Preliminary Engineers Report

Pleasantview Municipal Drain and Branches

Section 78 Major Drain Improvements

D.M. Wills Project Number 23-5603

D.M. Wills Associates Limited
Partners in Engineering, Planning and Environmental Services
Peterborough

January 2026

Prepared for:
Township of Laurentian Valley

WILLS

PARTNERS IN ENGINEERING, PLANNING & ENVIRONMENTAL SERVICES

January 30, 2026

Township of Laurentian Valley
460 Witt Road
Pembroke, ON
K8A 6W5

Via email: **dsauriol@lvtownship.ca**

Attention: **Dean Sauriol, Chief Administrative Officer/Clerk**

Re: Preliminary Engineers Report – Update Report
Pleasantview Municipal Drain and Branches
Pembroke, Ontario
D.M. Wills Associates Project No. 23-5603

D.M. Wills Associated Limited is pleased to provide the Township of Laurentian Valley with this Preliminary Engineers Report for the above noted project.

We appreciate the opportunity to provide the Township of Laurentian Valley with our services and trust this submission is fully satisfactory. If you have any questions with regard to this information, please do not hesitate to contact the undersigned.

Yours truly,

Draft – Unsigned

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Draft – Unsigned

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Professional Engineers Ontario

ASSOCIATION OF CONSULTING ENGINEERING COMPANIES ONTARIO

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Submissions Summary

Submission No.	Submission Title	Date of Release
1	Draft Preliminary Engineers Report	June 2025
2	Draft Preliminary Engineers Report	January 2026

This report / proposal has been formatted considering the requirements of the Accessibility for Ontarians with Disabilities Act.

Acknowledgements

The following key D.M. Wills Associated Limited staff were involved in the completion of the Preliminary Engineers Report.

Mark Hoar, P.Eng.
Senior Drainage Engineer

Ken Smith, P.Eng.
Manager, Water Resources

James Chamber
Project Designer

Mitch Bell
Project Designer

Joshua Foster
Project Designer

Liam Leahy
Project Designer

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Appendices

1.0 Introduction

1.1 Summary of Petition

As per Section 78 of the Drainage Act (the Act) and following the receipt of a petition for drainage works from property owners in the Township of Laurentian Valley, the municipal council for the Township (Council) have appointed D.M. Wills Associates Limited (Wills) as the Drainage Engineer to complete Major Drain Improvements on the Pleasantview Municipal Drain and Branches in Pembroke Ontario.

The following property owners in the Township of Laurentian Valley have petitioned under Section 78 of the Drainage Act for a Major Improvements to the drain:

Mark Behm, Public Works Manager
Township of Laurentian Valley

1.2 Report Objectives

The objective of the Project, through Section 78(1) of the Drainage Act, is to update the infrastructure within the Pleasantview Municipal Drain and Branches to current design standards and provide solutions to existing drainage problems.

For the most part, the Pleasantview Municipal Drain has been designed, constructed and implemented to date in keeping with the Engineers Report, Prepared By Stantec, January 15, 2008. The preliminary and detailed reports will be completed with due consideration to the principles of the Engineers' Report.

1.2.1 Preliminary Report

The work involved with the preparation of this preliminary report has followed the procedures of the Drainage Act to achieve the following key objectives:

- Conduct an on-site meeting as per Section 9 of the Act to determine the area requiring major improvements, and to provide a forum for property owners and agencies to present the goals, objectives, and constraints of the project to the engineer.
- Complete a field review of the site, undertake topographic survey and various technical studies as required to provide a design that adequately conveys drainage to a sufficient outlet.
- Develop a preliminary cost estimate, supported by applicable construction drawings.
- Evaluate options and provide recommendations to Council for the recommended drain improvements.

1.2.2 Final Report

The work involved with the preparation of the Final Report will follow the procedures of the Drainage Act to achieve the following key objectives:

- Expand the Preliminary report, particular with consideration to the level of detail provided for the preferred alternative(s), as selected by Council.
- Develop a cost estimate, supported by applicable construction drawings.
- Complete an assessment schedule to allocate all applicable allowances and costs over the lands and roads of the project.
- Communicate and provide a clear record of the above technical findings and assessment processes for submission to Council and for the review of the watershed community.

2.0 Project Objective and Background

The Township of Laurentian Valley commissioned D.M. Wills Associates Ltd., to provide a technical review of the Pleasantview Municipal Drain and Branches. The review provided a hydrologic and hydraulic analysis of the existing drainage system, highlighted deficiencies and provided broad recommendations.

The Township of Laurentian Valley commissioned D.M. Wills Associates Ltd. to complete a detailed review of the existing Engineers Report, Engineering Drawings and Technical Briefs prepared for the Pleasantview Municipal Drain and Branches.

The results of the two technical reviews were presented to Council on April 16th, 2024.

The Section 78 action was initiated for upgrades to the existing drainage infrastructure within the Pleasantview Municipal Drain & Branches, to meet updated design standards; updates to the drain to accommodate upstream development that discharges into the drain, which may include changes to the existing stormwater management pond; and updates to the Schedule of Assessment.

Council approved the Section 78 petition at the November 28, 2024, Council Meeting.

2.1 Background Report

The following reports were used in the production of the Preliminary Engineers Report:

- Engineers' Preliminary Report, Pleasantview Municipal Drain and Branches, prepared by Stantec Consulting Ltd. in August 2007.
- Technical Brief (Revised), Pleasantview Municipal Drain, prepared by Stantec in January 2008.
- Engineers Report, Pleasantview Municipal Drain and Branches, prepared by Stantec in January 2008.

- Engineers Report, Pleasantview Municipal Drain and Branches, prepared by Stantec, Revised Per Tribunal Hearing November 13, 2008.
- As-built Drawings for the Pleasantview Municipal Drain, prepared by Stantec in January 2010.

3.0 The Drainage Act

3.1 Overview of the Act

The Drainage Act is a piece of legislation that allows for the construction and maintenance of drainage features that may span multiple properties, with funds raised by local assessments. The cost of the drainage works is assessed in varying proportions to lands within the watershed, levied above and beyond municipal taxes.

This Engineers Report is one component of the overall process in the development of a municipal drain. The process is not complete until the levying and collection of assessments occurs after the construction of the municipal drain. A general overview of the process is provided below:

Drainage Improvement Procedure Under the Drainage Act (Section 78):

1. Submission of a Petition under Section 78 of the Act and consideration by council;
2. Notice sent to local agencies;
3. Council appoints a Drainage Engineer;
4. Engineer holds On-Site Meeting as Per Section 9(1) of the Act;
5. Engineering team completes topographic survey work and other supporting technical studies if required;
6. The project team holds internal design meetings and agency consultation; and
7. Engineer prepares the Preliminary Engineer Report.

Next Steps:

1. City Clerk sends a notice of a Meeting to Consider the Preliminary Report, along with a copy of the report to all prescribed persons;
2. Preliminary Report presented and considered by Council,
3. Council instructs Engineer to Proceed with Final Engineers Report
4. The project team holds internal design meetings and agency consultation;
5. Engineer prepares the Engineer Report.
6. Clerk sends out provisional By-Law notice of meeting to consider and notice of court of revision;
7. Meeting to Consider the report held at Council;

8. Council provisionally adopts the report, and a Provisional by-law is passed with first and second reading;
9. City Clerk sends a copy of the provisional by-law and notice of a Court of Revision Meeting to all prescribed persons;
10. If appeals are filed, appeal to Tribunal and Referee;
11. After all appeals have been heard or time for appealing has expired, Council gives the provisional by-law a third reading;
12. Tendering for construction occurs and the drain is constructed;
13. The provisional by-law is amended to reflect actual construction costs, grants are applied for, assessments are levied per the schedule of assessment and the by-law is registered.
14. The project is now complete and maintenance to occur by the Municipality as per the drainage act going forward.

3.2 Project Authority Under Section 78(1.1)

Section 78 (1) of the Drainage Act States:

> If a drainage works has been constructed under a by-law passed under this Act or any predecessor of this Act, and the council of the municipality that is responsible for maintaining and repairing the drainage works considers it appropriate to undertake one or more of the major improvement projects listed in subsection (1.1) for the better use, maintenance or repair of the drainage works or of lands or roads, the municipality may undertake and complete the project in accordance with the report of an engineer appointed by it and without the petition required by section 4. 2010, c. 16, Sched. 1, s. 2 (27); 2020, c. 18, Sched. 4, s. 9 (1).

The major improvement projects referred to in Section 78 (1.1) are:

1. Changing the course of the drainage works.
2. Making a new outlet for the whole or any part of the drainage works.
3. Constructing a tile drain under the bed of the whole or any part of the drainage works.
4. Constructing, reconstructing or extending embankments, walls, dykes, dams, reservoirs, bridges, pumping stations or other protective works in connection with the drainage works.
5. Extending the drainage works to an outlet.

   5.1 Improving or altering the drainage works if the drainage works is located on more than one property.
6. Covering all or part of the drainage works.
7. Consolidating two or more drainage works.

8. Any other activity to improve the drainage works, other than an activity prescribed by the Minister as a minor improvement. 2010, c. 16, Sched. 1, s. 2 (27); 2020, c. 18, Sched. 4, s. 9 (2-4).

The petition is given Authority, through 78(1.1)4 and 78(1.1)7.

4.0 Meetings and Site Description

4.1 On-Site Meeting

In accordance with Section 9(1) of the Drainage Act, an on-site meeting was held on November 28, 2024, at 3:00 pm, at the Zion Christian Reformed Church, 152 Drive-In Road, Pembrook Ontario.

4.1.1 On-Site Meeting Attendance

Persons in attendance were:

Engineers and Township

- Ken Smith, Project Manager, D.M. Wills
- Mark Hoar, Project Engineer, D.M. Wills
- Gavin Bergsman, Project Designer, D.M. Wills
- Dean Sauriol, CAO/Clerk, Township of Laurentian Valley
- Mark Behm, Manager of Public Works, Township of Laurentian Valley
- Lauree Armstrong, Township Planner, Township of Laurentian Valley
- Brett Miller, Chief Building Officer, Township of Laurentian Valley

Parties Present and Properties (by Roll No.) Represented:

Jacquline Maartense	4 Heritage Place
Richard Harrison	6 Ridge Drive
Randy and Sandra Kreutz	7 Ridge Drive
Brenda Lacroix	11 Ridge Drive
Sheila Ryan	1200 Pembroke Street East
Frank Plue	112 Stoneyfield Road
Greg Pilon	160 Pleasant View Drive
Dwyla Doran	172 Drive In Road
Rick Miller	91 Elm Street West
Chris Pleau	33 Erma Street
Kyle Dickson	27 Erma Street
Tony Scott	15 Erma Street
Darcy Smith	2651 Greenwood Road
Micheal Fadock	12 International D'youville drive
Micheal Fadock	D'youville Drive/Ball St (At high school)
Chris Sanzo	1304-B Pembroke Street East

Ryan Graveline	36 Taylor Heights Drive
Dino Varvaresos	108 Acres, Drive In Road
Terry Carmody	206 Drive In Road
Andrew Lebert	93 Sparta Street
Leslie Spencer	94 Athens Street

4.1.2 The On-Site Meeting Process

The meeting was conducted in a Town Hall format between the hours of 3 pm to 7 pm.

It was explained that this on-site meeting is required to satisfy Section 9(1) and 9(2) of the Drainage Act for the Pleasantview Municipal Drain project.

The Wills project team explained that the drainage petition, brought forward by Township of Laurentian Valley.

The meeting was also explained to be for information gathering purposes. The Engineers indicated they wished to hear about the drainage issues in the watershed, and to obtain input to help define the scope of the Major Improvement.

All of those in attendance were then asked to introduce themselves and identify which property they represent in the watershed. They were also asked to speak about any drainage issues that they may have. They were asked to fill out a comment sheet so their concerns could be properly documented.

A brief overview of the Drainage Act was provided; the overall goal is to provide a legal means to facilitate drainage for a property or properties that require drainage. It was indicated that if local residents require additional information on the Municipal Drain Process, the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) website are excellent resources.

4.1.3 Questions Asked During the Meeting

Attendees at the Onsite meeting were invited to submit information in writing with respect to their experience and observations regarding drainage in or around the branches of the Drain. All correspondence from the meeting is summarized in **Appendix H**.

4.2 Description of the Branches of the Drain

In keeping with excerpts of the Engineers Report (Stantec, Revised Per Tribunal Hearing November 13, 2008, pages 4 and 5), the Drain is described in four parts, as follows.

The Pembroke Branch provides drainage for the City of Pembroke in parts of Lot 26. The Pembroke Branch drain commences near the southeast corner of Lot 26 of the City of Pembroke and between Lots 22 and 21 of the Township of Laurentian Valley where it flows in a northeasterly direction, where it outlets into the Main Drain.

The Main drain commences between lots 22 and 21 where it flows southeasterly through lots 21 and crosses Robinson Lane. The drain continues to flow southeasterly where it outlets into a flow Control Pond. The drain at this location is also the intersection of the Northwest Tile Branch. From this location the drain flows in a southeasterly direction across Lot 20 to the center line of Elm Street. From this location the drain enters into Lot 19 along the south side of Elm Street West and crosses under Drive-In Road. It then follows Elm Street East where it becomes a deeper ditch and is no longer along the road right-of-way. The drain then changes to the profile grade towards Pleasantview Drive. Downstream of the culvert under Pleasantview Drive, the natural watercourse was determined to have good and sufficient outlet, according to the Engineers Report, and was incorporated into the drain but did not envision any construction improvements or allowances. From this point the drain meanders in an easterly direction to the MTO Pembroke Street East Highway culvert and the Smith Branch. From the Pembroke East culvert to the Ottawa River the drain features a slow meander, flat grades and several stream crossings. The channel is bounded on both sides by housing and treed banks.

The Smith Branch commences at the north right of way to Drive In Road between Lot 18 and 19 and opposite the intersection of Sparta Street. It then flows south easterly through Lot 18, enters onto Lot 17 in the same general direction to cross into Lot 16. It flows in a northeast direction to a livestock watering pond, crosses a fence and continues on Lot 16 to sufficient outlet at a culvert between Lots 16 and 15.

The Northwest Tile Branch commences at the Main Drain and carries subsurface water to the Pembroke Street west culvert crossing. It is located on the northwest side of Robinson Lane.

5.0 Design Considerations

5.1 Description of the Watershed

The catchment area for the drain was determined to be approximately 335 ha, considering all lands that drain to the point that was identified to be the outlet to the Ottawa River. The topography of the site is split between flat and generally unvarying upstream agricultural lands to steeper sections with built-up residential properties. The downstream limit of the catchment is comprised of a low-lying bush/wetland area. The site consists primarily of agricultural lands with some developed areas.

The clay loam soils within the watershed basin are identified as Renfrew clay, which when properly drained is a productive soil. This soil group represents approximately 40% of the watershed.

The Mountain soils are imperfectly drained and feature a layer of sandy loam of varying depths (0.5 meters to 1.0 meters) over a tough impervious clay and perhaps a hardpan. They are the dominant soils along the drain and represent approximately 50% of the watershed. These are fair agricultural soils that are easy to cultivate but lack the fertility that is necessary for good crop production.

5.2 Topographic Survey

The topography of the drainage area was determined using a combination of surveys provided by JP2G Consultants Inc., Wills and Ontario Base Map information downloaded from the Ontario Base Map Index.

5.3 Drainage Problem / Opportunity

The Drainage and Hydrology Report for the Pleasantview Municipal Drian and Branches, prepared by Wills in February of 2024, was commissioned to review the hydraulic performance of the culverts, channels, and quantity control pond and to highlight deficiencies or make recommendations for local drainage improvements. Through the Section 78 Process, there is an opportunity to update culverts and channels within the drain that were found to be deficient or would benefit from an improved level of service.

A brief summary of the Drainage and Hydrology Report is as follows:

- The Pembroke Branch drain commences near the southeast corner of Lot 26 of the City of Pembroke and between Lots 22 and 21 of the Township of Laurentian Valley where it flows in a northeasterly direction and outlets into the Main Drain.
    - The performance of the channel was found to be appropriate, but there is an opportunity for general maintenance to ensure the intended design function is achieved.
- The Main Drain commences between lots 22 and 21 where it flows southeasterly through lots 21 and crosses Robinson Lane. The drain continues to flow southeasterly where its outlets into a flow control pond.
    - The performance of the channel was found to be appropriate, but there is an opportunity for general maintenance to ensure the intended design function is achieved.
    - The performance of the culvert under Robinson Lane does not meet current MTO Highway Drainage Design Standards and should be investigated for upgrades.
    - Performance of the flow control pond is not functioning as designed and options should be investigated for updates or removal.
- From this location the Main Drain flows in a southeasterly direction across Lot 20 to the center line of Elm Street.
    - The performance of the channel were found to be appropriate, but there is an opportunity for general maintenance to ensure the intended design function is achieved.
- The Main Drain enters into Lot 19 along the south side of Elm Street West and crosses under Drive-In Road.
    - The performance of the channel was found to be deficient and requires an update to meet provincial design standards.

