

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



PREPARED BY

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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 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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- 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

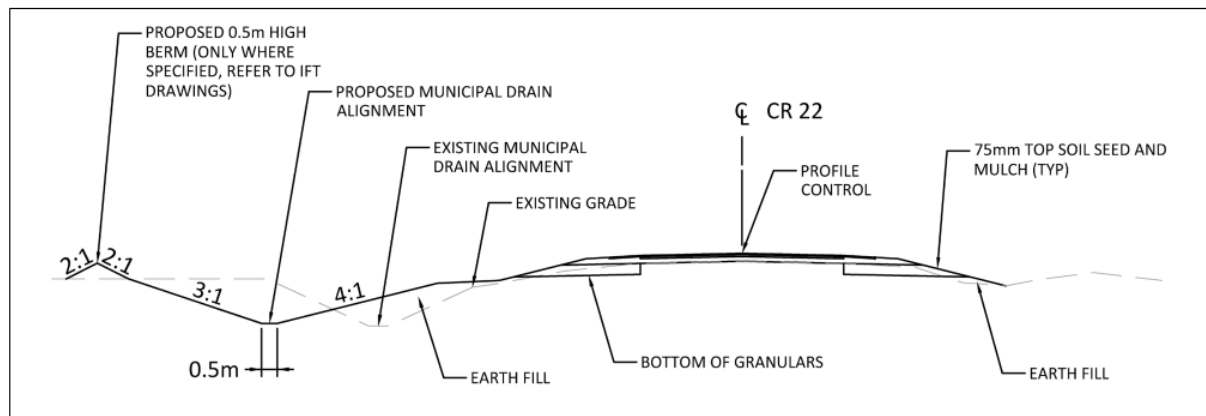


Figure 1: Typical Cross-Section - Per Municipal Drain Assessment - Technical Memorandum - Page 5

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

^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; 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 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, 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.

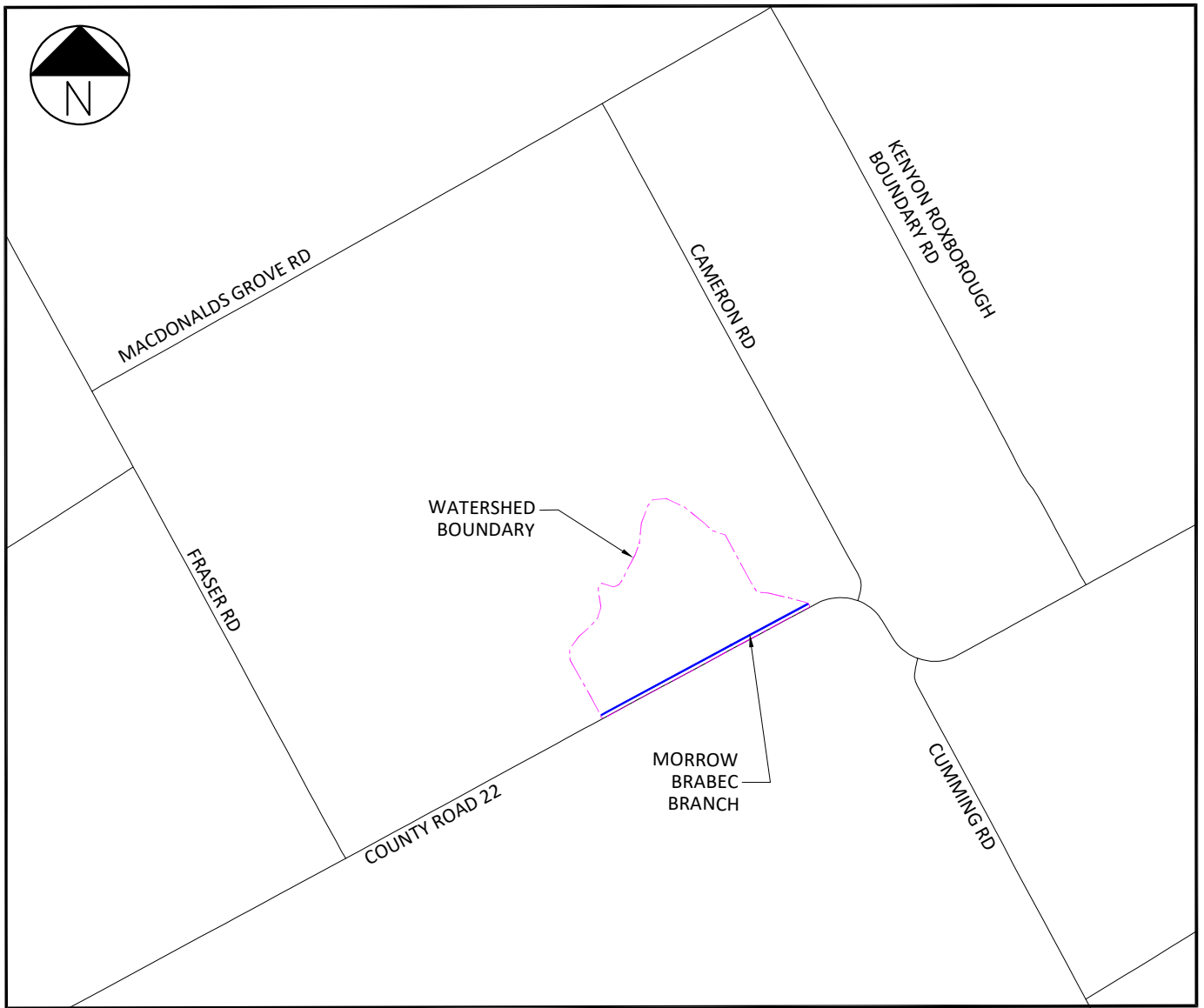


Monica Shade, P. Eng.
Drainage Engineer
Shade Group Inc.



APPENDIX A
LOCATION PLAN





LOCATION PLAN
N.T.S.

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





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	\$ 2,055.23
2	0411016-009-34000	7	3	8.2	\$ 890.65	\$ 862.03	\$ 1,752.68
3	0411016-009-33000	7	2	10.8	\$ 657.97	\$ 754.28	\$ 1,412.25
4	0411016-009-32000	7	1, 2	11.2	\$ 610.71	\$ 842.44	\$ 1,453.15
Sub-Total					\$ 3,264.36	\$ 3,408.95	\$ 6,673.31

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

Roads

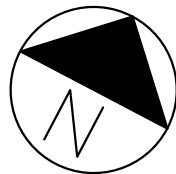
ID/Name	Owner	Outlet (\$)	Benefit (\$)	Net Assessment (\$)
County Road 22	United Counties of Stormont, Dundas, and Glengarry	\$ 1,568.74	\$ 2,742.27	\$ 4,311.01
Sub-Total		\$ 1,568.74	\$ 2,742.27	\$ 4,311.01

Summary

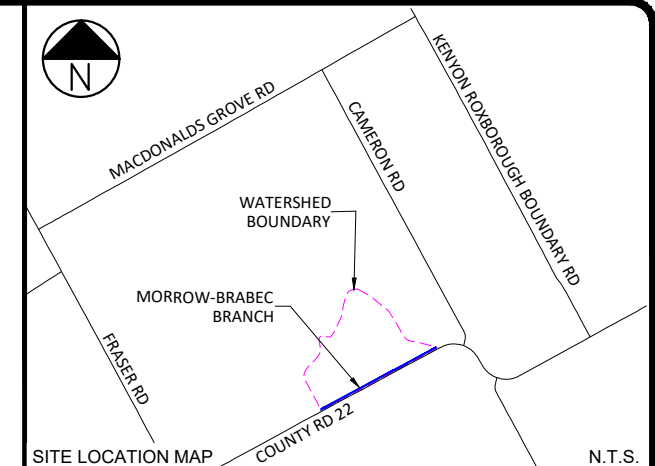
Real Properties	\$ 3,264.36	\$ 3,408.95	\$ 6,673.31
United Counties of Stormont, Dundas, and Glengarry - Roads	\$ 1,568.74	\$ 2,742.27	\$ 4,311.01
Sub-Total (Pre-Tax/Grant)	\$ 4,833.10	\$ 6,151.22	\$ 10,984.32

APPENDIX C

ENGINEERING DRAWINGS



MORROW-BRABEC BRANCH TO THE CUMMING MUNICIPAL DRAIN



SITE LOCATION MAP N.T.S.
 SCALE BAR 0 100 200m
 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



