benefit (\$)	Est Assess. (\$)*
1	41101600954000	7	11	0.6	\$ 64.43	\$ -	\$ -	\$ 64.43
2	41101600952210	7	11	0.5	\$ 50.56	\$ -	\$ -	\$ 50.56
3	41101600952205	7	11	0.6	\$ 56.74	\$ -	\$ -	\$ 56.74
4	41101600952200	7	11	0.9	\$ 86.30	\$ -	\$ -	\$ 86.30
5	41101600952005	7	11	1.4	\$ 140.33	\$ -	\$ -	\$ 140.33
6	41101600951100	7	10	1.6	\$ 159.09	\$ -	\$ -	\$ 159.09
7	41101600951000	7	10	6.2	\$ 313.80	\$ -	\$ -	\$ 313.80
8	41101600950000	7	9	1.1	\$ 105.93	\$ -	\$ -	\$ 105.93
9	41101600948000	7	9	0.8	\$ 163.16	\$ 60.22	\$ -	\$ 223.38
10	41101600947000	7	8	1.6	\$ 162.77	\$ 99.08	\$ -	\$ 261.85
11	41101600947002	7	8	0.6	\$ 112.93	\$ -	\$ -	\$ 112.93
19	41101600951200	7	10	1.5	\$ 125.77	\$ -	\$ -	\$ 125.77
20	41101600951010	7	10	8.1	\$ 342.51	\$ -	\$ -	\$ 342.51
23	41101600949001	7	9	60.9	\$ 6,046.95	\$ 2,049.90	\$ 173,374.74	\$ 181,471.59
24	41101600948800	7	9	64.0	\$ 6,353.03	\$ 3,350.90	\$ 180,451.26	\$ 190,155.19
27	41101600946200	7	8	74.4	\$ 4,745.01	\$ -	\$ -	\$ 4,745.01
28	41101600947003	7	8	8.5	\$ 632.20	\$ 228.59	\$ -	\$ 860.79
29	41101600945400	7	7	16.4	\$ 517.95	\$ -	\$ -	\$ 517.95
32	41101600944000	7	7	0.8	\$ 15.99	\$ -	\$ -	\$ 15.99
33	41101600944007	7	7	2.6	\$ 53.43	\$ -	\$ -	\$ 53.43
<b>Sub-Total</b>					<b>\$ 20,248.88</b>	<b>\$ 5,788.69</b>	<b>\$ 353,826.00</b>	<b>\$ 379,863.57</b>



Assessment Schedule - Updated 2025  
Schedule 'D'  
Station 0+200 - 1+712  
Construction - For Future Replacement of Enclosure

Roads

ID/Name	Owner	Outlet (\$)	Benefit (\$)	Special Benefit (\$)	Net Assessment (\$)
McLean Road	North Stormont	\$ 549.04	\$ 77.39	\$ -	\$ 626.43
Sub-Total		\$ 549.04	\$ 77.39	\$ -	\$ 626.43

Summary

Real Properties	\$ 20,248.88	\$ 5,788.69	\$ 353,826.00	\$ 379,863.57
North Stormont - Roads	\$ 549.04	\$ 77.39	\$ -	\$ 626.43
Sub-Total (Pre-Tax/Grant)	\$ 20,797.92	\$ 5,866.08	\$ 353,826.00	\$ 380,490.00

## Assessment Schedule - Updated 2025

## Schedule 'E'

## Brabant Branch

## Future Maintenance



Property ID No.	Roll No.	Con	Lot	Area Drained Acres	Outlet (\$)	Benefit (\$)	Special Benefit (\$)	Est Assess. (\$)*
12	41101600957000	7	12	24.5	\$ 162.20	\$ -	\$ -	\$ 162.20
13	41101600955002	7	12	2.6	\$ 34.41	\$ -	\$ -	\$ 34.41
14	41101600955000	7	12	56.8	\$ 376.13	\$ -	\$ -	\$ 376.13
15	41101600955010	7	12	1.8	\$ 24.38	\$ -	\$ -	\$ 24.38
16	41101600953050	7	11	1.6	\$ 21.21	\$ -	\$ -	\$ 21.21
17	41101600953400	7	11	0.8	\$ 10.58	\$ -	\$ -	\$ 10.58
18	41101600953000	7	11	119.8	\$ 794.16	\$ -	\$ -	\$ 794.16
19	41101600951200	7	10	0.5	\$ 3.21	\$ -	\$ -	\$ 3.21
20	41101600951010	7	10	161.3	\$ 1,068.60	\$ 1,599.52	\$ -	\$ 2,668.12
21	41101600949200	7	9	1.0	\$ 7.86	\$ 180.51	\$ -	\$ 188.37
22	41101600949000	7	9	1.0	\$ 6.73	\$ 167.33	\$ -	\$ 174.06
23	41101600949001	7	9	8.0	\$ 32.01	\$ 563.86	\$ -	\$ 595.87
24	41101600948800	7	9	2.9	\$ 5.77	\$ 282.74	\$ -	\$ 288.51
<b>Sub-Total</b>					<b>\$ 2,547.25</b>	<b>\$ 2,793.96</b>	<b>\$ -</b>	<b>\$ 5,341.21</b>

\*Estimated Assessment does not include Farm Tax Credit (FTC). Farm Tax Credit eligibility to be confirmed at time of maintenance.

Assessment Schedule - Updated 2025  
**Schedule 'E'**  
**Brabant Branch**  
**Future Maintenance**



Roads

ID/Name	Owner	Outlet (\$)	Benefit (\$)	Special Benefit (\$)	Net Assessment (\$)
County Road 22	United Counties of Stormont, Dundas, and Glengarry	\$ 76.69	\$ 436.74	\$ -	\$ 513.43
McLean Road	North Stormont	\$ 19.36	\$ -	\$ -	\$ 19.36
Sub-Total		\$ 96.05	\$ 436.74	\$ -	\$ 532.79

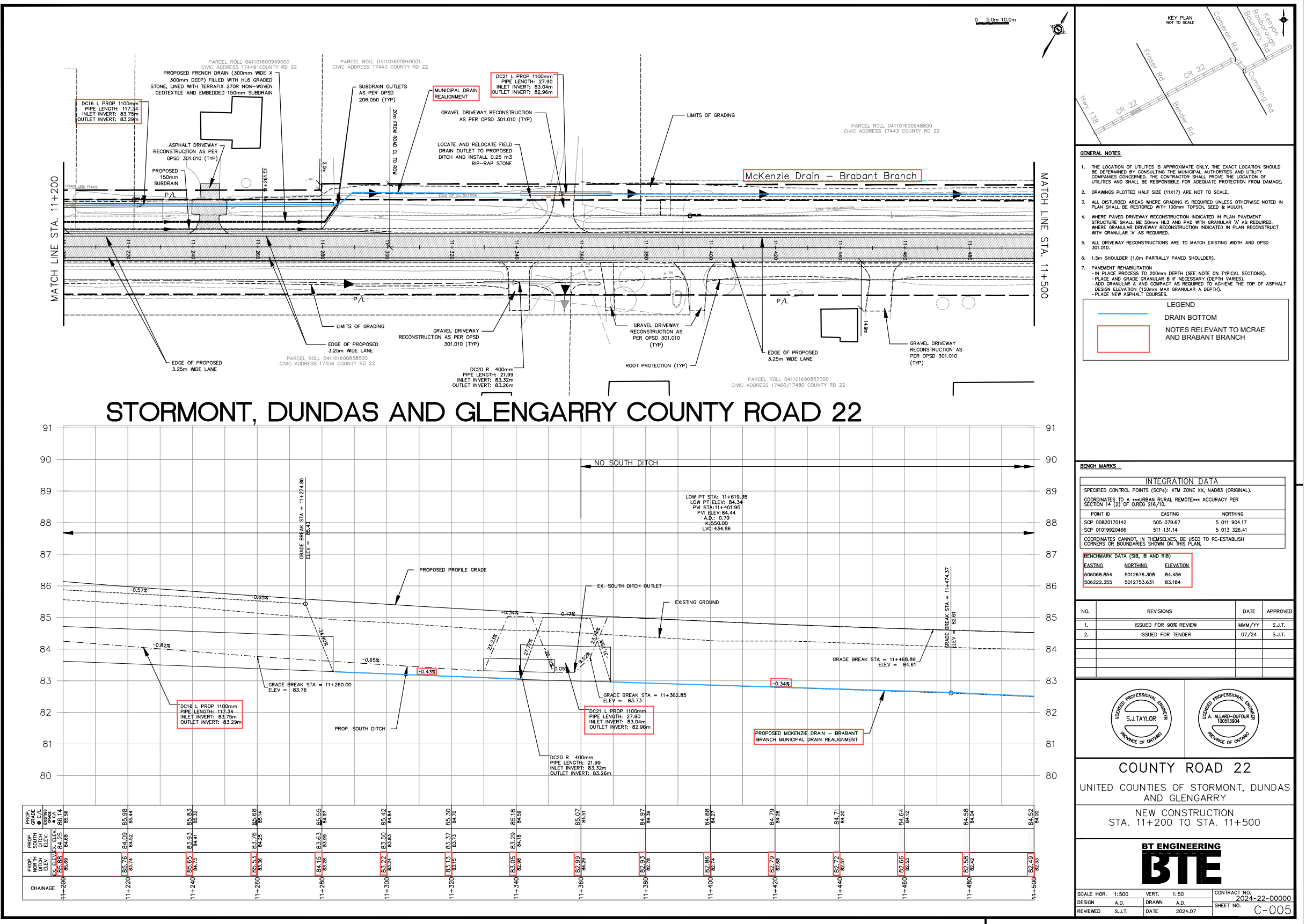
Summary

Real Properties	\$ 2,547.25	\$ 2,793.96	\$ -	\$ 5,341.21
North Stormont - Roads	\$ 19.36	\$ -	\$ -	\$ 19.36
United Counties of Stormont, Dundas, and Glengarry - Roads	\$ 76.69	\$ 436.74	\$ -	\$ 513.43
Sub-Total (Pre-Tax/Grant)	\$ 2,643.30	\$ 3,230.70	\$ -	\$ 5,874.00

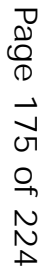
## APPENDIX C

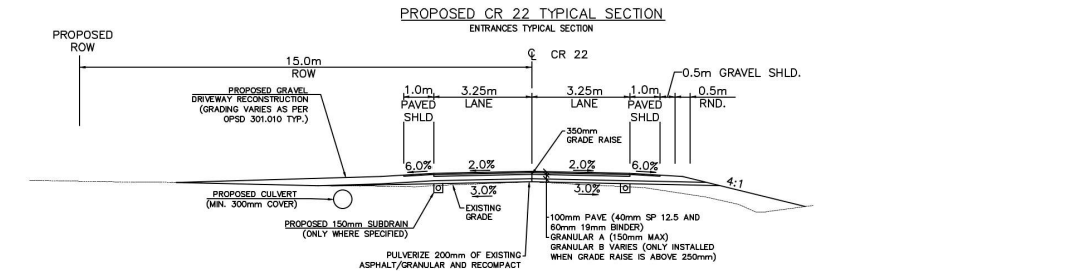
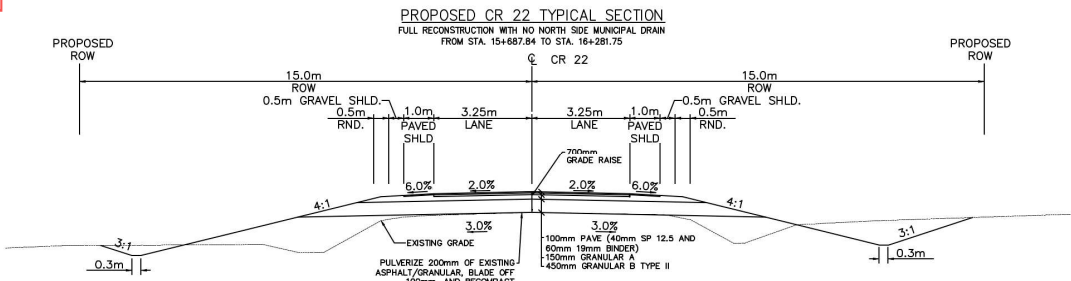
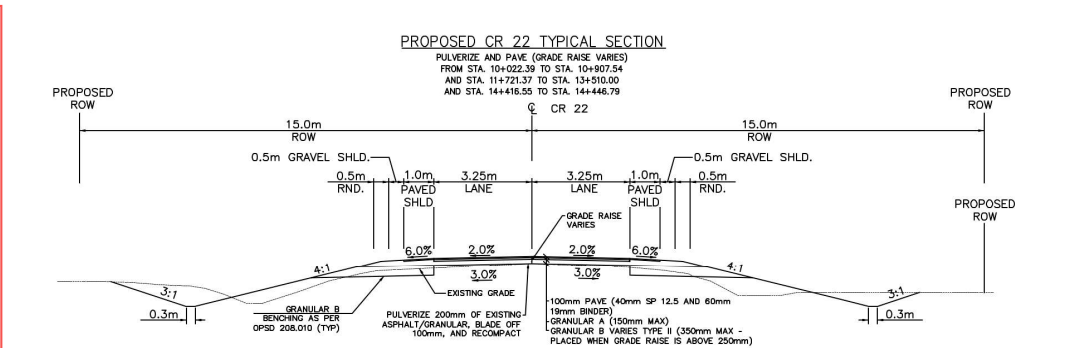
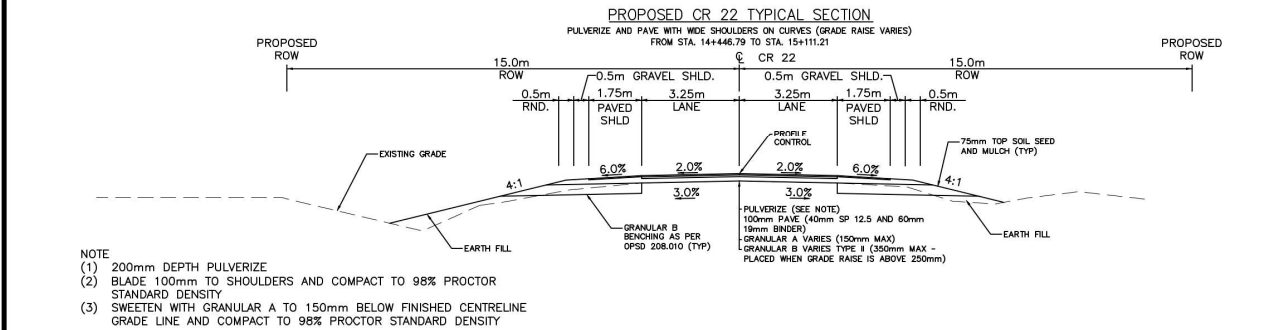
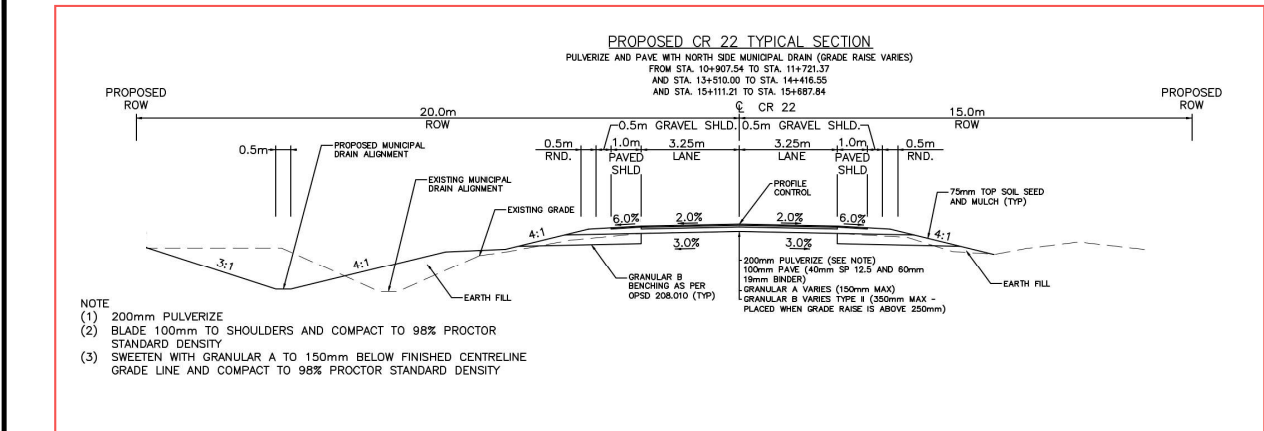
### ENGINEERING PLANS – REALIGNMENTS (BTE)





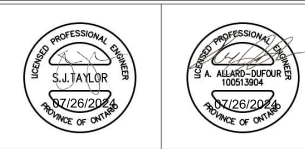






GENERAL NOTES	BENCH MARKS

NO.	REVISIONS	DATE	APPROVED
1.	ISSUED FOR 90% REVIEW	MM/YY	S.J.T.
2.	ISSUED FOR TENDER	07/24	S.J.T.