  - The performance of the culvert under Erma Street and Drive-In Road are not to MTO Highway Drainage Design Standards and should be investigated for upgrades.
  - The performance of the entrance culverts under Elm Street West are not to MTO Highway Drainage Design Standards and should be investigated for upgrades.
- The Main Drain follows Elm Street East where it becomes a deeper ditch and is no longer along the road right-of-way. The drain then is directed towards Pleasantview Drive.
  - The performance of the channel was found to be appropriate, but there is an opportunity for general maintenance to ensure the intended design function is achieved.
  - The performance of the culvert under Pleasantview Drive is not to MTO Highway Drainage Design Standards and should be investigated for upgrades.
- The Main Drain meanders in an easterly direction to the MTO Pembroke Street East Highway culvert and the Smith Branch. The natural drain was determined to have good and sufficient outlet.
  - The performance of the channel was found to be appropriate, but there is an opportunity for general maintenance to ensure the intended design function is achieved.
- From the Pembroke East culvert to the Ottawa River the Main Drain features a slow meander, flat grades and culvert crossings. The channel is bounded on both sides by housing and treed banks.
  - The performance of the culverts under the MTO Right-of-way, Ridge Drive, rail trail, and Heritage Place are not to MTO Highway Drainage Design Standards and should be investigated for upgrades.
  - Downstream of the MTO Right-of-way, the performance of the channel is considered reasonable to poor. There is an opportunity for general maintenance and concerns were raised at the On-Site meeting regarding erosion of the banks of the channel.
- The Smith Branch commences at the north right of way to Drive-In Road between Lot 18 and 19 and opposite the intersection of Sparta Street.
  - The performance of the culvert under Drive-In Road is not to MTO Highway Drainage Design Standards and should be investigated for upgrades.
- Sparta Street and Bardis Drive.
  - The performance of the roadside channel were found to be deficient and requires an update.
  - The performance of the culvert under Bardis Drive are not to MTO Highway Drainage Design Standards and should be investigated for upgrades.

    - The performance of the entrance culverts under Sparta Street West are not to MTO Highway Drainage Design Standards and should be investigated for upgrades.
    - Though not part of the drain, an engineered solution to the drainage problem will be investigated as part of this report.
- The Smith Branch flows south easterly through Lot 18, enters onto Lot 17 in the same general direction to cross into Lot. It flows in a northeast direction to a livestock watering pond and crosses a fence.
    - The performance of the channel were found to be poor to reasonable. There is an opportunity for general maintenance to ensure the intended design function is achieved.
- The Smith Branch flows through the Taylor Heights Subdivision to the culvert between Lots 16 and 15.
    - The performance of the channel were found to be poor. There is an opportunity for general maintenance to ensure the intended design function is achieved.
- The Northwest Tile Branch commences the Main Drain and carries subsurface water to the Pembroke Street west culvert crossing. It is located on the northwest side of Robinson Lane.
    - No work will be completed for this portion of the drain.

5.4 Design Criteria and Considerations

The goal of the municipal drain will be to provide a sustainable, maintainable, and adequate outlet for the watershed through a series of ditches and pipes.

5.4.1 Design Criteria

A Guide for Engineers working under the Drainage Act in Ontario – Publication 852, (The Guide) prepared by the Ministry of Agriculture, Food and Rural Affairs Ontario, was used to establish the criteria for the drainage assessment.

Table B2-2 of the Guide, states:

- The design storm for a Rural/Agricultural Channel is the 2-year event.
- The design storm for a Field Crossings is the 2 – 5-year event.
- The design storm for a Lower-Tier Municipal Road is the 5 – 10 year event.
- The design storm for an Upper-Tier Municipal Road is the 10 – 25 year event.

Notwithstanding the above design criteria, the proposed culverts were considered with respect to long-term stability and performance during the 10-year event, with additional consideration to their anticipated function during the 100-year event, given the nature of the upstream development and the standard of design allocated to stormwater management runoff from urban environments.

The MTO Drainage Management Manual and the MTO Highway Drainage Design Standards (HDDS) were used to establish the design criteria for the culverts within the study area.

The culverts were assessed based on the criteria for a Local Road. The culvert within the MTO Right-of-way was assessed based on criteria for Rural Arterial Road.

5.4.1.1 HDDS – Criteria for Culverts

Design Storm

The HDDS WC-1 Section 1.1, states that for a Local Road crossing with a span less than or equal to 6.0 m is the 10-year event and the check flood is 100% of the 100-year event. For a Rural Arterial crossing with spans less than 6.0 m is the 25-year event, and the check flood is 115% of the 100-year event.

Freeboard Criteria

The HDDS WC-7 Section 3.2, states that the minimum freeboard for a Local Road is 0.3 m from the design high-water elevation to the edge of pavement. The minimum freeboard for a Rural Arterial is 1.0 m from the design high water elevation to the edge of pavement.

Depth Criteria

The flood depth criteria are expressed as the ratio of the water depth at the upstream face of the culvert divided by the culvert diameter or rise (HW/D). The HDDS WC-7 section 3.5, states that for culverts with a:

- Diameter or rise less than 3 m the HW/D ratio should be less than 1.5.

Overtopping Criteria

The HDDS WC-7 Section 3.6, states that the water level generated by the check flood shall not exceed the elevation of the edge of pavement for freeways, collectors, and arterial collector roads.

Clearance Criteria

For open footing culvert crossings, HDDS WC-7 Section 3.4, states that the minimum clearance for a culvert with a straight soffit shall be 0.3 m. There is no Clearance requirement for Closed-Footing Culverts and Open-Footing Culverts with non-erodible bottom.

5.4.1.2 HDDS – Criteria for Surface Drainage Systems

Design Storm

The HDDS SD-1 Section 1.1, states that for a Local Road the Minor Drainage System is the 5-Year event with no requirement for the Major Drainage System. For a Rural Arterial Road, the Minor Drainage System is the 10-Year event with the Major Drainage System is the 100-Year event.

Conveyance Ditches

The HDDS SD-9 Section 2.1, states that the Maximum Depth of flow in a roadside ditch associated with the Minor System Design Flow shall be 1.0 m. There is no maximum depth in the roadside ditch associated with the Major Design Flow.

The HDDS SD-9 Section 2.2, states that the roadside ditch shall ensure that the Major Design Flow shall not spread onto either the shoulder or the travel lane. There is no requirement for the Minor Design Flow.

The HDDS SD-9 Section 3.1, states that the minimum Freeboard to the top of sub-grade shall be 0.3 m for the Minor System Design Flow. There is no minimum freeboard associated with the Major Design Flow.

Sewer Hydraulics

The HDDS SD-4 Section 2, states that the minimum allowable velocity in a trunk sewer shall be 0.75 m/s with the minimal allowable velocity in a lateral sewer shall be 1.5 m/s.

The HDDS SD-4 Section 2 also states that the maximum velocity in the trunk and lateral sewers are subject to manufacturers recommendations and erosion controls at the outlet of the sewer.

The recommended maximum capacity for the storm sewer shall be 85% full during the design storm, which is based on Best Management Practices (BMP). The capacity of the pipe can exceed 100% full as long as it is supported by a hydraulic grade line analysis.

5.4.2 Environmental Approval

The drain will be subject to the review of the department of Fisheries and Oceans (DFO) and consideration under the Species-at-Risk Act. Although the exact views of these agencies cannot be known in advance, the environmental impacts are expected to be appropriately mitigated through use of temporary erosion and sediment controls during construction and by facilitating construction during seasonal in-water working window.

This project is anticipated to have no permanent adverse impact on any species-at-risk as it intends to maintain the existing drainage feature and to continue to support the existing land use within the watershed.

6.0 Design Options and Recommendations

6.1 Design Options for Pleasantview and Smith Branches

The proposed drain will consist of the Pembrook Branch, The Main Branch and the Smith Branch that include both open ditch and pipe sections.

It is our recommendation that the drains be improved in keeping with the following options:

Pembrook Branch

Station 1+145	Upstream end of the Pembrook Branch of the Drain.
Station 19+145 to 20+000	Earth Ditch Cleanout of existing channel with 1.0 m flat bottom, 1.0 m deep and 1.5:1 (H:V) side slopes. Slope of channel to range from 0.20% to 0.5%. (To be Confirmed in Final Engineers Report)

Main Branch

Station 20+000	Upstream end of the Main Branch of the Drain.
Station 20+000 to 20+170	Earth Ditch Cleanout of existing channel with 1.0 m flat bottom, 1.0 m deep and 1.5:1 (H:V) side slopes. Slope of channel to range from 0.20% to 0.5%. (To be Confirmed in Final Engineers Report)
Station 20+170	Robinson Road Crossing. Upgrade the existing culvert to convey the 10-year event and to be stable during the 100-year event. The proposed culvert is recommended to be a twin 1000 mm CSP pipe. The inverts of the culvert will be lowered to match the proposed ditch grade. (To be Confirmed in Final Engineers Report)
Station 20+170 to 20+310	Flow Control Pond There are 2 Options for the Flow Control Pond downstream of Robinson Lane. **Option 1** Investigate decommissioning the Flow Control Pond. This would involve removing the inlet and outlet culverts and replacing them with a trapezoidal channel. It is anticipated that cost to decommission the existing pond is estimated at **$66,500.00.** It is anticipated that $57,900 will be assessed directly to the Drain for this option.

Option 2

Investigate implementing an upgrade to the Flow Control Pond. This would involve lowering the bottom of the pond, lowering the height of the berms, installing a new outlet control structure and adding an overflow weird to the pond.

It is anticipated that cost to decommission the existing pond is estimated at **$357,200.00.** It is anticipated that $76,100 will be assessed directly to the Drain for this option.

Station 20+310 to 20+395 Earth Ditch Cleanout of existing channel with 1.0 m flat bottom, 1.0 m deep and 1.5:1 (H:V) side slopes. Slope of channel to range from 0.20%. (To be Confirmed in Final Engineers Report)

Station 20+395 to 20+650 Elm Street West Crossing; Elm Street West; Drive-In Road

There are 4 Options to increase the capacity of the municipal drain on Sparta Street, Between Erma Street and Drive-In Road.

Option 1

Investigate upgrading the culverts and channel to MTO Highway Drainage Design Standards, considering the decommissioning of the Flow Control Pond and the subsequent loss of flow attenuation.

This will involve earth ditch cleanout of the channel between Station 20+310 and 20+395 and the installation of new culverts designed to convey the 10-year event and to be stable during the 100-year event at Erma Street and Drive-In Road. The proposed culvert at Erma Street is recommended to be a twin 1000 mm CSP pipe. The inverts of the culvert will be lowered to match the proposed ditch grade. The proposed culvert at Drive-In Road is recommended to be a twin 1200 mm CSP pipe. The inverts of the culvert will be lowered to match the proposed ditch grade. In addition, the capacity of the roadside ditch on Elm Street West will be increased and twin 1000 mm CSP pipes will be installed under the existing driveways.

It is anticipated that cost to implement this option is estimated at **$554,300.00.**

It is anticipated that **$153,300.00** will be assessed directly to the Drain for this option.

It is anticipated that **$401,000.00** will be assessed directly to the Township of Laurentian Valley for this option.

Option 2

Investigate installing a new storm sewer under Elm Street West to provide additional flow capacity and upgrade culverts and channel to MTO Highway Drainage Design Standards, considering the decommissioning of the Flow Control Pond and the subsequent loss of flow attenuation.

This will involve earth ditch cleanout of the channel between Station 20+310 and 20+395. A new storm sewer network on Sparta Street will be installed, designed to convey the 10-year event and to be stable during the 100-year event. The proposed sewer is recommended to be a 900 mm concrete pipe. New culverts designed to convey the 10-year event and to be stable during the 100-year event will be installed at Erma Street and Drive-In Road. The proposed culvert at Erma Street is recommended to be a twin 900 mm CSP pipe. The inverts of the culvert will be lowered to match the proposed ditch grade. The proposed culvert at Drive-In Road is recommended to be a twin 1200 mm CSP pipe. The inverts of the culvert will be lowered to match the proposed ditch grade. The capacity of the roadside ditch on Elm Street West will be increased and twin 900 mm CSP pipes will be installed under the existing driveways.

It is anticipated that cost to implement this option is estimated at **$1,287,300.00.**

It is anticipated that **$126,900.00** will be assessed directly to the Drain for this option.

It is anticipated that **$1,141,400.00** will be assessed directly to the Township of Laurentian Valley for this option.

Option 3

Investigate upgrading the culverts and channel to MTO Highway Drainage Design Standards, considering upgrades to the Flow Control Pond.

This will involve earth ditch cleanout of the channel between Station 20+310 and 20+395. New culverts designed to convey the 10-year event and to be stable during the 100-year event will be installed at Erma Street and Drive-In Road. The proposed culvert at Erma Street is recommended to be a twin 900 mm CSP pipe. The inverts of the culvert will be

lowered to match the proposed ditch grade. The proposed culvert at Drive-In Road is recommended to be a twin 1000 mm CSP pipe. The inverts of the culvert will be lowered to match the proposed ditch grade. The capacity of the roadside ditch on Elm Street West will be increased and twin 900 mm CSP pipes will be installed under the existing driveways.

It is anticipated that cost to implement this option is estimated at **$542,700.00.**

It is anticipated that **$141,700.00** will be assessed directly to the Drain for this option.

It is anticipated that **$401,100.00** will be assessed directly to the Township of Laurentian Valley for this option.

Option 4

Investigate a new storm sewer under Elm Street West, to increase capacity and upgrade culverts and channel to MTO Highway Drainage Design Standards, considering upgrades to the Flow Control Pond.

This will involve earth ditch cleanout of the channel between Station 20+310 and 20+395. A new storm sewer network will be installed on Sparta Street, designed to convey the 10-year event and to be stable during the 100-year event. The proposed sewer is recommended to be a 900 mm concrete pipe. New culverts designed to convey the 10-year event and to be stable during the 100-year event will be installed at Erma Street and Drive-In Road. The proposed culvert at Erma Street is recommended to be a twin 600 mm CSP pipe. The inverts of the culvert will be lowered to match the proposed ditch grade. The proposed culvert at Drive-In Road is recommended to be a 1000 mm CSP pipe. The inverts of the culvert will be lowered to match the proposed ditch grade. The capacity of the roadside ditch on Elm Street West will be increased and twin 600 mm CSP pipes will be installed under the existing driveways.

It is anticipated that cost to implement this option is estimated at **$1,243,000.00.**

It is anticipated that **$145,300.00** will be assessed directly to the Drain for this option.

It is anticipated that **$1,097,800.00** will be assessed directly to the Township of Laurentian Valley for this option.

Station 20+650 to 20+850	Earth Ditch Cleanout of existing channel with 1.0 m flat bottom, 1.0 m deep and 1.5:1 (H:V) side slopes. Slope of channel to range from 0.20%. (To be Confirmed in Final Engineers Report)
Station 20+850 to 21+070	Do Nothing
Station 21+070	Pleasantview Drive Crossing. Upgrade the existing culvert to convey the 10-year event and to be stable during the 100-year event will be installed. The proposed culvert is recommended to be Twin 1400 mm CSP pipes. The inverts of the culvert will be lowered to match the proposed ditch grade. (To be Confirmed in Final Engineers Report)
Station 21+070 to MTO	Do Nothing
MTO ROW	Do Nothing
MTO ROW to Ridge Drive	Do Nothing
Ridge Drive	Ridge Drive Crossing. Upgrade the existing culvert to convey the 10-year event and to be stable during the 100-year event will be installed. The proposed culvert is recommended to be three 1600 mm CSP pipes. The inverts of the culvert will be lowered to match the proposed ditch grade. (To be Confirmed in Final Engineers Report)
Ridge Drive to Rail Trail	Do Nothing
Rail Trail	Rail Trail Crossing. Upgrade the existing culvert to convey the 10-year event and to be stable during the 100-year event will be installed. The proposed culvert is recommended to be a twin 2200 mm CSP pipes. The inverts of the culvert will be lowered to match the proposed ditch grade. (To be Confirmed in Final Engineers Report)
Rail Trail to Heritage Place	Do Nothing
Heritage Place	Heritage Place Crossing. Upgrade the existing culvert to convey the 10-year event and to be stable during the 100-year event will be installed. The proposed culvert is recommended to be twin 2200 mm CSP pipes. The inverts of the culvert will be lowered to match the proposed ditch grade. (To be Confirmed in Final Engineers Report)
Heritage Place to Outlet	Heritage Place Outlet Channel There are 3 Options to increase the capacity of the Municipal Drain downstream of the Heritage Place Culvert.

Option 1

Reestablish the drain downstream of the Heritage Place through Earth Ditch Cleanout of existing channel with 2.0 m flat bottom, 0.9 m deep and 2.0:1 (H:V) side slopes. Remove all vegetation from the channel and install rock protection within the bottom of the channel. The channel will be sized to convey the 100-Year Event. This option envisions that the existing trees will be removed on both side of the channel.

It is anticipated that cost to implement this option is estimated at **$111,230.00.**

It is anticipated that an easement will be required over private property to implement this option. Assuming 200,000 $/ha it is estimated that **$29,400.00** will be required for the easement. ((10m + 5m) * 97m / 10000 * 200,000)

It is anticipated that **$140,630.00** assessed directly to the Drain for this option.

Option 2

Relocate the drain downstream of the Heritage Place through Earth Ditch Cleanout of existing channel with 2.0 m flat bottom, 0.9 m deep and 2.0:1 (H:V) side slopes.

Channel will be relocated 2.0 m to the north. Remove all vegetation form the north side channel and install rock protection within the bottom of the channel. Topsoil to be installed on the south side of the channel to help protect the existing trees. The channel will be sized to convey the 100-Year Event. This option envision that the trees along the north side of the channel will be removed and the trees along the south side of the channel will be protected and preserved.

It is anticipated that cost to implement this option is estimated at **$117,910.00.**

It is anticipated that an easement will be required over private property to implement this option. Assuming 200,000 $/ha it is estimated that **$32,980.00** will be required for the easement. ((10m + 5m+2m) * 97m / 10000 * 200,000)

It is anticipated that **$150,890.00** assessed directly to the Drain for this option.

Option 3

Hydraulic analysis shows that the existing outlet channel is reasonably sized to convey the expected peak flows. The existing level of erosion observed within the outlet channel is considered minor but may continue to develop over time. The ongoing erosion may introduced increased risks of falling trees and property damage.