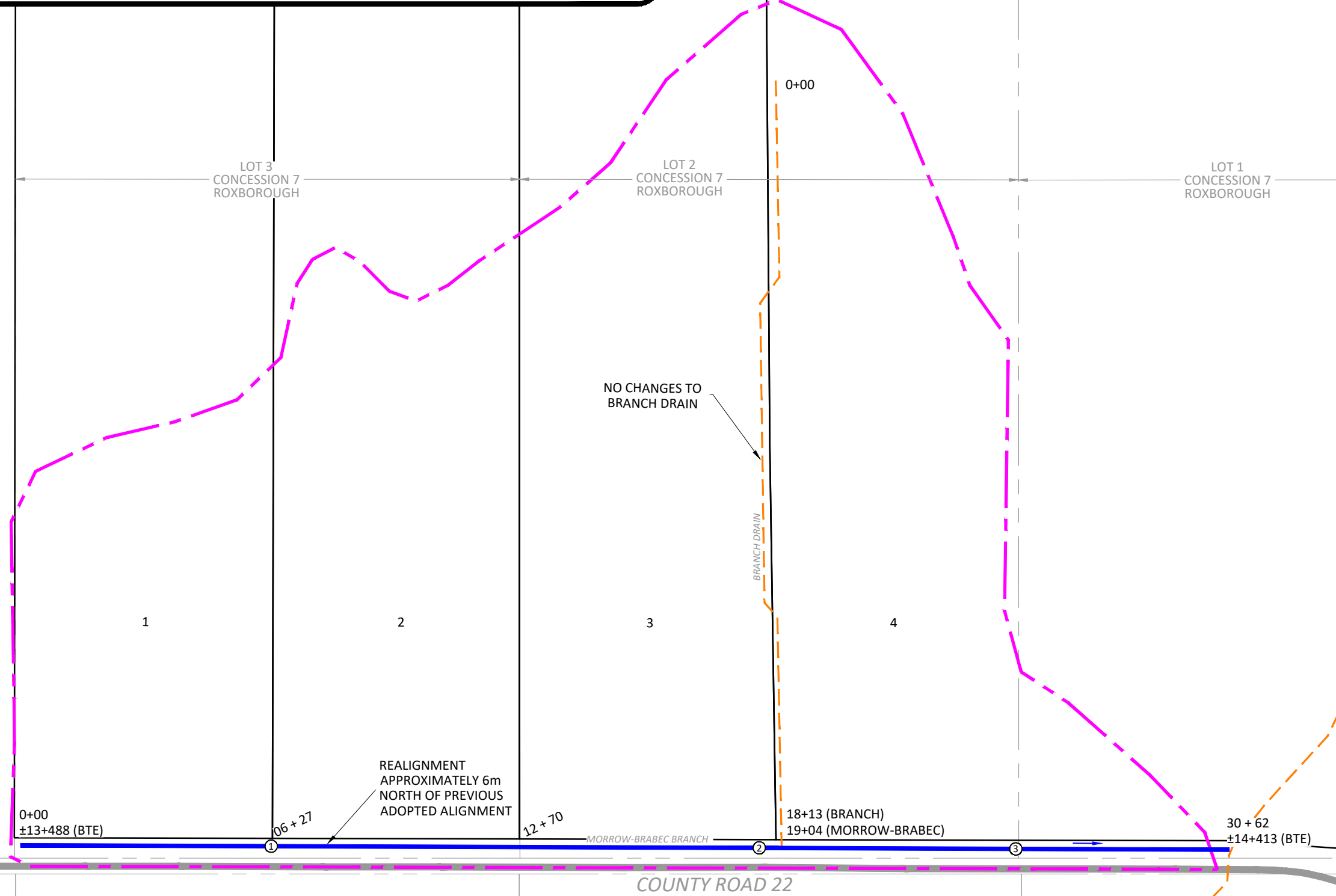
LEGEND

- 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
- ① APPROX. LOCATION OF CULVERT
- DIRECTION OF FLOW

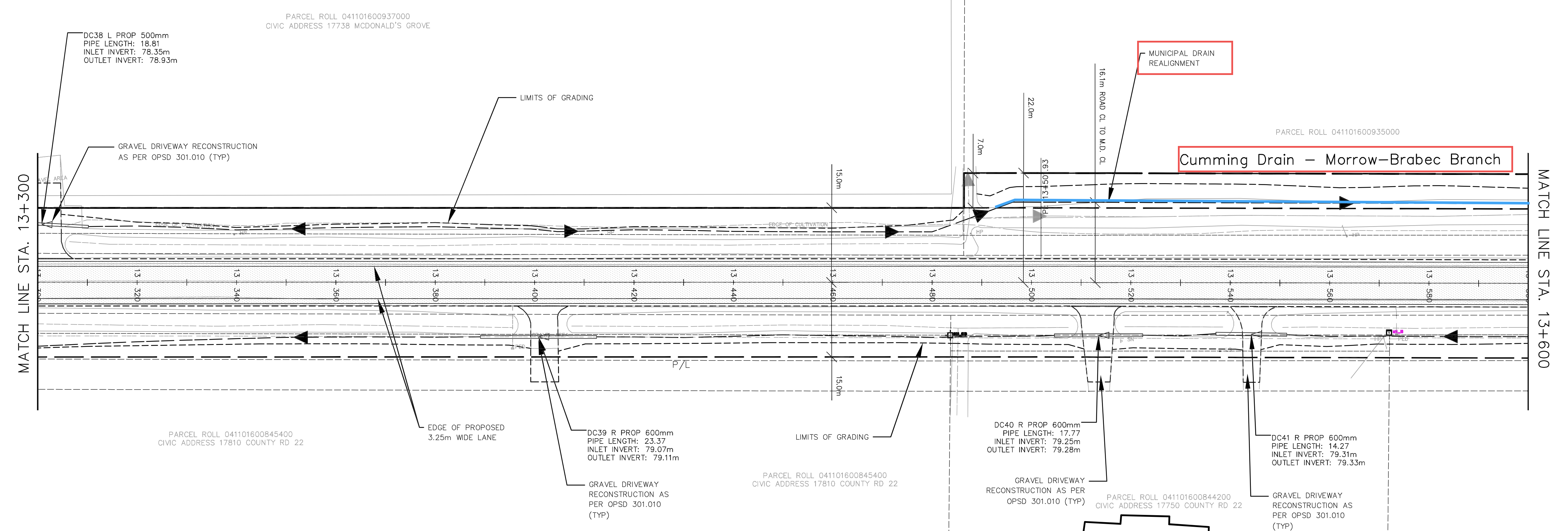
00	ISSUED WITH ENGINEER'S REPORT	FEB 6, 2025
REV.	DESCRIPTION	DATE

STAMP

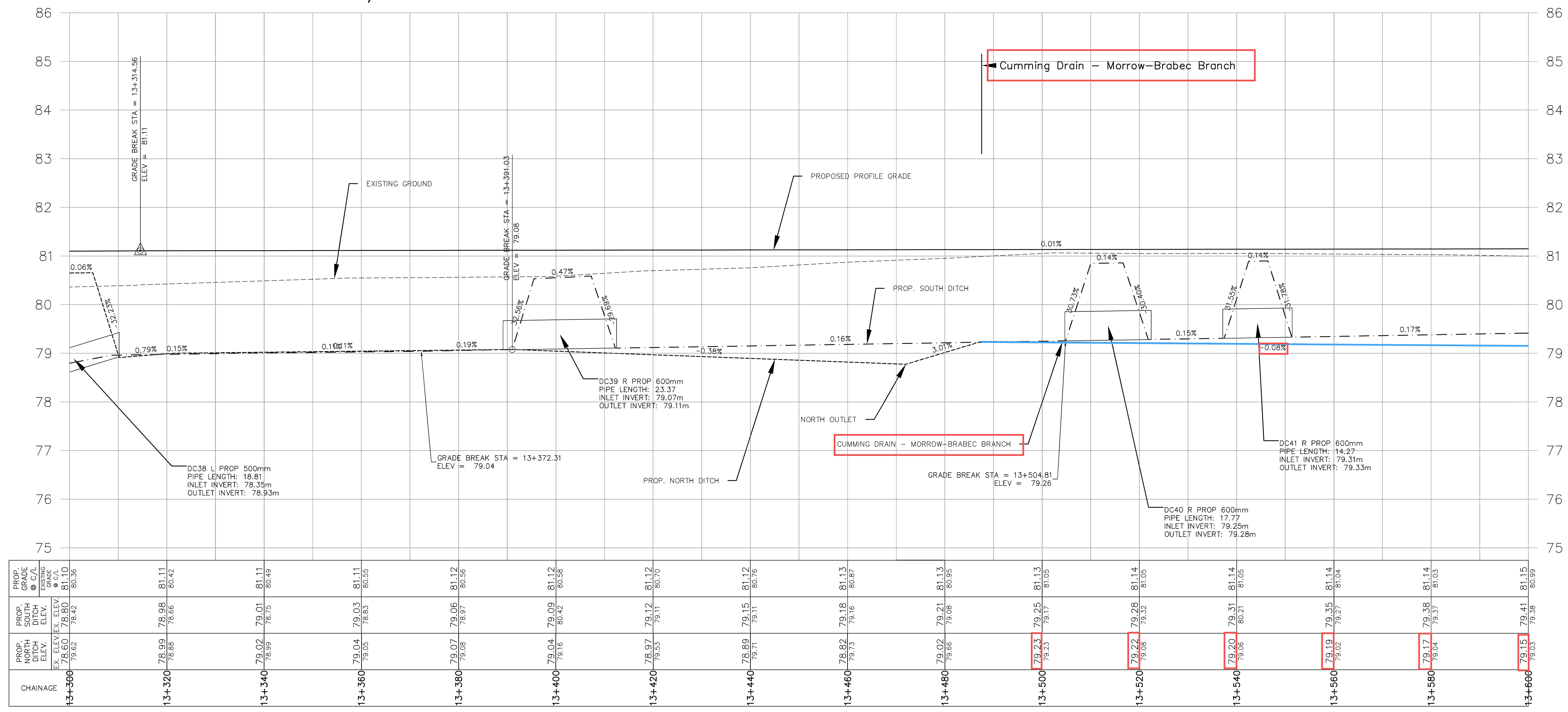
PROJECT TITLE	MORROW-BRABEC BRANCH TO THE CUMMING MUNICIPAL DRAIN
DRAWING TITLE	WATERSHED MAP PLAN VIEW
DRAWING NO.	1 OF 1



