

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



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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

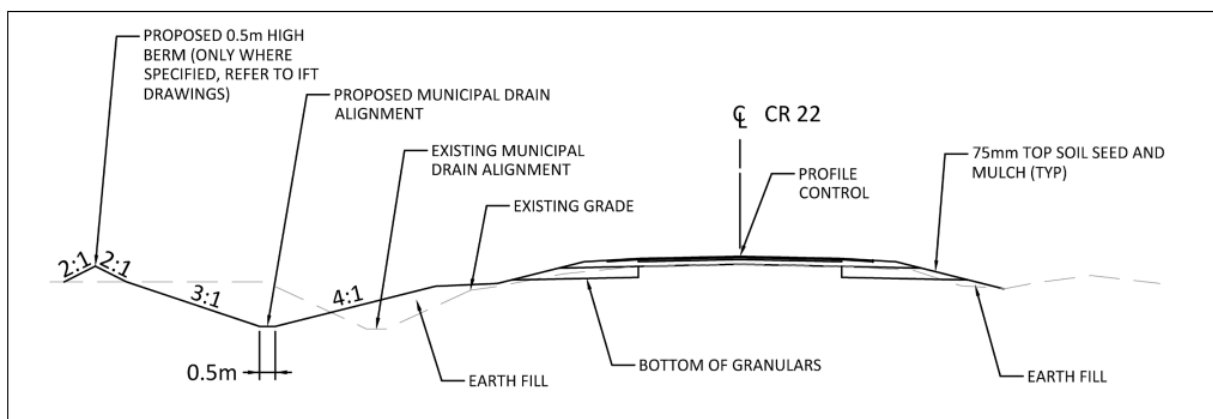


Figure 1: Typical Cross-Section - Per Municipal Drain Assessment - Technical Memorandum - Page 5

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 ^A	Column B Length at 2:1 Side Slopes ^B	Column C Difference assigned to Special Benefit ^C
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	

^A Culvert lengths are as per BTE drawings.

^B Length of culvert required if side slopes were specified at the minimum standard of 2:1.

^C 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 ^A	Column B Length at 2:1 Side Slopes ^B	Column C Difference assigned to Special Benefit ^C
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 prorated 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.

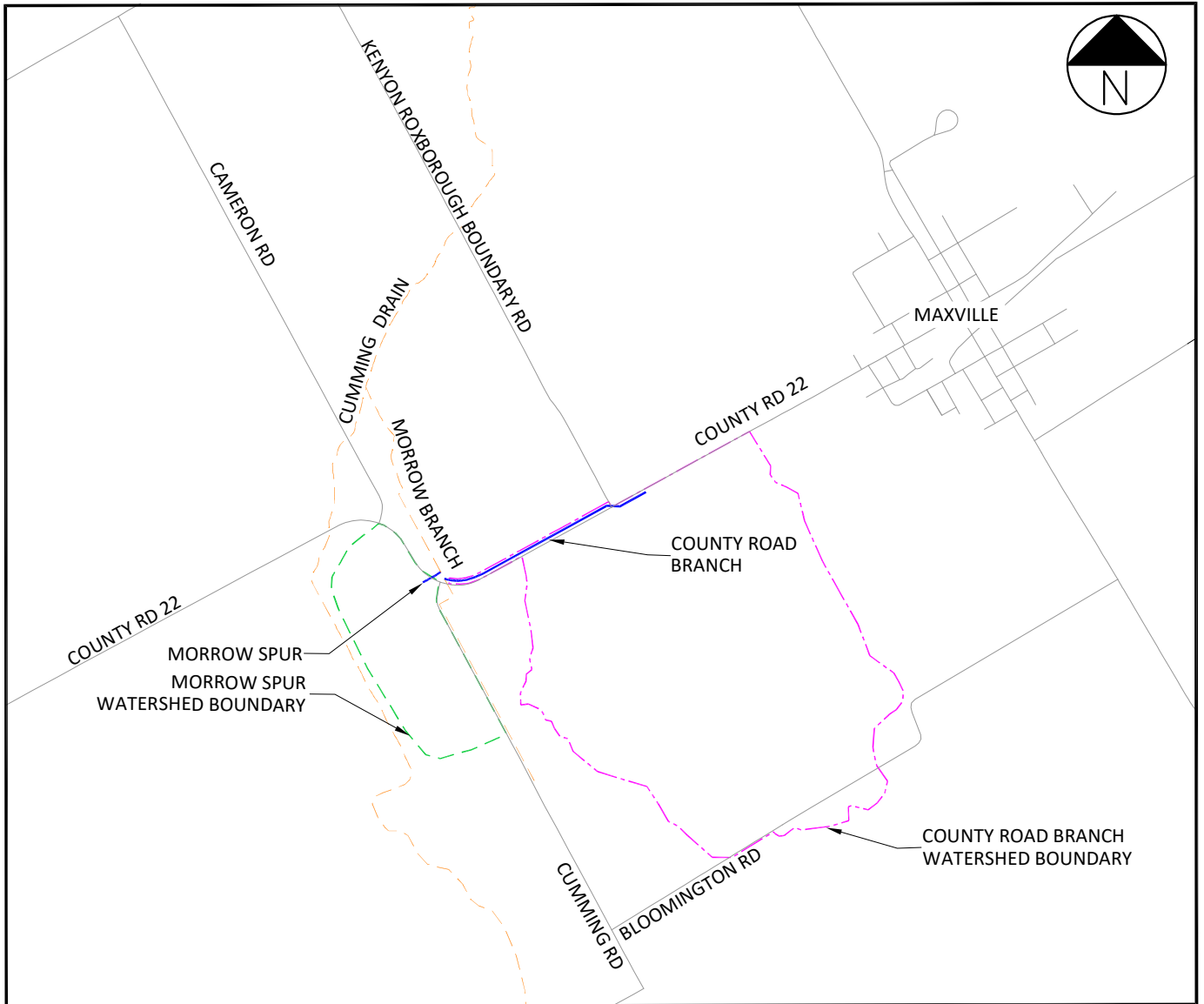
Drainage Engineer

Shade Group Inc.



APPENDIX A
LOCATION PLAN





LOCATION PLAN
N.T.S.

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



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	\$ 918.53
5	41101600835000	6	A,B	9.8	\$ 342.79	\$ -	\$ 342.79
6	41101600836000	6	A	4.3	\$ 68.78	\$ -	\$ 68.78
7	41101600834200	6	B	0.1	\$ 1.74	\$ -	\$ 1.74
8	41101600834010	6	B	0.3	\$ 10.23	\$ -	\$ 10.23
9	41101600834000	6	B	21.0	\$ 339.28	\$ -	\$ 339.28
10	41101600832102	6	B	20.3	\$ 1,347.31	\$ 276.54	\$ 1,623.85
11	41101600832100	B	B	1.0	\$ 291.65	\$ -	\$ 291.65
12	41101600831003	6	B	0.0	\$ -	\$ 204.55	\$ 204.55
15	41101600832000	6	B	7.8	\$ 125.50	\$ -	\$ 125.50
17	41101600832010	6	B	0.1	\$ 2.83	\$ -	\$ 2.83
Sub-Total					\$ 2,530.11	\$ 1,399.62	\$ 3,929.73

*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
Sub-Total (Pre-Tax/Grant)	\$ 4,337.26	\$ 2,377.21	\$ 6,714.47

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
Sub-Total					\$ 6,055.82	\$ 232.79	\$ 6,288.61

*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
Sub-Total					\$ 779.85	\$ 60.32	\$ 840.17

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

Roads

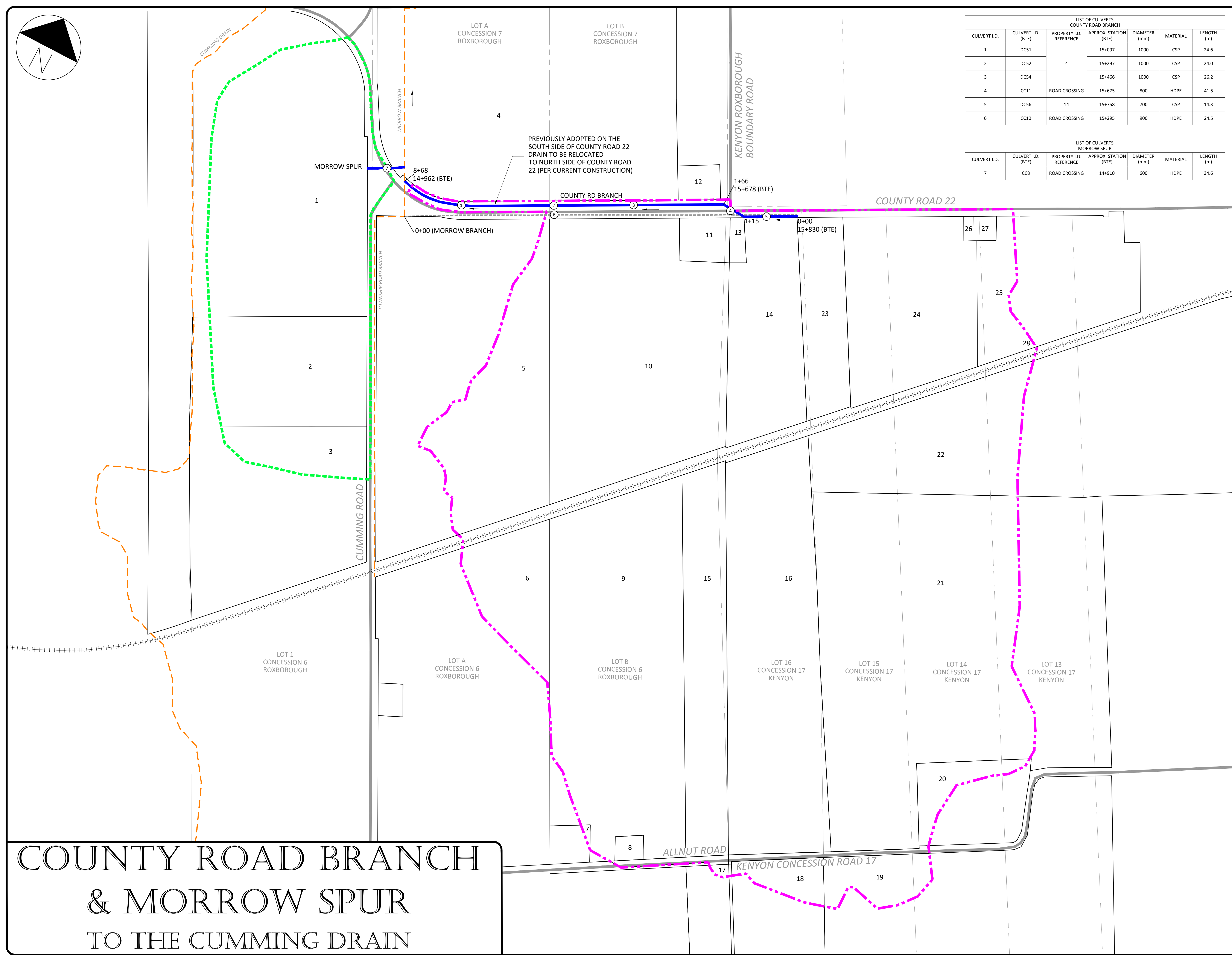
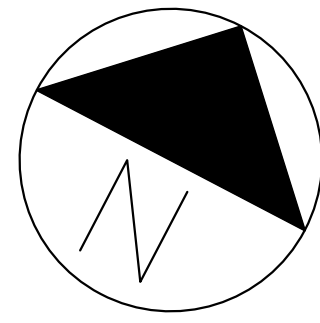
ID/Name	Owner	Outlet (\$)	Benefit (\$)	Net Assessment (\$)
Cumming Road	Township of North Stormont	\$ 37.61	\$ -	\$ 37.61
County Road 22	United Counties of Stormont, Dundas and Glengarry	\$ 82.54	\$ 39.68	\$ 122.22
Sub-Total		\$ 37.61	\$ -	\$ 37.61