This option recommends actively monitoring and removing trees from the channel at the time at which they die, to avoid damage to the adjacent properties.

It is anticipated that cost to implement this option is estimated at **$ 0.00** at this time, although future costs my occur.

It is anticipated that **$ 0.00** assessed directly to the Drain for this option.

Smith Branch

Station 10+000 Upstream end of the Smith Branch of the Drain.

Station 10+000 Drive-In Road

There are 2 Options for the culvert at Drive-In Road. Both options envision works within the Sparta Street and Bardis Drive right-of-way, that is outside the limits of the Section 78 process. Refer to **Section 6.2.2** for additional information.

Option 1

Install a new culvert designed to convey the 10-year event and to be stable during the 100-year event. The proposed culvert is recommended to be a 1600 mm CSP pipe. The inverts of the culvert will be lowered to match the proposed ditch grade.

It is anticipated that cost to implement this option is estimated at **$76,100.00.**

It is anticipated that **$76,100.00** assessed directly to the Drain for this option.

Option 2

Install a new culvert designed to convey the 10-year event and to be stable during the 100-year event. The proposed culvert is recommended to be a 1000 mm CSP pipe. The

	inverts of the culvert will be lowered to match the proposed ditch grade. It is anticipated that cost to implement this option is estimated at **$71,900.00.** It is anticipated that **$71,900.00** assessed directly to the Drain for this option.
Station 10+000 to 10+800	Earth Ditch Cleanout of existing channel with 1.0 m flat bottom, 1.0 m deep and 1.5:1 (H:V) side slopes. Slope of channel to range from 0.20%. (To be Confirmed in Final Engineers Report)
Station 10+800 to 11+530	Earth Ditch Cleanout of existing channel with 1.2 m flat bottom, 1.0 m deep and 1.5:1 (H:V) side slopes. Slope of channel to range from 0.20%. (To be Confirmed in Final Engineers Report)
Station 11+530 to MTO	Taylor Heights Subdivision There are 3 Options to increase the capacity of the Municipal Drain between 11+530 and the MTO right-of-way. **Option 1** General maintenance of the channel to be performed to remove all dead vegetation. Construct a berm with a 0.5 m top width and 2:1 side slope to the North of the drain, between Station 11+770 and 11+935. The berm will be constructed 0.3 m higher than the gravel driveway to South of the drain to ensure no additional water enters the Taylor Heights subdivision. The channel will be sized to convey the 100-Year Event. It is anticipated that that constructed berm will have to be offset form the existing drain between 10 m and 30 m. This will ensure that the existing gravel driveway does not overtop. An easement will need to be obtained on 44 and 50 Taylor Heights Drive to construct the berm. It is anticipated that cost to implement this option is estimated at **$55,832.00.** It is anticipated that an easement will be required over private property to implement this option. Assuming 100,000 $/ha it is estimated that **$42,700.00** will be required for the easement.

It is anticipated that **$98,532.00** assessed directly to the Drain for this option.

Option 2

General maintenance of the channel to be performed to remove all dead vegetation.

Reestablish the drain between Station 11+770 and 11+920 through Earth Ditch Cleanout of existing channel with 2.0 m flat bottom, 1.55 m deep and 2.0:1 (H:V) side slopes. Slope of channel to match the gravel driveway to the south of the drain. Remove all vegetation from with the channel. The channel will be sized to convey the 100-Year Event.

It is anticipated that cost to implement this option is estimated at **$46,983.00.**

It is anticipated that an easement will be required over private property to implement this option. Assuming 100,000 $/ha it is estimated that **$20,840.00** will be required for the easement.

It is anticipated that **$67,823.00** assessed directly to the Drain for this option.

Option 3

General maintenance of the channel to be performed to remove all dead vegetation.

Construct a berm with a 0.5 m top width and 2:1 side slopes to the North of the drain, between Station 11+770 and 11+945. The berm will be constructed 0.2 m higher than the gravel driveway to South of the drain to ensure no additional water enters the Taylor Heights subdivision. The gravel driveway will also be raised between Station 11+770 and 11+945 in order to increase the capacity of the channel. The channel will be sized to convey the 100-Year Event.

It is anticipated that that constructed berm will have to be offset form the existing drain between 10 m and 15 m. This will ensure that the existing gravel driveway does not overtop. An easement will need to be obtained on 44 and 50 Taylor Heights Drive to construct the berm.

It is anticipated that cost to implement this option is estimated at **$64,549.00.**

It is anticipated that an easement will be required over private property to implement this option. Assuming 100,000 $/ha it is estimated that **$35,850.00** will be required for the easement.

It is anticipated that **$98,674.00** assessed directly to the Drain for this option.

It is anticipated that **$1,725.00** will be assessed directly to the Township of Laurentian Valley for this option.

6.2 Design Options for Lands Adjacent to the Drain

6.2.1 Residential Properties on Erma Street

One option was considered for this location:

Option 1

Provide a new interceptor Swale within the 5.0 m easement between the residential properties and the Farmers Field (Property Number 476606204032100).

Install an interceptor swale within the 5.0 m easement that connects into the Municipal Drain at Station 2+330, The channel is recommended to be a 0.6 m deep triangular channel that fits between the 5 residential properties on Erma Street.

It is anticipated that **$28,500.00** will be assessed directly to the Township of Laurentian Valley for this option.

6.2.2 Sparta Street and Bardis Drive.

There are 2 Options for the culvert at Drive-In Road. Both options envision works within the Sparta Street and Bardis Drive right-of-way, that is outside the limits of the Section 78 process.

Option 1

Upgrade the culverts and channel to MTO Highway Drainage Design Standards.

Install a new culvert under Bardis Drive designed to convey the 10-year event and to be stable during the 100-year event. The proposed culvert is recommended to be a twin 900 mm CSP pipe. The inverts of the culvert will be lowered to match the proposed ditch grade. The capacity of the roadside ditch on Sparta Street will be increased and twin

900 mm CSP pipes will be installed under the existing driveways.

It is anticipated that cost to implement this option is estimated at **$187,000.00**.

It is anticipated that **$187,000.00** will be assessed directly to the Township of Laurentian Valley for this option.

Option 2

Investigate a new storm sewer network on Sparta Street, designed to convey the 10-year event and to be stable during the 100-year event. The proposed sewer is recommended to be a 1050 mm concrete pipe. An additional 1000 mm CSP Culvert will be required under Drive-In Road, to replace the Sparta Street Culvert.

It is anticipated that cost to implement this option is estimated at **$851,000.00**.

It is anticipated that **$851,000.00** assessed directly to the Township of Laurentian Valley for this option.

6.2.3 Residential Properties on Drive-In Road

One option was considered for this location:

Option 1

Provide an interceptor Swale between the residential properties and the Farmers Field (Property Number 476606204032100).

This option requires negotiation of an easement through private property, to direct surface runoff to the Municipal Right-of-way. The cost associated with obtaining this easement, are not included in the cost estimate. We note that an extension of the Smith Branch would require a new petition under Section 4 of the Act.

Install an interceptor swale within the negotiated easement that connects into the Drive-In Road right-of-way. The channel is recommended to be a 0.6 m deep triangular channel that fits between the 5 residential properties on Erma Street and the Farmers Field (Property Number 476606204032100).

It is anticipated that cost to implement this option is estimated at **$33,700.00**.

It is anticipated that **$33,700.00** will be assessed directly to the Township of Laurentian Valley for this option.

6.3 Working Area

The width of the working area for maintenance is recommended to be 6 m on one side of the drain. Each landowner on whose property the drainage works is to be constructed shall designate access to and from the working area at the time of construction or upon failure to do so, the engineer or Drainage Superintendent shall designate access as identified on the detailed design drawings.

7.0 Cost Estimate

The general principle of the Drainage Act is that the project costs, incurred from both design and construction activities, along with any funds owed to landowners for various impacts and inconveniences, future maintenance cost, and are distributed fairly to all lands and roads within the contributing area. The cost estimate on this project consists of:

- The allowances recommended to be made to those owners having work on their properties or other detrimental impacts;
- The construction cost estimate;
- The engineering cost estimate;
- The construction supervision and eligible administration costs which include financing, applications, and miscellaneous costs; and,
- Contingency items, as required.

As per Section 59 (1) of the Act, in the case where tender prices are 33% higher than the engineer's estimate of the contract price, then another meeting to consider the price must be held before the work can proceed.

7.1 Allowances

Various allowances are considered part of a Municipal Drain and are intended to provide appropriate compensation to landowners who are negatively impacted by the construction of the drain as well as future maintenance cost. The drainage act states in Section 29 to 33 that the Engineer is to allow for the value of several items, as follows:

7.1.1 Section 29 – Allowance for Right-of-Way

Section 29 Allowances will be calculated within the Final Engineers Report in keeping with the selection option.

7.1.1.1 Allowance for Land Taken Permanently out of Production

Allowances of this nature will be calculated within the Final Engineers Report in keeping with the selection option.

7.1.1.2 Allowance for Land Used Periodically

Allowances of this nature will be calculated within the Final Engineers Report in keeping with the selection option.

7.1.2 Section 30 – Amount for Damages

Section 30 Allowances will be calculated within the Final Engineers Report in keeping with the selection option.

7.1.3 Section 31 – Allowance for Existing Drain

Allowances of this nature will be calculated within the Final Engineers Report in keeping with the selection option.

7.1.4 Section 32 – Allowance for Damages due to Insufficient Outlet

Allowances of this nature will be calculated within the Final Engineers Report in keeping with the selection option.

7.1.5 Section 33 – Allowance for Loss of Access

Allowances of this nature will be calculated within the Final Engineers Report in keeping with the selection option.

7.2 Construction Cost Estimate for Pleasantview and Smith Branches

The estimated cost of labour, equipment and materials to construct the proposed drain is outlined in the following section. The final cost of the drain construction cannot be established until the construction is complete. The contractor is to supply all labour, equipment and materials to construct the Drain.

A Detailed Construction Cost Estimate will be calculated within the Final Engineers Report.

7.3 Engineering Cost Estimate

The Engineering Cost Estimate is intended to provide for the work involved with generating background information to prepare for and attend on-site meetings; field survey; the preparation of plans, profiles, cross sections, drawings, and details; the design of the municipal drain features; conducting discussions with affected land owners and authorities; evaluating alternatives; preparing cost estimates, allowance tables, assessment schedules and future maintenance schedules; preparing specifications; report writing; and attending public meetings.

The Engineering Cost Estimate for the summarized as follows:

- Report Preparation .....$ 136,200
- Consideration / Court of Revision .....$ 13,400
- **Sum.....$ 149,600**

The cost of the report preparation is usually not altered at the conclusion of a project unless the report is referred back to the engineer following significant input or a change in the project circumstances, or the report is appealed, both of which would involve additional cost. There may be some additional costs that are recognized through the design process to provide other technical studies including, but not limited to, topographic survey, subsurface investigations, environmental studies, etc.

The estimates provided above for Consideration and Court of Revision are typical costs only and would only be exceeded in the case of lengthy or unusual meetings, uncommon report preparation costs, appeals, or other cases where additional input or services are required from the Engineer.

7.4 Construction Supervision and Eligible Administration Cost Estimate

7.4.1 Construction Supervision

The cost estimate for construction supervision typically includes work to prepare tender documents, facilitate the award of contracts, attend pre-construction meetings, perform construction inspection, facilitate contractor payment, complete all required final inspections, attend, and facilitate meetings, conduct post construction follow-up, and to assist with preparation of grant applications.

- Construction Supervision $ 10,000

7.4.2 Eligible Administration Cost

It is appropriate to assess various other administration costs incurred by the municipality and the engineer to the project. Section 73(1) of the Drainage Act states that "Except where otherwise provided in this Act or by a decision on an appeal, the cost of any application, reference or appeal and the cost of temporary financing for the construction, improvement, repair and maintenance of a drainage works, shall form part of the cost of the drainage works."

The Eligible Administration Cost Estimate for the Curtin Municipal Drain is summarized as follows:

- Eligible Administration Cost (excluding HST) ..... $ 3,000
- Allowance for Report Reproduction ..... $ 1,000
- **Sum..... $ 4,000**

7.5 Estimated Cost Summary

The total estimated cost for the Curtin Municipal Drain is summarized as follows:

- Allowances .....<To Be Finalized in Final Engineers Report>
- Construction Cost Estimate.....<To Be Finalized in Final Engineers Report>
- Engineering Cost Estimate ..... $ 77,200
- Construction Supervision and Eligible Administration Cost Estimate $ 14.000
- **Total Estimated Cost ..... $ Unknown**

8.0 Cost Assessments Principles

Section 21 of the Drainage Act requires that the Engineer "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." The intention of the assessment schedule is to determine and communicate the proportional costs that are to be levied to each landowner or agency that benefit and/or contribute runoff to the drain.

8.1 Cost Assessment

8.1.1 Section 22 – Assessment of Benefit

Section 22 of the Drainage Act states that "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." The intention of this component of the assessment schedule is to recognize particular landowners or agencies for whom the drain will provide a significant drainage improvement, and to ensure that appropriate additional costs are assessed to those parties.

Benefits to landowners can include higher market value for the property, improved appearance, better control of surface or subsurface water, or any other advantage relating to the betterment of lands, roads, buildings or structures.

Section 22 Benefits will be calculated within the Final Engineers Report in keeping with the selection option.

8.1.2 Section 23(1) – Assessment of Outlet Liability

Section 23(1) of the Drainage Act states that "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." The intention of this component of the assessment schedule is to recognize the lands that have no right of drainage but still function as the 'source' of

the surface runoff; that is, lands which contribute runoff via sheet flow or other artificially constructed means to the drain.

The assessments of outlet liabilities within the Pleasantview Municipal Drain is calculated based on the recommendation of the Engineers Report, Pleasantview Municipal Drain and Branches, prepared by Stantec, Revised Per Tribunal Hearing November 13, 2008.

Section 23(1) Outlet Liability will be calculated within the Final Engineers Report in keeping with the selection option.

8.1.3 Section 23(2) – Assessment of Injuring Liability

Section 23(2) of the Drainage Act states that "If, from any land or road, water is artificially caused by any means to flow upon and injure any other land or road, the land or road from which the water is caused to flow may be assessed for injuring liability with respect to a drainage works to relieve the injury so caused to such other land or road." The intention of this component of the assessment schedule is similar to Outlet Liability, as above, and recognizes flows that are artificially collected and result in specific negative downstream impacts.

Section 23(2) Injury Liability will be calculated within the Final Engineers Report in keeping with the selection option.

8.1.4 Section 24 – Assessment of Special Benefit

Section 24 of the Drainage Act states that "The engineer may assess for special benefit any lands for which special benefits have been provided by the drainage works." Defined as additional works of features included in the construction, repair, or improvement of drainage works that has no effect on the function of the drainage works." The intention of this component of the assessment schedule is to recognize lands and agencies that receive additional, unique, and specific benefits that are not related to general improvements to drainage.

The Township of Laurentian Valley will be assessed a special benefit for works within the municipal ROW. This includes the proposed centerline culvert, entrance culvert, storm sewers, and roadside grading.

Section 24 Special Benefit will be calculated within the Final Engineers Report in keeping with the selection option.

8.1.5 Section 26 – Increased Cost, How Borne

Section 26 of the Drainage Act states that "In addition to all other sums lawfully assessed against the property of a public utility or road authority under this Act, and despite the fact that the public utility or road authority is not otherwise assessable under this Act, the public utility or road authority shall be assessed for and shall pay all the increase of cost of such drainage works caused by the existence of the works of the public utility or road authority."

As described in Section 8.1.4, the costs associated within the road ROW will be fully assessed to the Township of Laurentian Valley. This assessment will consist primarily of the costs associated with entrance culverts and earth ditch cleanout on municipal lands.

The Township of Laurentian Valley will have the option of either performing the work of installing road entrance culvert or elect to have work completed by a general contractor. If the Township of Laurentian Valley completes this work at their expense, no Section 26 assessment shall apply.

9.0 Future Maintenance and Repair Provisions

As described in this report, the Township of Laurentian Valley, at the expense of the lands, shall maintain the drain and all associated features and roads as assessed and, in the proportions, set out in the By-Law, which adopts this Report. The cost of all maintenance is to be assessed to the upstream lands and roads on a prorated basis in keeping with the percentages in **Schedule B**.

Future costs for maintenance of the road crossings are to be fully assessed to the Township of Laurentian Valley.

The Pleasantview Municipal Drain shall be maintained using the specification, plans and profiles as contained in this Report.

At each time of maintenance, ditch banks are to be seeded. Over-seeding is recommended. Rates of application and use of fertilizer and mulch is to be as per supplier's recommendations.

Ditch culverts, below farm entrances along the drain, may be replaced in the future and up to equivalent metres in length with the same size (dia.) or opening as the proposed culvert; the costs of the work is to be split evenly, with 50% assessed to the abutting property and 50% assessed to the upstream lands and roads at the time of the replacement.

The drain should be inspected for maintenance purposes at a minimum once every 10-years.

10.0 General Instructions to Property Owners

Once the drainage system is constructed, it is the municipality's responsibility to manage it. The drainage system becomes part of the municipal infrastructure and is to be repaired and maintained by the City, not by the property owners.

Landowners should note that there is responsibility for landowners to not damage or obstruct the flow in the municipal drain. Section 80(1) of the Drainage act states that "When a drainage works becomes obstructed by a dam, low bridge, fence, washing out of a private drain, or other obstruction, for which the owner or occupant of the land adjoining the drainage works is responsible, so that the free flow of the water is impeded thereby, the persons owning or occupying the land shall, upon reasonable

notice sent by the council of the local municipality whose duty it is to maintain and repair the drainage works or by a drainage superintendent appointed by the council, remove such obstruction and, if it is not so removed within the time specified in the notice, the council or the drainage superintendent shall forthwith cause it to be removed, and the cost thereof is payable to the municipality by the owner or occupant of the land."