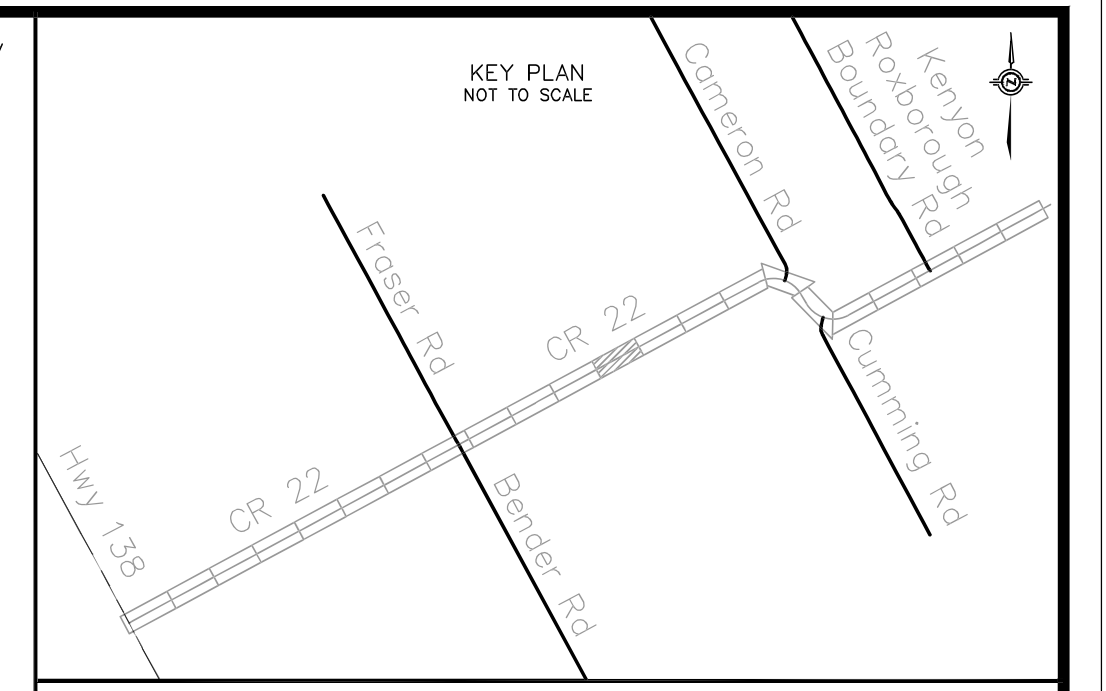
MORROW-BRABEC BRANCH CULVERTS						
CULVERT I.D.	CULVERT I.D. (BTE)	PROPERTY I.D. REF.	APPROX. STATION (BTE)	DIAMETER (mm)	MATERIAL	LENGTH (m)
1	DC42	1,2	13+663	1000	CSP	26.1
2	DC45	3	14+042	1000	CSP	24.7
3	DC46	4	14+241	1200	CSP	28.8



STORMONT, DUNDAS AND GLENGARRY COUNTY ROAD 22



CHAINAGE	PROP. NORTH EX. ELEV.	PROP. SOUTH EX. ELEV.	PROP. C/L EX. ELEV.
13+300	78.60	78.60	80.36
13+320	78.99	78.98	81.11
13+340	79.02	79.01	81.11
13+360	79.04	79.03	81.11
13+380	79.07	79.06	81.12
13+400	79.04	79.09	81.12
13+420	78.97	79.12	81.12
13+440	78.89	79.15	81.12
13+460	78.82	79.18	81.13
13+480	79.02	79.21	81.13
13+500	79.23	79.25	81.13
13+520	79.22	79.28	81.14
13+540	79.20	79.31	81.14
13+560	79.19	79.35	81.14
13+580	79.17	79.38	81.14
13+600	79.15	79.41	81.15



- 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.
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 - 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.

LEGEND

- DRAIN BOTTOM
- NOTES RELEVANT TO MORROW BRABEC BRANCH

BENCH MARKS

INTEGRATION DATA			
SPECIFIED CONTROL POINTS (SCP): 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 00820170142	505 079.67	5 011 904.17	
SCP 01019920466	511 131.14	5 013 328.41	

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	5013774.262	79.952	

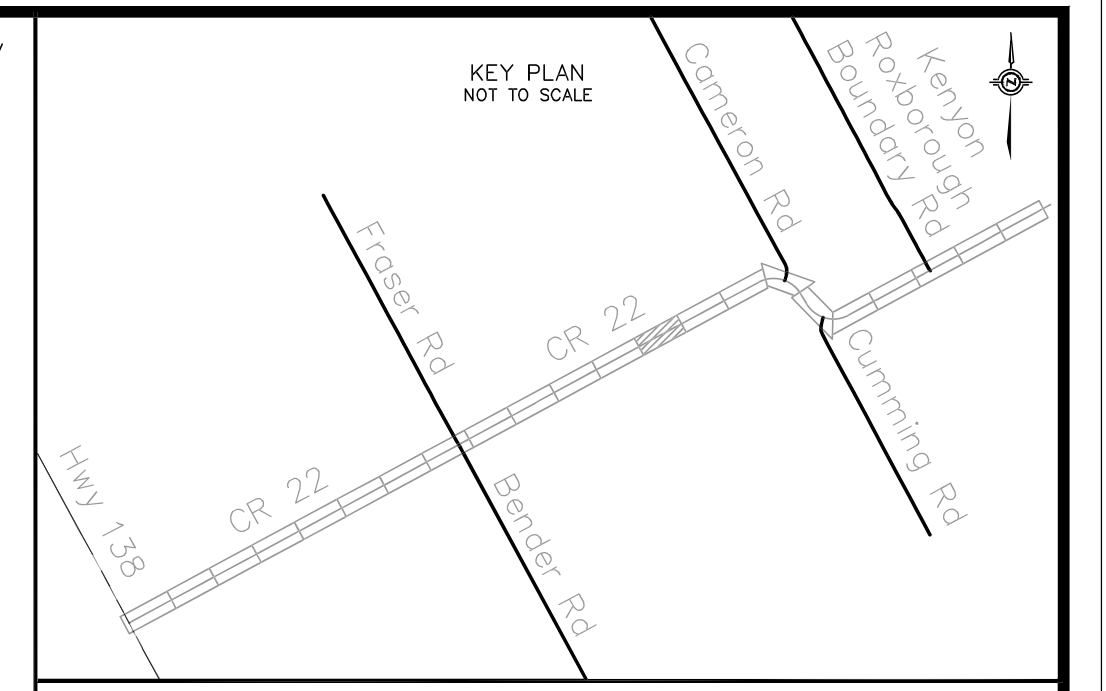
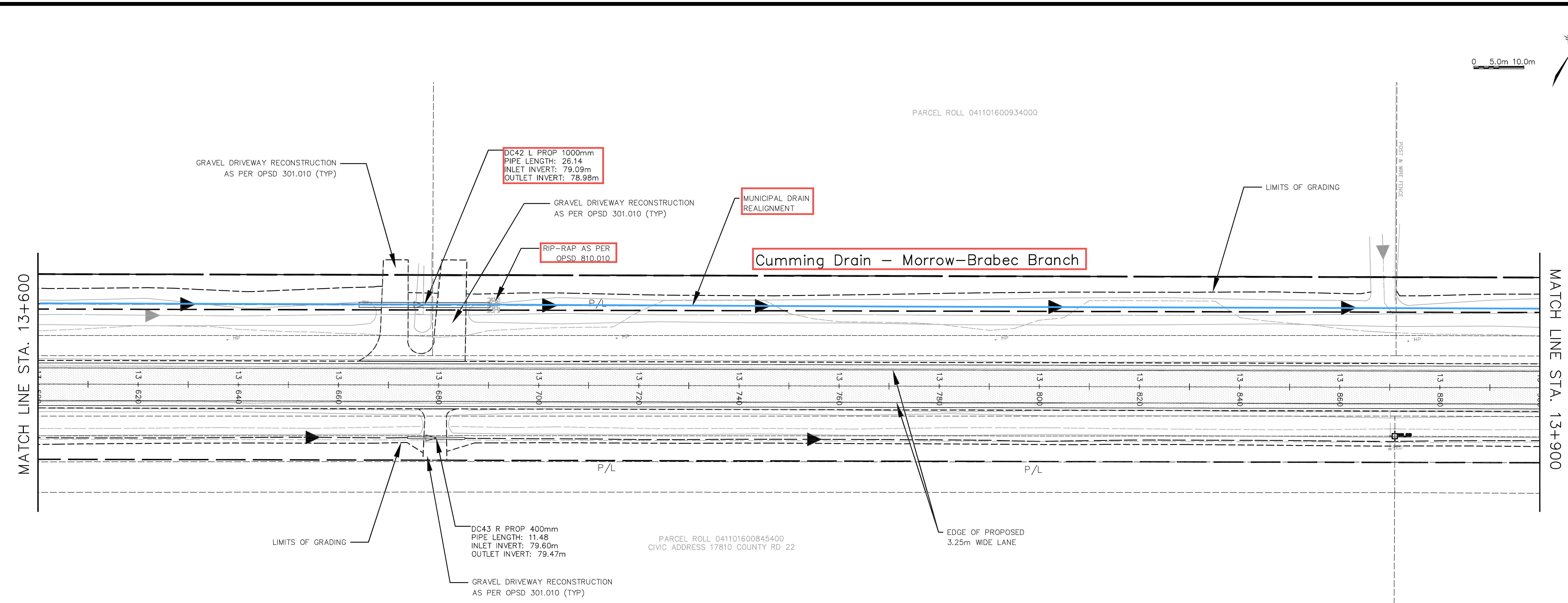
NO.	REVISIONS	DATE	APPROVED
1.	ISSUED FOR 90% REVIEW	MM/YY	S.J.T.
2.	ISSUED FOR TENDER	07/24	S.J.T.