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
Sub-Total (Pre-Tax/Grant)	\$ 900.00	\$ 100.00	\$ 1,000.00

APPENDIX C

ENGINEERING DRAWINGS

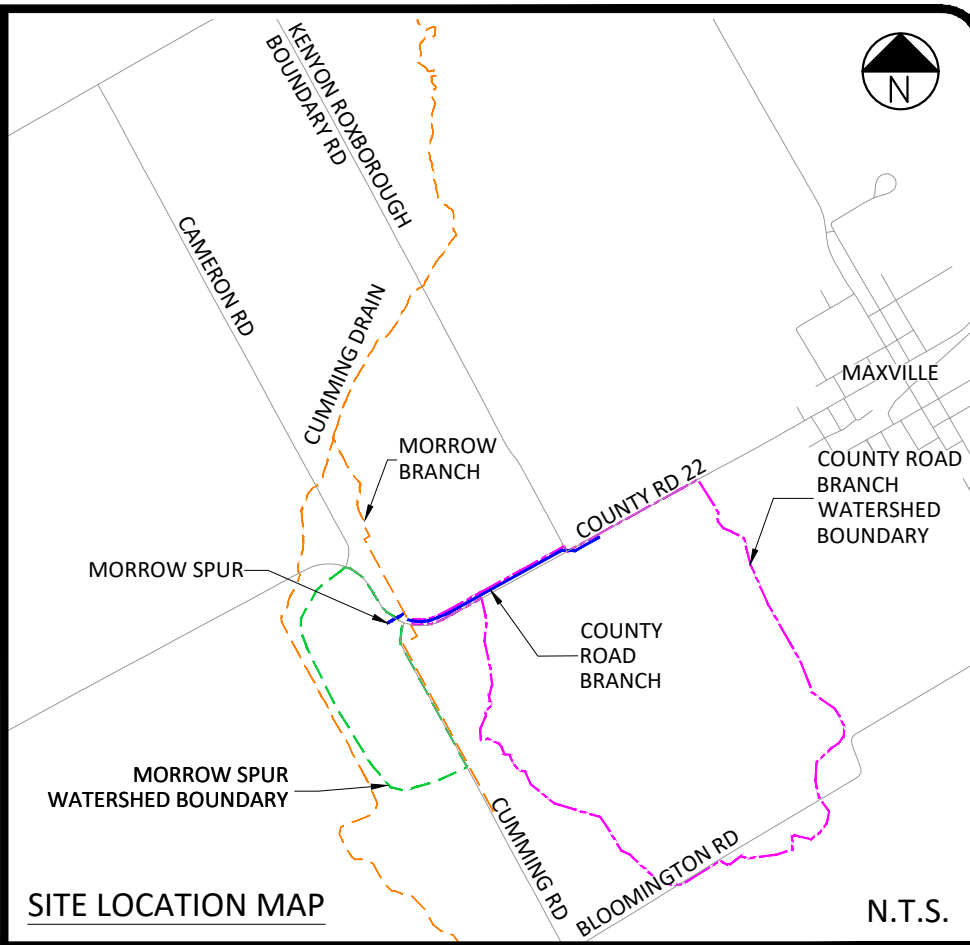


LIST OF CULVERTS
COUNTY ROAD BRANCH

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

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
- 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 1952 AND 1985 ENGINEER'S REPORT AS PREPARED BY STIDWELL & ASSOCIATES LTD.
 - 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
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REV. # REVISION DESCRIPTION DATE

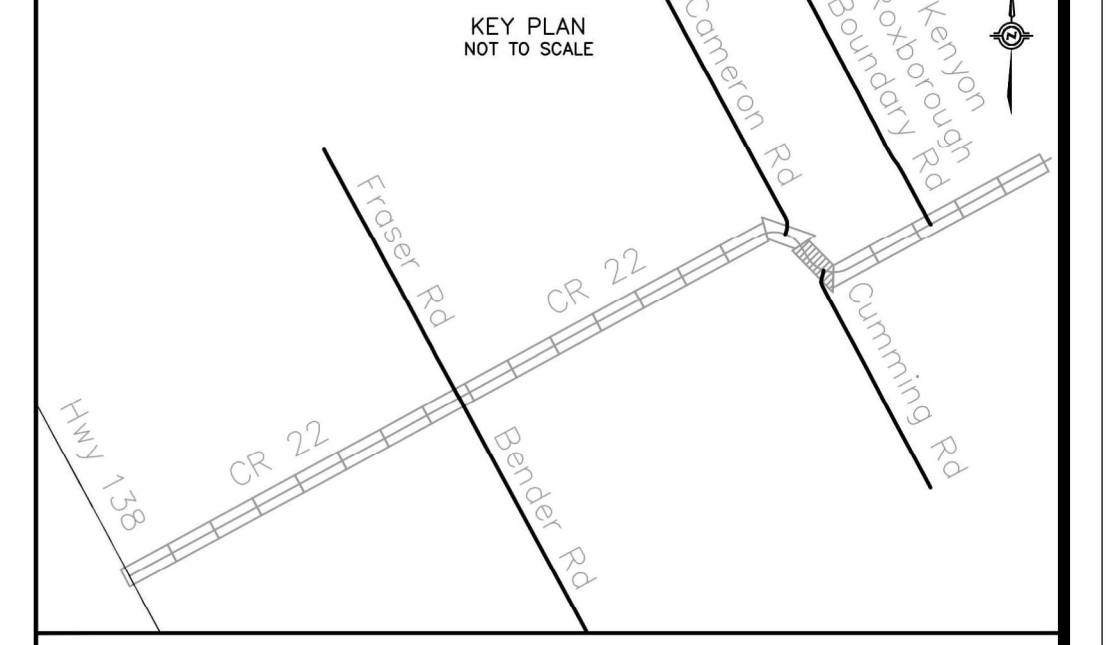
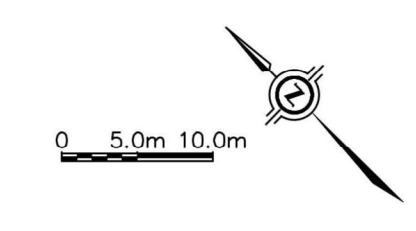
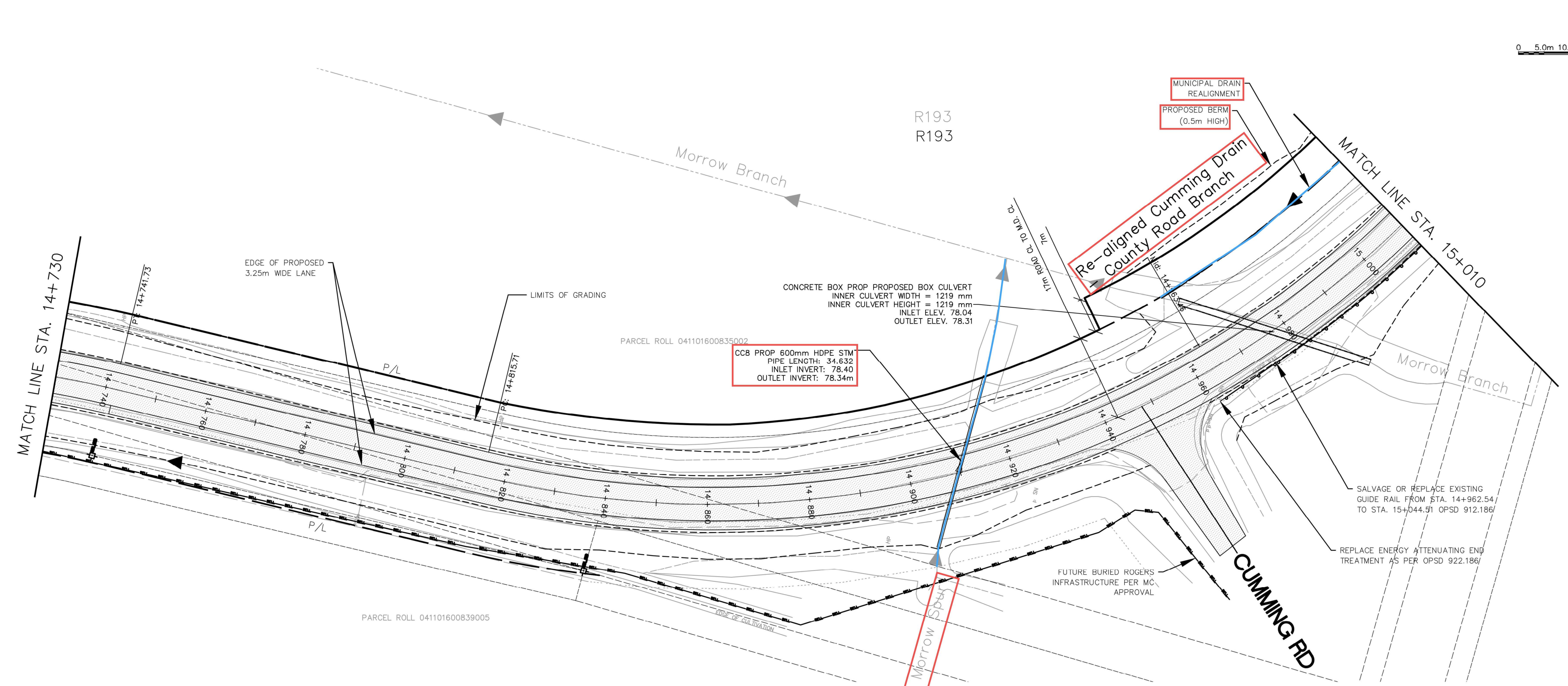
STAMP