Section 82 (1) of the Drainage act states that "A municipality in which a drainage works or part thereof is situate may bring an action for damages against any person who destroys or injures in any way a drainage works, including any bench mark or permanent level, and any damages ordered by the referee to be paid shall be paid to the municipality and used for the construction, improvement, maintenance or repair of the drainage works."

When the drainage superintendent is required to perform any necessary maintenance, the property owners are to provide access to the drain. Section 74(1) of the Drainage Act states "Any drainage works constructed under a by-law passed under this Act or any predecessor of this Act, relating to the construction or improvement of a drainage works by local assessment, shall be maintained and repaired by each local municipality through which it passes, to the extent that such drainage works lies within the limits of such municipality, at the expense of all the upstream lands and roads in any way assessed for the construction or improvement of the drainage works and in the proportion determined by the then current by-law pertaining thereto until, in the case of each municipality, such provision for maintenance or repair is varied or otherwise determined by an engineer in a report or on appeal therefrom."

Future connections to the municipal drainage system require permission from the Township of Laurentian Valley. Section 65(5) of the Drainage Act states that "No person shall connect to or disconnect from drainage works without the approval of the council of the municipality."

The drain is designed based on land use and management. Municipal Approval is required if land use is changed such that the drain is impacted. Section 65(3) of the Drainage Act states "If an owner of land that is not assessed for a drainage works subsequently connects the land with the drainage works for the purpose of drainage, or if the nature or extent of the use of a drainage works by land assessed for the drainage works is subsequently altered, the clerk of the local municipality in which the land is situate shall instruct an engineer in writing to inspect the land and assess it for a just proportion of the drainage works, taking into account any compensation paid to the owner of the land in respect of the drainage works."

It is the landowner's responsibility to identify/mark existing tile drains along the proposed drain. Marked outlets that are damaged by the contractors during construction will be required to repair or replace damaged tile.

It is the landowner's responsibility not to plant trees or any permanent feature within the working corridor of the municipal drain.

No material that can impair water quality should be discharged into the drainage system.

A permit to take water is required if more than 50,000 L/day of water is taken from the drain, subject to the provisions of Section 34 of the Water Resource Act.

It is recommended that each abutting owner conduct work no closer than 1.0 m to any ditch bank. Such area does not have to be grassed but it should not be cultivated.

11.0 Grants

As per Section 85 of the Drainage Act and OMAFRA's ADIP policies, a grant not exceeding 1/3 (33.3%) may be available on the assessments against privately owned parcels of land which are used for agricultural purposes and are eligible for the Farm Property Class Tax Rate (F.P.C.T.R.).

Section 88(1) of the Drainage Act states that "Upon the practical completion of the drainage works and after the time for appealing against assessments has expired and there are no appeals or after all appeals against assessments have been decided, the council of the initiating municipality shall forward to the Director an application for a grant in such form as is provided by the Director.

If an assessed owner not shown as having the Farm Property Class Tax Rate feels that their property should be eligible for the grant, and they can provide proof to the Municipality of this eligibility as noted prior to the final cost levy, then the property could have the 1/3 (33.3%) grant deducted from the final cost levy. It is to be noted that OMAFRA retains the final right to determine eligibility under the grant program, regardless of designation herein.

12.0 Seal and Signature of the Engineers

Respectfully submitted,

Mark Hoar, P.Eng.
Senior Water Resources Engineer

Ken Smith, P.Eng.,
Manager, Water Resources Engineer

MH/vm

Appendix A

Schedule of Estimated Assessment for Construction

Schedule of Estimated Assessment will be provided in the Final Engineers Report.

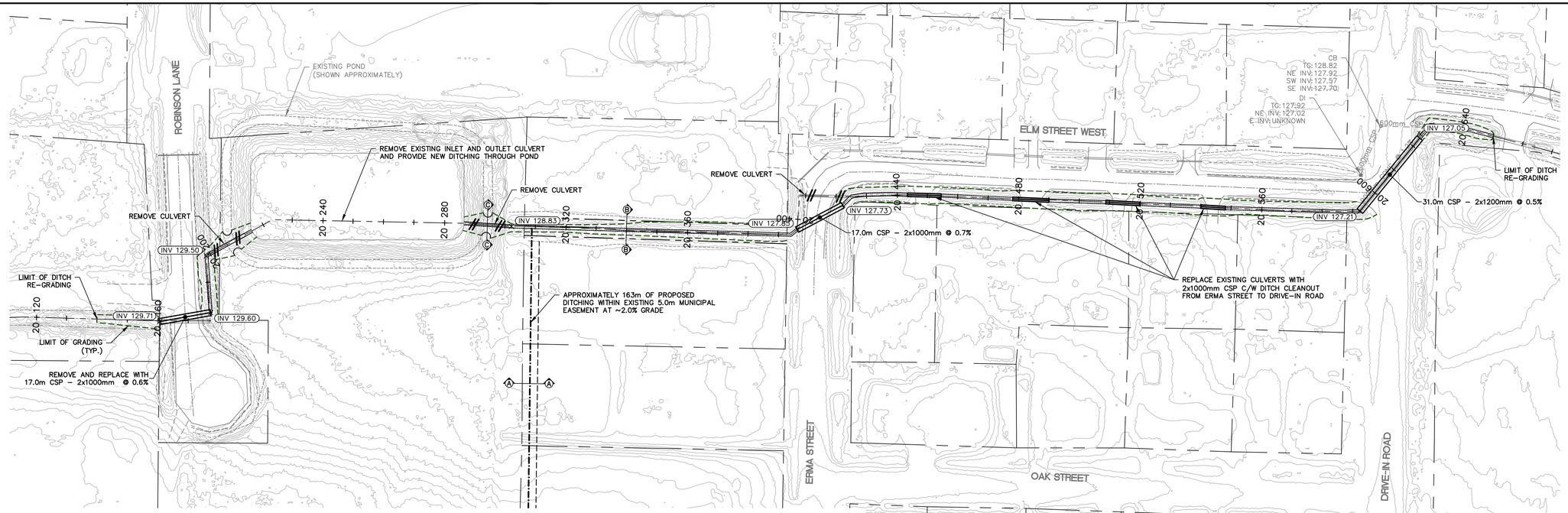
Appendix B

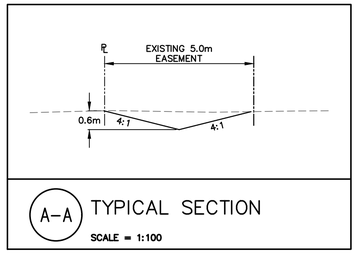
Schedule of Assessment for Future Maintenance

Schedule of Estimated Assessment for Future Maintenance will be provided in the Final Engineers Report.

Appendix C

Preliminary Drawings





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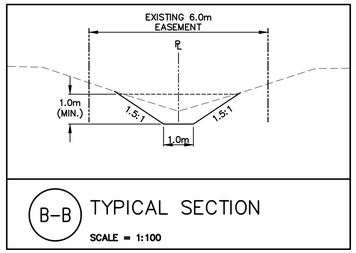

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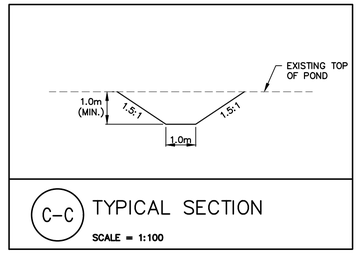

C-C TYPICAL SECTION
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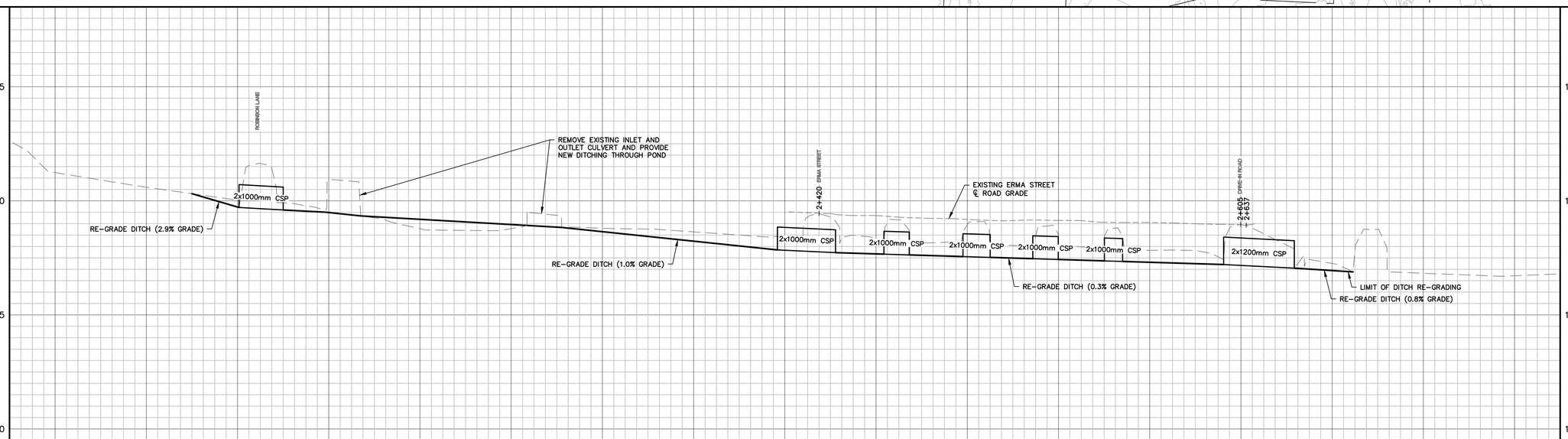

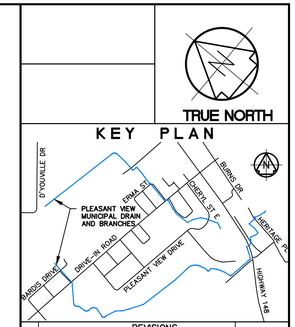

TRUE NORTH

REVISIONS		
No.	Description	Date

METRIC	Dimensions are in METRES and/or MILLIMETRES unless otherwise shown
LEGEND	TO BE READ IN CONJUNCTION WITH OPSD 100 SERIES

- EX. PAVEMENT EDGE
- EX. SHOULDER/GRAVEL EDGE
- EX. CENTRELINE
- EX. DITCH/SWALE
- PROPERTY LINE
- PR. STORM MH
- PR. STORM SEWER
- EX./PR. CULVERT
- LIMIT OF GRADING
- TYPICAL SYMBOL FOR REMOVALS

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E. wills@dmwills.com

Project Name/Location

PLEASANT VIEW MUNICIPAL DRAIN AND BRANCHES

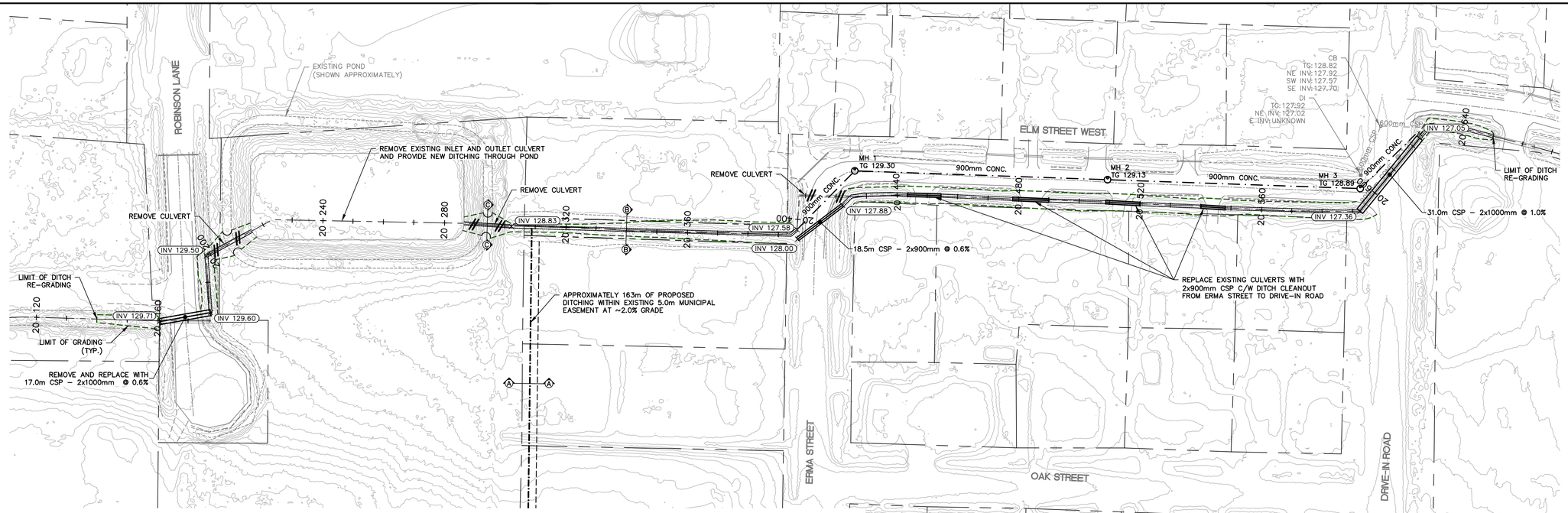
TOWNSHIP OF LAURENTIAN VALLEY, ONTARIO

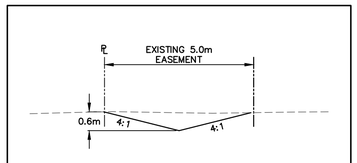
Drawing Title

ERMA STREET - OPTION 1
PLAN AND PROFILE
STA. 20+060 TO 20+740

Drawn By: MB	Scale: Plan 1:750 Profile 1:1000 Vert 10X		
Designed By: JC	Issue Date: June 3, 2025		
Checked By: MH	Project No.: 23-5603	Sht. No.:	
Engineer: MH	Dwg File No.: 5603 - PP	400	

NOT FOR CONSTRUCTION





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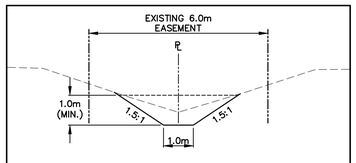

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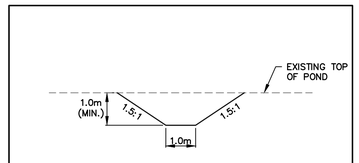

C-C TYPICAL SECTION
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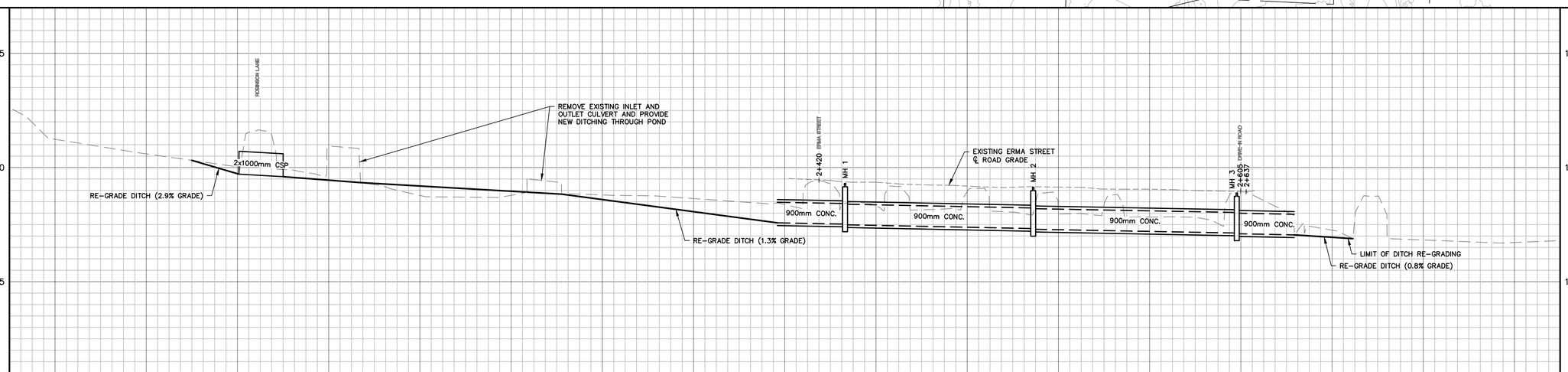
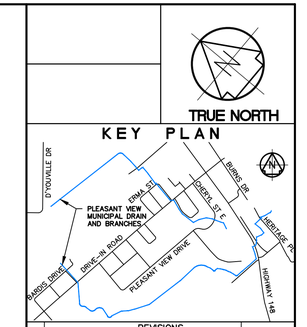


CHAINAGE AND ELEVATION	20+080 131.24	20+120 130.60	20+160 129.73	20+200 129.45	20+240 129.19	20+280 128.96	20+320 128.60	20+360 128.07	20+400 128.38	20+440 128.32	20+480 128.94	20+520 128.10	20+560 127.83	20+600 128.97	20+640 127.26 126.94	20+680 126.63	20+720 126.72	CHAINAGE AND ELEVATION
STORM SEWER	21.6m - 525mm CONC. PIPE @ 0.0%								27.1m - 900mm CONC. PIPE @ 0.2% STM MH 1 TG: 128.30 OPSD 401.010 (B) OPSD 701.012 STA: 20+451.45 W 127.52 SE 127.49		83.2m - 900mm CONC. PIPE @ 0.2% STM MH 2 TG: 129.13 OPSD 401.010 (B) OPSD 701.012 STA: 20+513.95 NW 127.33 SE 127.30		83.2m - 900mm CONC. PIPE @ 0.2%		STM MH 3 TG: 128.89 OPSD 401.010 (B) OPSD 701.012 STA: 20+603.23 NW 127.13 E 127.10	25.3m - 900mm CONC. PIPE @ 0.2%			STORM SEWER