COUNTY ROAD 22  
UNITED COUNTIES OF STORMONT, DUNDAS  
AND GLENGARRY  
TYPICAL SECTIONS

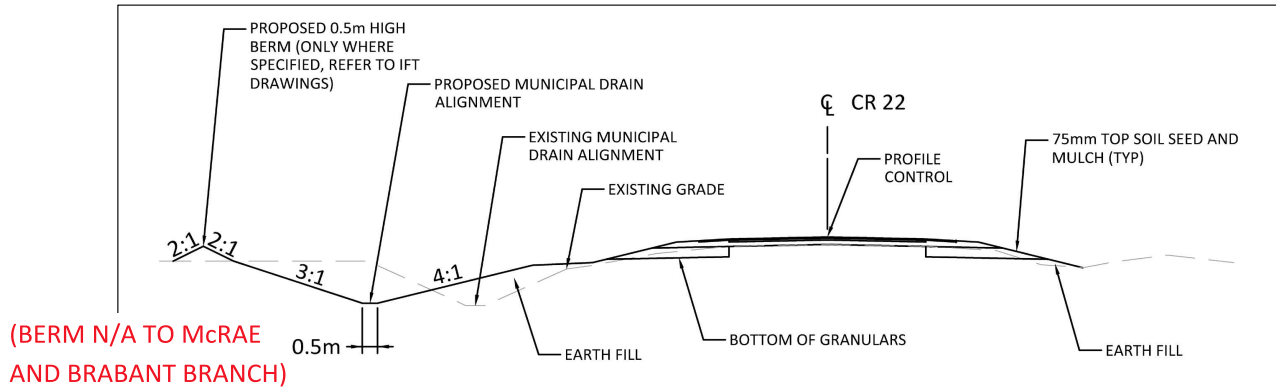
**BT ENGINEERING**  
**BTE**

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DESIGN	A.D.	DRAWN	A.D.	SHEET NO.
REVIEWED	S.J.T.	DATE	2024.07	CX-001

**Subject:** Municipal Drain Assessment

**Project:** BTE File 22-019, Stormont, Dundas and Glengarry Counties, County Road 22 Rehabilitation

**Date:** July 30, 2024



**Figure 3: Municipal Drain Typical Section**

## 7.0 RESULTS AND COMMENTS

### 7.1 Design Flows

Peak flows for the driveway culverts along the realigned drain sections are summarized in **Table 4**.

**Table 4: Proposed Municipal Drain Realignment Peak Flow Results**

Municipal Drain Branch	Design Flow (m <sup>3</sup> /s)
Brabant Branch	0.58
McRae Branch	1.66
Morrow-Brabec Branch	0.49
County Road Branch	1.21

### 7.2 Culvert Sizing

**Table 5** shows the recommended sizes for the driveway culverts to convey the minimum 10-year design flow. HEC-RAS Analysis Report and Results are presented in **Appendix A**.

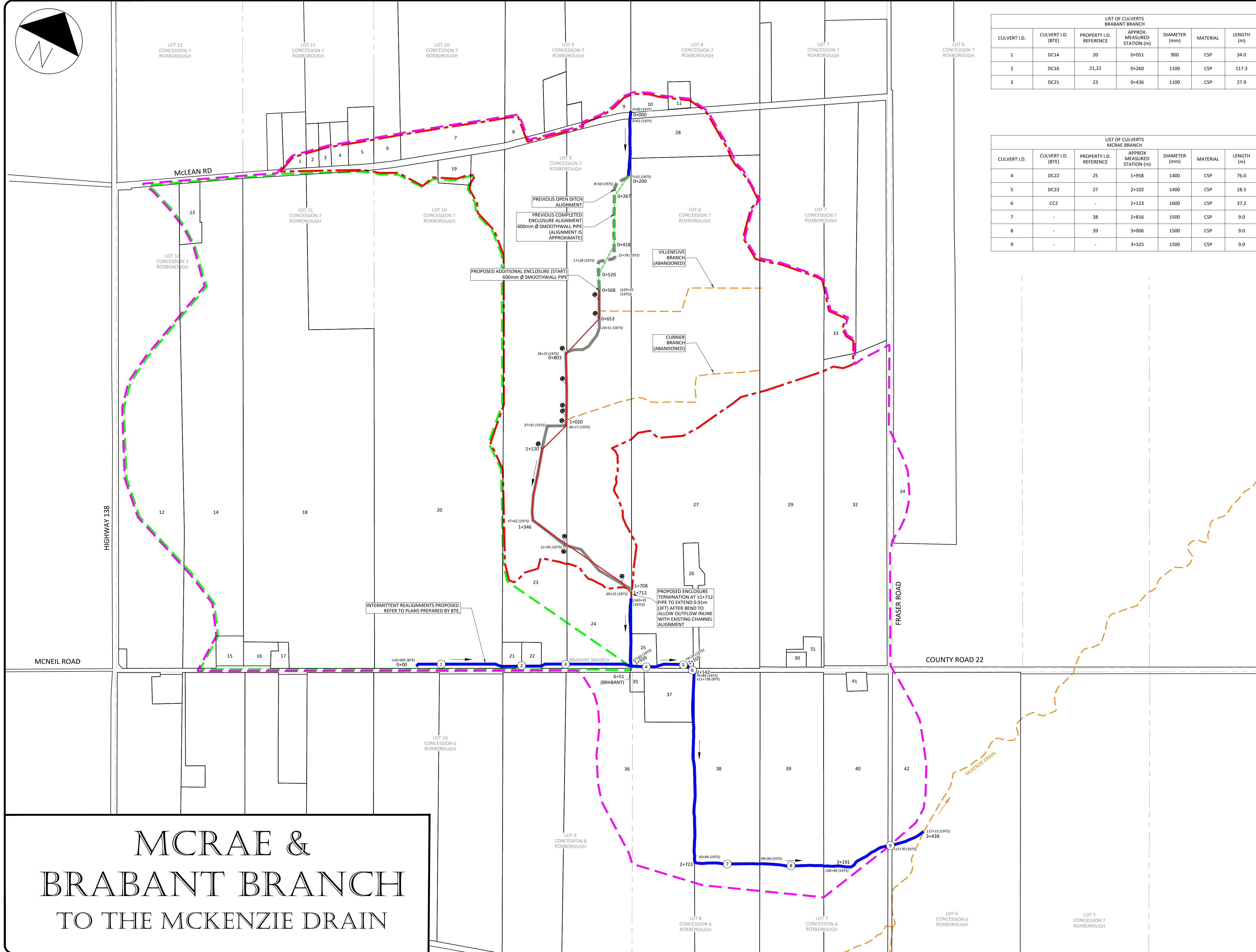
**Table 5: Proposed Culvert Configuration**

Culvert ID	Branch	Start Station	Type	Size (mm)	Length (m)	Slope (m/m)
DC6	Roadside Ditch	10+464.578	Circular CSP	500	45.45	0.011
DC9	Roadside Ditch	10+654.500	Circular CSP	600	16.74	0.004
DC11	Roadside Ditch	10+759.487	Circular CSP	600	16.50	0.003
DC14	Brabant Branch	10+957.300	Circular CSP	900	33.96	0.008
DC16	Brabant Branch	11+166.137	Circular CSP	1100	117.34	0.004
DC21	Brabant Branch	11+341.302	Circular CSP	1100	27.90	0.003
DC22	McRae Branch	11+551.830	Circular CSP	1400	76.02	0.006
DC23	McRae Branch	11+695.744	Circular CSP	1400	18.51	0.012
DC42	Morrow-Brabec Branch	13+664.102	Circular CSP	1000	26.14	0.004

## APPENDIX D

### ENGINEERING PLANS – ENCLOSURE (LOT 9, CON 7)

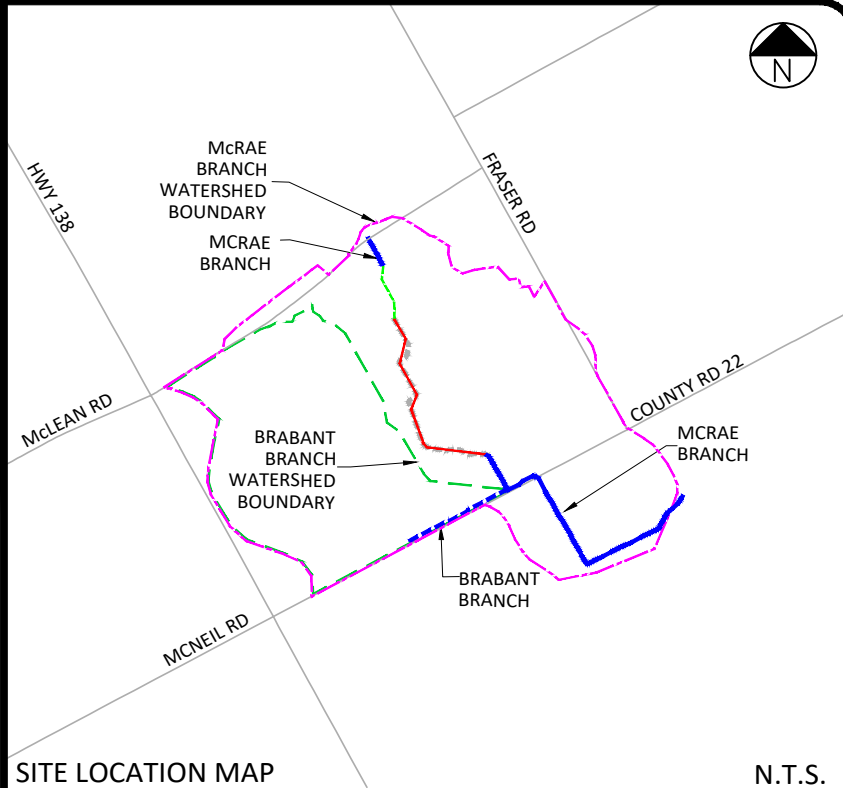




# MCRAE & BRABANT BRANCH TO THE MCKENZIE DRAIN

LIST OF CULVERTS BRABANT BRANCH						
CULVERT I.D.	CULVERT I.D. (BTE)	PROPERTY I.D. REFERENCE	APPROX. MEASURED STATION (m)	DIAMETER (mm)	MATERIAL	LENGTH (m)
1	DC14	20	0+051	900	CSP	34.0
2	DC16	21,22	0+260	1100	CSP	117.3
3	DC21	23	0+436	1100	CSP	27.9

LIST OF CULVERTS MCRAE BRANCH						
CULVERT I.D.	CULVERT I.D. (BTE)	PROPERTY I.D. REFERENCE	APPROX. MEASURED STATION (m)	DIAMETER (mm)	MATERIAL	LENGTH (m)
4	DC22	25	1+958	1400	CSP	76.0
5	DC23	27	2+102	1400	CSP	18.5
6	CC2	-	2+123	1600	CSP	37.2
7	-	38	2+816	1500	CSP	9.0
8	-	39	3+006	1500	CSP	9.0
9	-	-	3+325	1500	CSP	9.0



SCALE BAR	DO NOT SCALE DRAWING
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ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE MARKED.	
PAGE SIZE	24" x 36"
SCALE	1 : 5000

SHADE GROUP INC.  
4625 MARCH ROAD  
ALMONTE, ON  
K0A 1A0



- LEGEND**
- 2024 PROPERTY LINES (GIS DATA)
  - MUNICIPAL DRAIN ALIGNMENT
  - MCRAE BRANCH OPEN DITCH ALIGNMENT
  - MCRAE BRANCH PREVIOUS OPEN DITCH ALIGNMENT
  - MCRAE BRANCH PROPOSED ENCLOSURE ALIGNMENT
  - MCRAE BRANCH PREVIOUS COMPLETED ENCLOSURE ALIGNMENT
  - MCRAE BRANCH WATERSHED BOUNDARY
  - ENCLOSURE SUBWATERSHED BOUNDARY
  - BRABANT BRANCH WATERSHED BOUNDARY
  - STATIONS (FT) - PER 1975 ENGINEER'S REPORT
  - STATIONS (m) - MEASURED STATIONS
  - STATIONS (m) - PER BTE PROFILE DRAWINGS
  - WATERCOURSES
  - LOT & CONCESSION LINES
  - PROPERTY ID REFERENCE
  - REFER TO ASSESSMENT SCHEDULES
  - DIRECTION OF FLOW
  - APPROX. BLIND INLET TILE DRAINAGE CONNECTION POINT FOR VENTING (SEE BLIND INLET TILE DRAINAGE CONNECTION DETAIL IN ESC PLAN)
  - APPROX. LOCATION OF CULVERT

- NOTES**
- ALL STATION LABELS ARE APPROXIMATE. THIS MAP IS FOR INFORMATION PURPOSES ONLY AND IMPLIES NO GUARANTEE OF ACCURACY. DO NOT SCALE DRAWING.
  - ALL PROPERTY LINES ARE AS SUPPLIED BY THE COUNTIES OF STORMONT, DUNDAS & GLENGARRY, AS ACQUIRED FROM THEIR GEOGRAPHIC INFORMATION SYSTEM (GIS) AUGUST 2022. THIS IS NOT A LEGAL SURVEY.
  - THIS MAP AND THE WATERSHED BOUNDARY SHOWN HERE HAS BEEN PREPARED IN REFERENCE TO THE 1975 ENGINEER'S REPORT AS PREPARED BY STIDWELL & ASSOCIATES LTD.