COUNTY ROAD 22
 UNITED COUNTIES OF STORMONT, DUNDAS
 AND GLENGARRY

NEW CONSTRUCTION
 STA. 13+300 TO STA. 13+600

BT ENGINEERING
BTE

SCALE HOR. 1:500	VERT. 1:50	CONTRACT NO. 2024-22-00000
DESIGN A.D.	DRAWN A.D.	SHEET NO. C-012
REVIEWED S.J.T.	DATE 2024.07	



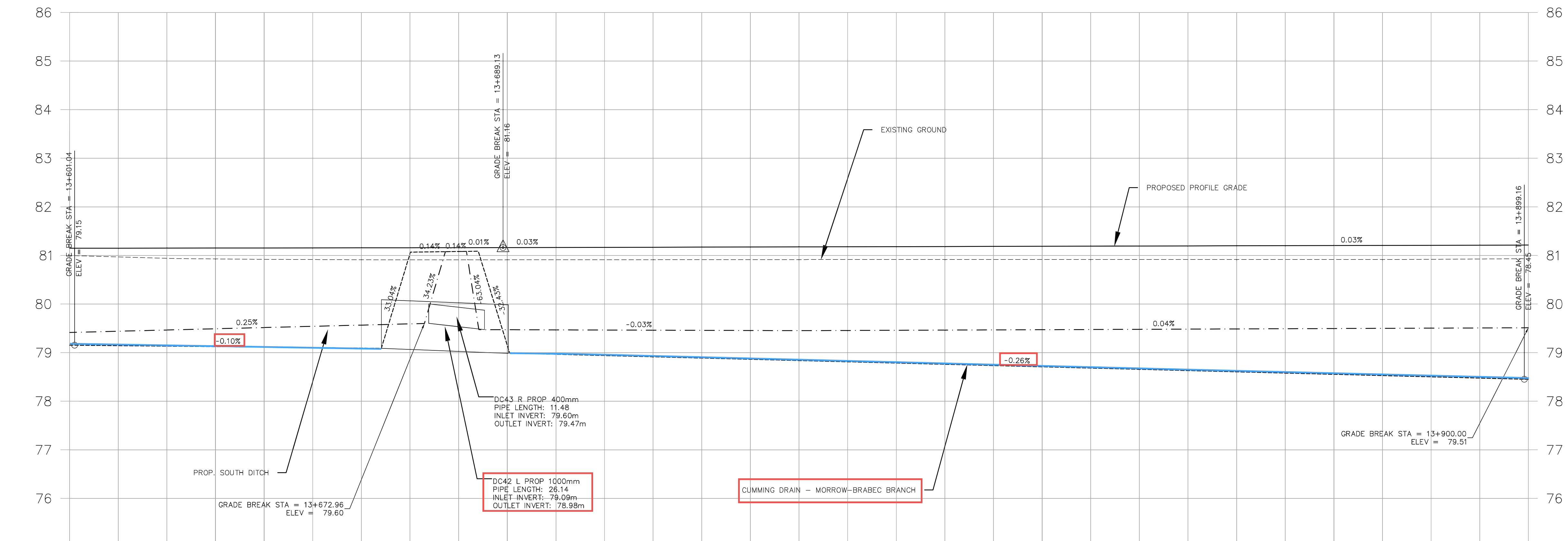
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LEGEND

— DRAIN BOTTOM

□ NOTES RELEVANT TO MORROW BRABEC BRANCH

STORMONT, DUNDAS AND GLENGARRY COUNTY ROAD 22



CHAINAGE	PROP. NORTH EX. ELEV.	PROP. SOUTH EX. ELEV.	PROP. C/L EX. ELEV.	PROP. NORTH EX. ELEV.	PROP. SOUTH EX. ELEV.	PROP. C/L EX. ELEV.
13+600	79.15	79.41	81.15	79.15	79.41	81.15
13+620	79.13	79.47	81.15	79.13	79.47	81.15
13+640	79.11	79.52	81.15	79.11	79.52	81.15
13+660	79.09	79.57	81.16	79.09	79.57	81.16
13+680	79.03	79.53	81.16	79.03	79.53	81.16
13+700	78.97	79.47	81.16	78.97	79.47	81.16
13+720	78.91	79.46	81.17	78.91	79.46	81.17
13+740	78.86	79.45	81.17	78.86	79.45	81.17
13+760	78.81	79.46	81.18	78.81	79.46	81.18
13+780	78.76	79.46	81.18	78.76	79.46	81.18
13+800	78.71	79.47	81.19	78.71	79.47	81.19
13+820	78.66	79.48	81.19	78.66	79.48	81.19
13+840	78.60	79.49	81.20	78.60	79.49	81.20
13+860	78.55	79.50	81.20	78.55	79.50	81.20
13+880	78.50	79.50	81.21	78.50	79.50	81.21
13+900	78.45	79.51	81.21	78.45	79.51	81.21

BENCH MARKS

INTEGRATION DATA

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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.