COUNTY ROAD BRANCH & MORROW SPUR TO THE CUMMING DRAIN

PROJECT TITLE COUNTY ROAD BRANCH & THE MORROW SPUR

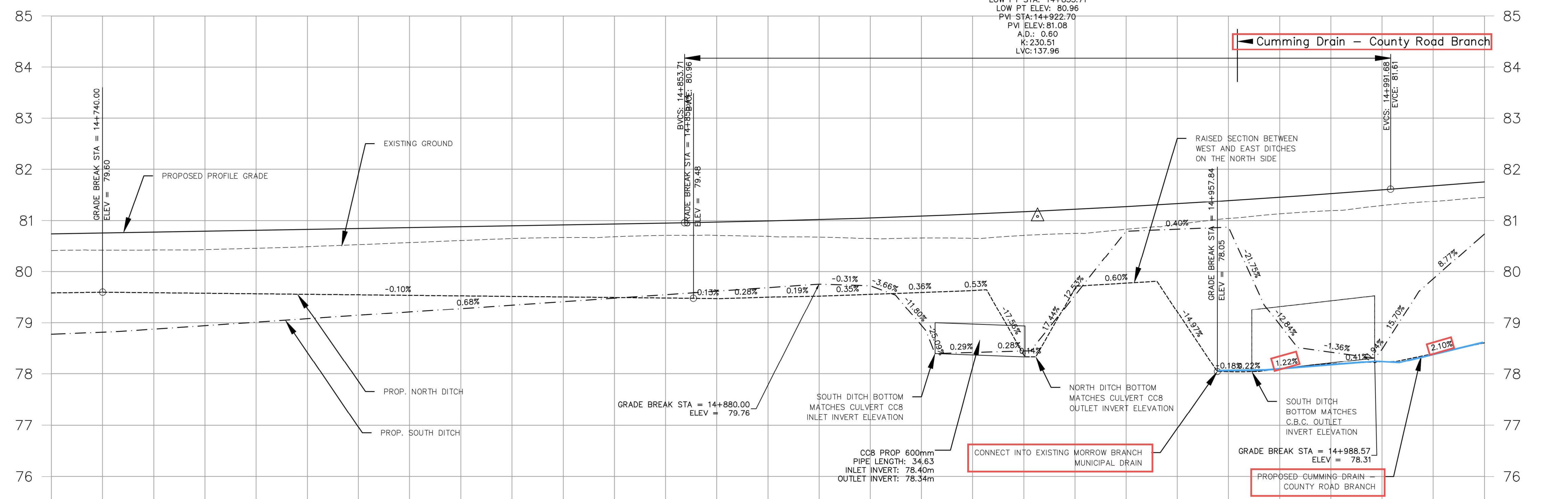
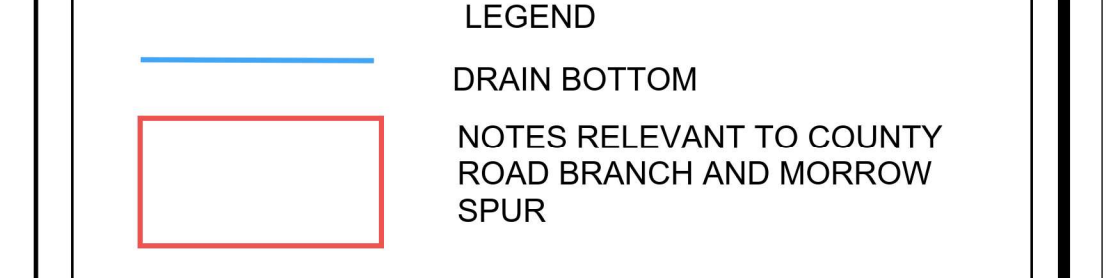
DRAWING TITLE WATERSHED MAP PLAN VIEW

DRAWING NO. 1 OF 1



STORMONT, DUNDAS AND GLENGARRY COUNTY ROAD 22

- GENERAL NOTES**
- 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.
 - DRAWINGS PLOTTED HALF SIZE (11X17) ARE NOT TO SCALE.
 - ALL DISTURBED AREAS WHERE GRADING IS REQUIRED UNLESS OTHERWISE NOTED IN PLAN SHALL BE RESTORED WITH 100mm TOPSOIL SEED & MULCH.
 - WHERE PAVED DRIVEWAY RECONSTRUCTION INDICATED IN PLAN PAVEMENT STRUCTURE SHALL BE 50mm HL3 AND PAD WITH GRANULAR 'A' AS REQUIRED. WHERE GRANULAR DRIVEWAY RECONSTRUCTION INDICATED IN PLAN RECONSTRUCT WITH GRANULAR 'A' AS REQUIRED.
 - ALL DRIVEWAY RECONSTRUCTIONS ARE TO MATCH EXISTING WIDTH AND OPSD 301.010.
 - 1.5m SHOULDER (1.0m PARTIALLY PAVED SHOULDER).
 - 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.



CHAINAGE	PROP. SOUTH CULVERT EX. ELEV. ELEV.	PROP. SOUTH EX. ELEV. ELEV.	PROP. NORTH EX. ELEV. ELEV.
14+730	79.59	78.78	80.74
14+740	79.60	78.82	80.76
14+750	79.59	78.81	80.75
14+760	79.58	78.80	80.74
14+770	79.57	78.79	80.73
14+780	79.56	78.78	80.72
14+790	79.55	78.77	80.71
14+800	79.54	78.76	80.70
14+810	79.53	78.75	80.69
14+820	79.52	78.74	80.68
14+830	79.51	78.73	80.67
14+840	79.50	78.72	80.66
14+850	79.49	78.71	80.65
14+860	79.48	78.70	80.64
14+870	79.47	78.69	80.63
14+880	79.46	78.68	80.62
14+890	79.45	78.67	80.61
14+900	79.44	78.66	80.60
14+910	79.43	78.65	80.59
14+920	79.42	78.64	80.58
14+930	79.41	78.63	80.57
14+940	79.40	78.62	80.56
14+950	79.39	78.61	80.55
14+960	79.38	78.60	80.54
14+970	79.37	78.59	80.53
14+980	79.36	78.58	80.52
14+990	79.35	78.57	80.51
15+000	79.34	78.56	80.50
15+010	79.33	78.55	80.49

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 215/10.

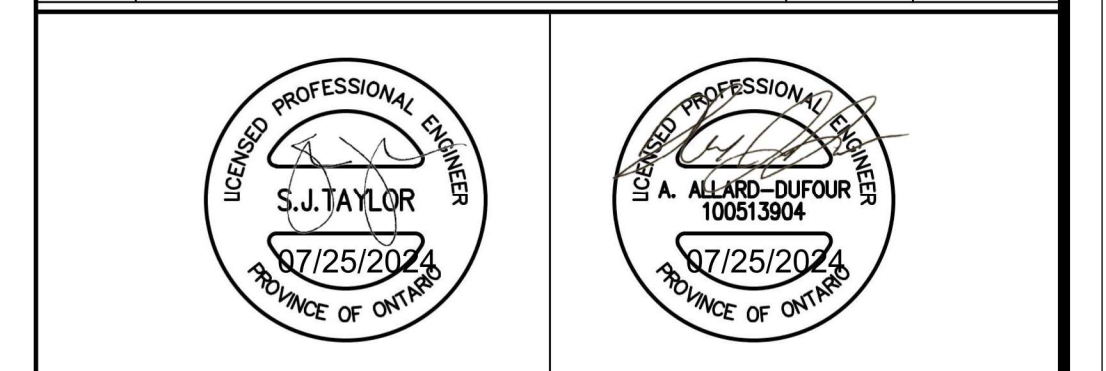
POINT ID	EASTING	NORTHING
SCP 00820170142	505 079.67	5 011 904.17
SCP 01019920466	511 131.14	5 013 326.41