REV. #	REVISION DESCRIPTION	DATE
02	ISSUED WITH ENGINEER'S REPORT	FEB 6, 2025
01	ISSUED WITH DRAFT REPORT	JAN 22, 2025
00	ISSUED TO SNCA	JULY 16, 2024

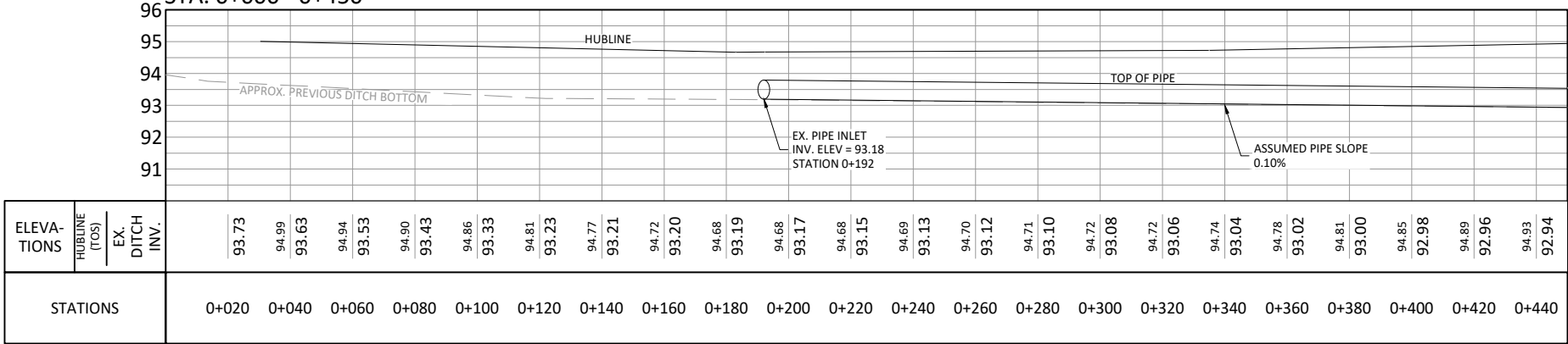


PROJECT TITLE  
**MCRAE & BRABANT BRANCH TO THE MCKENZIE DRAIN**

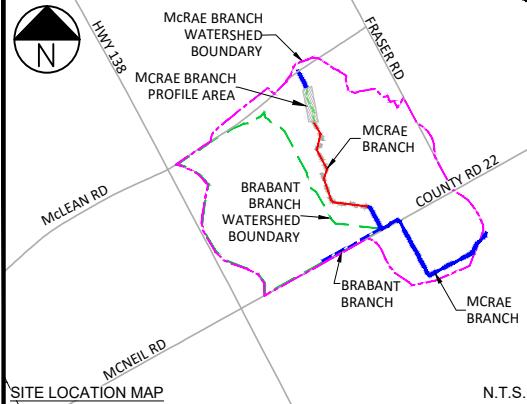
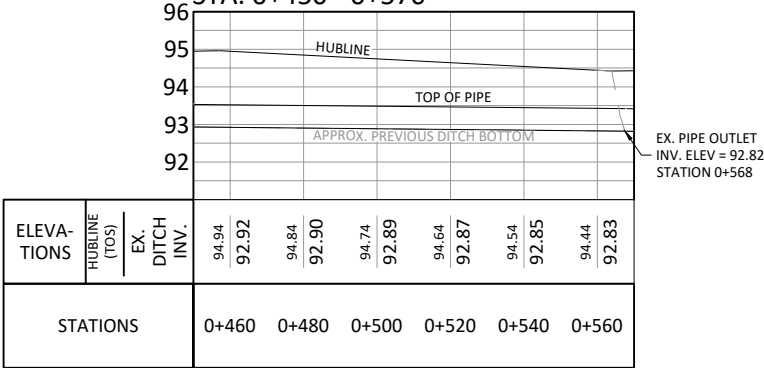
DRAWING TITLE  
**WATERSHED MAP PLAN VIEW**

DRAWING NO.  
**1 OF 1**

MCRAE BRANCH  
PREVIOUSLY COMPLETED ENCLOSURE PROFILE  
STA. 0+000 - 0+450



MCRAE BRANCH  
PREVIOUSLY COMPLETED ENCLOSURE PROFILE  
STA. 0+450 - 0+570



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ALMONTE, ONTARIO  
K0A 1A0



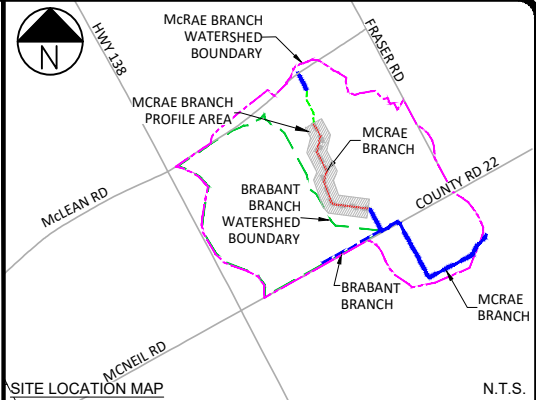
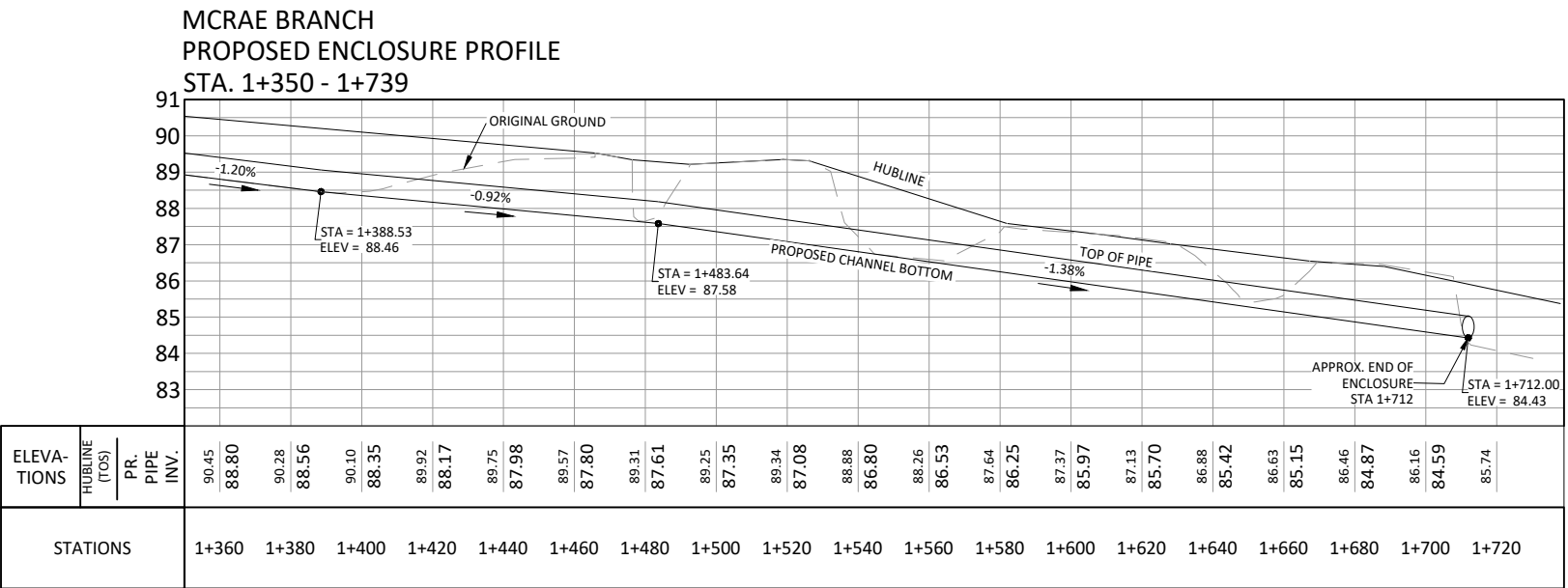
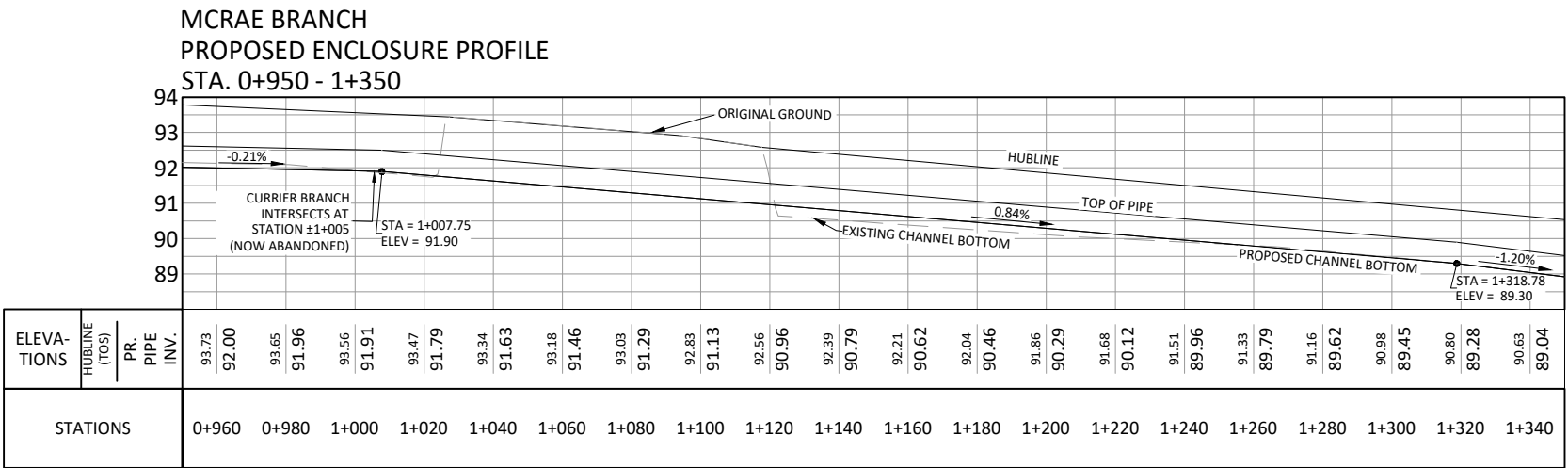
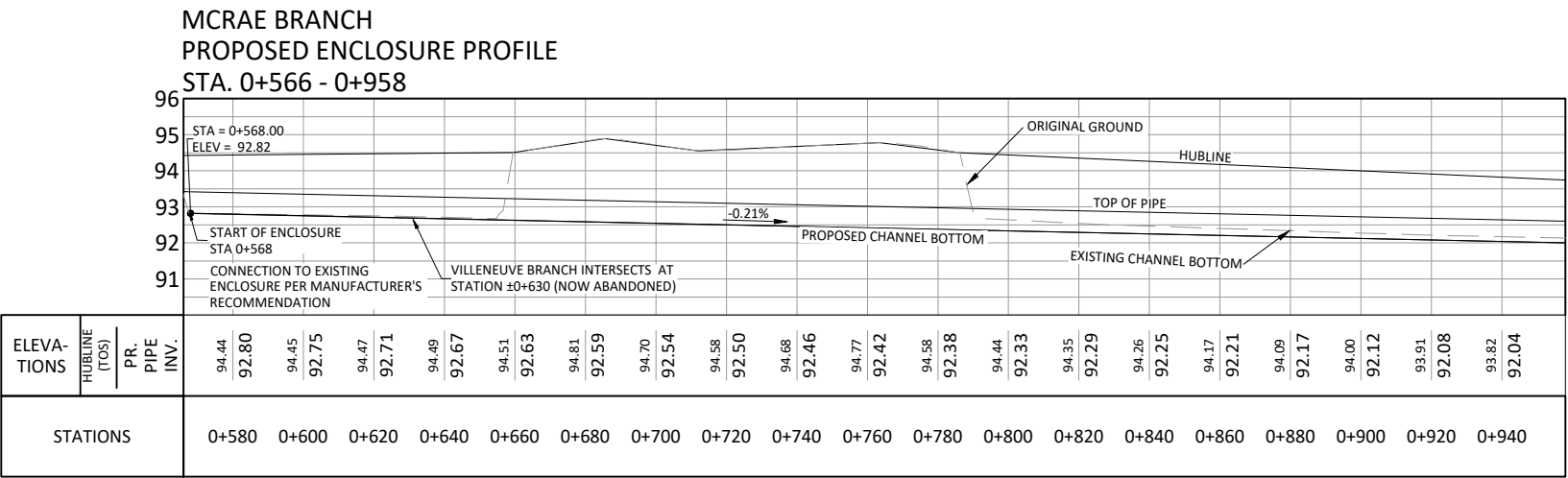
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PLAN TO BE READ IN CONJUNCTION WITH DRAWING TITLED  
"MISC. CROSS-SECTIONS AND EROSION AND SEDIMENT CONTROL  
MEASURES"  
TOS: TOP OF SLOPE

02	ISSUED WITH ENGINEER'S REPORT	FEB 6, 2025
01	REVISED PER SNCA COMMENTS	SEPT 13, 2024
00	ISSUED TO SNCA	JULY 16, 2024
REV.	DESCRIPTION	DATE

STAMP



PROJECT TITLE	McCRAE BRANCH PARTIAL ENCLOSURE
DRAWING TITLE	PROFILE VIEW - PREVIOUSLY COMPLETED ENCLOSURE
DRAWING NO.	1 OF 2



PAGE SIZE 11" x 17" SCALE H: 1:1750 V: 1:175

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ALMONTE, ONTARIO  
K0A 1A0



NOTE  
PLAN TO BE READ IN CONJUNCTION WITH DRAWING TITLED  
"MISC. CROSS-SECTIONS AND EROSION AND SEDIMENT CONTROL  
MEASURES"  
TOS: TOP OF SLOPE