PROFESSIONAL ENGINEER
S.J. TAYLOR
PROVINCE OF ONTARIO

PROFESSIONAL ENGINEER
A. ALLARD-OUTOUR
100513904
07/26/2024
PROVINCE OF ONTARIO

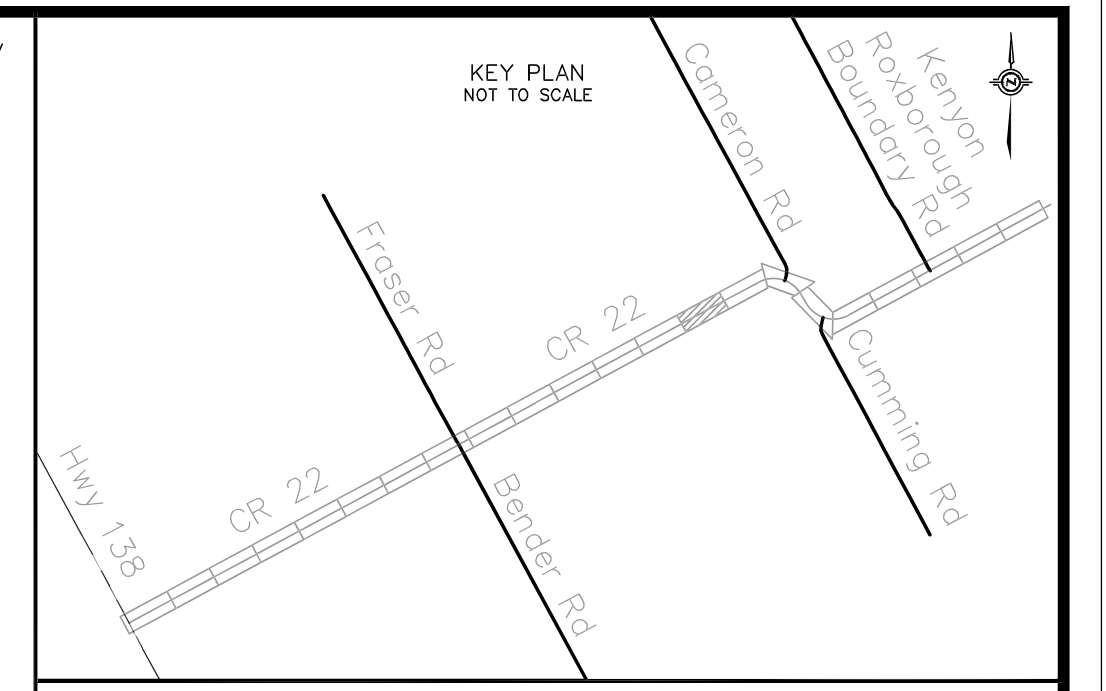
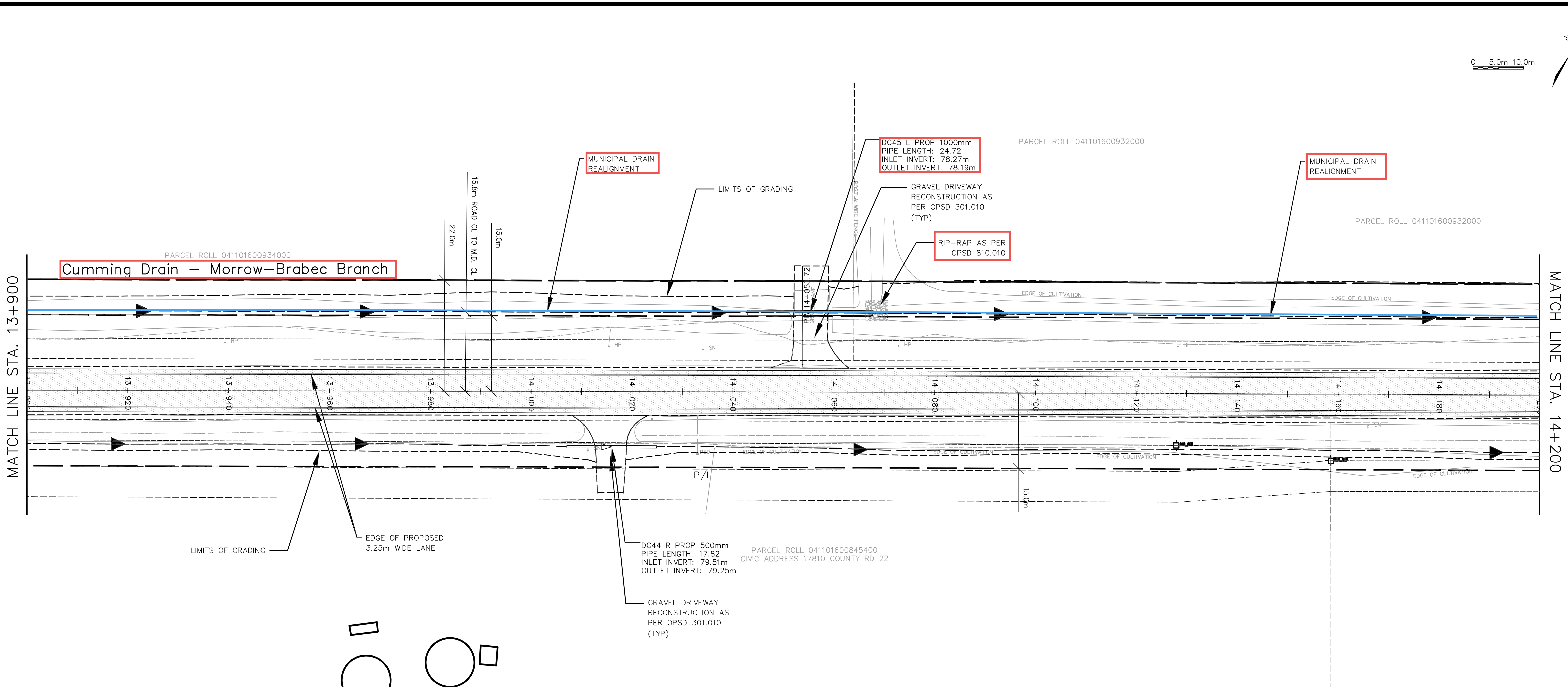
COUNTY ROAD 22

UNITED COUNTIES OF STORMONT, DUNDAS AND GLENGARRY

NEW CONSTRUCTION
STA. 13+600 TO STA. 13+900

BT ENGINEERING
BTE

SCALE HOR. 1:500 VERT. 1:50 CONTRACT NO. 2024-22-00000
DESIGN A.D. DRAWN A.D. SHEET NO. C-013
REVIEWED S.J.T. DATE 2024.07

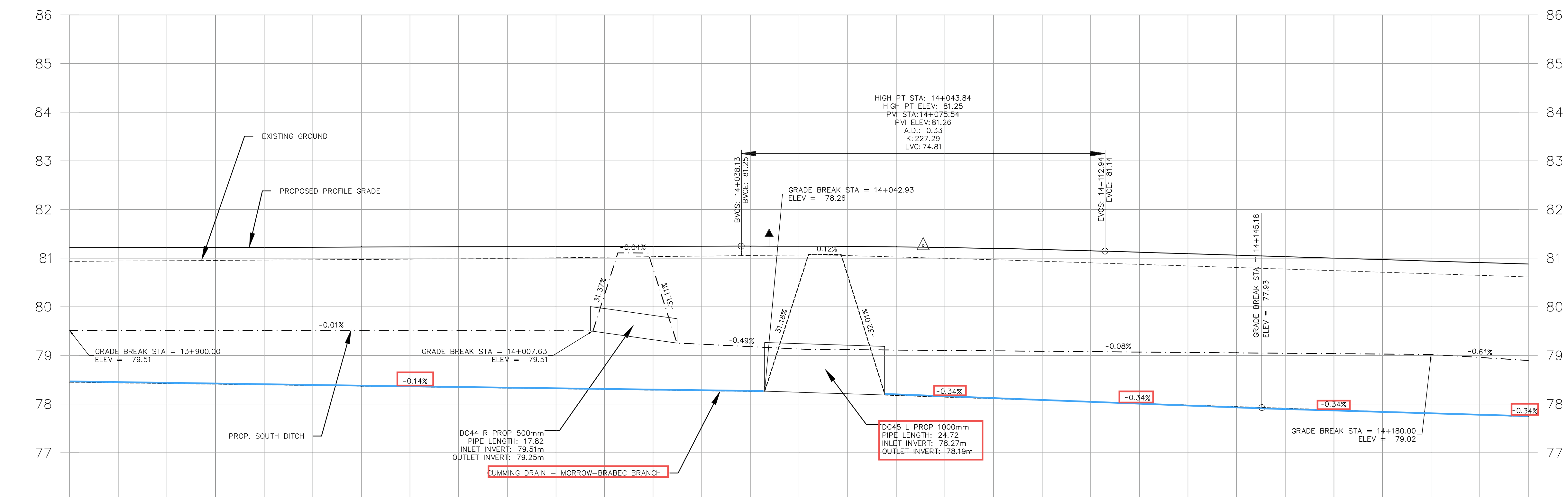


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 - PLACE NEW ASPHALT COURSES.

LEGEND

- DRAIN BOTTOM
- NOTES RELEVANT TO MORROW BRABEC BRANCH

STORMONT, DUNDAS AND GLENGARRY COUNTY ROAD 22



CHAINAGE	PROP. NORTH ELEV.	PROP. SOUTH ELEV.	PROP. C/L ELEV.
13+900	78.31	79.23	80.33
13+920	78.42	79.51	81.22
13+940	78.45	79.51	81.21
13+960	78.37	79.51	81.23
13+980	78.34	79.51	81.23
14+000	78.32	79.51	81.24
14+020	78.29	79.32	81.24
14+040	78.26	79.18	81.25
14+060	78.21	79.12	81.24
14+080	78.15	79.10	81.22
14+100	78.08	79.09	81.18
14+120	78.01	79.07	81.12
14+140	77.94	79.05	81.06
14+160	77.88	79.04	81.00
14+180	77.81	79.02	80.94
14+200	77.74	79.00	80.88

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 00820170142	505 079.67	5 011 904.17
SCP 01019920466	511 131.14	5 013 328.41

COORDINATES CANNOT, IN THEMSELVES, BE USED TO RE-ESTABLISH CORNERS OR BOUNDARIES SHOWN ON THIS PLAN.