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

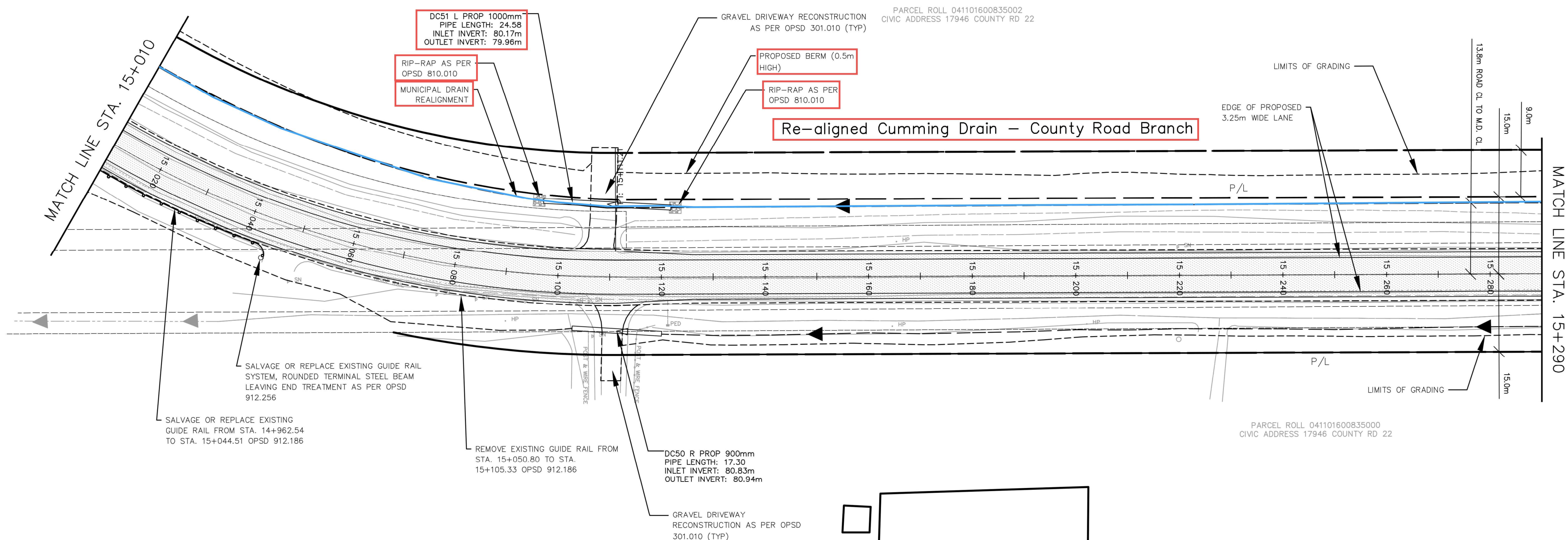
NO.	REVISIONS	DATE	APPROVED
1.	ISSUED FOR 90% REVIEW	MM/YY	S.J.T.
2.	ISSUED FOR TENDER	07/24	S.J.T.



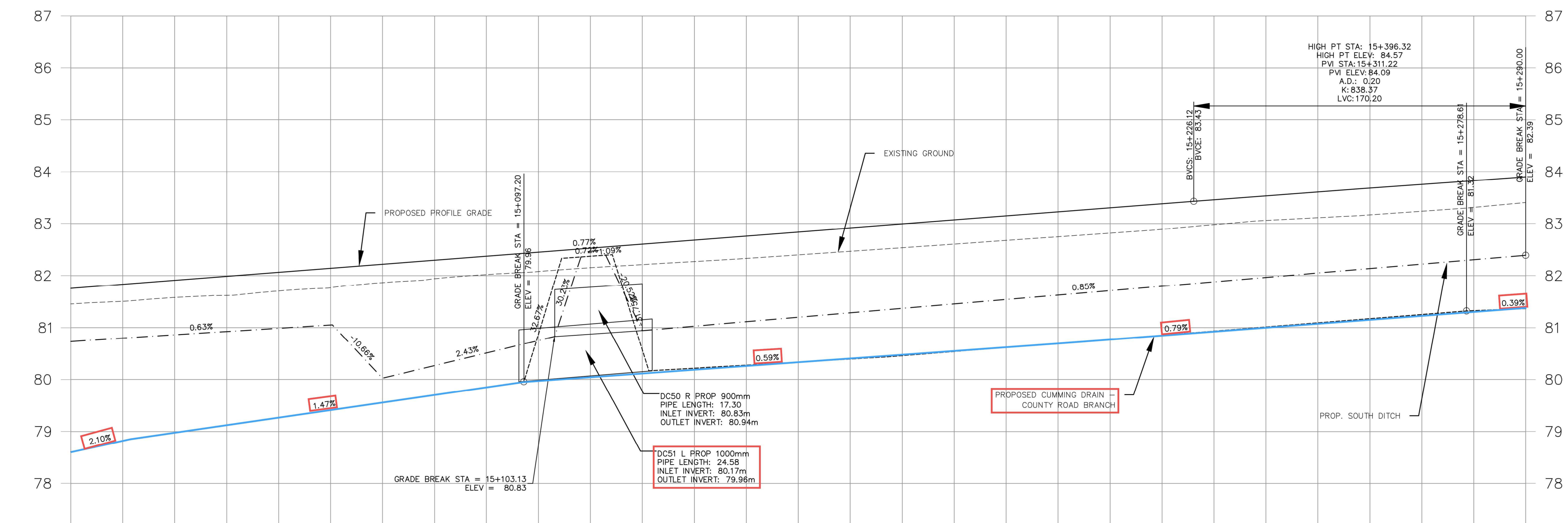
COUNTY ROAD 22
 UNITED COUNTIES OF STORMONT, DUNDAS AND GLENGARRY
 NEW CONSTRUCTION
 STA. 14+730 TO STA. 15+010

BT ENGINEERING
BTE

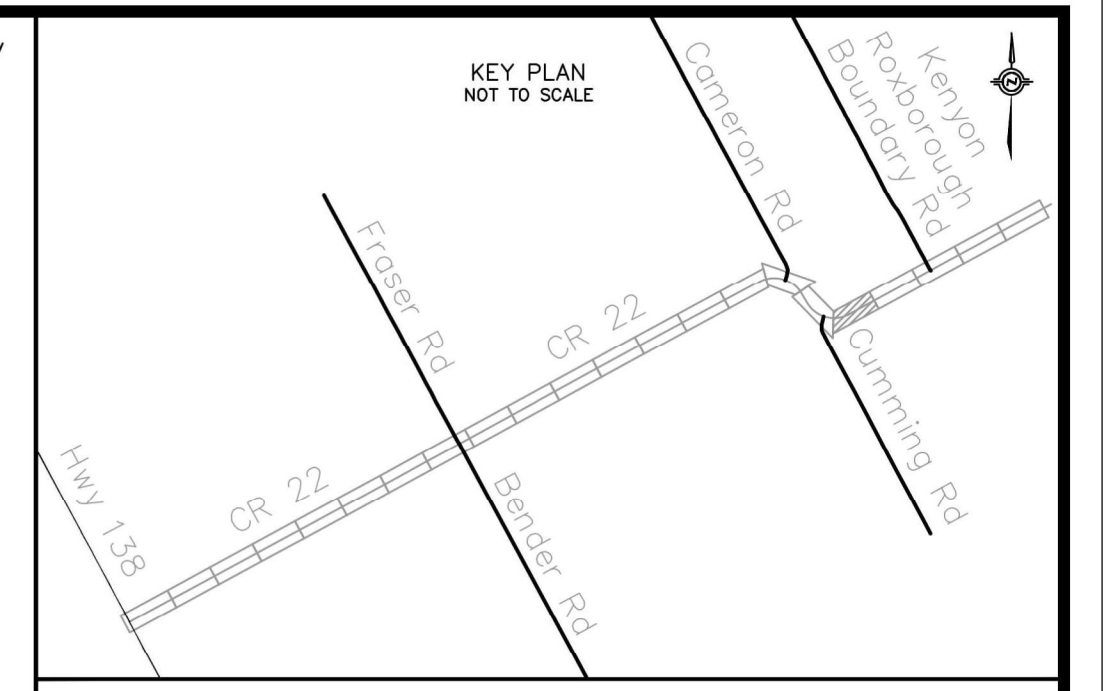
SCALE HOR. 1:500 VERT. 1:50 CONTRACT NO. 2024-22-00000
 DESIGN A.D. DRAWN A.D. SHEET NO. C-017
 REVIEWED S.J.T. DATE 2024.07



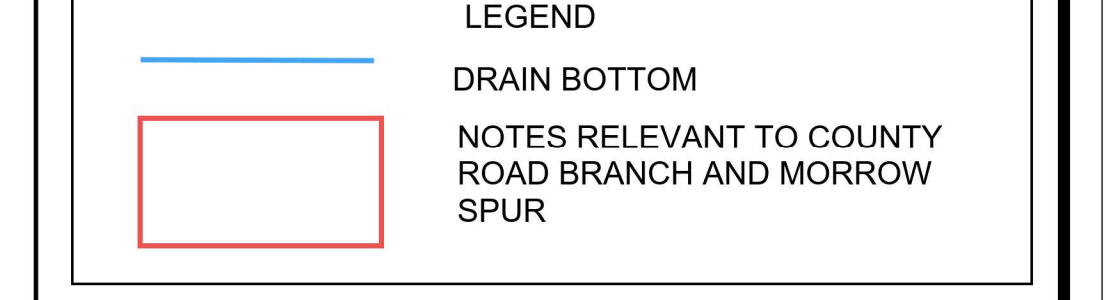
STORMONT, DUNDAS AND GLENGARRY COUNTY ROAD 22



CHAINAGE	PROP. NORTH DITCH ELEV.	PROP. SOUTH DITCH ELEV.	PROP. GRADE C/L GRADE ELEV.
15+010	79.81	79.87	81.46
15+020	78.82	80.80	81.83
15+040	79.12	80.93	81.99
15+060	79.41	81.05	82.14
15+080	79.71	80.27	82.30
15+100	79.98	80.75	82.45
15+120	80.16	80.94	82.61
15+140	80.28	81.11	82.76
15+160	80.39	81.28	82.92
15+180	80.54	81.46	83.07
15+200	80.70	81.63	83.23
15+220	80.86	81.80	83.38
15+240	81.01	81.97	83.54
15+260	81.17	82.14	83.68
15+280	81.33	82.31	83.83
15+290	81.37	82.39	83.90



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 - 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.



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 215/10.			
POINT ID	EASTING	NORTHING	
SCP 00820170142	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.			