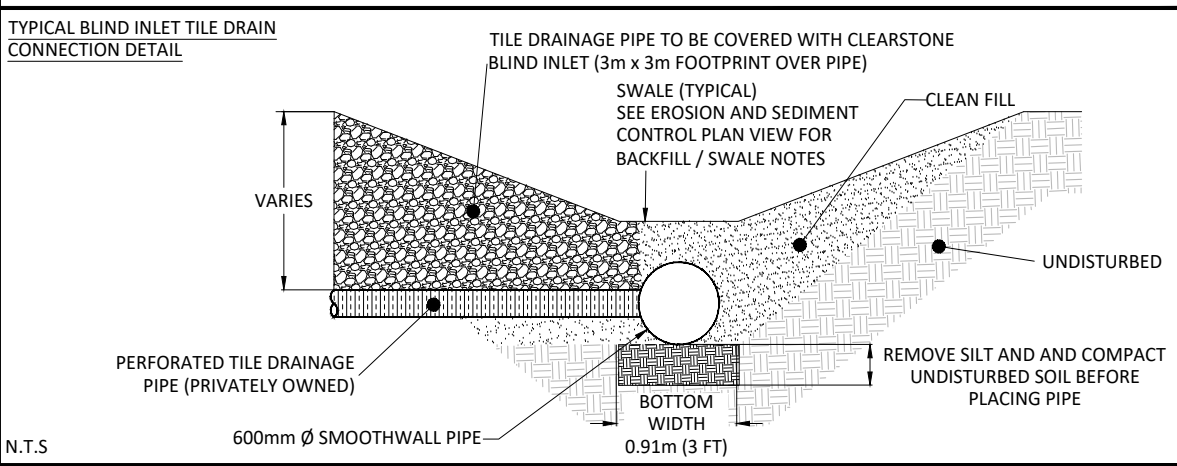
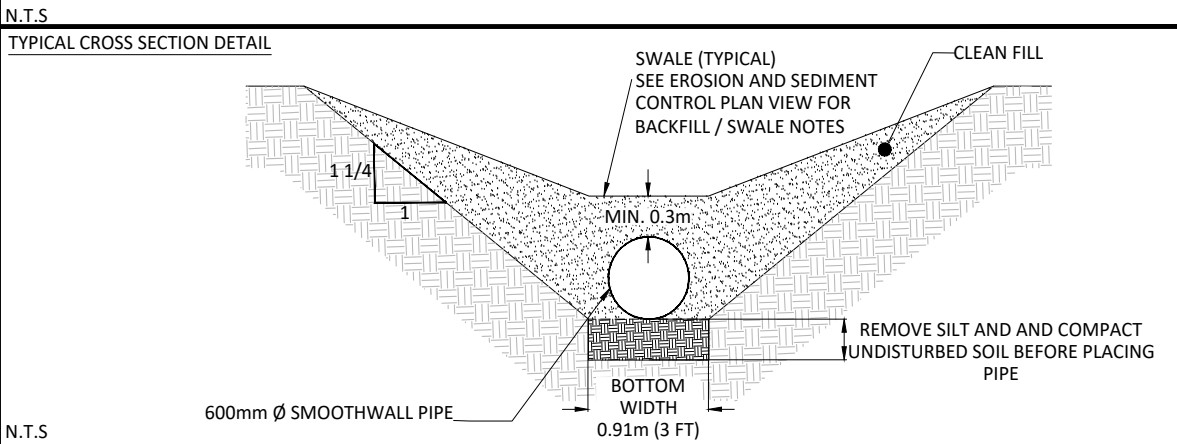
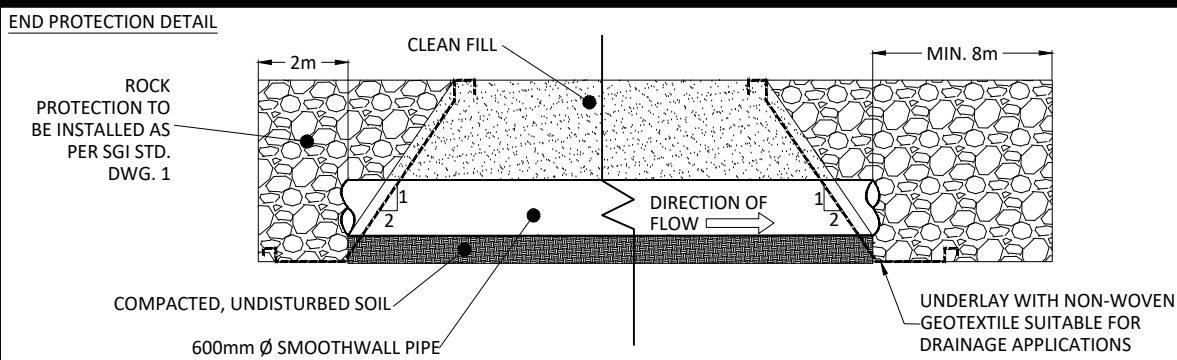
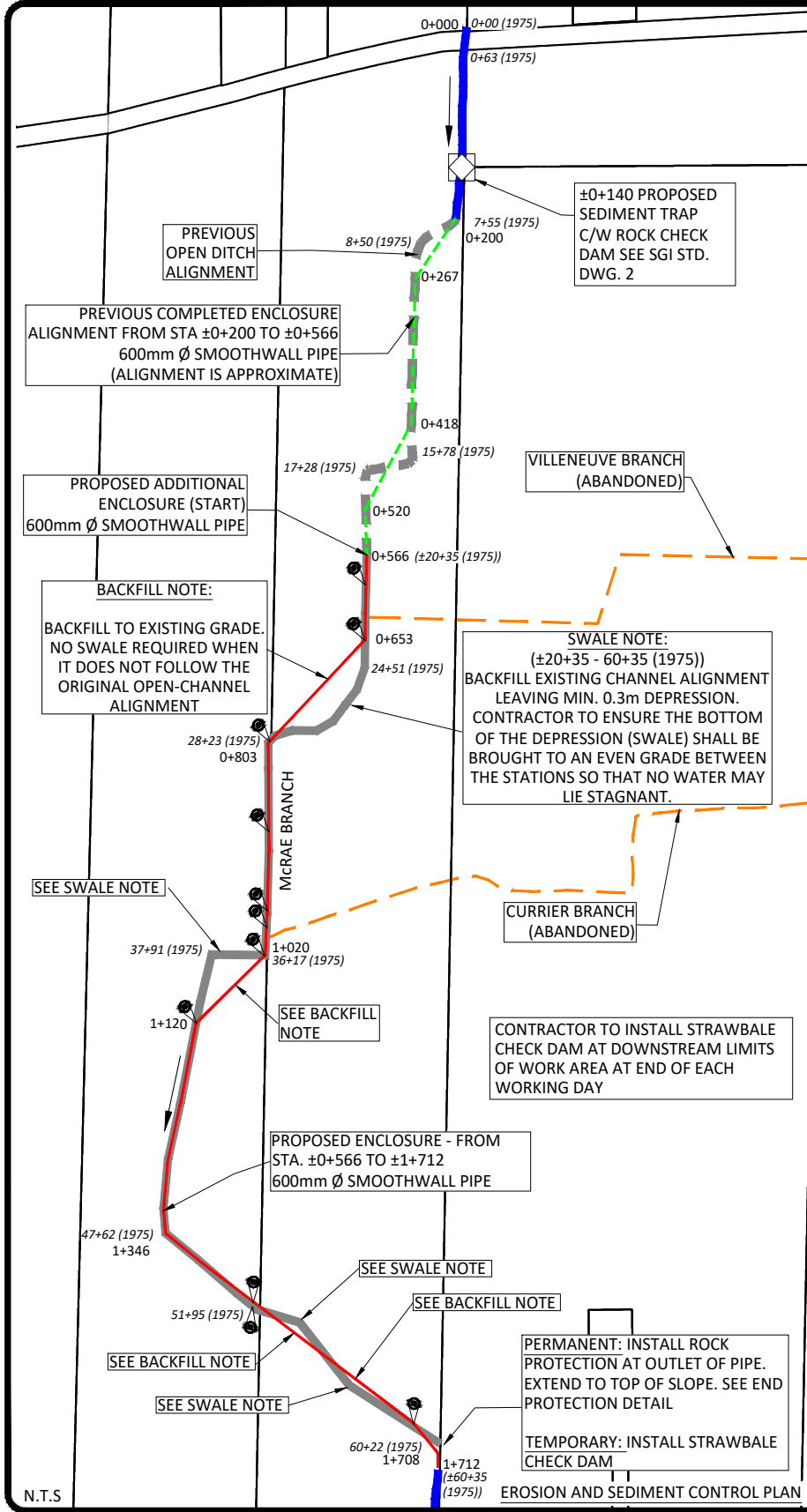
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00	ISSUED TO SNCA	JULY 16, 2024
REV.	DESCRIPTION	DATE

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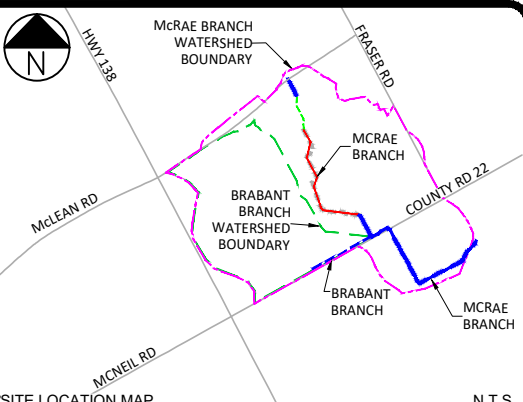


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DRAWING TITLE	PROFILE VIEW - PROPOSED ENCLOSURE
DRAWING NO.	2 OF 2





- EROSION AND SEDIMENT CONTROL NOTES**
1. THIS PLAN INCLUDES PERMANENT AND TEMPORARY EROSION CONTROL MEASURES WHICH ARE TO BE APPLIED DURING THE INITIAL CONSTRUCTION AND DURING FUTURE MAINTENANCE WORKS.
  2. IN ADDITION TO THOSE SPECIFICATIONS PROVIDED ON THE PLAN VIEW, THE CONTRACTOR SHALL ALSO INCLUDE FOR THE ERECTION OF SILT FENCE AROUND THE BASE OF ANY EXCAVATED STOCKPILES DURING THE INITIAL CONSTRUCTION; PRIOR TO THE FILLING IN OF THE PREVIOUS ALIGNMENT.
  3. EROSION AND SEDIMENT CONTROL PLANS ARE CONSIDERED TO BE LIVING DOCUMENTS, AND ADDITIONAL MEASURES MAY BE REQUIRED AT THE DIRECTION OF THE ENGINEER, MUNICIPALITY, SNCA OR DFO, AS NEEDED TO ADDRESS SITE CONDITIONS AT THE TIME OF CONSTRUCTION (BOTH DURING THE INITIAL CONSTRUCTION AND FUTURE MAINTENANCE).
  4. MAINTENANCE OF THE TEMPORARY EROSION CONTROL MEASURES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR DURING AND IMMEDIATELY FOLLOWING CONSTRUCTION. THE CONTRACTOR SHOULD REVIEW AND DOCUMENT THE CONDITION OF THE TEMPORARY EROSION CONTROL MEASURES THROUGHOUT CONSTRUCTION, AT THE START OF EACH DAY OF ON-SITE WORKS AND AFTER EVERY RAINFALL EVENT (>10mm). CORRECTIVE MEASURES TO REMOVE SEDIMENT BUILD UP, RESTORE EROSION CONTROL MEASURES, ETC. SHALL BE PERFORMED WITHIN NO MORE THAN 24 HOURS FOLLOWING THE RAINFALL EVENT, FOLLOWING OBSERVATION OF THE FAILED MEASURE, OR FOLLOWING NOTIFICATION FROM THE DRAINAGE SUPERINTENDENT, ENGINEER OR CONSERVATION AUTHORITY OVER A MEASURE REQUIRING MAINTENANCE. CONTINUED MAINTENANCE OF TEMPORARY MEASURES MAY STILL BE REQUIRED IMMEDIATELY FOLLOWING FUTURE MAINTENANCE AND/OR THE INITIAL CONSTRUCTION, UP UNTIL SUCH A TIME AS THE SITE CONDITIONS ARE DEEMED TO BE ADEQUATELY STABILIZED AS PER THE ENGINEER, SNCA, DFO OR MUNICIPALITY.
  5. THE ON-GOING MONITORING AND CORRECTIVE ACTION ASSOCIATED WITH THE PERMANENT EROSION CONTROL MEASURES SHALL BE THE RESPONSIBILITY OF THE LANDOWNERS ADJACENT THE DRAIN, AND THE MUNICIPALITY (DRAINAGE SUPERINTENDENT). IT IS EXPECTED THAT LANDOWNERS WOULD PROVIDE NOTIFICATION TO THE MUNICIPALITY WHEN CORRECTIVE ACTION IS REQUIRED, WHILE THE MUNICIPALITY WOULD LOOK AFTER HIRING A CONTRACTOR TO COMPLETE MAINTENANCE WORKS AS REQUIRED, IN FITTING WITH THE DIRECTIVES OF THE DRAINAGE ACT.
  6. CONSTRUCTION WORKS (INITIAL + FUTURE MAINTENANCE) ARE TO BE COMPLETED IN LOW OR NO FLOW CONDITIONS, OUTSIDE OF ANY TIMING WINDOW RESTRICTIONS.
  7. SCHEDULING OF CONSTRUCTION WORKS SHOULD AVOID WET, WINDY OR RAINY PERIODS (AND HEED WEATHER ADVISORIES) AS THESE MAY RESULT IN HIGH FLOW VOLUMES AND/OR INCREASED EROSION AND SEDIMENTATION.
  8. THE CONTRACTOR SHALL OPERATE MACHINERY ON LAND IN STABLE, DRY AREAS.
  9. THE CONTRACTOR SHALL DEVELOP AND IMPLEMENT A RESPONSE PLAN TO AVOID A SPILL OF DELETERIOUS SUBSTANCES.



PAGE SIZE 11" x 17" SCALE N.T.S.

SHADE GROUP INC.  
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ALMONTE, ONTARIO  
K0A 1A0

**SHADE GROUP INC.**

- 2023 PROPERTY LINES (GIS DATA)
- MUNICIPAL DRAIN ALIGNMENT
- McRAE BRANCH OPEN DITCH ALIGNMENT
- McRAE BRANCH PREVIOUS OPEN DITCH ALIGNMENT
- McRAE BRANCH PROPOSED ENCLOSURE ALIGNMENT
- McRAE BRANCH PREVIOUS COMPLETED ENCLOSURE ALIGNMENT
- STATIONS (FT) - PER 1975 ENGINEER'S REPORT
- STATIONS (m) - NEW ALIGNMENT
- WATERCOURSES
- PR. SEDIMENT TRAP - SEE SGI STD. DWG 2
- APPROX. BLIND INLET TILE DRAINAGE CONNECTION POINT FOR VENTING

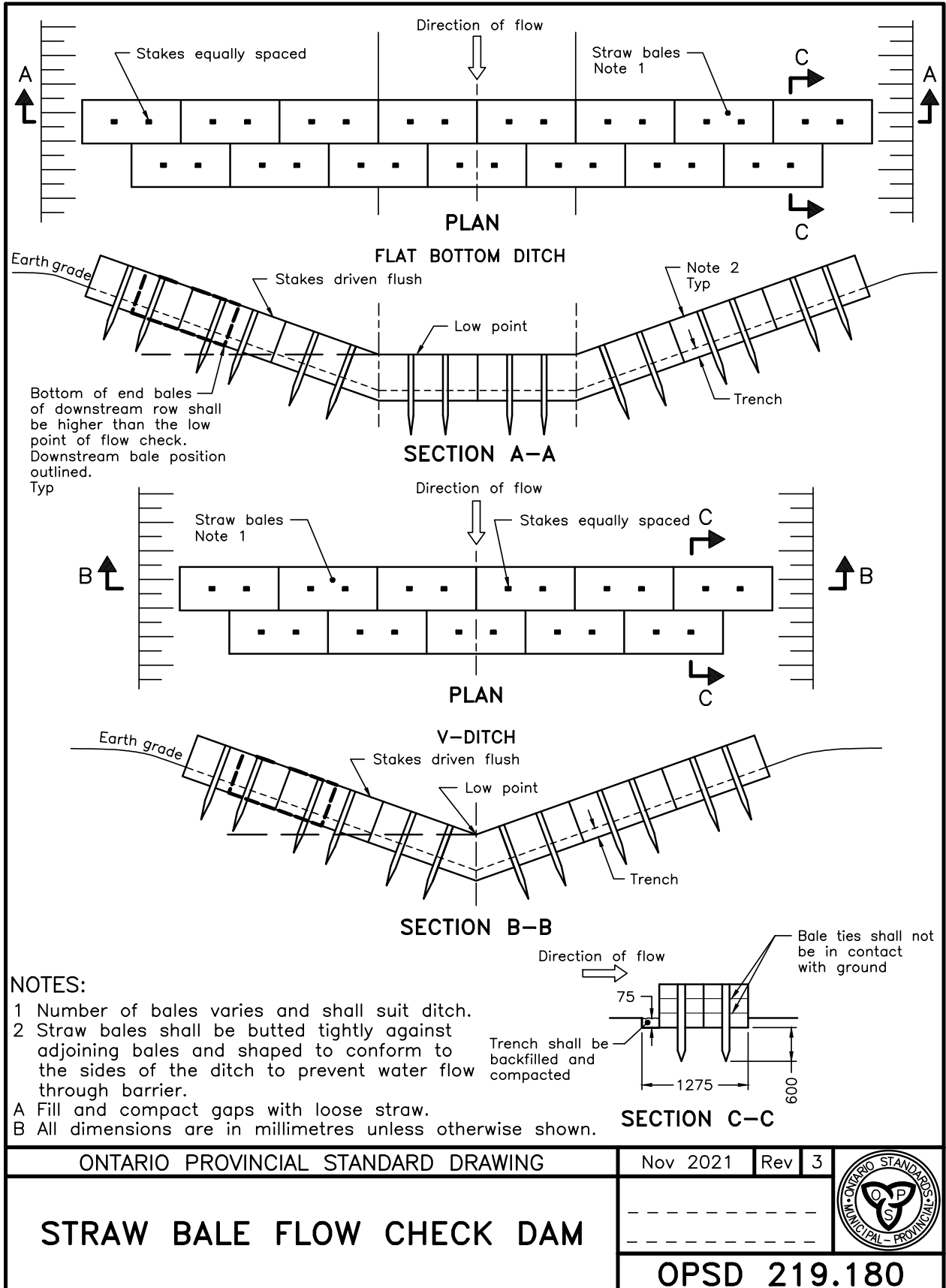
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01	REVISED PER SNCA COMMENTS	SEPT 13, 2024
00	ISSUED TO SNCA	JULY 16, 2024