BENCHMARK DATA (SIB, IB AND RIB)

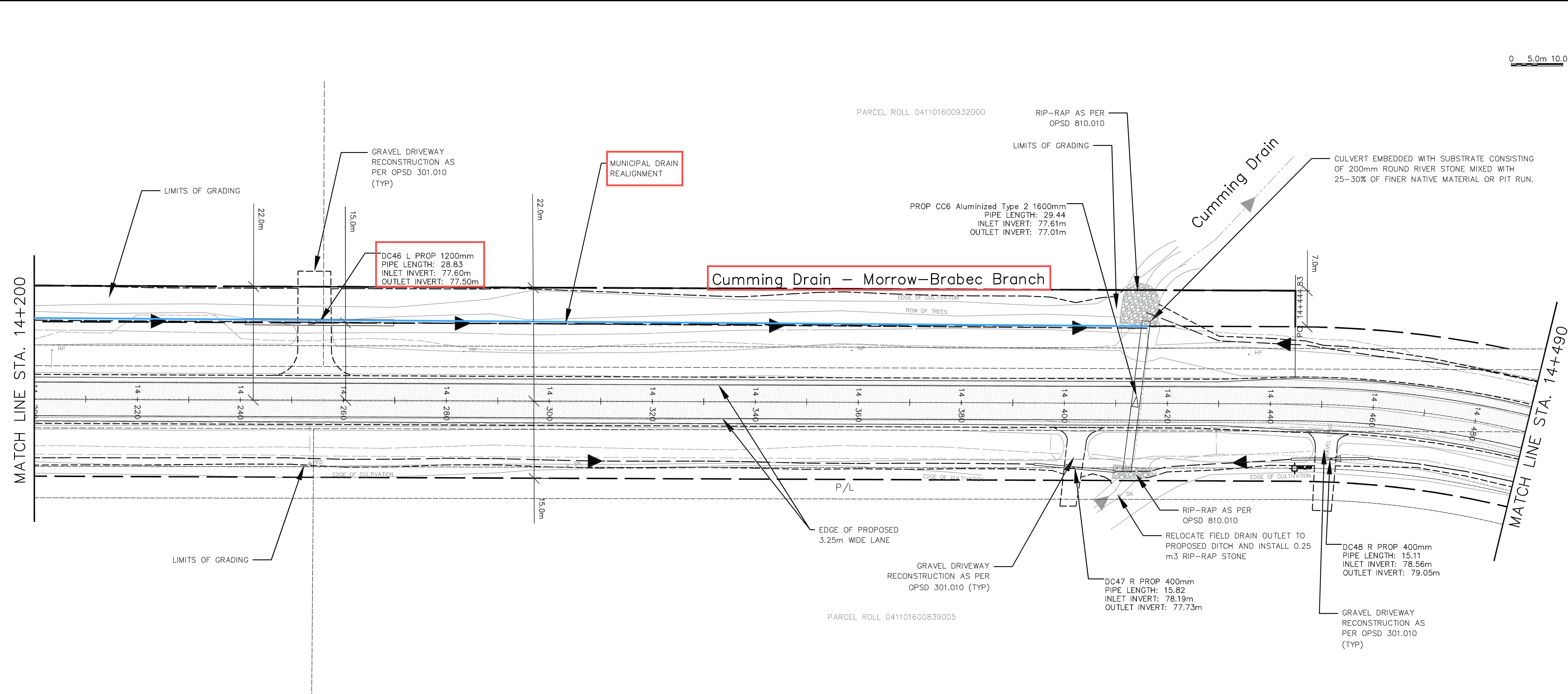
EASTING	NORTHING	ELEVATION
508636.569	5014037.602	79.641
508664.908	5014049.504	79.879

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

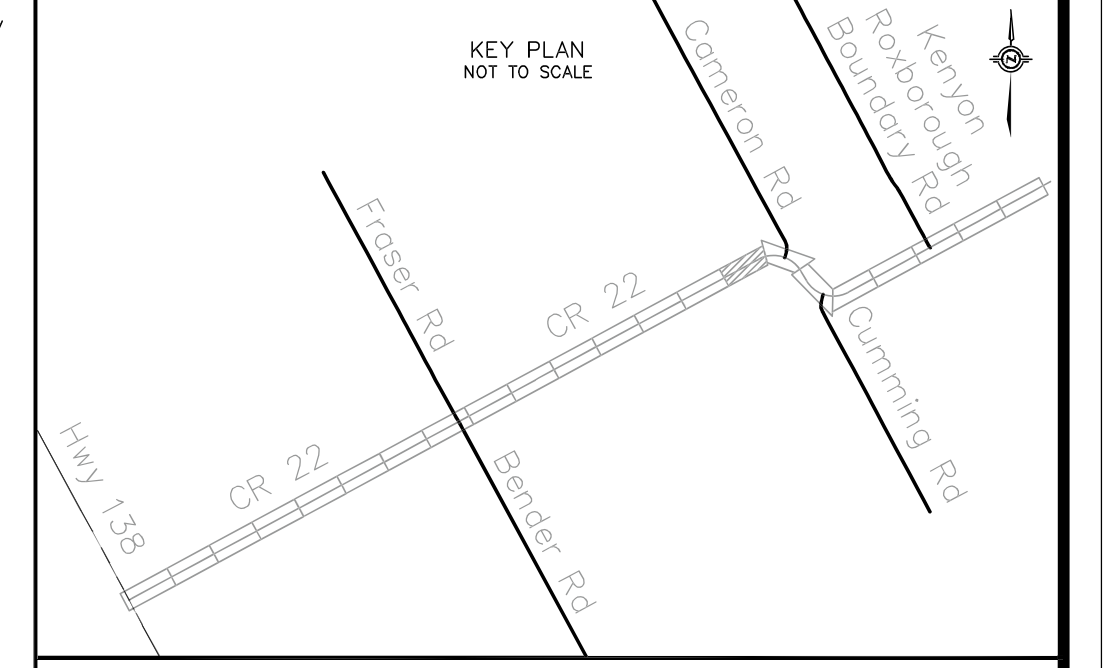
COUNTY ROAD 22
 UNITED COUNTIES OF STORMONT, DUNDAS AND GLENGARRY
 NEW CONSTRUCTION
 STA. 13+900 TO STA. 14+200

BT ENGINEERING
BTE

SCALE HOR: 1:500	VERT: 1:50	CONTRACT NO. 2024-22-00000
DESIGN A.D.	DRAWN A.D.	SHEET NO. C-014
REVIEWED S.J.T.	DATE 2024.07	



0 5.0m 10.0m

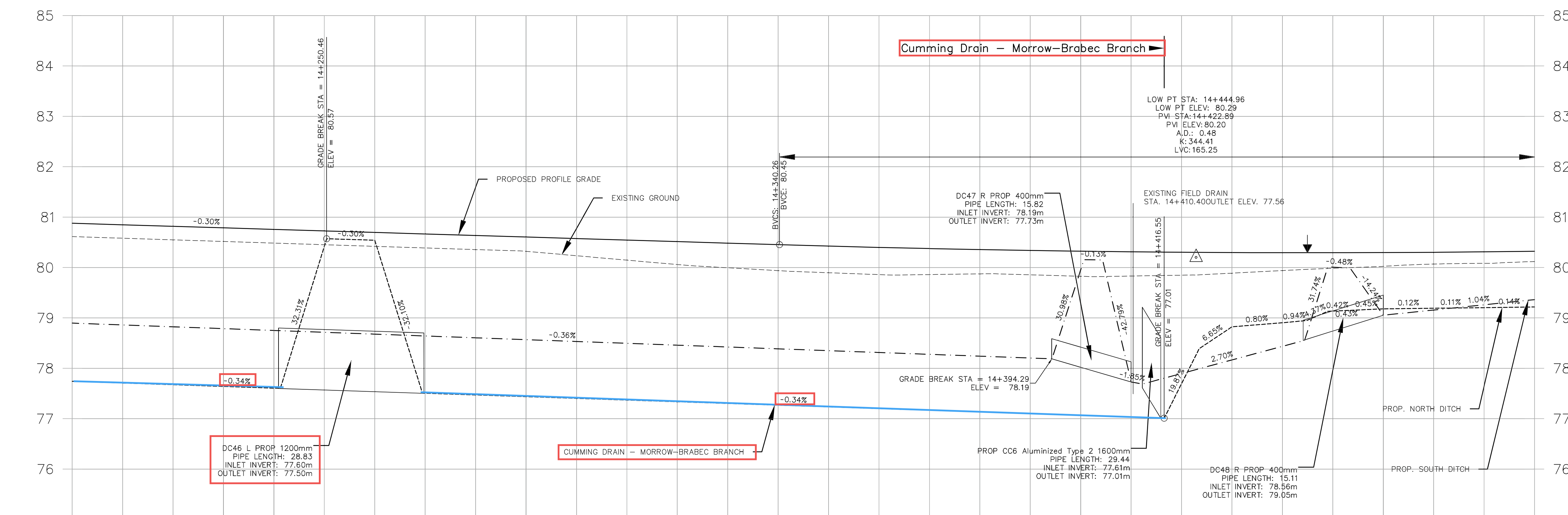


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 - PLACE NEW ASPHALT COURSES.