REVISIONS		
No.	Description	Date

METRIC	Dimensions are in METRES and/or MILLIMETRES unless otherwise shown
LEGEND	TO BE READ IN CONJUNCTION WITH OPSD 100 SERIES

- EX. PAVEMENT EDGE
- EX. SHOULDER/GRAVEL EDGE
- EX. CENTRELINE
- EX. DITCH/SWALE
- PROPERTY LINE
- PR. STORM MH
- PR. STORM SEWER
- EX./PR. CULVERT
- LIMIT OF GRADING
- TYPICAL SYMBOL FOR REMOVALS

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E. wills@dmwills.com

Project Name/Location

PLEASANT VIEW MUNICIPAL DRAIN AND BRANCHES

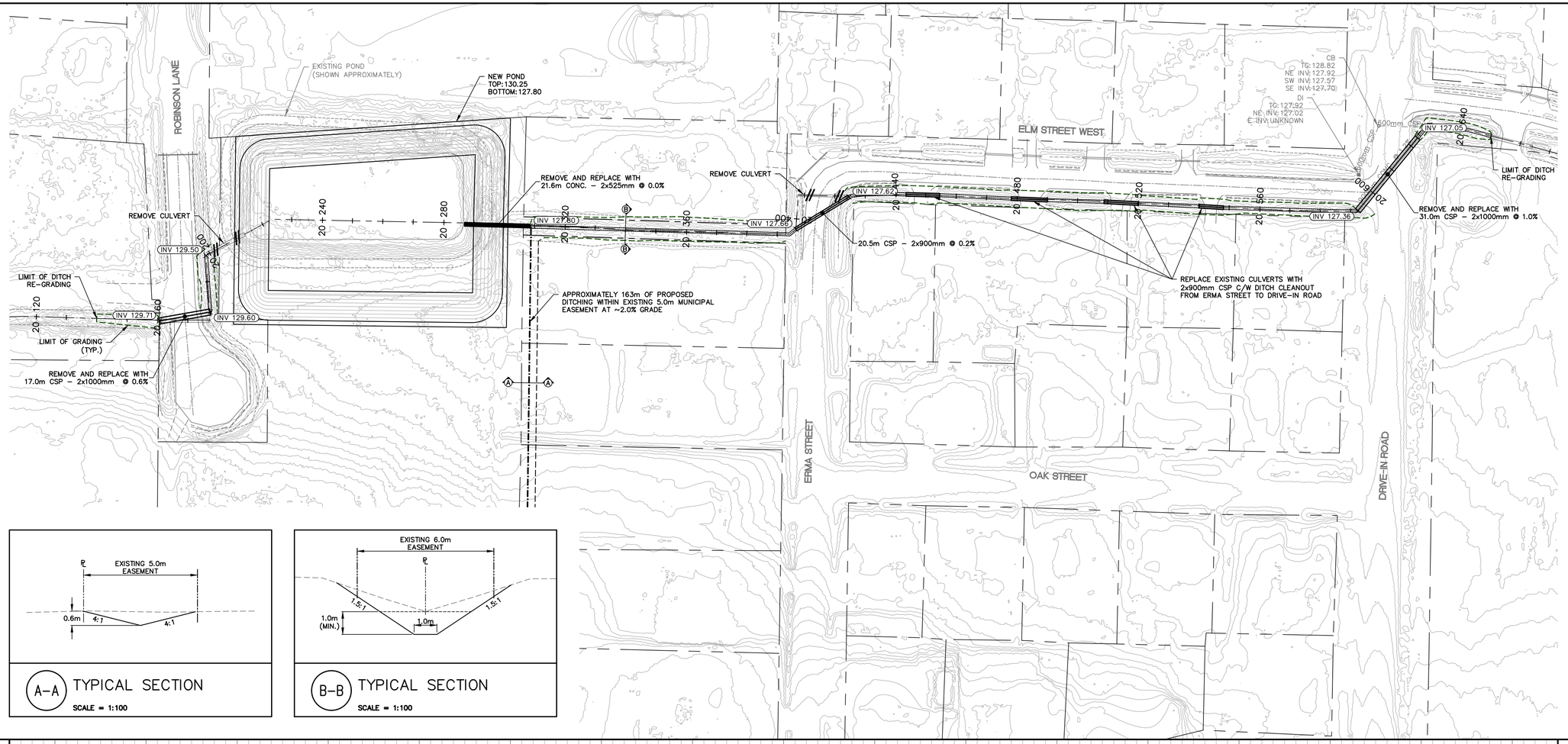
TOWNSHIP OF LAURENTIAN VALLEY, ONTARIO

Drawing Title

ERMA STREET - OPTION 2 PLAN AND PROFILE STA. 20+060 TO 20+740

Drawn By: MB	Scale: Plan 1:750 Profile 1:1000 Vert 10X		
Designed By: JC	Issue Date: June 3, 2025		
Checked By: MH	Project No.: 23-5603	Sht. No.:	
Engineer: MH	Dwg File No.: 5603 - PP	401	

NOT FOR CONSTRUCTION

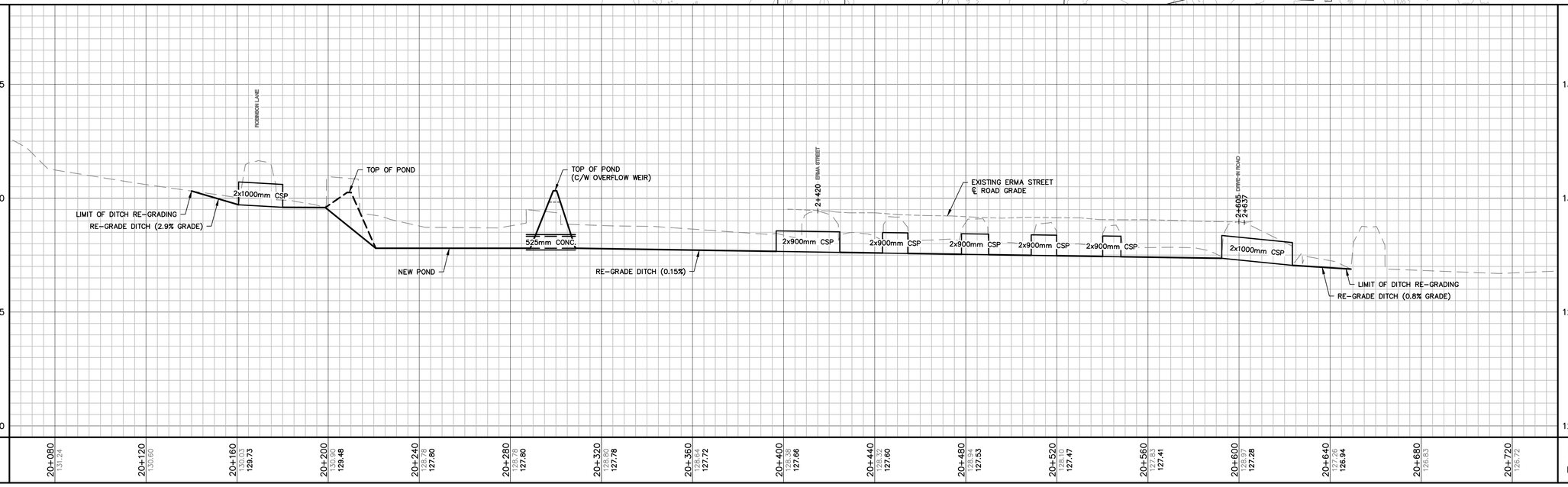


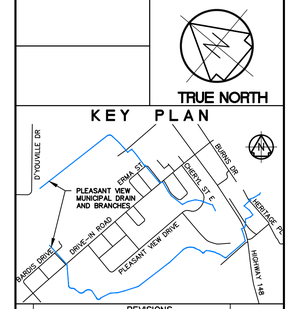
A–A TYPICAL SECTION

SCALE = 1:100

B–B TYPICAL SECTION

SCALE = 1:100





TRUE NORTH

REVISIONS

No.	Description	Date

METRIC Dimensions are in METRES and/or MILLIMETRES unless otherwise shown

LEGEND TO BE READ IN CONJUNCTION WITH OPSD 100 SERIES

- EX. PAVEMENT EDGE
- EX. SHOULDER/GRAVEL EDGE
- EX. CENTRELINE
- EX. DITCH/SWALE
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PLEASANT VIEW MUNICIPAL DRAIN AND BRANCHES

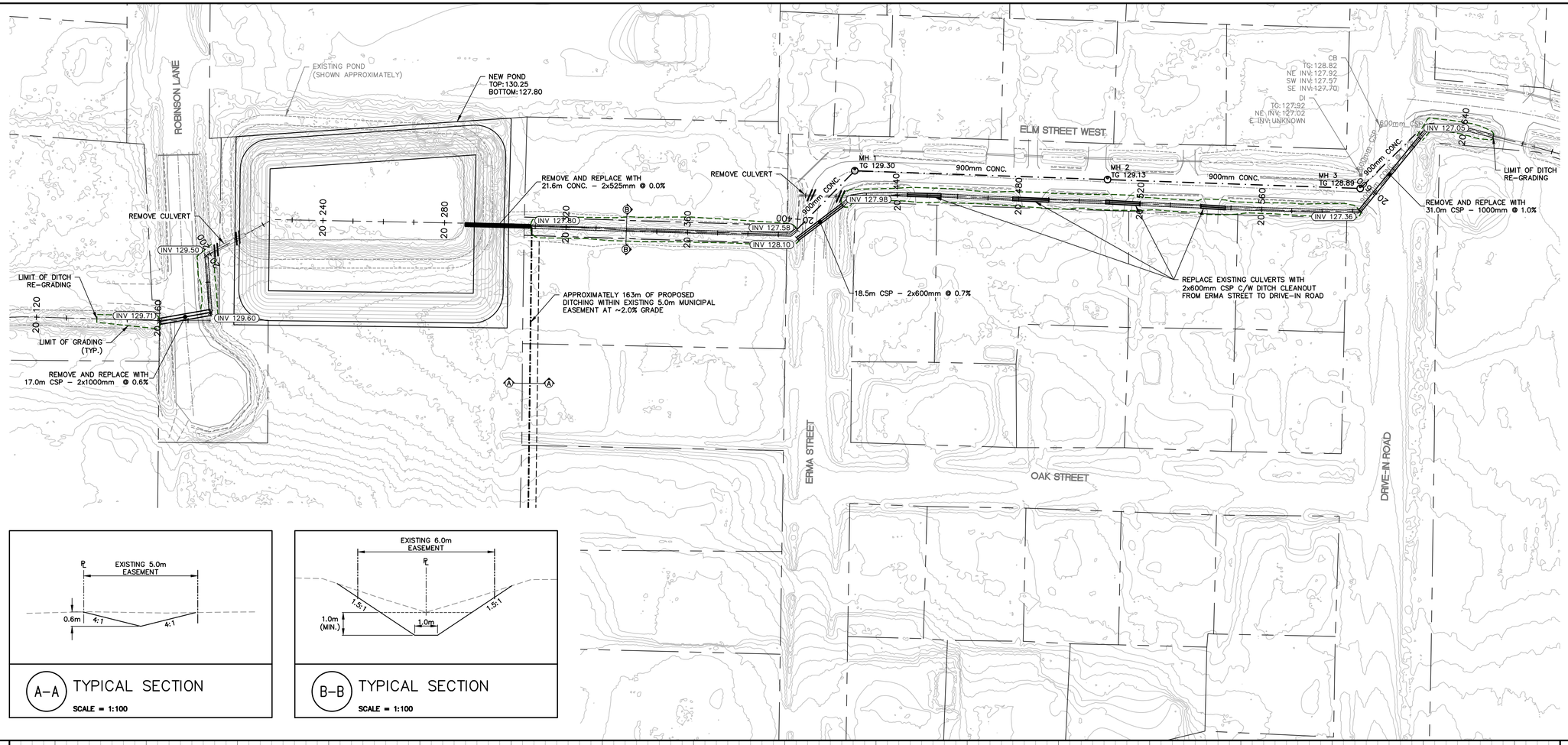
TOWNSHIP OF LAURENTIAN VALLEY, ONTARIO

Drawing Title

ERMA STREET – OPTION 3
PLAN AND PROFILE
STA. 20+060 TO 20+740

Drawn By: MB	Scale: Plan 1: 750 Profile 1: 1000 Vert 10X	
Designed By: JC	Issue Date: June 3, 2025	
Checked By: MH	Project No.: 23–5603	Sht. No.:
Engineer: MH	Dwg File No.: 5603 – PP	402

NOT FOR CONSTRUCTION

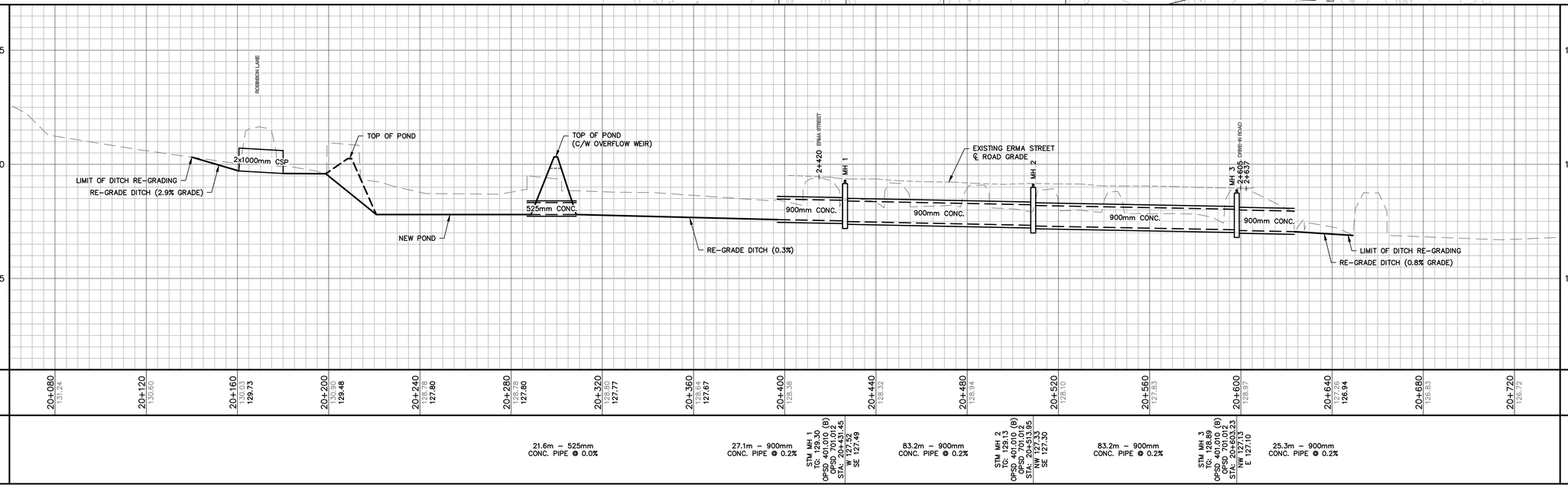


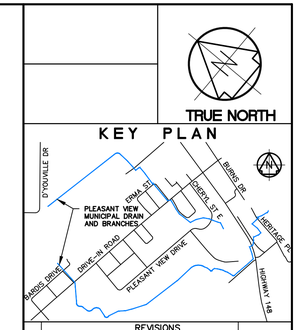
A–A TYPICAL SECTION

SCALE = 1:100

B–B TYPICAL SECTION

SCALE = 1:100





REVISIONS

No.	Description	Date

METRIC Dimensions are in METRES and/or MILLIMETRES unless otherwise shown

LEGEND TO BE READ IN CONJUNCTION WITH OPSD 100 SERIES

- EX. PAVEMENT EDGE
- EX. SHOULDER/GRAVEL EDGE
- EX. CENTRELINE
- EX. DITCH/SWALE
- PROPERTY LINE
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Project Name/Location