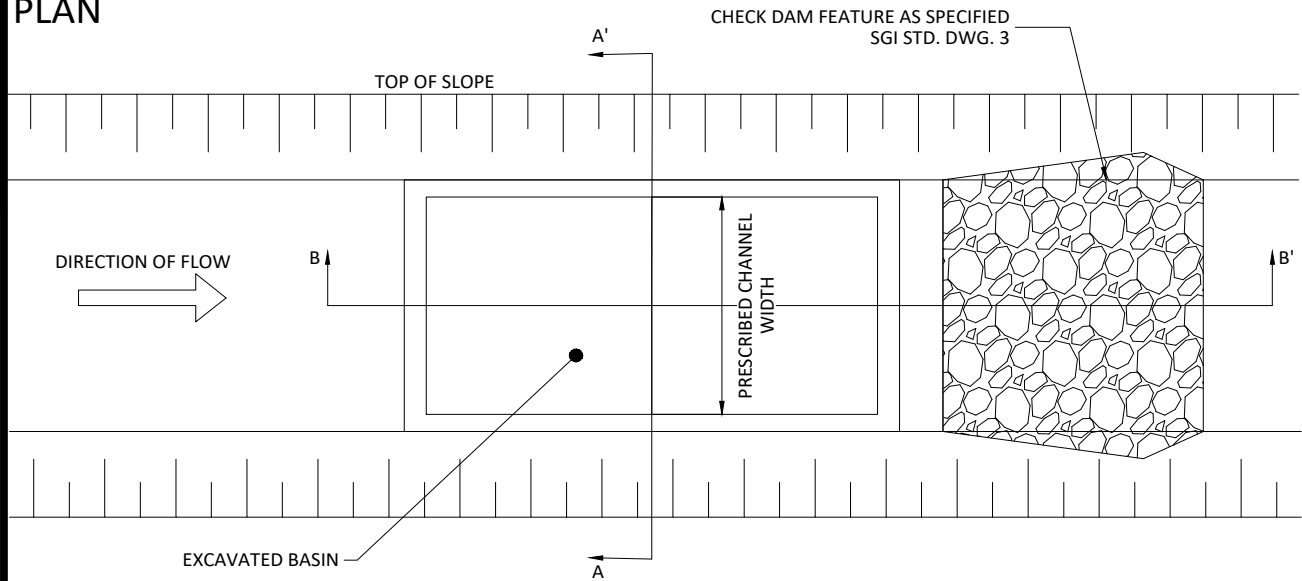
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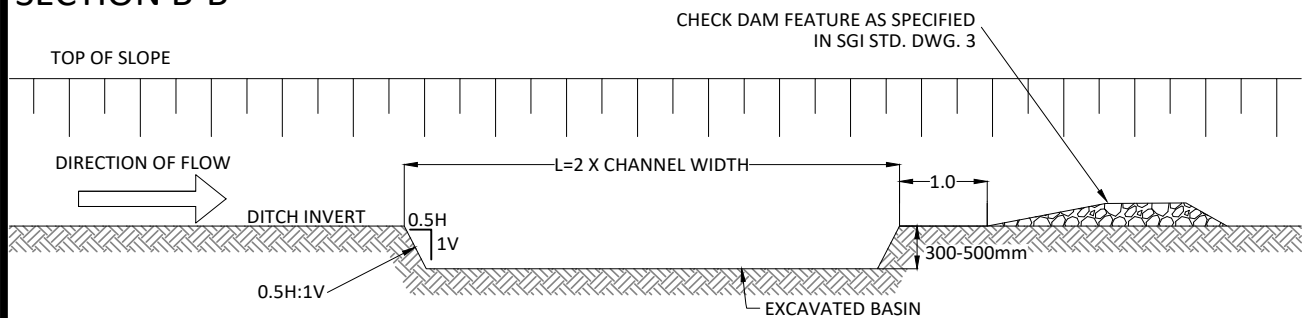
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## PLAN



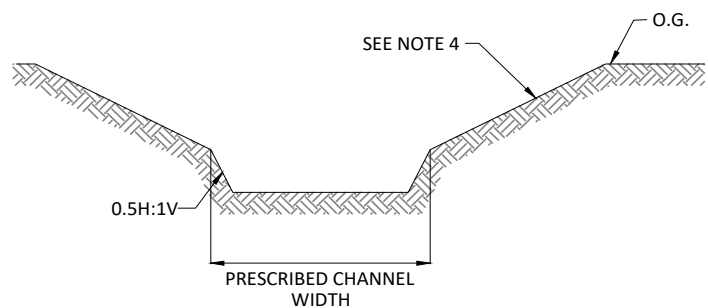
## SECTION B-B'



### NOTES:

1. THIS DRAWING MODIFIES OPSD 219.220
2. DITCH CROSS-SECTION UPSTREAM OR DOWNSTREAM OF SEDIMENT TRAP MAY BE FLAT BOTTOM OR V-SHAPED, FLAT BOTTOM SHOWN.
3. THIS STANDARD DRAWING SHALL BE READ IN CONJUNCTION WITH OPSD 219.180 OR 219.191 OR 219.211 FOR THE SPECIFIED CHECK DAM FEATURE.
4. MIN. SIDE SLOPES AS SPECIFIED IN ENGINEER'S REPORT OR CONTRACT DRAWINGS
5. ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN.

## SECTION A-A'



PETITION DRAIN STANDARD DRAWING

EXCAVATED SEDIMENT TRAP

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SGI STD. DWG. 2

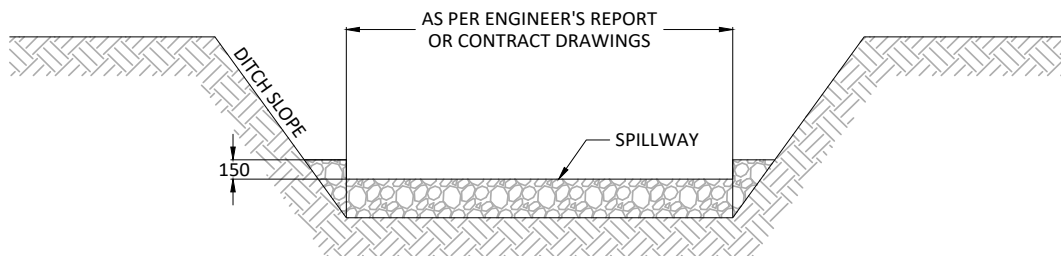
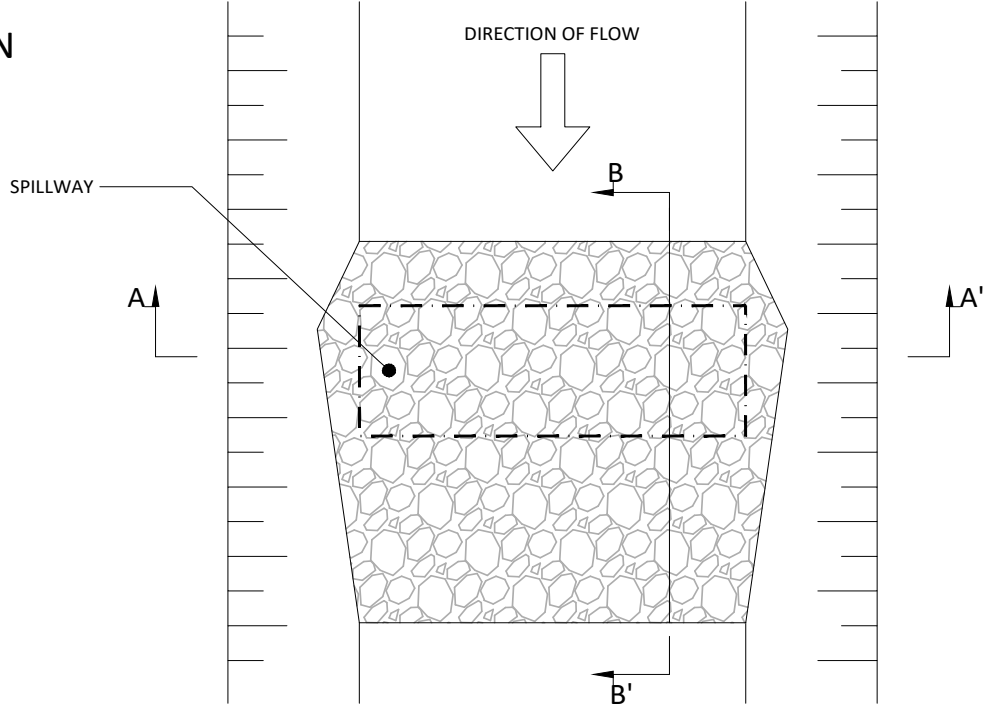
REVISION  
1.0

DATE  
Jan/24

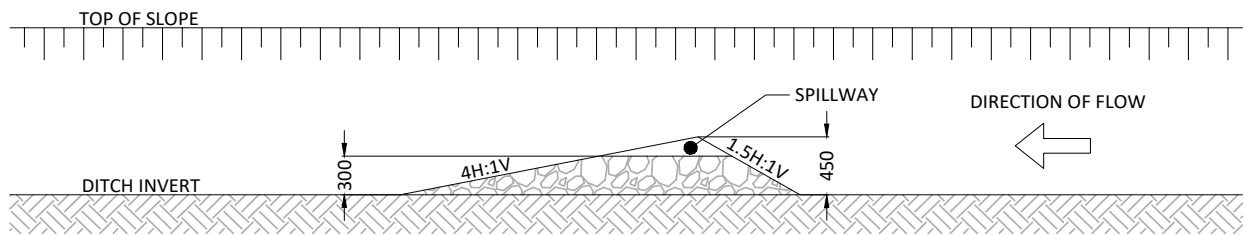
SCALE  
N.T.S

**SHADE**  
**GROUP** INC.

# PLAN



SECTION A-A'



## NOTE:

1. ALL DIMENSIONS IN MILLIMETERS UNLESS OTHERWISE SPECIFIED.
2. THIS DRAWING IS A MODIFICATION OF OPSD 219.211

SECTION B-B'

PETITION DRAIN STANDARD DRAWING

ROCK FLOW CHECK DAM

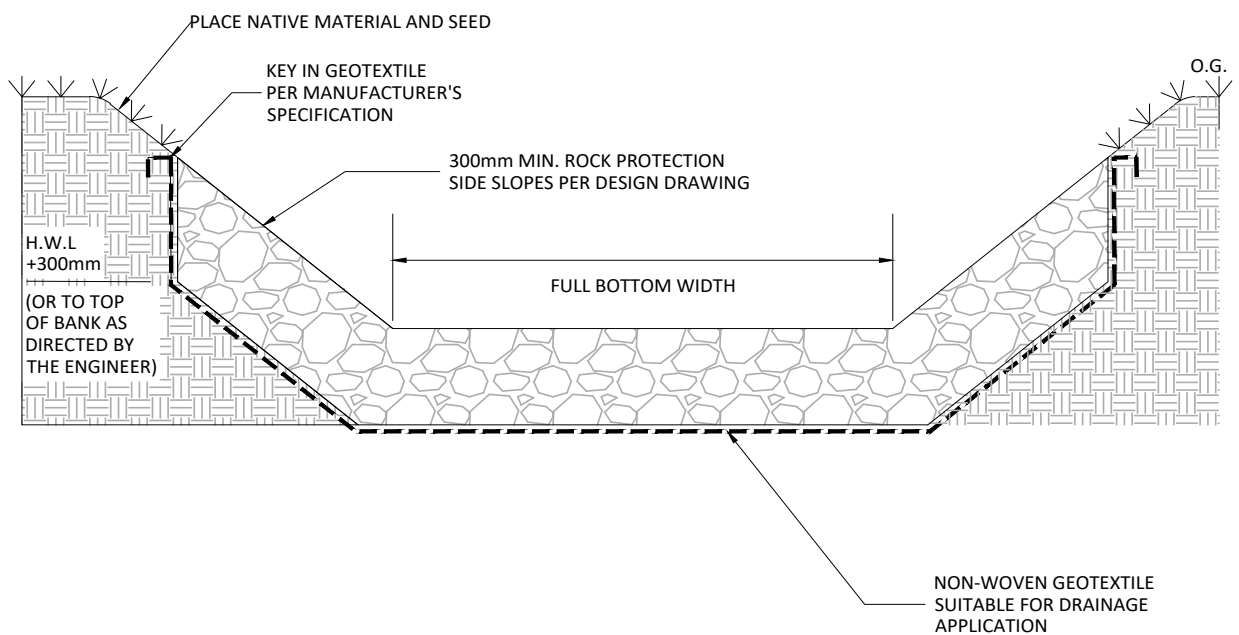
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SGI STD. DWG. 3

REVISION  
1.0

DATE  
Jan/24

SCALE  
N.T.S

**SHADE**  
**GROUP** INC.



**NOTE:**

1. SURFACE OF ROCK PROTECTION TO BE FLUSH WITH THE FINISHED SURFACE OF DRAIN UPSTREAM AND DOWNSTREAM OF THE EROSION CONTROL. MIN. SIDE SLOPE AS SPECIFIED IN THE ENGINEER'S REPORT OR THE CONTRACT DRAWINGS.
2. ROCK TO BE R-50 PER OPSS 1004.05.05.02 OR OPSS 1004.05.05.03. BLAST ROCK MAY BE SUBSTITUTED SUBJECT TO ENGINEER APPROVAL.

PETITION DRAIN STANDARD DRAWING	DETAIL DWG.NO.		
	SGI STD. DWG. 1		
	REVISION	DATE	
	1.0	Jan/24	
TYPICAL ROCK PROTECTION EROSION CONTROL	SCALE		
	N.T.S		

## APPENDIX E

### HYDROLOGY / HYDRAULICS - ENCLOSURE



## McRae Municipal Drain Hydrologic & Hydraulic Analysis Brief

Revised July 12, 2024

Prepared for:

**SHADE**  
**GROUP** INC

Headway Engineering  
23-500 Fairway Road South  
Suite 308  
Kitchener, Ontario N2C 1X3  
226 243 6614  
[www.headwayeng.ca](http://www.headwayeng.ca)



Kitchener, Ontario  
Revised July 12, 2024

To Shade Group Inc.

**Re: McRae Municipal Drain  
Hydrologic & Hydraulic Analysis Brief  
Our Reference No. SG-001**

---

## **1.0 INTRODUCTION**

Headway Engineering has been asked by Shade Group Inc. to conduct a hydrologic and hydraulic analysis of recent changes, and proposed changes to the McRae Municipal Drain. This analysis is required for the possible incorporation of a recently installed pipe system, previously constructed outside the bounds of the Drainage Act. Section 78 of the Drainage Act authorizes the possible incorporation of the recent construction, as well as the downstream extension of the enclosure to further manage the watershed's drainage needs.

This analysis synthesizes the hydrologic and hydraulic data for the existing and proposed McRae Drain enclosures. Utilizing the watershed plan, existing pipe data (size, material, elevations), and a previous drainage report prepared by Stidwill & Associates, dated September 16, 1975, all of which was provided by Shade Group Inc., and without conducting additional fieldwork, the analysis aims to evaluate the existing enclosure's adequacy, and to provide design details for a downstream enclosure that conforms to rural Ontario design standards.

Information provided by Monica Shade, P.Eng., V.P. of Engineering and Sales at Shade Group Inc., served as the basis for this evaluation, which focused on verifying the current and proposed drainage systems against hydrological demands and hydraulic capacities.

## **2.0 METHODOLOGY**

### **2.1 Data Analysis:**

Utilization of GIS tools facilitated an examination of the watershed area using current provincial data. This included defining sub-catchment and comprehensive watershed boundaries.

The GIS delineated watershed boundaries were compared to the previously determined watershed boundaries contained in the previous engineer's report.

### **2.2 Hydrologic Assessment:**

Flow requirements for the existing and proposed enclosures were calculated based on commonly accepted design standards for rural settings in Ontario. More specifically, the proposed drainage system is sized using the Drainage Coefficient method contained in the OMAFRA Publication 29 – 'Drainage Guide for Ontario'. The Drainage Coefficient describes a depth of water to be conveyed by the drainage works per a 24-hour period and is expressed in millimeters per 24 hours. The



drainage coefficient design standard used for the works proposed in this report is 38mm per 24-hour period.

### 2.3 Hydraulic Design:

The analysis included the assessment of pipe sizes, materials, and required grades to ensure adequate drainage and compliance with established design standards. The Pipe Size Design Calculations are attached to this report for detailed review of each station range.

## 3.0 FINDINGS AND RECOMMENDATIONS

Headway Engineering's analysis, informed by the collected data and documentary review, yields the following insights and guidance:

1. The GIS analysis of the most current provincially available topographic data largely validates the watershed determined by Stidwill & Associates noted in the report dated September 16, 1975, albeit with some exceptions.
2. The existing enclosure was recently constructed and includes the installation of approximately 360m of 600mm diameter, smooth wall HDPE pipe.
3. **The capacity of the existing enclosure complies with or exceeds the prevalent rural design standards of Ontario, based on the information available.**
4. Inspection and confirmation of the existing enclosure's pipe condition are advised.
5. As much as 1,200m of additional downstream enclosure is contemplated.
6. **The continuance of the 600mm diameter smooth wall HDPE pipe is appropriate, with a recommended gradient increase at the confluence of the Villeneuve Branch to about 0.20% to retain adequate capacity. Aside from this specified minimum grade near the Villeneuve Branch, grades similar to that of the previous report will provide adequate capacity.**
7. Detailed design and drafting responsibilities, including the finalization of construction plans, catch basin placements, and other structural elements are to be undertaken by Shade Group Inc.