LEGEND

- DRAIN BOTTOM
- ▭ NOTES RELEVANT TO MORROW BRABEC BRANCH

STORMONT, DUNDAS AND GLENGARRY COUNTY ROAD 22



CHAINAGE	PROP. NORTH ELEV.	PROP. SOUTH ELEV.	PROP. C/L ELEV.
14+200	77.74	78.90	80.88
14+220	77.67	78.82	80.82
14+240	77.61	78.75	80.76
14+260	77.54	78.68	80.70
14+280	77.47	78.60	80.64
14+300	77.40	78.53	80.57
14+320	77.34	78.46	80.51
14+340	77.27	78.39	80.45
14+360	77.20	78.31	80.40
14+380	77.13	78.24	80.35
14+400	77.07	78.17	80.30
14+420	77.00	78.10	80.25
14+440	76.93	78.03	80.20
14+460	76.87	77.96	80.15
14+480	76.80	77.89	80.10
14+490	76.74	77.82	80.05

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 00820170142	505 079.67	5 011 904.17	
SCP 01019920466	511 131.14	5 013 328.41	
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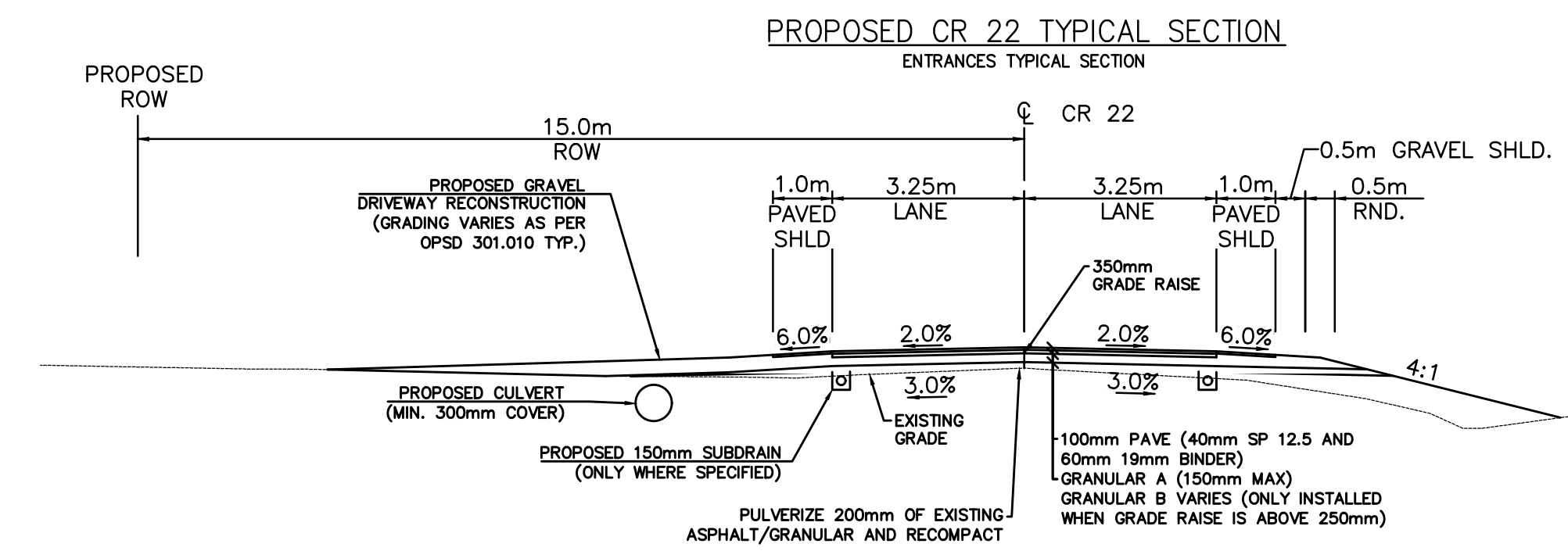
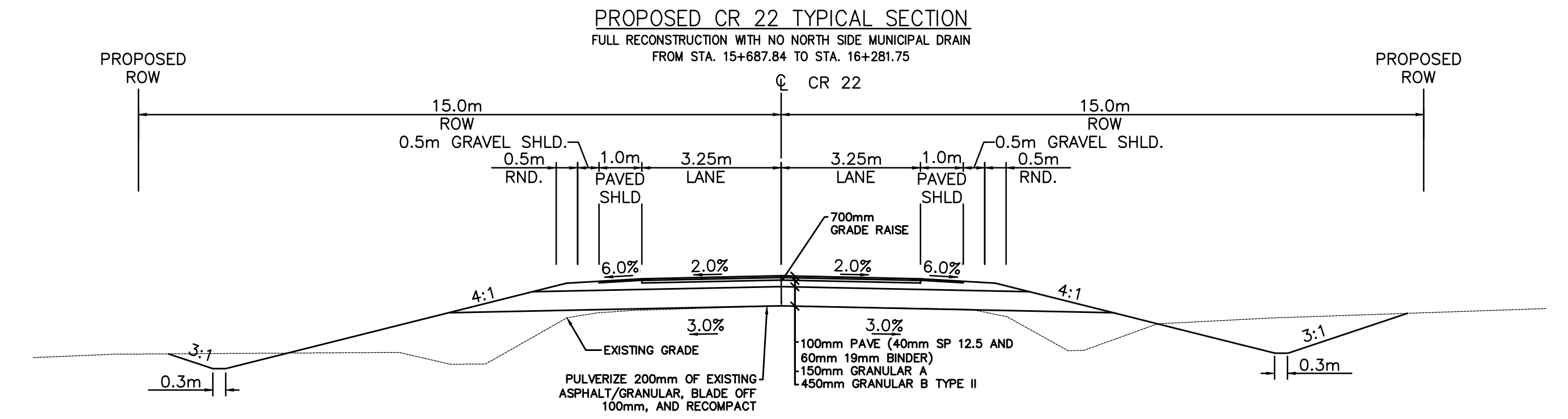
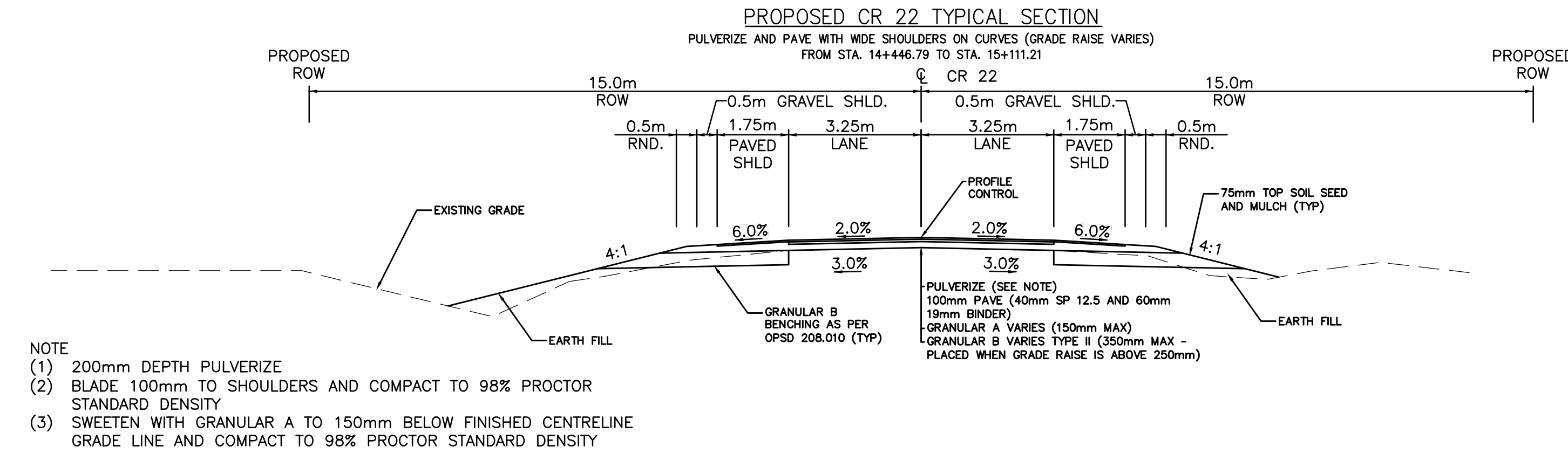
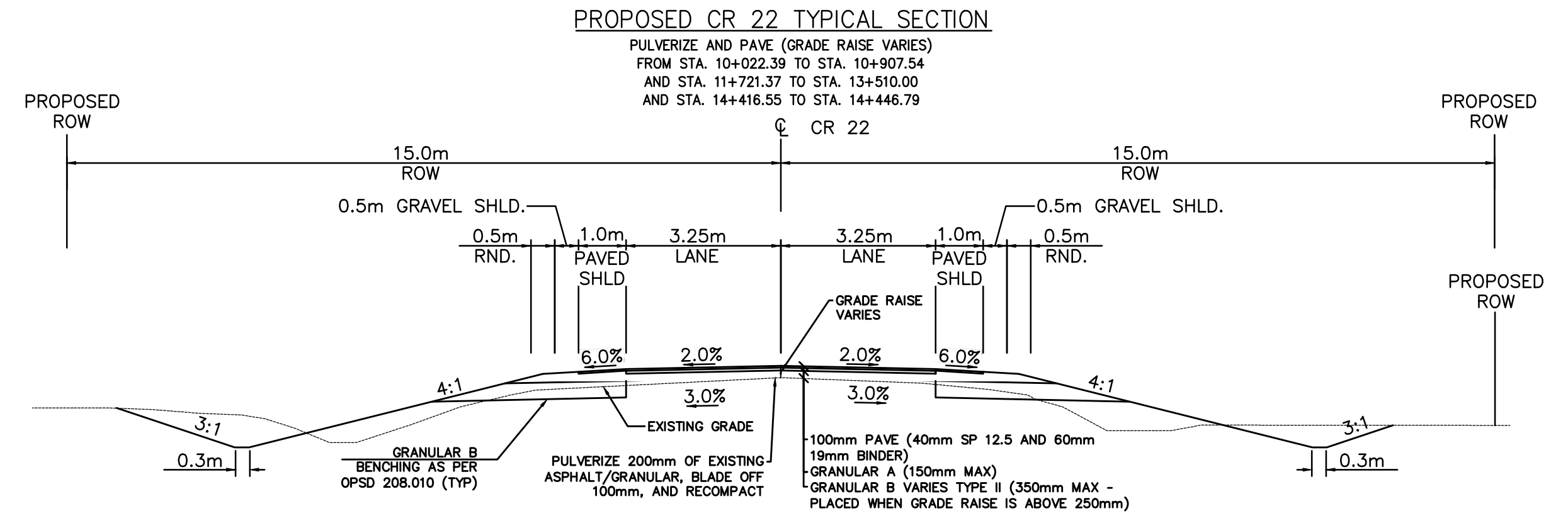
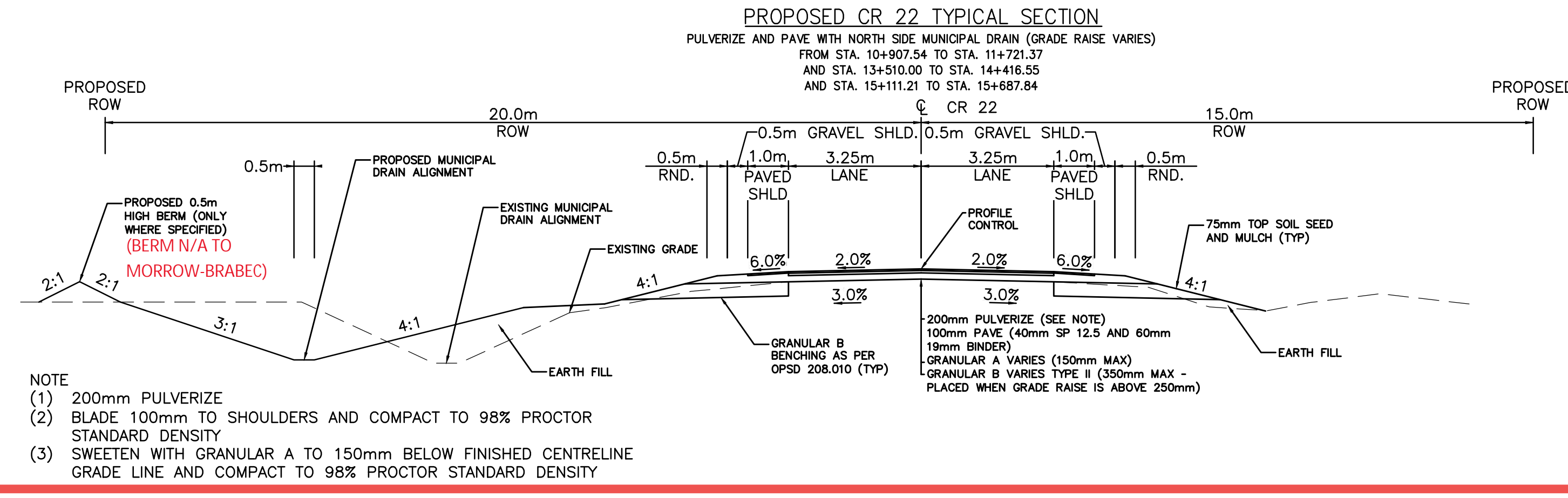
BENCHMARK DATA (SIB, IB AND RIB)			
EASTING	NORTHING	ELEVATION	
508916.765	5014185.432	79.005	