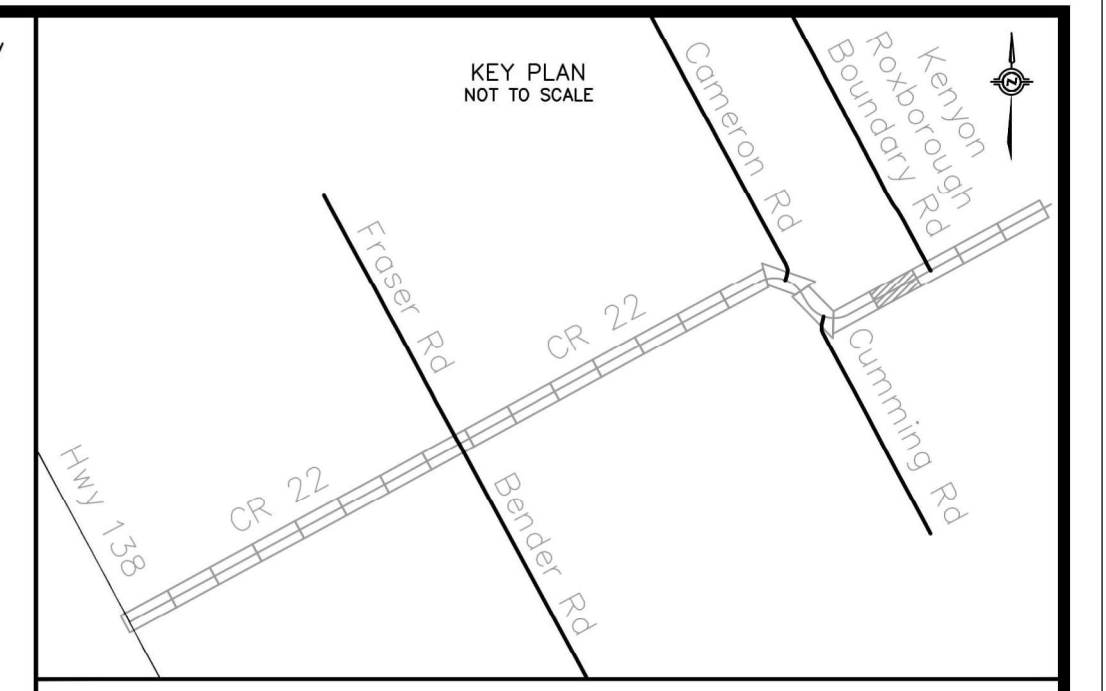
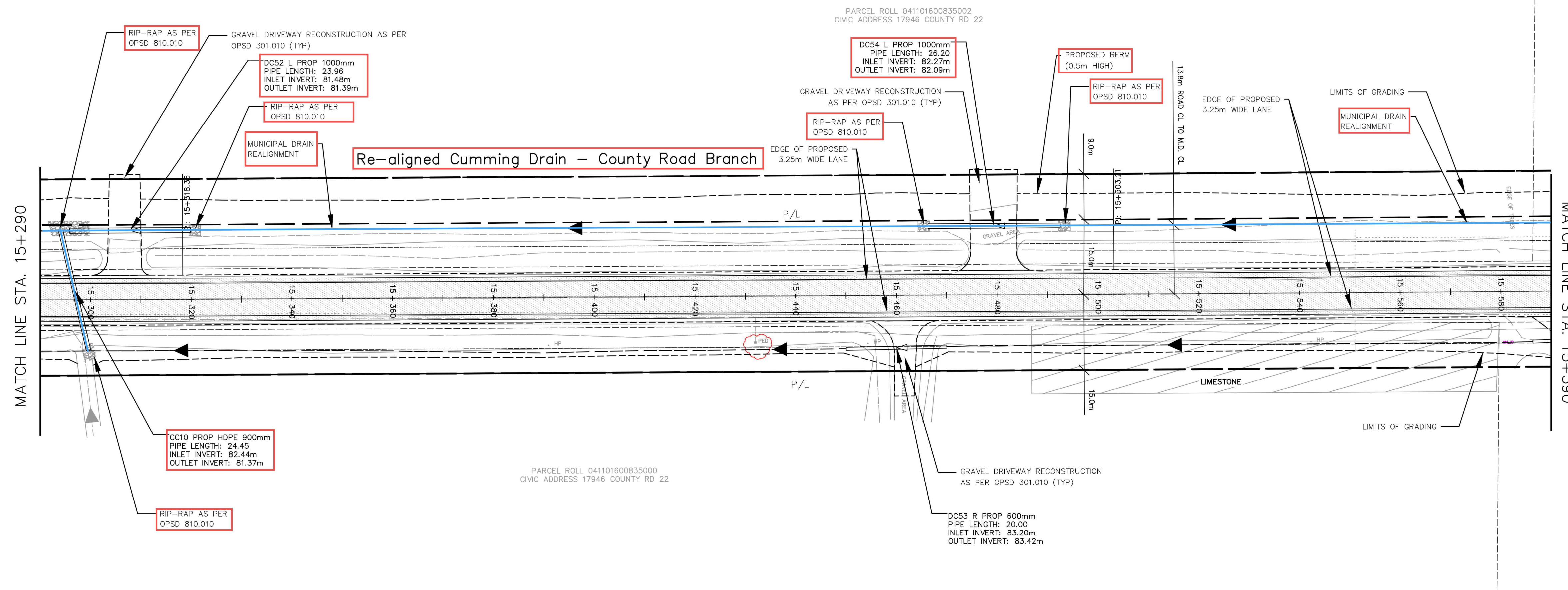
NO.	REVISIONS	DATE	APPROVED
1.	ISSUED FOR 90% REVIEW	MM/YY	S.J.T.
2.	ISSUED FOR TENDER	07/24	S.J.T.



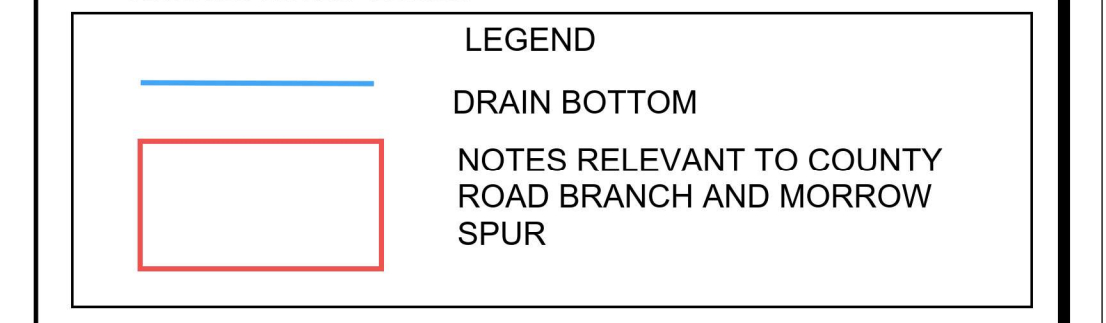
COUNTY ROAD 22
 UNITED COUNTIES OF STORMONT, DUNDAS
 AND GLENGARRY
 NEW CONSTRUCTION
 STA. 15+010 TO STA. 15+290

BT ENGINEERING
BTE

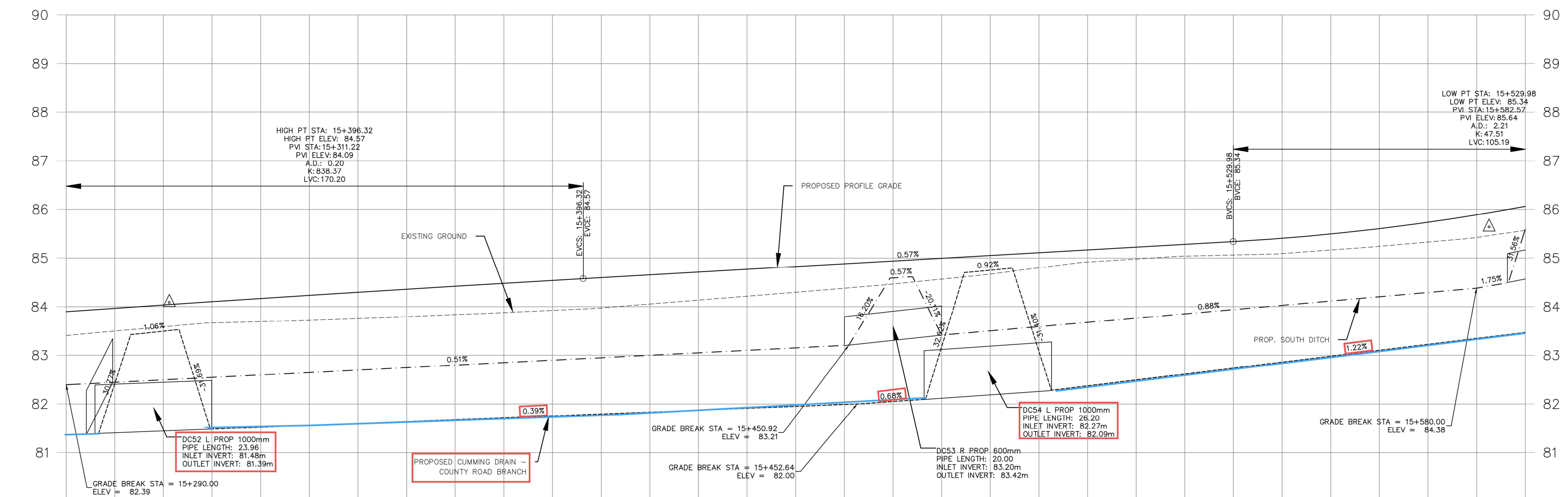
SCALE HOR. 1:500	VERT. 1:50	CONTRACT NO. 2024-22-00000
DESIGN A.D.	DRAWN A.D.	SHEET NO. C-018
REVIEWED S.J.T.	DATE 2024.07	



- 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 HL3 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
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STORMONT, DUNDAS AND GLENGARRY COUNTY ROAD 22



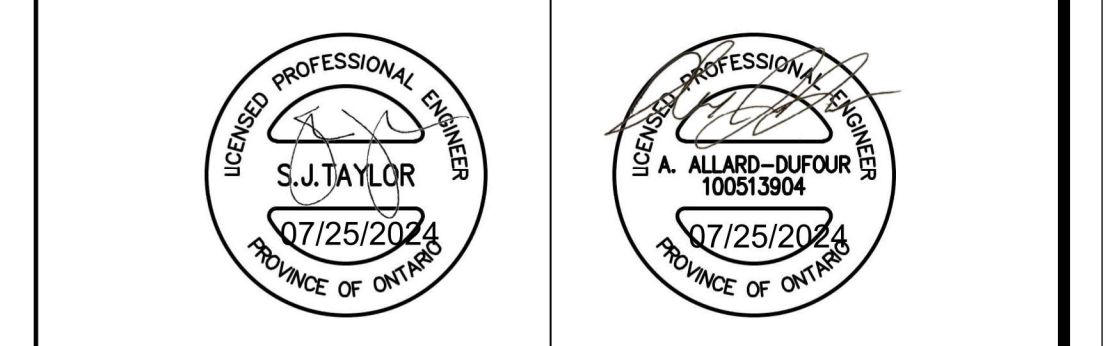
CHAINAGE	PROP. DITCH ELEV.	PROP. GRADE ELEV.	EXIST. GROUND ELEV.
15+290	81.37	82.39	82.39
15+300	81.40	82.44	83.30
15+320	81.48	82.54	84.10
15+340	81.56	82.65	84.23
15+360	81.64	82.75	84.36
15+380	81.72	82.85	84.48
15+400	81.79	82.95	84.60
15+420	81.87	83.05	84.71
15+440	81.95	83.15	84.82
15+460	82.05	83.31	84.94
15+480	82.19	83.50	85.05
15+500	82.37	83.68	85.17
15+520	82.62	83.85	85.28
15+540	82.86	84.03	85.41
15+560	83.10	84.20	85.60
15+580	83.35	84.38	85.89
15+590	83.47	84.57	86.06