## 4.0 CONCLUSION

The assessments affirm that the existing drain enclosure satisfies or surpasses current hydrologic and hydraulic criteria for today's standards of drainage in rural settings. The proposed drainage enclosure with the installation of a 600mm diameter smooth wall HDPE pipe on grades similar to the previous report dated 1975 will provide adequate capacity at today's standards of drainage, with the exception of a length of drain located downstream of the Villeneuve Branch, where the gradient should be increased to a minimum of 0.20%. Detailed design, conforming to the specifications herein, should be pursued by Shade Group Inc.



Yours truly,

Stephen Brickman, P.Eng.  
Project Engineer and Manager  
**HEADWAY ENGINEERING**  
SB/



### McRae Drain

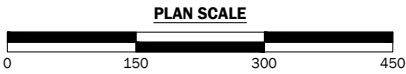
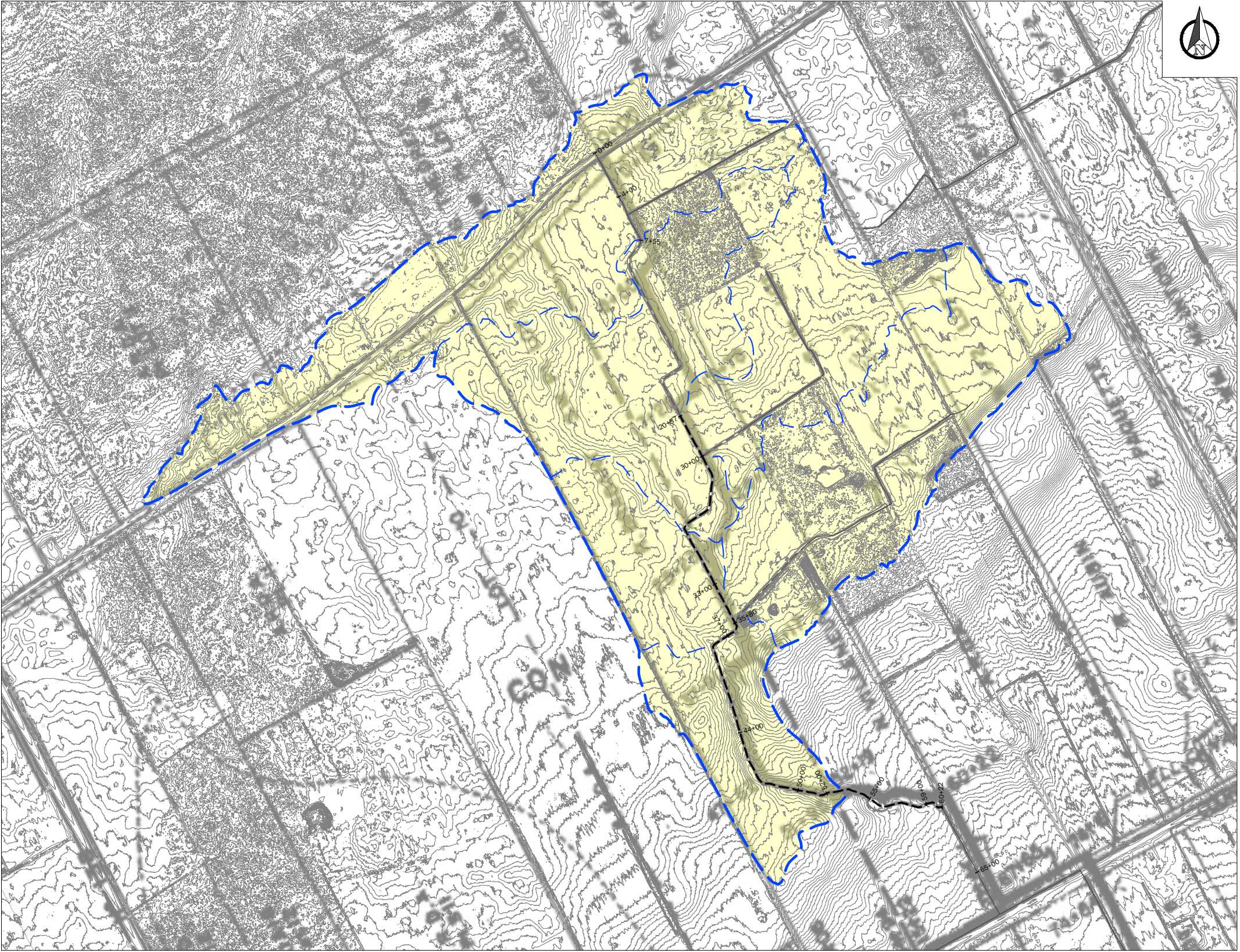
#### Ex. Main Drain (Closed)

Drainage Coefficient		1.5								
Station Range (Upper to Lower)	Drainage Area (Hectares)	Required Flow (C.F.S.)	Grade	Pipe Diameter (Inches)	Manning's 'n'	Flow Velocity (ft/s)	Calculated Flow (C.F.S.)	Required Diameter (Inches)	Required Percent Grade	Comments
0+192 - 0+567.6	26.38	4.11	0.10%	24	0.012	2.47	7.77	18.9	0.03%	ex enclosure

#### Pr. Main Drain (Closed)

Drainage Coefficient		1.5								
Station Range (Upper to Lower)	Drainage Area (Hectares)	Required Flow (C.F.S.)	Grade	Pipe Diameter (Inches)	Manning's 'n'	Flow Velocity (ft/s)	Calculated Flow (C.F.S.)	Required Diameter (Inches)	Required Percent Grade	Comments
0+567.6 - 0+630	46.38	7.22	0.21%	24	0.012	3.58	11.26	20.3	0.09%	
0+630 - 1+007.75	61.92	9.64	0.21%	24	0.012	3.58	11.26	22.6	0.15%	0+630 Villeneuve Br enters
1+007.75 - 1+200	91.75	14.29	0.84%	24	0.012	7.17	22.52	20.2	0.34%	1+005 Currier Br enters
1+200 - 1+318.78	101.43	15.80	0.84%	24	0.012	7.17	22.52	21.0	0.41%	
1+318.78 - 1+388.53	101.43	15.80	1.20%	24	0.012	8.57	26.92	19.7	0.41%	
1+388.53 - 1+483.64	101.43	15.80	0.92%	24	0.012	7.50	23.57	20.7	0.41%	
1+483.64 - 1+712	101.43	15.80	1.38%	24	0.012	9.19	28.87	19.1	0.41%	





**McRAE DRAIN**



- NOTES:**
1. THE BASE PLAN DEPICTED HEREIN IS DERIVED FROM THE 1975 REPORT BY SIDWELL AND ASSOCIATES. IT HAS BEEN ALIGNED TO BEST FIT, AND IS USED FOR REFERENCE PURPOSES ONLY.
  2. THE CONTOURS WERE CREATED USING LIDAR DERIVED DIGITAL DATA (2022) FROM LAND INFORMATION ONTARIO.

- LEGEND**
- MAJOR WATERSHED BOUNDARY  
MINOR WATERSHED BOUNDARY
- EXISTING FEATURES:  
**DRAIN NAME** OPEN DRAIN WITH CROSSING AND FLOW DIRECTION  
**DRAIN NAME** CLOSED DRAIN WITH CATCH BASIN, MANHOLE AND FLOW DIRECTION
- PROPOSED FEATURES:  
**DRAIN NAME** OPEN DRAIN WITH CROSSING AND FLOW DIRECTION  
**DRAIN NAME** CLOSED DRAIN WITH CATCH BASIN, MANHOLE AND FLOW DIRECTION





## APPENDIX F

### CONSTRUCTION COST ESTIMATE

**Project Cost Estimate  
(Schedule 'A')  
Station 0+568 - 1+712  
Proposed Enclosure - McRae Branch**

Construction Estimate				
Item	Unit	Quantity	Cost/Unit	Total
600mm HDPE - Smoothwall Pipe (Supply + Install)	m	1146	\$ 275.00	\$ 315,150.00
Backfill (Supply + Install)	m <sup>3</sup> (P)	10500	\$ 12.50	\$ 131,250.00
Strawbale Check Dam (Supply + Install)	ea	3	\$ 200.00	\$ 600.00
Rip Rap End Treatment (Supply + Install)	m	10	\$ 150.00	\$ 1,500.00
Sediment Trap with Rock Check Dam (Supply + Install)	ea	1	\$ 1,000.00	\$ 1,000.00
Sub-Total - Construction Costs				\$ 449,500.00
Contingency Allowance - Construction		10%		\$ 44,950.00
Sub-Total - Construction Costs (Pre-Tax)				\$ 494,450.00

<b>Administration/Engineering Estimate</b>				
<b>Item</b>	<b>Unit</b>	<b>Quantity</b>	<b>Cost/Unit</b>	<b>Total</b>
<b>Permitting</b>				
SNCA	Lump Sum	100%	\$ 2,050.00	\$ 2,050.00
<b>Engineering</b>				
Engineer's Report	Lump Sum	1	\$ 13,000.00	\$ 13,000.00
<b>Sub-Total - Administration/Engineering Costs (Pre-Tax)</b>				<b>\$ 15,050.00</b>

<b>Summary</b>				
<b>Sub-Total - Construction Costs (Pre-Tax)</b>				\$ 494,450.00
<b>Sub-Total - Administration/Engineering Costs (Pre-Tax)</b>				\$ 15,050.00
<b>Estimated Project Total</b>				<b>\$ 509,500.00</b>





**Project Cost Estimate  
(Schedule 'B')  
Station 1+712 - 3+438  
Future Maintenance of Open Channel - McRae Branch**

<b>Construction Estimate</b>				
<b>Item</b>	<b>Unit</b>	<b>Quantity</b>	<b>Cost/Unit</b>	<b>Total</b>
Mobilization	Lump Sum	1	\$ 1,500.00	\$ 1,500.00
Maintenance	m	1735	\$ 10.00	\$ 17,350.00
Strawbale Check Dam	ea	4	\$ 125.00	\$ 500.00
Misc. Bank Stabilization	Lump Sum	2	\$ 750.00	\$ 1,500.00
Sediment Trap with Rock Check Dam	ea	2	\$ 1,000.00	\$ 2,000.00
<b>Sub-Total - Construction Costs</b>				<b>\$ 22,850.00</b>
<b>Contingency Allowance - Construction</b>		10%		<b>\$ 2,285.00</b>
<b>Sub-Total - Construction Costs (Pre-Tax)</b>				<b>\$ 25,135.00</b>



**Project Cost Estimate  
(Schedule 'C')**

**Station 0+000 - 1+712**

**Future Maintenance of Open Channel + Enclosure - McRae Branch**

<b>Construction Estimate</b>				
<b>Item</b>	<b>Unit</b>	<b>Quantity</b>	<b>Cost/Unit</b>	<b>Total</b>
Mobilization	Lump Sum	1	\$ 1,500.00	\$ 1,500.00
Flushing of Enclosure	Lump Sum	1	\$ 5,000.00	\$ 5,000.00
Open Channel Maintenance	m	200	\$ 10.00	\$ 2,000.00
Sediment Trap with Rock Check Dam (Reinstatement)	ea	1	\$ 1,000.00	\$ 1,000.00
<b>Sub-Total - Construction Costs</b>				\$ 9,500.00
<b>Contingency Allowance - Construction</b>		10%		\$ 950.00
<b>Sub-Total - Construction Costs (Pre-Tax)</b>				<b>\$ 10,450.00</b>



**Station 0+200 - 1+712**  
**Equivalent Open Channel Maintenance Costs - McRae Branch**

<b>Construction Estimate</b>				
<b>Item</b>	<b>Unit</b>	<b>Quantity</b>	<b>Cost/Unit</b>	<b>Total</b>
Mobilization	Lump Sum	1	\$ 1,500.00	\$ 1,500.00
Maintenance	m	1512	\$ 10.00	\$ 15,120.00
Strawbale Check Dam	ea	4	\$ 125.00	\$ 500.00
Misc. Bank Stabilization	Lump Sum	6	\$ 750.00	\$ 4,500.00
<b>Sub-Total - Construction Costs</b>				<b>\$ 21,620.00</b>
<b>Contingency Allowance - Construction</b>		10%		<b>\$ 2,162.00</b>
<b>Sub-Total - Construction Costs (Pre-Tax)</b>				<b>\$ 23,782.00</b>

**Project Cost Estimate**  
**(Schedule 'D')**  
**Station 0+200 - 1+712**  
**Future Enclosure Replacement - McRae Branch**

<b>Construction Estimate</b>				
<b>Item</b>	<b>Unit</b>	<b>Quantity</b>	<b>Cost/Unit</b>	<b>Total</b>
600mm HDPE - Smoothwall Pipe Replacement, including removal & disposal of old pipe	m	1146	\$ 300.00	\$ 343,800.00
Strawbale Check Dam	ea	3	\$ 200.00	\$ 600.00
Rip Rap End Treatment	m	10	\$ 150.00	\$ 1,500.00
Sediment Trap with Rock Check Dam	ea	1	\$ 1,000.00	\$ 1,000.00
<b>Sub-Total - Construction Costs</b>				<b>\$ 345,900.00</b>
<b>Contingency Allowance - Construction</b>		10%		<b>\$ 34,590.00</b>
<b>Sub-Total - Construction Costs (Pre-Tax)</b>				<b>\$ 380,490.00</b>

Construction Cost Assessed to Landowners (2 cleanouts)*	\$ 26,664.00	7%
Remainder Assessed to Initiating Landowner (Lot 9, Con 7)	\$ 353,826.00	93%

2 cleanouts of an open ditch	\$ 47,564.00
2 x 10k maintenance	\$ 20,900.00
Remainder	<b>\$ 26,664.00</b>



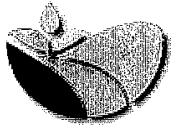
**Project Cost Estimate  
(Schedule 'E')  
Future Maintenance - Brabant Branch**

<b>Construction Estimate</b>				
<b>Item</b>	<b>Unit</b>	<b>Quantity</b>	<b>Cost/Unit</b>	<b>Total</b>
Mobilization	Lump Sum	1	\$ 1,500.00	\$ 1,500.00
Open Channel Maintenance	m	534	\$ 10.00	\$ 5,340.00
<b>Sub-Total - Construction Costs</b>				\$ 5,340.00
<b>Contingency Allowance - Construction</b>		10%		\$ 534.00
<b>Sub-Total - Construction Costs (Pre-Tax)</b>				<b>\$ 5,874.00</b>



## **APPENDIX G**

### **RESOLUTION + BY-LAW**



The Corporation of the Township of  
**NORTH STORMONT**  
**RESOLUTION**

**Date:** July 26, 2022

**Resolution No.** 219-2022

**MOVED BY:**

Deputy Mayor F. Landry \_\_\_\_\_  
Councillor S. Densham \_\_\_\_\_  
Councillor R. Douglas \_\_\_\_\_ ✓  
Councillor R. Villeneuve \_\_\_\_\_

**SECONDED BY:**

Deputy Mayor F. Landry \_\_\_\_\_  
Councillor S. Densham \_\_\_\_\_ ✓  
Councillor R. Douglas \_\_\_\_\_  
Councillor R. Villeneuve \_\_\_\_\_

THAT Council approves of the SDG Counties request, and appoint Shade Group Inc. under Section 78(1) of the Drainage Act, R.S.O 1990 Chapter D. 17 to update the necessary engineer's report to legitimize all drainage works required to be completed as part of the SDG County Road 22 project.