PLEASANT VIEW MUNICIPAL DRAIN AND BRANCHES

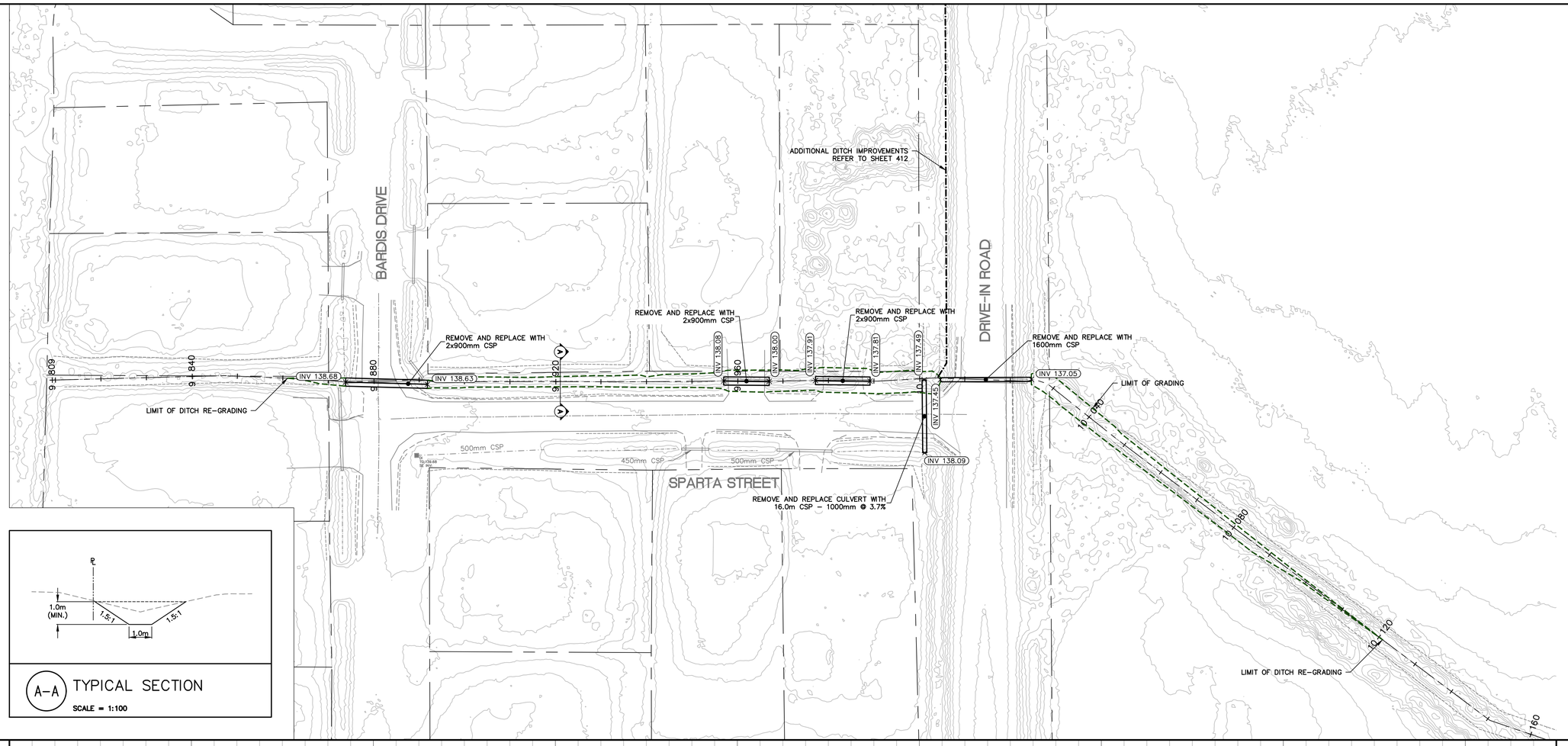
TOWNSHIP OF LAURENTIAN VALLEY, ONTARIO

Drawing Title

ERMA STREET – OPTION 4
PLAN AND PROFILE
STA. 20+060 TO 20+740

Drawn By: MB	Scale: Plan 1: 750 Profile 1: 1000 Vert 10X		
Designed By: JC	Issue Date: June 3, 2025		
Checked By: MH	Project No.: 23-5603	Sht. No.:	
Engineer: MH	Dwg File No.: 5603 – PP	403	

NOT FOR CONSTRUCTION



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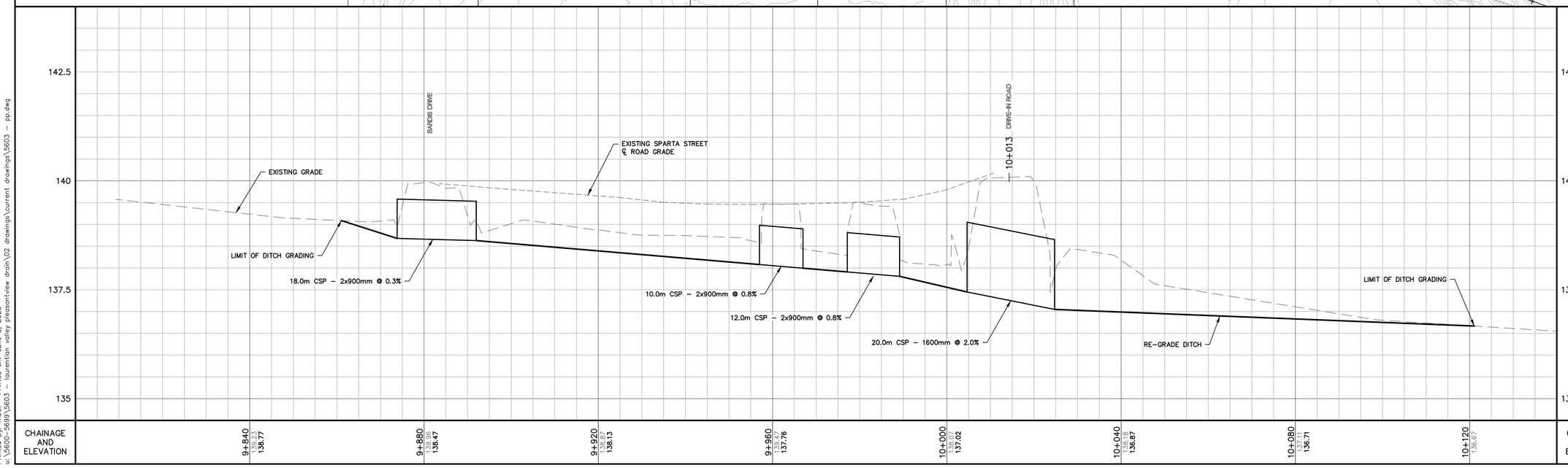
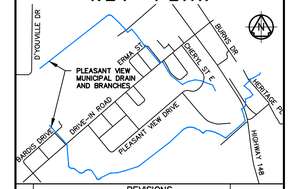


KEY PLAN



REVISIONS

No.	Description	Date

METRIC Dimensions are in METRES and/or MILLIMETRES unless otherwise shown

LEGEND TO BE READ IN CONJUNCTION WITH OPSD 100 SERIES

- EX. PAVEMENT EDGE
- EX. SHOULDER/GRAVEL EDGE
- EX. CENTRELINE
- EX. DITCH/SWALE
- PROPERTY LINE
- PR. STORM MH
- PR. STORM SEWER
- EX./PR. CULVERT
- LIMIT OF GRADING
- TYPICAL SYMBOL FOR REMOVALS

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Project Name/Location

PLEASANT VIEW MUNICIPAL DRAIN AND BRANCHES

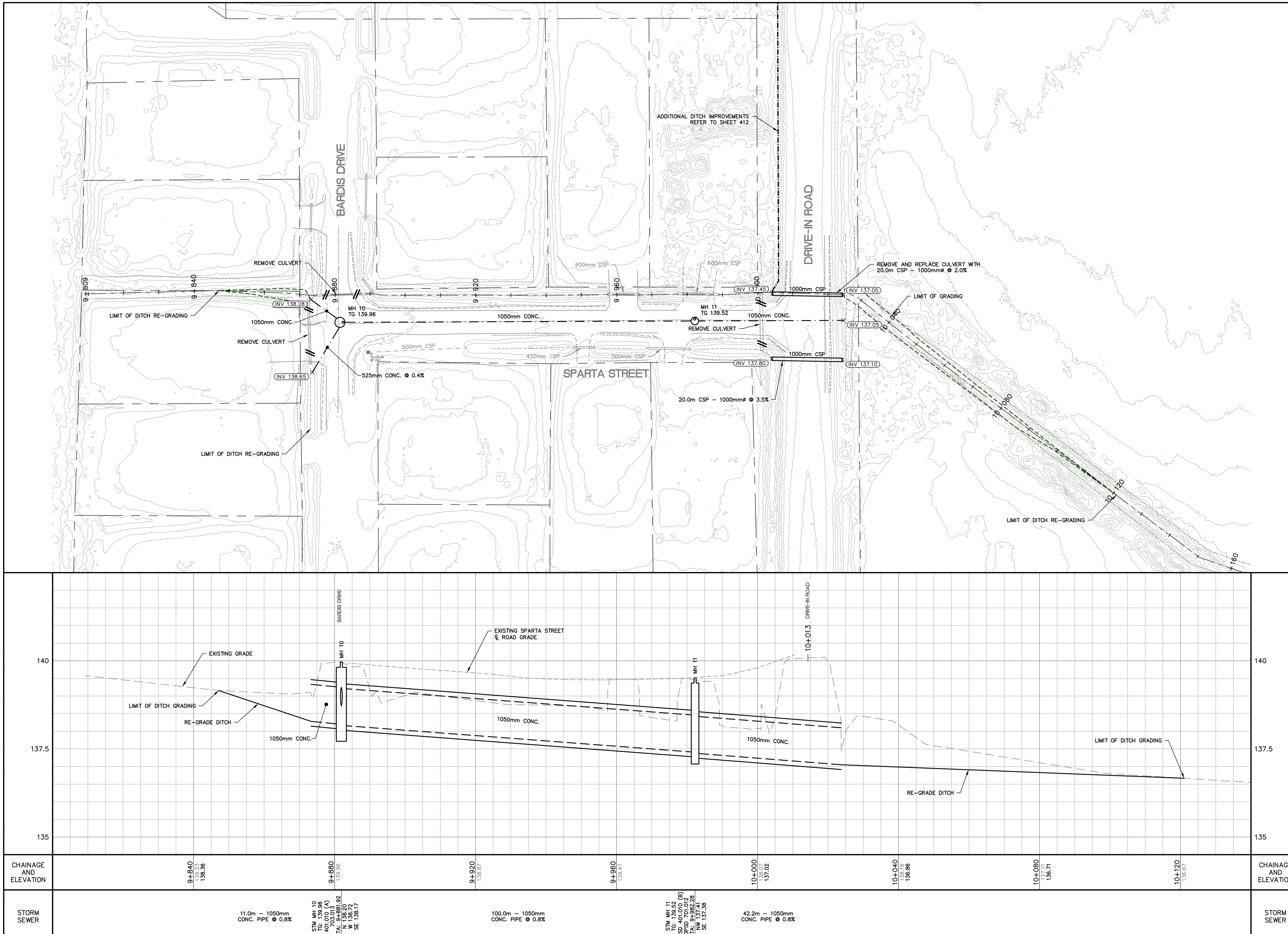
TOWNSHIP OF LAURENTIAN VALLEY, ONTARIO

Drawing Title

SPARTA STREET - OPTION 1 PLAN AND PROFILE STA. 9+740 TO 10+080

Drawn By: MB	Scale: Plan 1:500 Profile 1:500 Vert. 10x	
Designed By: JC	Issue Date: June 3, 2025	
Checked By: MH	Project No.: 23-5603	Sht. No.:
Engineer: MH	Dwg File No.: 5603 – PP	410

NOT FOR CONSTRUCTION



TRUE NORTH

KEY PLAN

REVISIONS		
No.	Description	Date

METRIC — Dimensions are in METRES and/or MILLIMETRES unless otherwise shown

LEGEND — TO BE READ IN CONJUNCTION WITH OPSD 100 SERIES

- EX. PAVEMENT EDGE
- EX. SHOULDER/GRAVEL EDGE
- EX. CENTRELINE
- EX. DITCH/SWALE
- PROPERTY LINE
- PR. STORM MH
- PR. STORM SEWER
- EX./PR. CULVERT
- LIMIT OF GRADING
- TYPICAL SYMBOL FOR REMOVALS

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Project Name/Location

PLEASANT VIEW MUNICIPAL DRAIN AND BRANCHES

TOWNSHIP OF LAURENTIAN VALLEY, ONTARIO

Drawing Title

SPARTA STREET - OPTION 2 PLAN AND PROFILE STA. 9+740 TO 10+080

Drawn By: MB	Scale: Plan 1:500 Profile 1:500 Vert 10x	
Designed By: JC	Issue Date: June 3, 2025	
Checked By: MH	Project No.: 23-5603	Sht. No.:
Engineer: MH	Dwg File No.: 5603 - PP	411

NOT FOR CONSTRUCTION

Printed By: mbell Printed On: June 3, 2025
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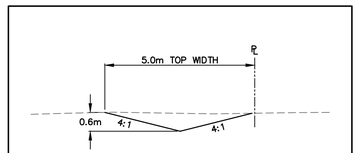

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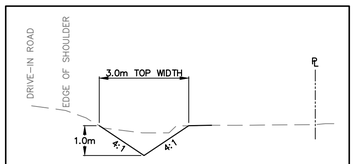
SCALE = 1:100



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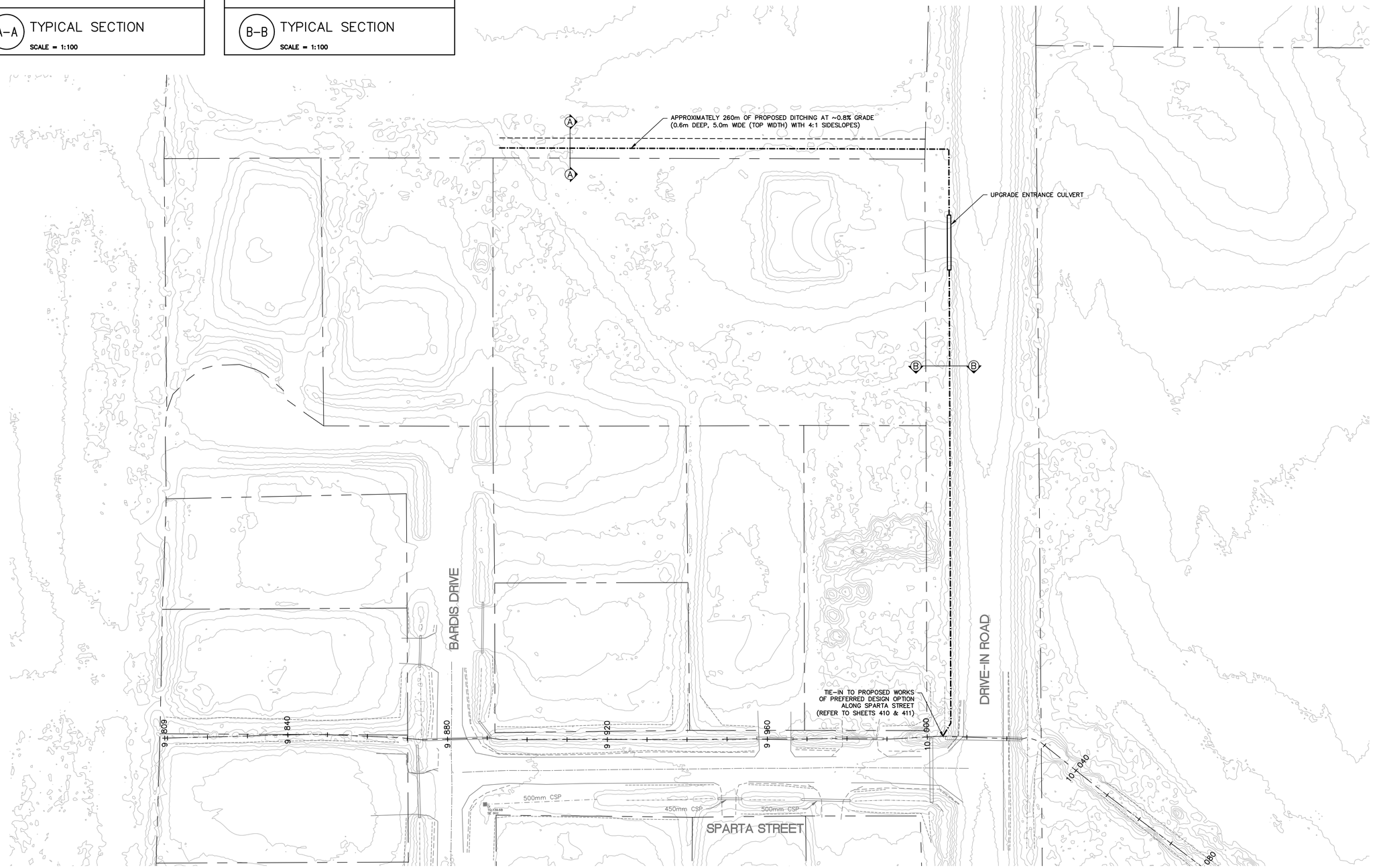
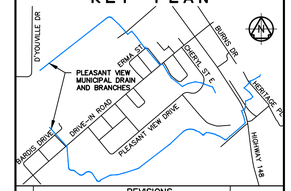


TRUE NORTH

KEY PLAN



REVISIONS

No.	Description	Date

METRIC Dimensions are in METRES and/or MILLIMETRES unless otherwise shown

LEGEND TO BE READ IN CONJUNCTION WITH OPSD 100 SERIES

- EX. PAVEMENT EDGE
- EX. SHOULDER/GRAVEL EDGE
- EX. CENTRELINE
- EX. DITCH/SWALE
- PROPERTY LINE
- PR. STORM MH
- PR. STORM SEWER
- EX./PR. CULVERT
- LIMIT OF GRADING
- TYPICAL SYMBOL FOR REMOVALS

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Project Name/Location

PLEASANT VIEW MUNICIPAL DRAIN AND BRANCHES

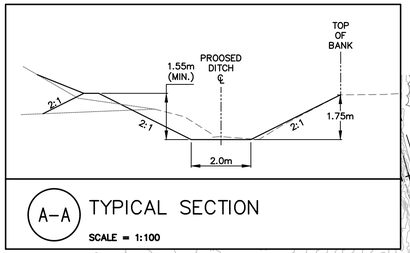
TOWNSHIP OF LAURENTIAN VALLEY, ONTARIO

Drawing Title

ADDITIONAL DITCH IMPROVEMENTS

Drawn By: MB	Scale: Plan 1:500 Profile – Vert –	
Designed By: JC	Issue Date: June 3, 2025	
Checked By: MH	Project No.: 23–5603	Sht. No.:
Engineer: MH	Dwg File No.: 5603 – PP	412