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	CONTRACT NO. 2024-22-00000
DESIGN A.D.	DRAWN A.D.	SHEET NO. C-015
REVIEWED S.J.T.	DATE 2024.07	



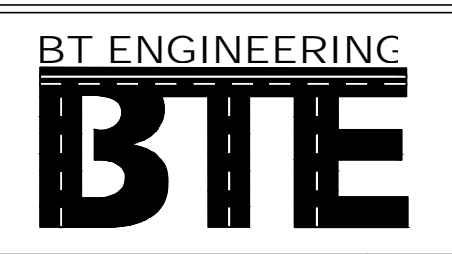
GENERAL NOTES

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



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

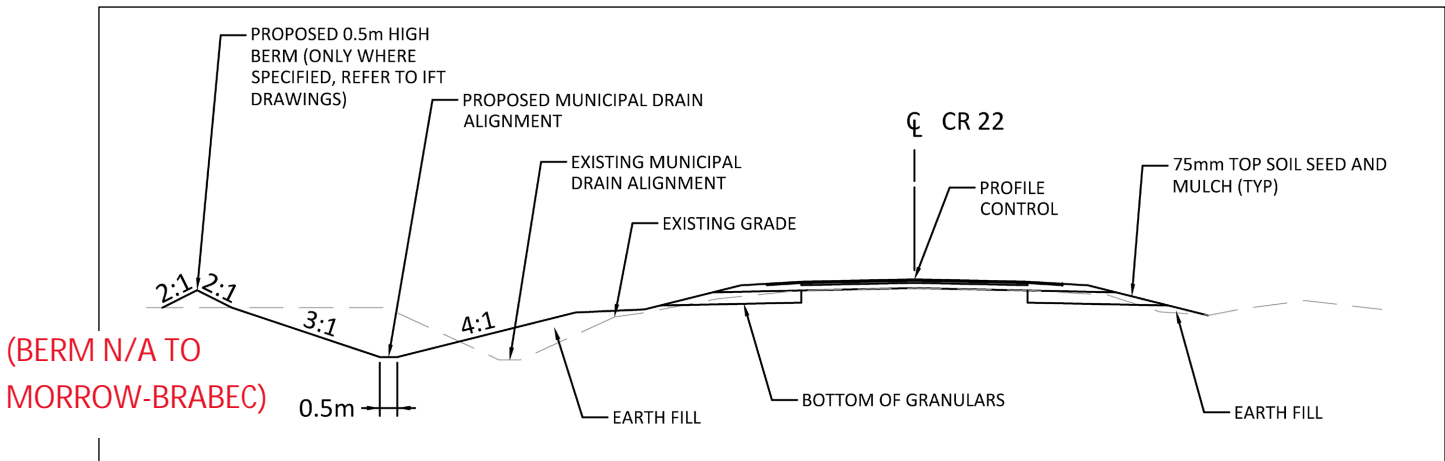


Figure 3: Municipal Drain Typical Section

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

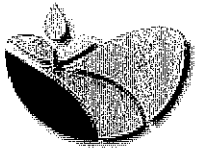
7.3 Municipal Drain Size

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



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.



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