☒ **CARRIED**    ☐ **DEFEATED**    ☐ **DEFERRED**

**Mayor**

**Declaration of Conflict of Interest:** \_\_\_\_\_

☐ **Disclosed His/Her/Their Interest**

☐ **Vacated His/Her/Their Seat**

**RECORDED VOTE**

Councillor S. Densham	_____
Councillor R. Douglas	_____
Councillor R. Villeneuve	_____
Deputy Mayor F. Landry	_____
Mayor J. Wert	_____





The Corporation of the Township of  
**NORTH STORMONT**  
**RESOLUTION**

**Date:** July 18, 2023

**Resolution No.** 219-2023

**MOVED BY:**

Mayor F. Landry \_\_\_\_\_  
Deputy Mayor S. Densham \_\_\_\_\_  
Councillor A. Bugelli \_\_\_\_\_  
Councillor A. McDonald \_\_\_\_\_  
Councillor C. Shane \_\_\_\_\_

**SECONDED BY:**

Mayor F. Landry \_\_\_\_\_  
Deputy Mayor S. Densham \_\_\_\_\_  
Councillor A. Bugelli \_\_\_\_\_  
Councillor A. McDonald \_\_\_\_\_  
Councillor C. Shane \_\_\_\_\_

THAT Council receive this information report and extend the appointment of Shade Group Inc under Section 39(1) of the Drainage Act, as the Drainage Engineer appointed under Section 78 of the Drainage Act for the drains affected by the County Road 22 improvements.

☒ **CARRIED**    ☐ **DEFEATED**    ☐ **DEFERRED**

Mayor

**Declaration of Conflict of Interest:** \_\_\_\_\_

☐ **Disclosed His/Her/Their Interest**

☐ **Vacated His/Her/Their Seat**

**RECORDED VOTE**

Councillor C. Shane \_\_\_\_\_  
Councillor A. McDonald \_\_\_\_\_  
Councillor A. Bugelli \_\_\_\_\_  
Deputy Mayor S. Densham \_\_\_\_\_  
Mayor F. Landry \_\_\_\_\_

## APPENDIX H

### AGENCY CONSULTATION & PERMITS



**PERMIT FOR DEVELOPMENT ACTIVITY WITHIN A REGULATED AREA**

Section 28.1 of the *Conservation Authorities Act*, R.S.O. 1990, c. C.27  
& Ontario Regulation 41/24: Prohibited Activities, Exemptions and Permits



**Permit Holder:** Alain Leduc  
16999 MacKillican Road  
Moose Creek, ON  
K0C 1W0

**Decision:** **Approved With Conditions**

**Issued:** October 3, 2024  
**Expires:** October 3, 2026

**Work Description:** Enclosure of the McRae Branch of the McKenzie Drain

**Location:** Lot 9, Concession 7, Former Township of Roxborough  
County Road 22, North Stormont Township  
Roll No. 041101600948800 & 041101600949001

The attached Schedules form part of this permit for the approved work and must be implemented in accordance with the stated conditions. A copy of this permit must be kept at the worksite.

The Permit Holder, by acceptance and in consideration of the issuance of this permit, agrees to the permit conditions.

Dated at Finch, Ontario, this 3<sup>rd</sup> day of October 2024.

Jennifer Boyer, M.Sc., MCIP RPP

Managing Director, Approvals  
South Nation Conservation  
[jboyer@nation.on.ca](mailto:jboyer@nation.on.ca)



### **SCHEDULE A: WORK DESCRIPTION**

SNC understands the following work will be completed (the "Work"):

1. The applicant proposes to enclose a portion of the McRae Branch of the McKenzie Municipal Drain.
2. A 600mm diameter smooth wall HDPE pipe will be used to enclose 1,200m of the McRae Branch of the McKenzie Municipal Drain.

The details of the Work are outlined in the following documents forwarded to SNC:

1. South Nation Conservation Section 28.1 Permit Application Form – Signed by Alain Leduc, dated May 10, 2024, signed by Monica Shade, dated May 22, 2024.
2. Drawing: "Misc. Cross Sections and Erosion and Sediment Control Measures", prepared by Shade Group, dated Sept 13, 2024.
3. Drawing: "Profile View – Previously Completed Enclosure", prepared by Shade Group, dated Sept 13, 2024.
4. Drawing: "Profile View – Proposed Enclosure", prepared by Shade Group, dated Sept 13, 2024.
5. Drawing: "Watershed Map Plan View", prepared by Shade Group, dated July 16, 2024.
6. Report: "McRae Municipal Drain, Hydrologic and Hydraulic Analysis Brief", prepared by Headway Engineering, revised July 12, 2024, stamped by S.G.R. Brickman.
7. Comment response letter, dated July 16, 2024, signed by Monica Shade.



### **SCHEDULE B: CONDITIONS**

The Permit Holder must adhere to the following conditions for permit compliance:

1. Erosion Control

- a) 8 metres of rock is proposed at the outlet of the pipe to prevent erosion. A strawbale check dam is proposed as a temporary erosion control measure.
- b) The Permit Holder must ensure no erosion occurs in or near a watercourse or waterbody that is in proximity to the Work.
- c) In the event of unexpected rainfall, any fill that is removed from the site and placed on the shore (above the high-water mark) is to be properly stabilized as required through the implementing of appropriate erosion control measures.
- d) SNC may visit the Work location anytime from application submittal through to the expiration of the permit to inspect the implementation of erosion control measures on site. SNC shall give reasonable notice of the entry to the Permit Holder or occupier of the property.
- e) Disturbed areas must be stabilized and revegetated as required upon completion of Work and restored to a pre-disturbed state or better.



**SCHEDULE C: ADDITIONAL COMMENTS**

SNC makes the following additional comments:

1. This permit does not review, certify, or provide permission for any works that may be located outside the above noted property boundary.
2. Nothing in this permit relieves the Permit Holder(s) from obtaining, where necessary, regulatory approval from any other agency, government including the Majesty the King in Right of Ontario, municipality, landowner, or authority having legal jurisdiction regarding development at the above noted location or any adjacent lands that may be impacted by the Work. SNC makes no representation and has made no representation as to whether the Permit Holder(s) must obtain any other approval(s) regarding the Work. SNC hereby confirms that it is the Permit Holder(s)' sole and complete responsibility to ensure that it applies for and obtains all necessary regulatory approvals prior to undertaking the Work.
3. Permit review completed by L. Crites. Technical review completed by M. Rajaie and S. Zand.



## **SCHEDULE D: GENERAL CONDITIONS**

### **1. Term**

This permit is valid for 24 months from the date of issuance. No notice will be issued on expiration. It is the responsibility of the Permit Holder to ensure a valid permit is in effect at the time the Work is occurring. The Permit Holder may, at least 60 days before the expiry of the permit, apply to SNC and pay a fee for an extension of the permit.

### **2. Other Permits and Permissions**

This permit does not relieve the Permit Holder of the responsibility to obtain any other documents or permits that the Work may require from the Government of Canada, the Government of Ontario, or the local municipality. It is the responsibility of third-party agents to secure property owner permission to undertake the Work.

### **3. Right to Hearing**

A Permit Holder who disagrees with the conditions attached to their permit has the right to request a hearing before the SNC Board of Directors. Please contact our office for further details.

### **4. Property Entry**

SNC may enter the subject property where the Work is taking place during the permit's period of validity to ensure compliance with the conditions of the permit. SNC shall give reasonable notice of the entry to the Permit Holder or occupier of the property.

### **5. Cancellation of Permit**

SNC may cancel a permit or change the permit conditions if:

- a) false information was submitted as part of the permit application; or
- b) the Work deviates from the conditions of the permit without SNC's prior written approval.

### **6. Offences**

It is an offence to undertake work in a regulated area without a permit or to contravene the conditions of a permit. A person who commits an offence under the *Conservation Authorities Act* is liable on conviction:

- a) in the case of an individual,
  - (i) to a fine of not more than \$50,000 or to a term of imprisonment of not more than three months, or to both, and





- (ii) to an additional fine of not more than \$10,000 for each day or part of a day on which the offence occurs or continues; and
- b) in the case of a corporation,
  - (i) to a fine of not more than \$1,000,000, and
  - (ii) to an additional fine of not more than \$200,000 for each day or part of a day on which the offence occurs or continues.

Despite the maximum fines, a court that convicts a person of an offence may increase the fine it imposes on the person by an amount equal to the amount of the monetary benefit that was acquired by the person, or that accrued to the person, as a result of the commission of the offence.

In addition to any other remedy or penalty provided by law, the court, upon convicting a person of an offence, may order the convicted person to,

- a) remove, at the convicted person's expense, any development within such reasonable time as the court orders; and
- b) take such actions as the court directs, within the time the court may specify, to repair or rehabilitate the damage that results from or is in any way connected to the commission of the offence.

## **7. Liability**

The Permit Holder acknowledges that the sole function of this permit is to confirm the Work is consistent with Part VI of the *Conservation Authorities Act*, O. Reg. 41/24, and SNC policies. SNC makes no representations or warranties regarding any other aspect of the Work.

By accepting this permit, the Permit Holder agrees:

- a) to indemnify and save harmless, SNC and its officers, employees, and agents, from and against all damage, injury, loss, costs, claims, demands, actions, and proceedings, arising out of or resulting from any act or omission of the Permit Holder or of any of their agents, employees, or contractors relating to any of the particular terms or conditions of this permit; and
- b) that this permit shall not release the Permit Holder from any legal liability or obligation and remains in force subject to all limitations, requirements, and liabilities imposed by law.

SNC assumes no responsibility or liability for flood, erosion, or slope failure damage that may occur to the subject property, nor any activity undertaken by the Permit Holder affecting the property interests of adjacent landowners.



Fisheries and Oceans  
Canada

Ontario and Prairies Region  
Fish and Fish Habitat  
Protection Program  
867 Lakeshore Road  
Burlington, ON L7S 1A1

Pêches et Océans  
Canada

Région de l'Ontario et des Prairies  
Programme de la protection  
du poisson et de son habitat  
867 Lakeshore Road  
Burlington, ON L7S 1A1

*Your file    Votre référence*

24-HCAA-01176

September 6, 2024

Alain & Susan Leduc  
16999 Mackillican Rd RR 1  
Moose Creek, ON K0C 1W0

**Subject: Drain Enclosure, McRae Branch of the McKenzie Drain, North Stormont  
– Implementation of Measures to Avoid and Mitigate the Potential for  
Prohibited Effects to Fish and Fish Habitat**

Dear Alain & Susan Leduc:

The Fish and Fish Habitat Protection Program (the Program) of Fisheries and Oceans Canada (DFO) received your proposal on May 23<sup>rd</sup>, 2024. We understand that you propose to:

- Enclose approximately 1,200 linear m of the McRae Branch of the McKenzie municipal class F drain running through agricultural land.

We understand that you propose to formally abandon both the Currier and Villeneuve Drains. These drains have been partially enclosed already. In addition, these drains enclosures are linked to an occurrence file 24-HCAA-01926 which concluded with a letter outlining implications under the *Fisheries Act*.

Our review considered the following information:

- Request for Review and supporting documents received on May 23<sup>rd</sup>, 2024.
- Call with Monica Shade (Shade Group Inc.) and Sean MacDonald (Township Drainage consultant) on July 30<sup>th</sup>, 2024.
- Additional information provided by Monica Shade and Sean MacDonald following up the call from July 30<sup>th</sup>, 2024.

Your proposal has been reviewed to determine whether it is likely to result in:

- the death of fish by means other than fishing and the harmful alteration, disruption or destruction of fish habitat which are prohibited under subsections 34.4(1) and 35(1) of the *Fisheries Act*; and
- effects to listed aquatic species at risk, any part of their critical habitat or the residences of their individuals in a manner which is prohibited under sections 32, 33 and subsection 58(1) of the *Species at Risk Act*. ; and

Canada

The aforementioned outcomes are prohibited unless authorized under their respective legislation and regulations.

To avoid and mitigate the potential for prohibited effects to fish and fish habitat (as listed above), we recommend implementing the measures outlined in your plan, in addition to the following listed below:

- Plan in-water work, undertaking or activity to respect timing windows (i.e. NO in-water work between March 15 – July 15).
- Develop and implement an Erosion and Sediment Control Plan to avoid the introduction of sediment into any waterbody during all phases of the work, undertaking or activity.
- Restore the banks and riparian vegetation to their natural state, with native species suitable for the site.
- Operate machinery in a manner that minimizes disturbance to the banks of the watercourse.
- Aquatic invasive species are introduced and spread through transporting sands and sediments and using contaminated construction equipment. To prevent the spread of aquatic invasive species during construction in aquatic environments:
  - Clean, drain and dry any equipment used in the water; and,
  - Never move organisms or water from one body of water to another.

Provided that you incorporate these measures into your plans, the Program is of the view that your proposal will not require an authorization under the *Fisheries Act* or permit under the *Species at Risk Act*.

Should your plans change or if you have omitted some information in your proposal, further review by the Program may be required. Consult our website (<http://www.dfo-mpo.gc.ca/pnw-ppe/index-eng.html>) or consult with a qualified environmental consultant to determine if further review may be necessary. It remains your responsibility to remain in compliance with the *Fisheries Act*, the *Species at Risk Act* and the *Aquatic Invasive Species Regulations*.

It is also your *Duty to Notify* DFO if you have caused, or are about to cause, the death of fish by means other than fishing and/or the harmful alteration, disruption or destruction of fish habitat. Such notifications should be directed to (<http://www.dfo-mpo.gc.ca/pnw-ppe/contact-eng.html>).

Notify this office at least 10 days before starting any in-water works. Send your notification to Kirsten Luck ([kirsten.luck@dfo-mpo.gc.ca](mailto:kirsten.luck@dfo-mpo.gc.ca)) and the DFO 10 notification mailbox: [DFO.OP.10DayNotification-Notification10Jours.OP.MPO@dfo-mpo.gc.ca](mailto:DFO.OP.10DayNotification-Notification10Jours.OP.MPO@dfo-mpo.gc.ca). A copy of this letter should be kept on site while the work is in progress. It remains your responsibility to meet all other federal, territorial, provincial and municipal requirements that apply to your proposal.

If you have any questions with the content of this letter, please contact Kirsten Luck at our Burlington office at (506) 269-5694 or by email at [kirsten.luck@dfo-mpo.gc.ca](mailto:kirsten.luck@dfo-mpo.gc.ca). Please refer to the file number referenced above when corresponding with the Program.

Yours sincerely,



Elyjah Schimmens  
A/Senior Biologist  
Fish and Fish Habitat Protection Program  
Fisheries and Oceans Canada

COPY: Kirsten Luck – Fisheries and Oceans Canada  
Sean MacDonald – Township of North Stormont Drainage Superintendent  
consultant



**PERMIT FOR DEVELOPMENT ACTIVITY WITHIN A REGULATED AREA**

Section 28.1 of the *Conservation Authorities Act*, R.S.O. 1990, c. C.27  
& Ontario Regulation 41/24: Prohibited Activities, Exemptions and Permits



**Permit Holder:** United Counties of SDG  
Care of: Dana Grant  
26 Pitt Street  
Cornwall, ON  
K6J 3P2

**Decision:** **Approved With Conditions**

**Issued:** December 3, 2024  
**Expires:** December 3, 2026

**Work Description:** Relocate Municipal Drains as part of the County Road 22  
Reconstruction Project

**Location:** County Road 22, from Highway 138 to the Urban Limit of Maxville  
Township of North Stormont  
Geographic Township of Roxborough

The attached Schedules form part of this permit for the approved work and must be implemented in accordance with the stated conditions. A copy of this permit must be kept at the worksite.

The Permit Holder, by acceptance and in consideration of the issuance of this permit, agrees to the permit conditions.

Dated at Finch, Ontario, this 3<sup>rd</sup> day of December 2024.

Jennifer Boyer, M.Sc., MCIP RPP  
Managing Director, Approvals

South Nation Conservation  
[jboyer@nation.on.ca](mailto:jboyer@nation.on.ca)



### **SCHEDULE A: WORK DESCRIPTION**

SNC understands the following work will be completed (the "Work"):

1. County Road 22 will be reconstructed from Highway 138 to Roxborough Kenyon Boundary Road. The reconstruction design includes the relocation of several Municipal drain segments where the road will be widened.
2. The Permit Holder identified 8 locations where the road reconstruction will interfere with a watercourse:
  - I. **Howes Branch of the McKenzie Municipal Drain:** located across the road from 17404 County Road 22 and flows east to the southwest corner of 17499 County Road 22.
    - Approximately 650m of the drain will be relocated further away from the road. The proposed drain alignment does not differ substantially from the existing alignment. Along the front of residential properties, the municipal drain will follow the existing alignment and be enclosed.
  - II. **McRae Branch of the McKenzie Municipal Drain:** located on the southeast corner of 17499 County Road 22 and flows east for 180m.
    - 180m of the drain will be relocated further away from the road. The municipal drain will follow the existing alignment and be enclosed.
  - III. **McRae Branch of the McKenzie Municipal Drain:** located east of 17504 County Road 22.
    - The existing culvert on County Road 22 is a 1300mm diameter corrugated steel pipe (CSP) and is proposed to be replaced with a 1600mm diameter CSP.
  - IV. **Morrow Brabec Municipal Drain:** located across the road from 17750 County Road 22 and flows east for 925m.
    - Approximately 925m of the drain will be relocated further away from the road. The relocated drain will differ from the existing



alignment by approximately 1m, north or south, varying by location along the length of the drain.