NOT FOR CONSTRUCTION



A-A TYPICAL SECTION

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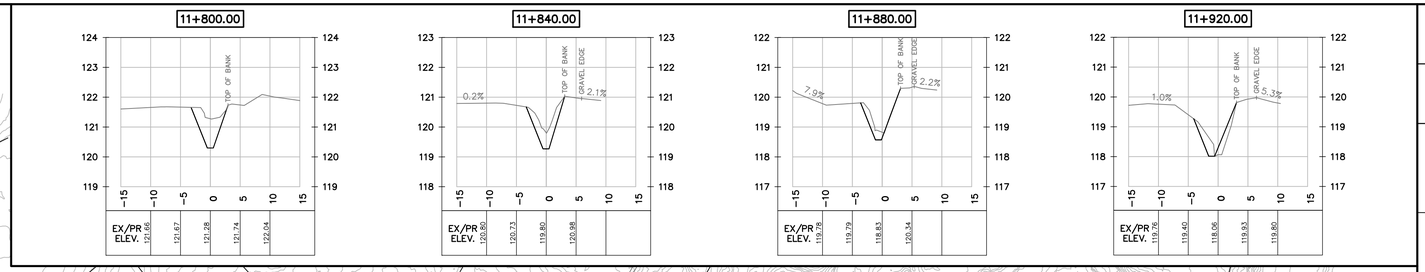
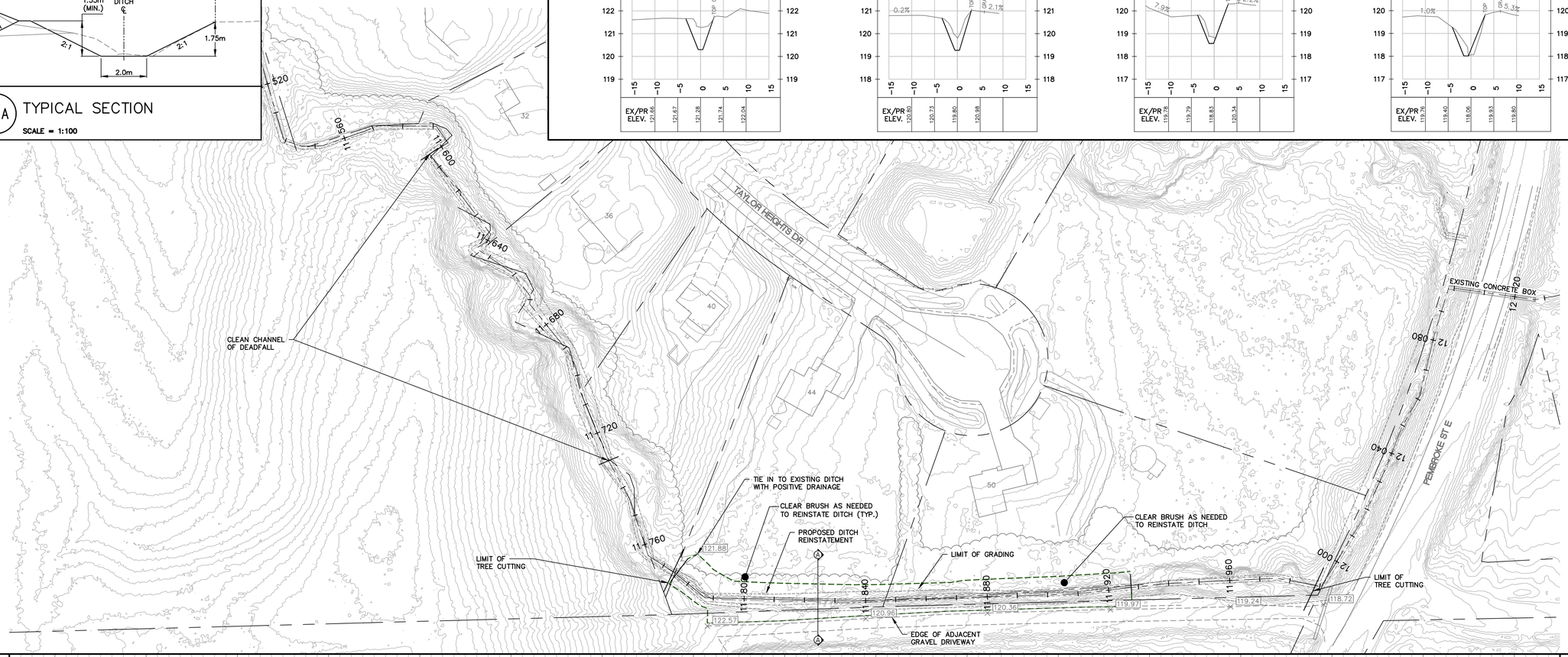
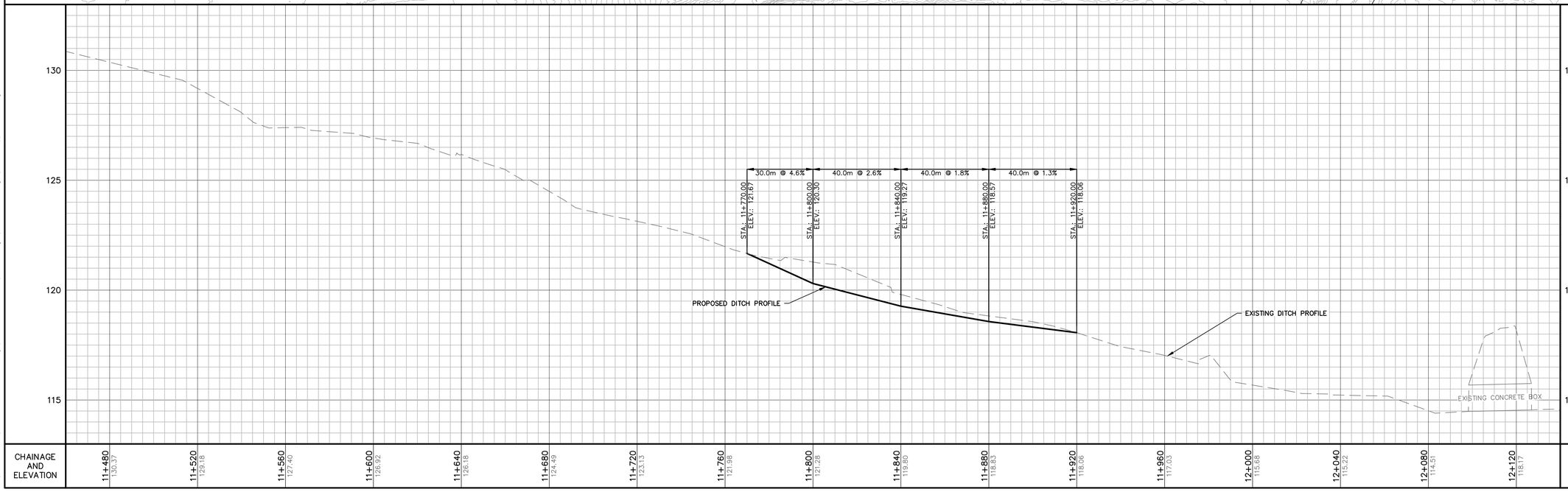


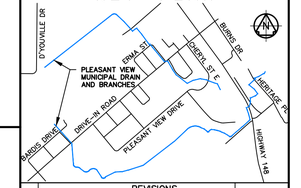




CHAINAGE AND ELEVATION	11+480 130.37	11+520 129.18	11+560 127.40	11+600 126.92	11+640 126.18	11+680 124.49	11+720 123.13	11+760 121.98	11+800 121.28	11+840 119.80	11+880 118.83	11+920 118.06	11+960 117.03	12+000 115.86	12+040 115.22	12+080 114.51	12+120 113.17	CHAINAGE AND ELEVATION

TRUE NORTH

KEY PLAN



REVISIONS

No.	Description	Date

METRIC Dimensions are in METRES and/or MILLIMETRES unless otherwise shown

LEGEND TO BE READ IN CONJUNCTION WITH OPSD 100 SERIES

- EX. PAVEMENT EDGE
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Project Name/Location

PLEASANT VIEW MUNICIPAL DRAIN AND BRANCHES

TOWNSHIP OF LAURENTIAN VALLEY, ONTARIO

Drawing Title

TAYLOR HEIGHTS OPTION 2 PLAN AND PROFILE STA. 11+480 TO 12+160

Drawn By: MB	Scale: Plan 1:750 Profile 1:1000 Vert 10X		
Designed By: JC	Issue Date: December 18, 2025		
Checked By: MH	Project No.: 23-5603	Sht. No.:	
Engineer: MH	Dwg File No.: 5603 - PP	420	

NOT FOR CONSTRUCTION

Printed By: lleahy Printed On: December 18, 2025
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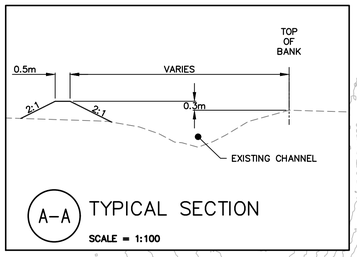

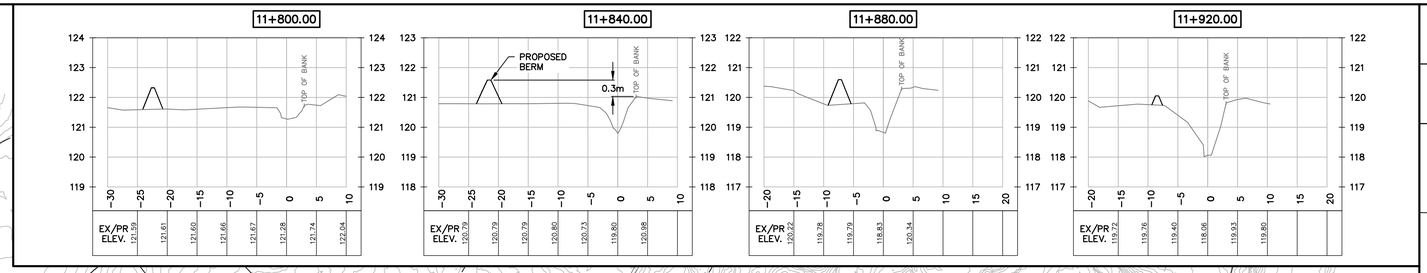

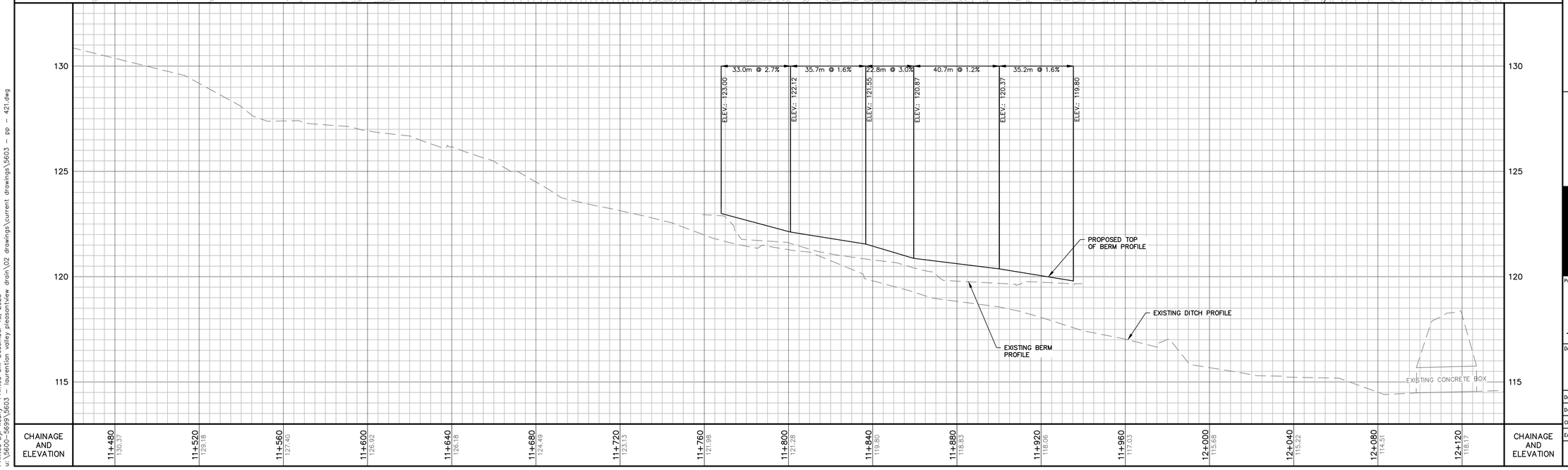

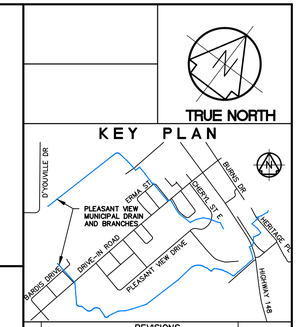

REVISIONS

No.	Description	Date

METRIC Dimensions are in METRES and/or MILLIMETRES unless otherwise shown

LEGEND TO BE READ IN CONJUNCTION WITH OPSD 100 SERIES

- EX. PAVEMENT EDGE
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- PROPERTY LINE
- PR. STORM MH
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- LIMIT OF GRADING
- TYPICAL SYMBOL FOR REMOVALS

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Project Name/Location

PLEASANT VIEW MUNICIPAL DRAIN AND BRANCHES

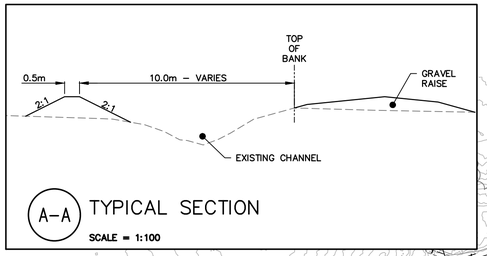
TOWNSHIP OF LAURENTIAN VALLEY, ONTARIO

Drawing Title

TAYLOR HEIGHTS OPTION 1
PLAN AND PROFILE
STA. 11+480 TO 12+160

Drawn By: MB	Scale: Plan 1: 750 Profile 1: 1000 Vert 10X		
Designed By: JC	Issue Date: December 18, 2025		
Checked By: MH	Project No.: 23-5603	Sht. No.:	
Engineer: MH	Dwg File No.: 5603 - PP	421	

NOT FOR CONSTRUCTION



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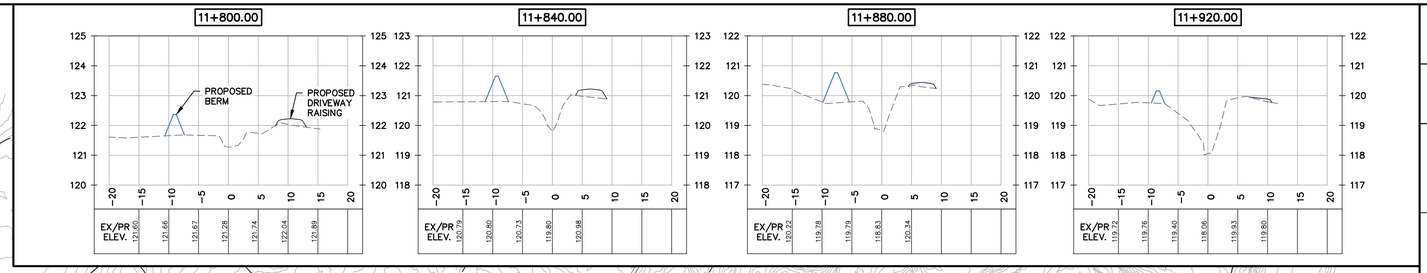
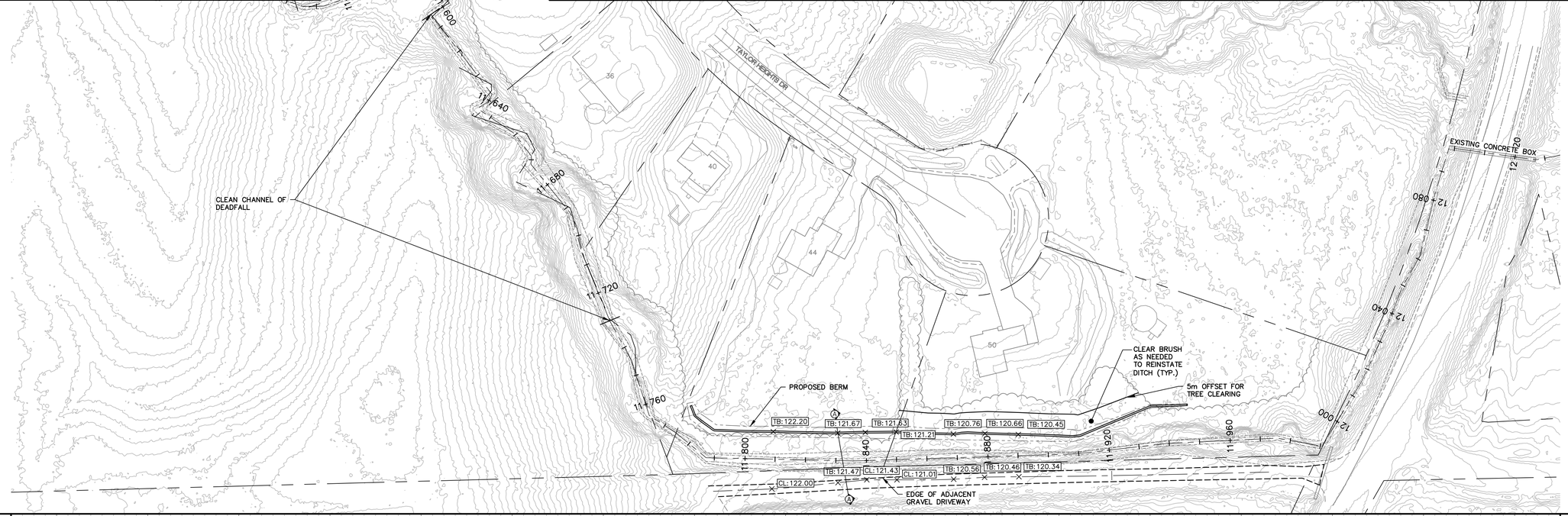
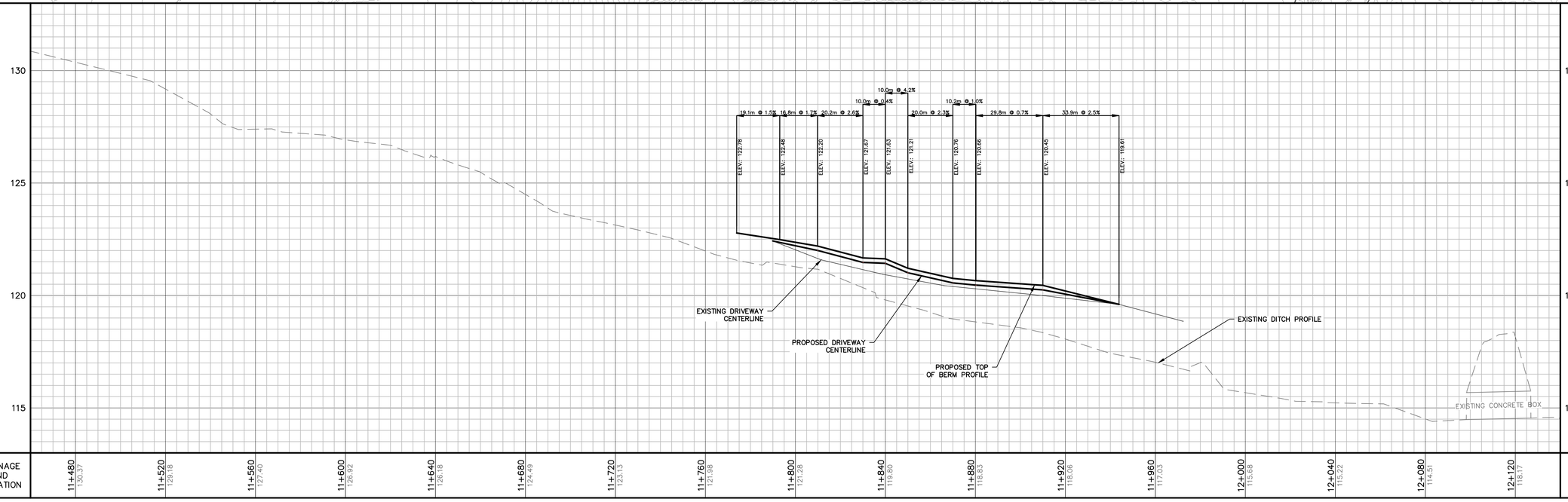