BENCH MARKS

INTEGRATION DATA			
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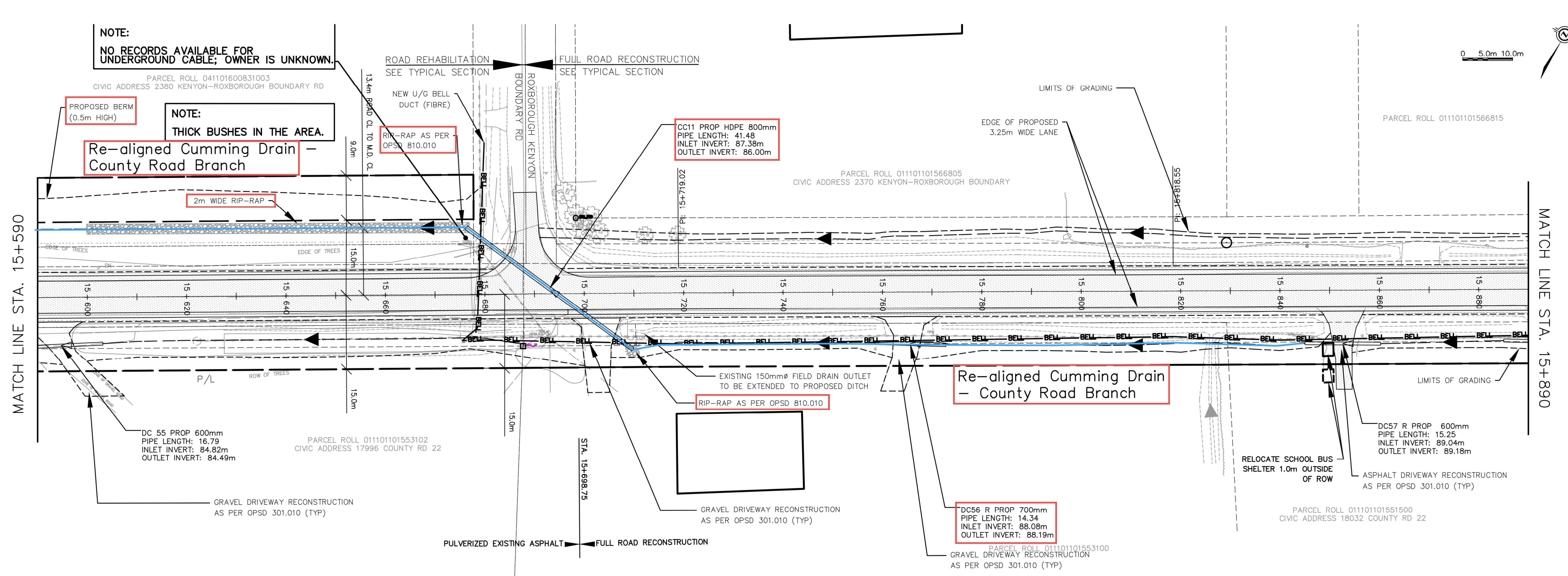
NO.	REVISIONS	DATE	APPROVED
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2.	ISSUED FOR TENDER	07/24	S.J.T.



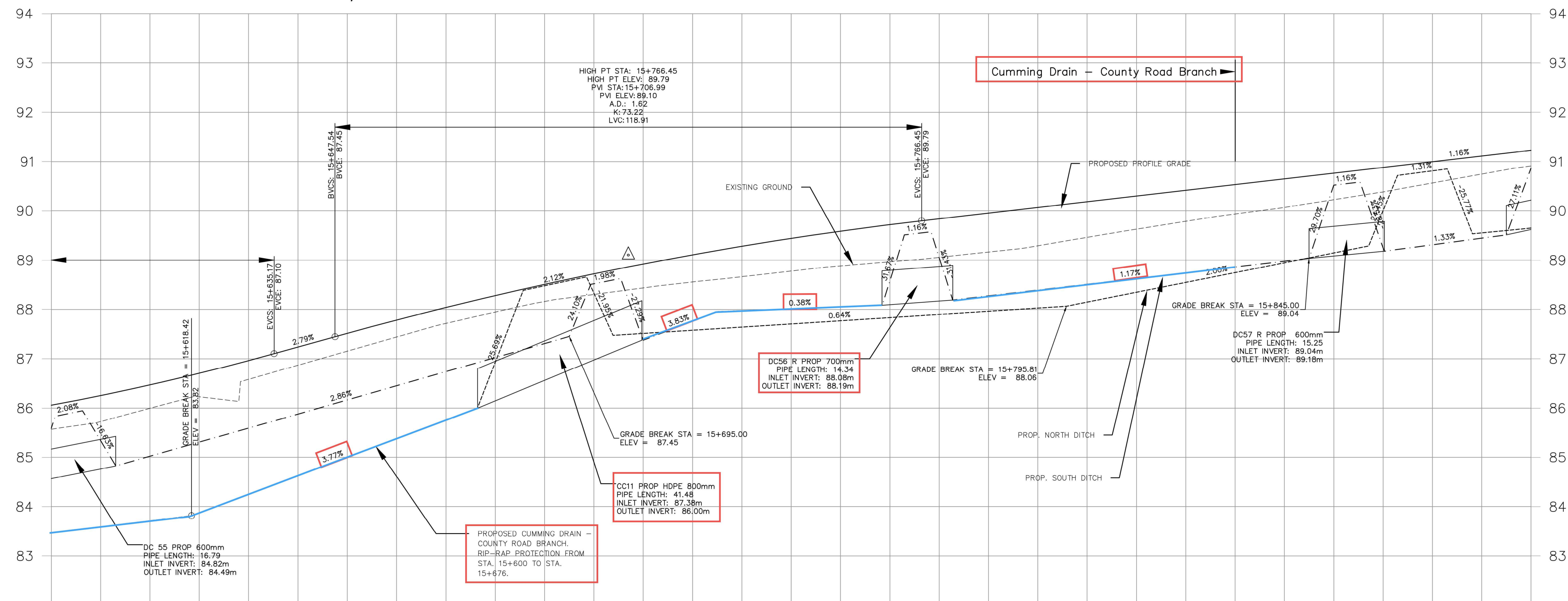
COUNTY ROAD 22
 UNITED COUNTIES OF STORMONT, DUNDAS AND GLENGARRY
 NEW CONSTRUCTION
 STA. 15+290 TO STA. 15+590

BT ENGINEERING
BTE

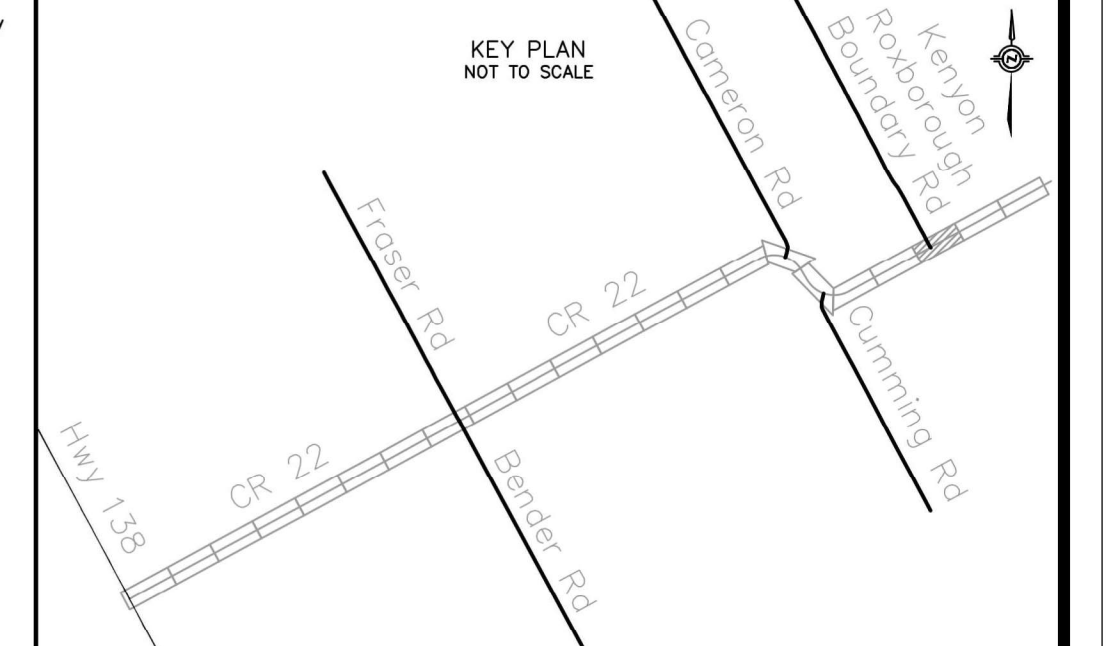
SCALE HOR: 1:500 VERT: 1:50 CONTRACT NO. 2024-22-00000
 DESIGN A.D. DRAWN A.D. SHEET NO. C-019
 REVIEWED S.J.T. DATE 2024.07