- V. **Cumming Drain:** located approximately 400m east of the entrance to 17810 County Road 22.
- The existing culvert on County Road 22 is a 1500mm diameter CSP, and is proposed to be replaced with a 1600mm diameter CSP.
- VI. **County Road Branch of the Cumming Municipal Drain:** officially located on the south side of the Road from 18032 County Road 22 and flows west for approximately 850m.
- A 900mm CSP cross culvert was installed near the western entrance at 17996 County Road 22, and the flows were directed along the north side of County Road 22. There is another cross culvert near the residential entrance at 17946, returning flows to the south side of County Road 22.
  - The existing 900mm CSP cross culvert will be removed. A new 1000mm CSP cross culvert will be installed closer to Kenyon-Roxborough Boundary Road. The municipal drain will be located on the north side of County Road 22 and flow into the Morrow Branch of the Cumming Municipal Drain.
- VII. **Morrow Branch of the Cumming Municipal Drain:** the cross culvert is located approximately 135m west of the entrance to 17946 County Road 22.
- The existing twin 1600mm CSP will be replaced with a 1200mm x 1200mm concrete box culvert.
- VIII. **Morrow Spur Branch of the Cumming Municipal Drain:** the cross culvert is located approximately 200m west of the entrance to 17946 County Road 22.
- The existing 500mm CSP will be replaced with a 600mm CSP.





The details of the Work are outlined in the following documents forwarded to SNC:

1. South Nation Conservation Section 28.1 Permit Application Form – signed by Mike Jans on June 27, 2024.
2. Letter: “RE: County Road 22 Reconstruction – Project Context and Permit Application”, signed by Mike Jans, dated May 13, 2024.
3. Technical Memorandum: “Stormont, Dundas & Glengarry Counties Road 22 Rehabilitation, Culvert Replacement Recommendations”, signed, stamped, and dated by L. Sanchez, P. Eng, on June 11, 2024.
4. Drawing Package: “County Road 22 – Reconstruction and Drainage Improvements from Highway 138 to 0.6km East of the Roxborough Kenyon Boundary Road”, signed, stamped and dated by S.J. Taylor, P.Eng, and A. Allard-Dufour, P.Eng on 6/18/2024.
5. Memorandum: “Municipal Drain Assessment”, prepared by BT Engineering, signed, stamped, and dated by L. Sanchez, P. Eng, on June 7, 2024.
6. “SNCA Comments and Response Table – 2024”, not signed, or stamped, dated 2024, received via email from Mike Jans on September 3, 2024.
7. “CR 22 – Proposed Transverse Culverts”, not signed, stamped or dated, received via email from Mike Jans on September 3, 2024.
8. “SNCA Comment and Response Table – 2024”, prepared by BT Engineering, dated 2024, not signed, or stamped, received via email from Mike Jans on October 21, 2024.
9. Email Correspondence: “Follow-up: SDG Answers to SNCA Comments- County Road 22 Reconstruction”, sent by Steve Taylor on November 15, 2024.
10. Email Correspondence: “Re: County Road 22”, sent by Michael Jans on July 26, 2024.



### **SCHEDULE B: CONDITIONS**

The Permit Holder must adhere to the following conditions for permit compliance:

1. Erosion Control

- a) The Permit Holder must ensure no erosion occurs in or near a watercourse or waterbody that is in proximity to the Work.
- b) Any fill that is removed from the site and placed on land above the high-water mark is to be properly stabilized as required through the implementing of appropriate erosion control measures.
- c) SNC may visit the Work location anytime from application submittal through to the expiration of the permit to inspect the implementation of erosion control measures on site. SNC shall give reasonable notice of the entry to the Permit Holder or occupier of the property.
- d) Disturbed areas must be stabilized and revegetated as required upon completion of Work and restored to a pre-disturbed state or better.



**SCHEDULE C: ADDITIONAL COMMENTS**

SNC makes the following additional comments:

1. According to the construction drawings, the existing twin box culverts on the McKenzie Municipal Drain will be maintained and no watercourse interference is anticipated. However, the contractor should ensure there is sufficient erosion protection at this location prior to commencing road work.
2. This permit does not review, certify, or provide permission for any works that may be located outside the above noted property boundary.
3. Nothing in this permit relieves the Permit Holder(s) from obtaining, where necessary, regulatory approval from any other agency, government including the Majesty the King in Right of Ontario, municipality, landowner, or authority having legal jurisdiction regarding development at the above noted location or any adjacent lands that may be impacted by the Work. SNC makes no representation and has made no representation as to whether the Permit Holder(s) must obtain any other approval(s) regarding the Work. SNC hereby confirms that it is the Permit Holder(s)' sole and complete responsibility to ensure that it applies for and obtains all necessary regulatory approvals prior to undertaking the Work.
4. Permit review completed by L. Crites. Technical review completed by F. Forough.



## **SCHEDULE D: GENERAL CONDITIONS**

### **1. Term**

This permit is valid for 24 months from the date of issuance. No notice will be issued on expiration. It is the responsibility of the Permit Holder to ensure a valid permit is in effect at the time the Work is occurring. The Permit Holder may, at least 60 days before the expiry of the permit, apply to SNC and pay a fee for an extension of the permit.

### **2. Other Permits and Permissions**

This permit does not relieve the Permit Holder of the responsibility to obtain any other documents or permits that the Work may require from the Government of Canada, the Government of Ontario, or the local municipality. It is the responsibility of third-party agents to secure property owner permission to undertake the Work.

### **3. Right to Hearing**

A Permit Holder who disagrees with the conditions attached to their permit has the right to request a hearing before the SNC Board of Directors. Please contact our office for further details.

### **4. Property Entry**

SNC may enter the subject property where the Work is taking place during the permit's period of validity to ensure compliance with the conditions of the permit. SNC shall give reasonable notice of the entry to the Permit Holder or occupier of the property.

### **5. Cancellation of Permit**

SNC may cancel a permit or change the permit conditions if:

- a) false information was submitted as part of the permit application; or
- b) the Work deviates from the conditions of the permit without SNC's prior written approval.

### **6. Offences**

It is an offence to undertake work in a regulated area without a permit or to contravene the conditions of a permit. A person who commits an offence under the *Conservation Authorities Act* is liable on conviction:

- a) in the case of an individual,
  - (i) to a fine of not more than \$50,000 or to a term of imprisonment of not more than three months, or to both, and



- (ii) to an additional fine of not more than \$10,000 for each day or part of a day on which the offence occurs or continues; and
- b) in the case of a corporation,
  - (i) to a fine of not more than \$1,000,000, and
  - (ii) to an additional fine of not more than \$200,000 for each day or part of a day on which the offence occurs or continues.

Despite the maximum fines, a court that convicts a person of an offence may increase the fine it imposes on the person by an amount equal to the amount of the monetary benefit that was acquired by the person, or that accrued to the person, as a result of the commission of the offence.

In addition to any other remedy or penalty provided by law, the court, upon convicting a person of an offence, may order the convicted person to,

- a) remove, at the convicted person's expense, any development within such reasonable time as the court orders; and
- b) take such actions as the court directs, within the time the court may specify, to repair or rehabilitate the damage that results from or is in any way connected to the commission of the offence.

## **7. Liability**

The Permit Holder acknowledges that the sole function of this permit is to confirm the Work is consistent with Part VI of the *Conservation Authorities Act*, O. Reg. 41/24, and SNC policies. SNC makes no representations or warranties regarding any other aspect of the Work.

By accepting this permit, the Permit Holder agrees:

- a) to indemnify and save harmless, SNC and its officers, employees, and agents, from and against all damage, injury, loss, costs, claims, demands, actions, and proceedings, arising out of or resulting from any act or omission of the Permit Holder or of any of their agents, employees, or contractors relating to any of the particular terms or conditions of this permit; and
- b) that this permit shall not release the Permit Holder from any legal liability or obligation and remains in force subject to all limitations, requirements, and liabilities imposed by law.

SNC assumes no responsibility or liability for flood, erosion, or slope failure damage that may occur to the subject property, nor any activity undertaken by the Permit Holder affecting the property interests of adjacent landowners.



Fisheries and Oceans  
Canada

Ontario and Prairies Region  
Fish and Fish Habitat  
Protection Program  
867 Lakeshore Road  
Burlington, ON L7S 1A1

Pêches et Océans  
Canada

Région de l'Ontario et des Prairies  
Programme de la protection  
du poisson et de son habitat  
867 Lakeshore Road  
Burlington, ON L7S 1A1

October 22, 2024

*Our file      Notre référence*

24-HCAA-01679

United Counties of SD&G  
ATTENTION: Michael Jans  
Manager of Infrastructure  
26 Pitt St  
Cornwall, ON  
K6J 3P2

**Subject: Drain Realignment, Road Reconstruction, County Road 22, North Stormont – Implementation of Measures to Avoid and Mitigate the Potential for Prohibited Effects to Fish and Fish Habitat**

Dear Michael Jans:

The Fish and Fish Habitat Protection Program (the Program) of Fisheries and Oceans Canada (DFO) received your proposal on July 8<sup>th</sup>, 2024. We understand that you propose to:

- Realign approximately 1,840 m of class C, E and F municipal drains to accommodate road reconstruction activities on County Road 22.
- Enclose approximately 700 m of class F municipal drains in segments running through landowner driveways.
- Replace existing culvert crossings and driveway culverts of class C, E and F municipal drains to accommodate road reconstruction activities.

Our review considered the following information:

- Request for Review and supporting documents received on July 8<sup>th</sup>, 2024.
- Call with Michael Jans (The Counties), Derek McMillan (The Counties), Andrea Doherty (DFO) and Kirsten Luck (DFO) on August 21<sup>st</sup>, 2024.
- Additional information provided by Michael Jans following up the call from August 21<sup>st</sup>, 2024.

Your proposal has been reviewed to determine whether it is likely to result in:

- the death of fish by means other than fishing and the harmful alteration, disruption or destruction of fish habitat which are prohibited under subsections 34.4(1) and 35(1) of the *Fisheries Act*; and

Canada

- effects to listed aquatic species at risk, any part of their critical habitat or the residences of their individuals in a manner which is prohibited under sections 32, 33 and subsection 58(1) of the *Species at Risk Act*; and
- The introduction of aquatic species into regions or bodies of water frequented by fish where they are not indigenous, which is prohibited under section 10 of the *Aquatic Invasive Species Regulations*.]

The aforementioned outcomes are prohibited unless authorized under their respective legislation and regulations.

To avoid and mitigate the potential for prohibited effects to fish and fish habitat (as listed above), we recommend implementing the measures outlined in your plan, in addition to the following listed below:

- Plan in-water work, undertaking or activity to respect timing windows (i.e. NO in-water work between March 15 – July 15).
- Develop and implement an Erosion and Sediment Control Plan to avoid the introduction of sediment into any waterbody during all phases of the work, undertaking or activity.
- Restore the banks and riparian vegetation to their natural state, with native species suitable for the site.
- Aquatic invasive species are introduced and spread through transporting sands and sediments and using contaminated construction equipment. To prevent the spread of aquatic invasive species during construction in aquatic environments:
  - Clean, drain and dry any equipment used in the water; and,
  - Never move organisms or water from one body of water to another.
- Replace removed trees at a 1:1 replacement ratio onto the back-slopes of the channel.
- In areas where proposed realignment overlaps with existing realignment AND takes place in a class C or E drain, conduct work in the dry. If working in the dry is not possible, work in isolation of flow with pump bypass, fish salvage and silt fencing used in workable segments.
- Replace the Cumming Main Branch culvert (CC6) in isolation of flow with pump bypass, fish salvage, silt fencing, and riprap armouring along the eroded bank.

Provided that you incorporate these measures into your plans, the Program is of the view that your proposal will not require an authorization under the *Fisheries Act* or permit under the *Species at Risk Act*.

Should your plans change or if you have omitted some information in your proposal, further review by the Program may be required. Consult our website (<http://www.dfo-mpo.gc.ca/pnw-ppe/index-eng.html>) or consult with a qualified environmental consultant to determine if further review may be necessary. It remains your responsibility to remain in compliance with the *Fisheries Act*, the *Species at Risk Act* and the *Aquatic Invasive Species Regulations*.



It is also your *Duty to Notify* DFO if you have caused, or are about to cause, the death of fish by means other than fishing and/or the harmful alteration, disruption or destruction of fish habitat. Such notifications should be directed to (<http://www.dfo-mpo.gc.ca/pnw-ppe/contact-eng.html>).

Notify this office at least 10 days before starting any in-water works. Send your notification to Kirsten Luck ([kirsten.luck@dfo-mpo.gc.ca](mailto:kirsten.luck@dfo-mpo.gc.ca)) and the DFO 10 notification mailbox: [DFO.OP.10DayNotification-Notification10Jours.OP.MPO@dfo-mpo.gc.ca](mailto:DFO.OP.10DayNotification-Notification10Jours.OP.MPO@dfo-mpo.gc.ca). A copy of this letter should be kept on site while the work is in progress. It remains your responsibility to meet all other federal, territorial, provincial and municipal requirements that apply to your proposal.

If you have any questions with the content of this letter, please contact Kirsten Luck at our Burlington office at (506) 269-5694 or by email at [kirsten.luck@dfo-mpo.gc.ca](mailto:kirsten.luck@dfo-mpo.gc.ca). Please refer to the file number referenced above when corresponding with the Program.

Yours sincerely,



Elyjah Schimmens  
A/Senior Biologist  
Fish and Fish Habitat Protection Program  
Fisheries and Oceans Canada

COPY: Kirsten Luck – Fisheries and Oceans Canada

**THE CORPORATION OF THE TOWNSHIP OF NORTH STORMONT**

**BY-LAW NO. 18-2025**

**BEING** a By-law to adopt, confirm and ratify matters dealt with by resolution.

**WHEREAS** the *Municipal Act, 2001*, c. 25 s. 5 (1) provides that the powers of a municipal corporation are to be exercised by its Council;

**AND WHEREAS** the *Municipal Act, 2001*, c. 25 s. 5 (3) provides that the powers of every council are to be exercised by By-law;

**AND WHEREAS** in many cases, action which is taken or authorized to be taken by the Township of North Stormont does not lend itself to the passage of an individual By-law.

**NOW THEREFORE** the Council of the Corporation of the Township of the North Stormont hereby enacts as follows:

1. That the actions of Council, at its special meeting held on March 4, 2025 in respect of which recommendations, each motion and resolution passed and taken by the Township of North Stormont is, except where the prior approval of the Local Planning Appeal Tribunal or other authority is required, hereby adopted, ratified and confirmed as if all such proceedings were expressly embodied in this By-law.
2. That where no individual By-law has been or is passed with respect to the taking of any action authorized in or by the above-mentioned minutes, then this By-law shall be deemed for all purposes to be the By-law required for approving and authorizing and taking of any action authorized therein and thereby required for the exercise of any powers therein by the Township of North Stormont.
3. That the Mayor and the appropriate officers of the Township of North Stormont are hereby authorized and directed to do all things necessary to give effect to the actions of the Council of the Township of North Stormont, to obtain approvals where required and except as otherwise provided, the Mayor and CAO/Clerk are hereby directed to execute all documents necessary on behalf of the Corporation of the Township of North Stormont and to affix the corporate seal.

**READ A FIRST, SECOND AND THIRD TIME** and passed in open Council, signed and sealed this 4<sup>th</sup> day of March 2025.

\_\_\_\_\_  
François Landry, Mayor

\_\_\_\_\_  
Craig Calder, CAO/Clerk

SEAL