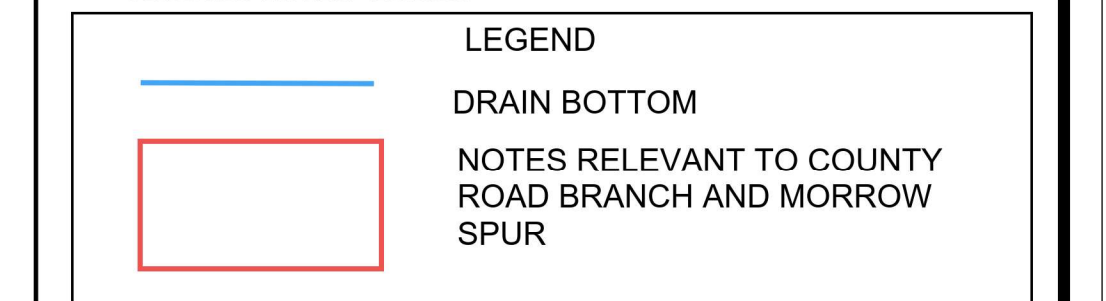
STORMONT, DUNDAS AND GLENGARRY COUNTY ROAD 22



CHAINAGE	PROP. NORTH ELEV. EX. ELEV.	PROP. SOUTH ELEV. EX. ELEV.	PROP. GRADE ELEV. EX. ELEV.
15+590	83.47	83.47	86.06
15+600	83.59	84.76	86.25
15+620	83.88	85.31	86.71
15+640	84.63	85.88	87.24
15+660	85.38	86.45	87.78
15+680	86.19	87.02	88.28
15+700	87.27	88.52	88.72
15+720	87.58	87.76	89.11
15+740	87.71	88.01	89.44
15+760	87.63	88.10	89.72
15+780	87.96	88.28	89.95
15+800	88.15	88.51	90.18
15+820	88.55	88.74	90.42
15+840	88.95	88.98	90.65
15+860	89.32	89.18	90.88
15+880	89.55	89.44	91.11
15+890	89.65	89.62	91.23



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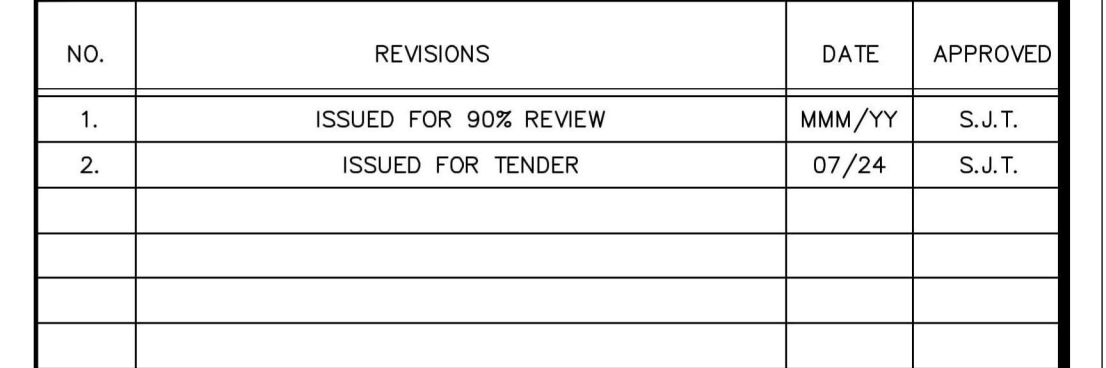
BENCH MARKS

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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	
509976.882	5014259.584	88.142	
509974.005	5014287.234	87.754	

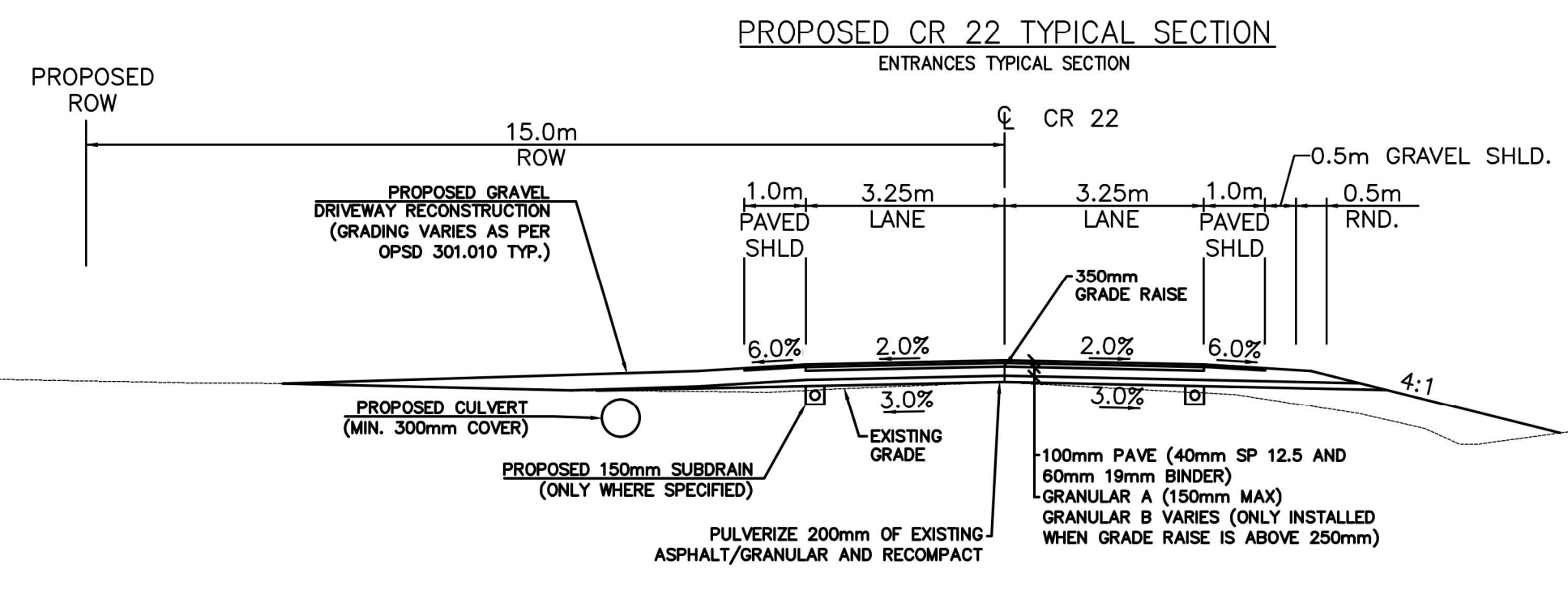
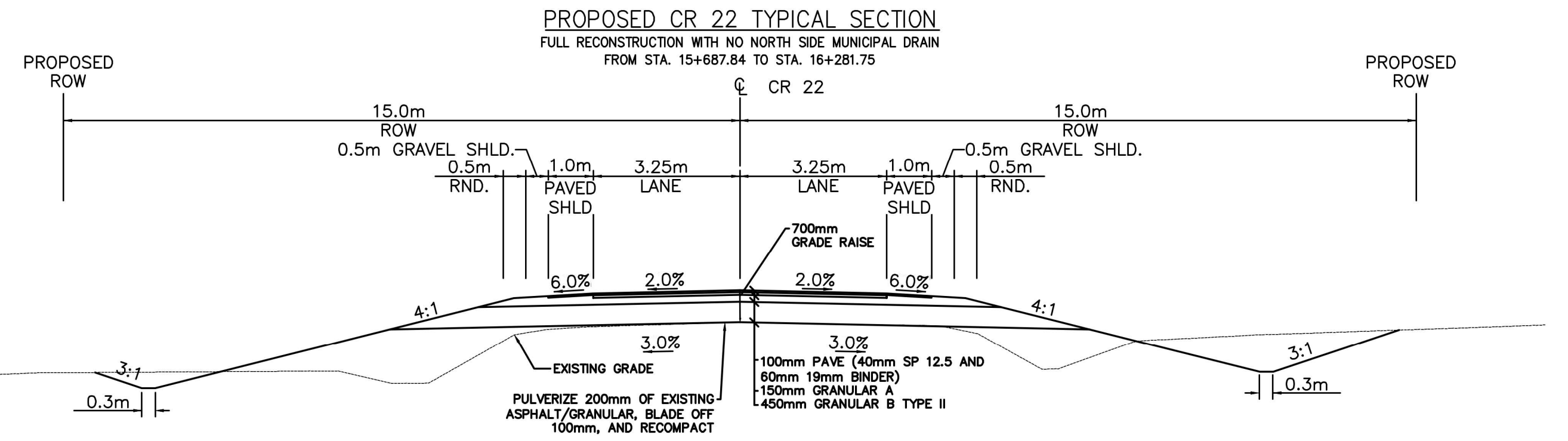
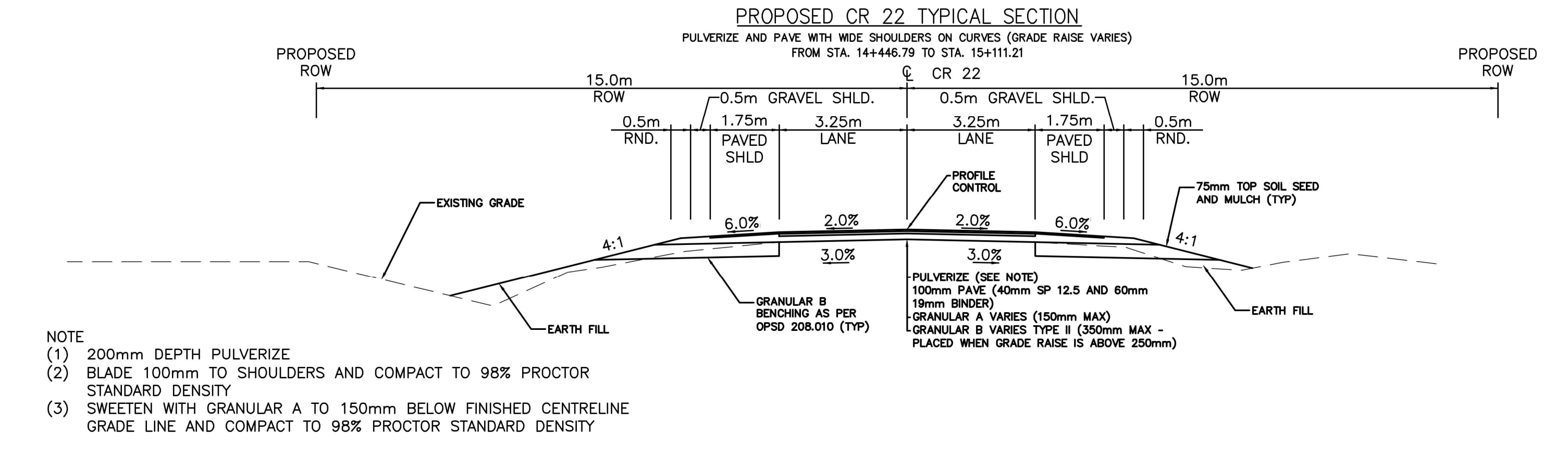
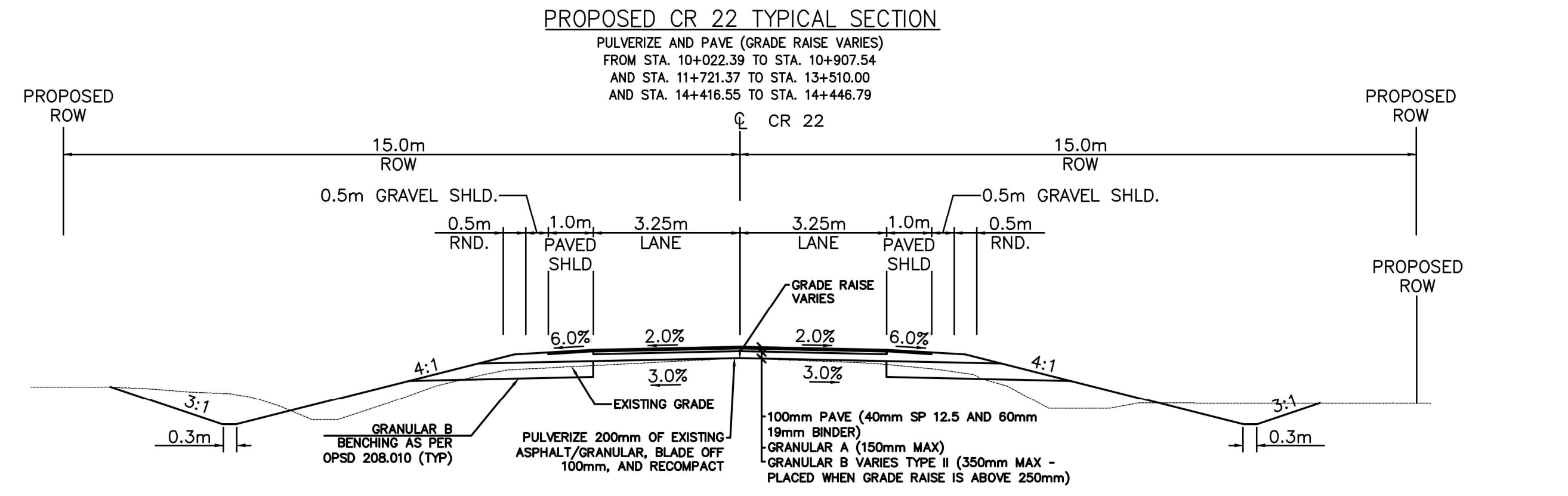
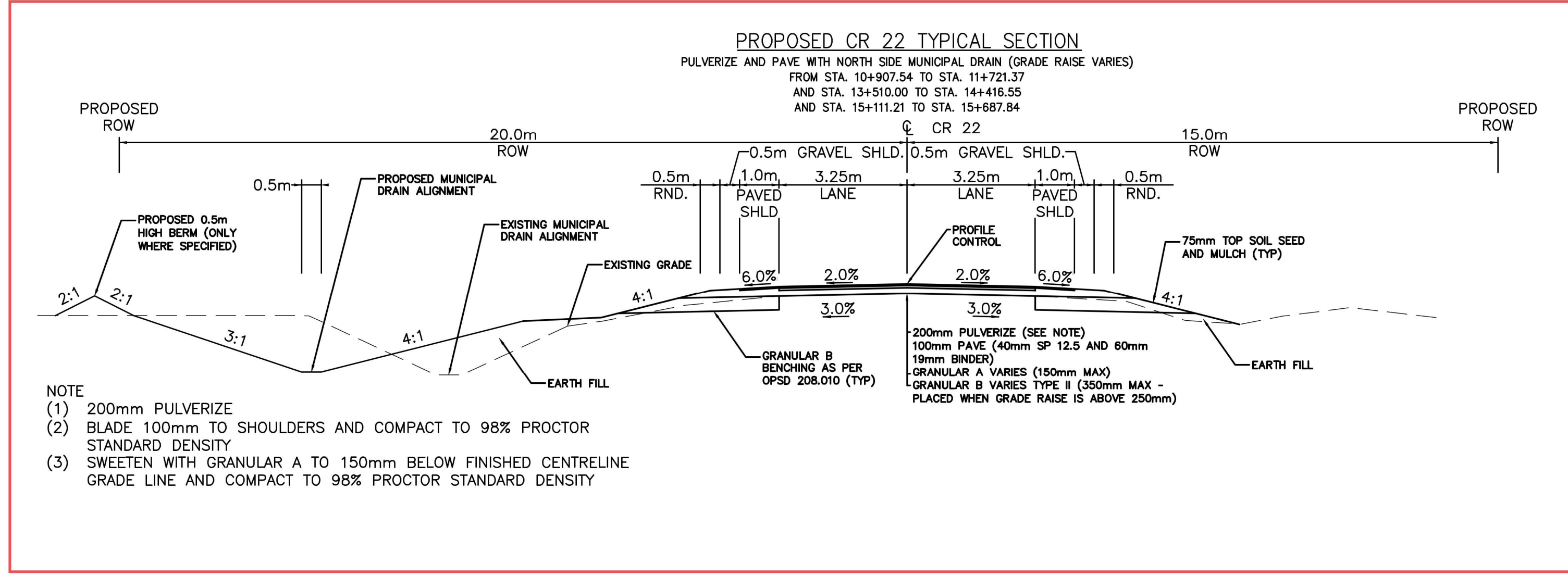
NO.	REVISIONS	DATE	APPROVED
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2.	ISSUED FOR TENDER	07/24	S.J.T.



COUNTY ROAD 22
 UNITED COUNTIES OF STORMONT, DUNDAS AND GLENGARRY
 NEW CONSTRUCTION
 STA. 15+590 TO STA. 15+890

BT ENGINEERING
BTE

SCALE HOR. 1:500	VERT. 1:50	CONTRACT NO. 2024-22-00000
DESIGN A.D.	DRAWN A.D.	SHEET NO. C-020
REVIEWED S.J.T.	DATE 2024.07	



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

SCALE	HOR. N.T.S.	VERT. N.T.S.	CONTRACT NO.
DESIGN	A.D.	DRAWN A.D.	SHEET NO.
REVIEWED	S.J.T.	DATE 2024.07	CX-001

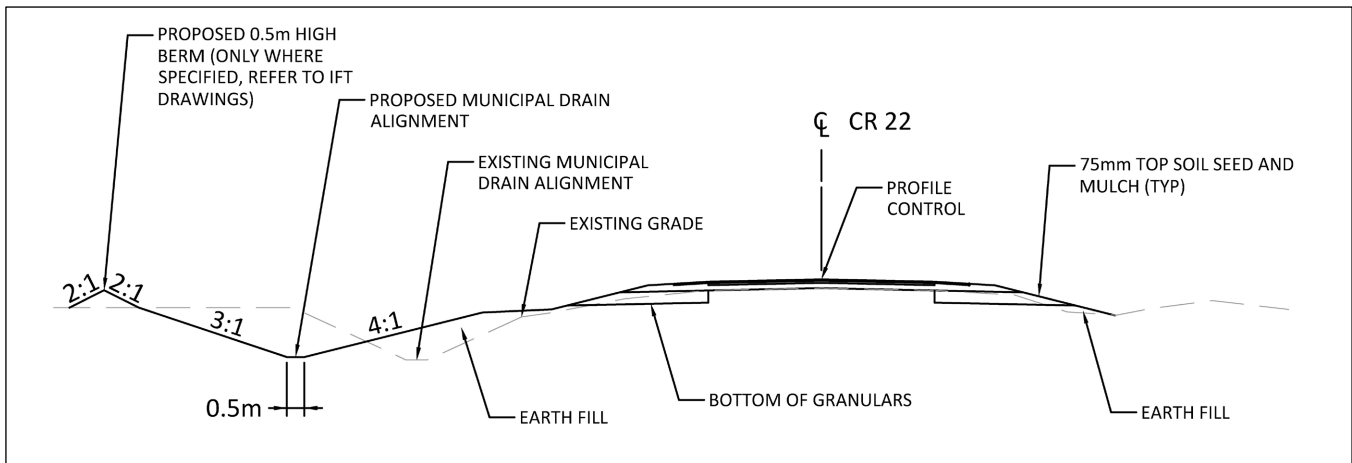


Figure 3: Municipal Drain Typical Section

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 ³ /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

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

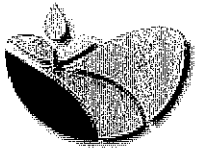
Culvert ID	HW/D	Freeboard (m)
DC6	0.63	0.57
DC9	0.91	0.66
DC11	0.93	0.57
DC14	0.72	0.98
DC16	0.51	0.69
DC21	0.58	0.82
DC22	0.79	0.45
DC23	0.75	0.40
DC42	0.62	1.02
DC45	0.61	1.16
DC46	0.47	1.54
DC51	1.00	0.43
DC52	0.58	0.74
DC54	0.33	1.09

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 *Jean Wert*

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:

SECONDED BY:

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

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**

F. Landry

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 3rd day of December 2024.

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

South Nation Conservation
jboyer@nation.on.ca



Fisheries and Oceans
Canada

Pêches et Océans
Canada

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

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 8th, 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 8th, 2024.
- Call with Michael Jans (The Counties), Derek McMillan (The Counties), Andrea Doherty (DFO) and Kirsten Luck (DFO) on August 21st, 2024.
- Additional information provided by Michael Jans following up the call from August 21st, 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
- 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) and the DFO 10 notification mailbox: 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. 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 to 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.