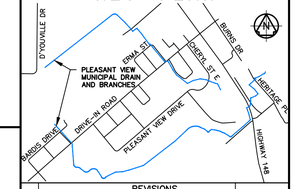




CHAINAGE AND ELEVATION	11+480 130.37	11+520 129.18	11+560 127.40	11+600 126.92	11+640 126.18	11+680 124.49	11+720 123.13	11+760 121.98	11+800 121.28	11+840 119.80	11+880 118.83	11+920 118.06	11+960 117.03	12+000 115.68	12+040 115.22	12+080 114.51	12+120 118.17	CHAINAGE AND ELEVATION

TRUE NORTH

KEY PLAN



REVISIONS

No.	Description	Date

METRIC Dimensions are in METRES and/or MILLIMETRES unless otherwise shown

LEGEND TO BE READ IN CONJUNCTION WITH OPSD 100 SERIES

- EX. PAVEMENT EDGE
- EX. SHOULDER/GRAVEL EDGE
- EX. CENTRELINE
- EX. DITCH/SWALE
- PROPERTY LINE
- PR. STORM MH
- PR. STORM SEWER
- EX./PR. CULVERT
- LIMIT OF GRADING
- TYPICAL SYMBOL FOR REMOVALS

WILLS

D.M. Wills Associates Limited
150 Jameson Drive
Peterborough, Ontario
Canada K9J 0B9

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E. wills@dmwills.com

Project Name/Location

PLEASANT VIEW MUNICIPAL DRAIN AND BRANCHES

TOWNSHIP OF LAURENTIAN VALLEY, ONTARIO

Drawing Title

TAYLOR HEIGHTS OPTION 3 PLAN AND PROFILE STA. 11+480 TO 12+160

Drawn By: MB	Scale: Plan 1:750 Profile 1:1000 Vert 10X	
Designed By: JC	Issue Date: December 18, 2025	
Checked By: MH	Project No.: 23-5603	Sht. No.:
Engineer: MH	Dwg File No.: 5603 – PP	422

NOT FOR CONSTRUCTION

Printed By: lleahy Printed On: December 18, 2025
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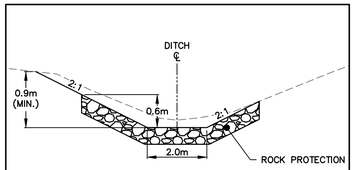

A–A TYPICAL SECTION

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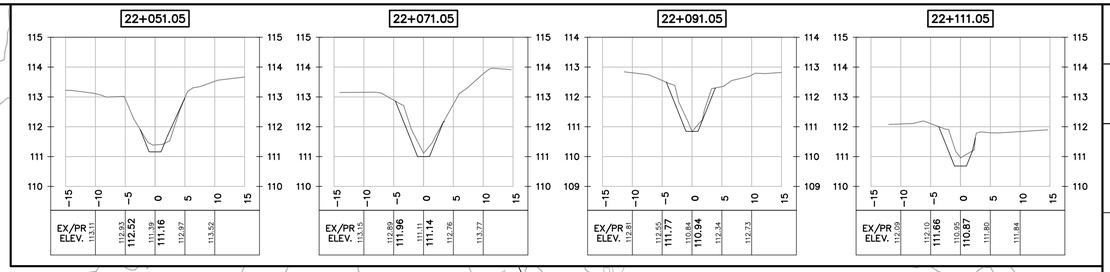
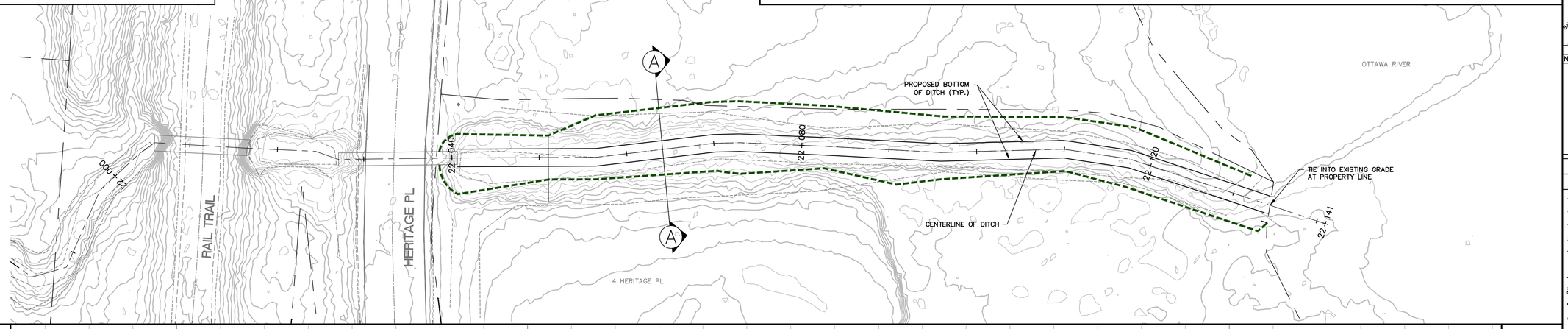
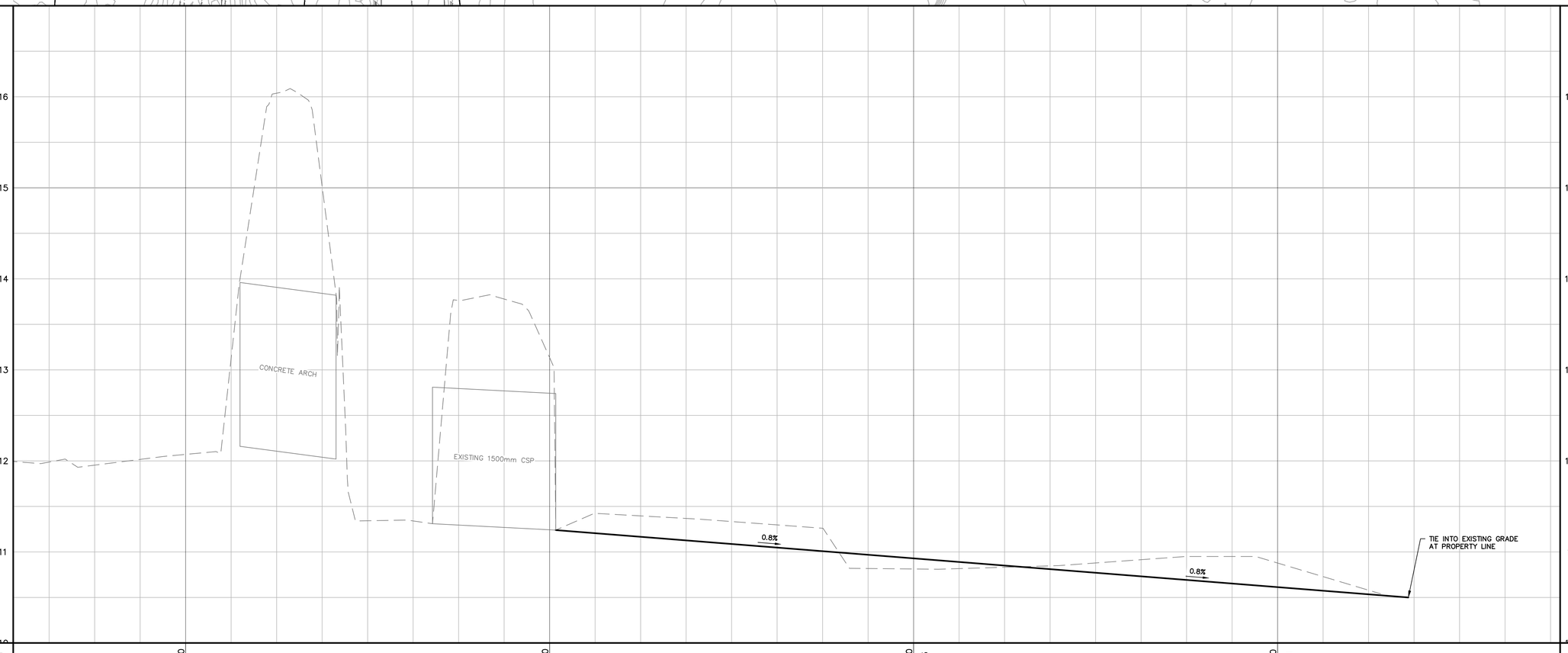


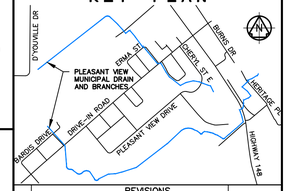




CHAINAGE AND ELEVATION	22+000 112.07	22+040 113.13	22+080 110.93	22+120 110.61	CHAINAGE AND ELEVATION

TRUE NORTH

KEY PLAN



REVISIONS

No.	Description	Date

METRIC Dimensions are in METRES and/or MILLIMETRES unless otherwise shown

LEGEND TO BE READ IN CONJUNCTION WITH OPSD 100 SERIES

- EX. PAVEMENT EDGE
- EX. SHOULDER/GRAVEL EDGE
- EX. CENTRELINE
- EX. DITCH/SWALE
- PROPERTY LINE
- PR. STORM MH
- PR. STORM SEWER
- EX./PR. CULVERT
- LIMIT OF GRADING
- TYPICAL SYMBOL FOR REMOVALS

D.M. Wills Associates Limited
150 Jameson Drive
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E. wills@dmwills.com

Project Name/Location

PLEASANT VIEW MUNICIPAL DRAIN AND BRANCHES

TOWNSHIP OF LAURENTIAN VALLEY, ONTARIO

Drawing Title

OUTLET IMPROVEMENTS OPTION 1 PLAN AND PROFILE STA. 12+410 TO 12+580

Drawn By: MB	Scale: Plan 1: 250 Profile 1: 25 Vert 10x		
Designed By: JC	Issue Date: January 13, 2026		
Checked By: MH	Project No.: 23-5603	Sht. No.:	
Engineer: MH	Dwg File No.: 5603 – PP – 430	430	

NOT FOR CONSTRUCTION

Printed By: lleahy Printed On: January 13, 2026
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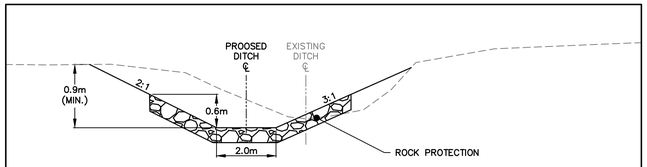

B–B TYPICAL SECTION

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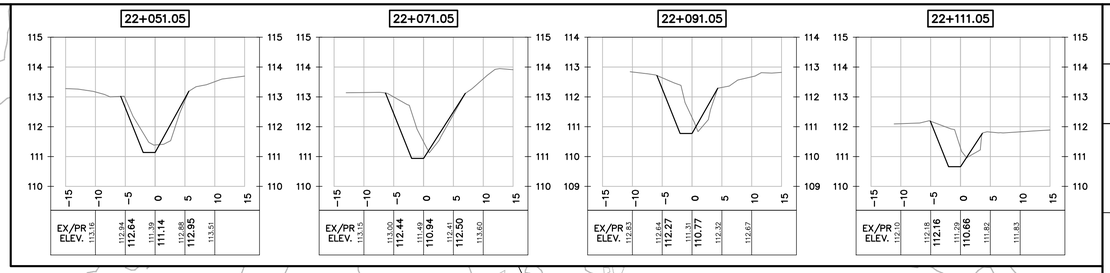

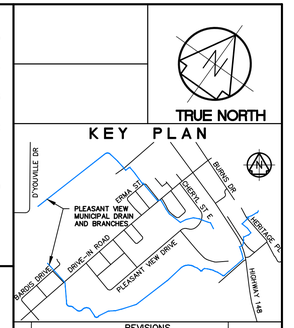

REVISIONS		
No.	Description	Date

METRIC	Dimensions are in METRES and/or MILLIMETRES unless otherwise shown
LEGEND	TO BE READ IN CONJUNCTION WITH OPSD 100 SERIES

- EX. PAVEMENT EDGE
- EX. SHOULDER/GRAVEL EDGE
- EX. CENTRELINE
- EX. DITCH/SWALE
- PROPERTY LINE
- PR. STORM MH
- PR. STORM SEWER
- EX./PR. CULVERT
- LIMIT OF GRADING
- TYPICAL SYMBOL FOR REMOVALS

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P. 705.742.2297
F. 705.748.9944
E. wills@dmwills.com

Project Name/Location

PLEASANT VIEW MUNICIPAL DRAIN AND BRANCHES

TOWNSHIP OF LAURENTIAN VALLEY, ONTARIO

Drawing Title

OUTLET IMPROVEMENTS OPTION 2 PLAN AND PROFILE STA. 12+410 TO 12+580

Drawn By: MB	Scale: Plan 1:250 Profile 1:25 Vert 10x	
Designed By: JC	Issue Date: January 13, 2026	
Checked By: MH	Project No.: 23-5603	Sht. No.:
Engineer: MH	Dwg File No.: 5603 – PP – 431	431

NOT FOR CONSTRUCTION

Appendix D

Special Provisions

Special Provisions
will be provided in the Final Engineers Report

Appendix D

Construction Specifications

Construction Specifications
will be provided in the Final Engineers Report

Appendix D

Allowances and Assessments

Allowances and Assessments
will be provided in the Final Engineers Report

Appendix D

Special Provisions

Special Provisions
will be provided in the Final Engineers Report

Appendix E

Construction Specifications

Construction Specification
will be provided in the Final Engineers Report

Appendix F

Allowances and Assessments

Allowances and Assessments
will be provided in the Final Engineers Report

Appendix G

Cost Estimates

Elm Street West
Option 1 - Decommission Pond - Overland Flow

Item	Description	Total Amount
1.0	General Items, Site Preparation and Earthworks	$28,875.00
2.0	Pond Works	$57,825.00
3.0	Removals	$79,115.00
4.0	Culverts	$213,200.00
5.0	Sewers and Appurtenances	$0.00
6.0	Road Works	$160,800.00
	Subtotal	**$539,815.00**
	Contingency (15%)	**$80,972.25**
	Total Tender Price	**$620,787.25**
	H.S.T.	**$80,702.34**
	Total Tender Price	**$701,489.59**

Cost to be Assessed to Laurentian Valley as a Special Benefit	
Subtotal	**$348,692.72**
Contingency (15%)	**$52,303.91**
Total Tender Price	**$400,996.62**
H.S.T.	**$52,129.56**
Total Tender Price	**$453,126.19**

Cost to be Assessed to the Drain	
Subtotal	**$133,297.28**
Contingency (15%)	**$19,994.59**
Total Tender Price	**$153,291.88**
H.S.T.	**$19,927.94**
Total Tender Price	**$173,219.82**

Cost to be Assessed to the Pond	
Subtotal	**$57,825.00**
Contingency (15%)	**$8,673.75**
Total Tender Price	**$66,498.75**
H.S.T.	**$8,644.84**
Total Tender Price	**$75,143.59**

Elm Street West Option 1 - Decommission Pond - Overland Flow

Division 1 - General Items, Site Preparation and Earthworks

Item No.	SP	OPSS / OPSD	Description	Unit	Quantity	Unit Price	Total
101	SPW 001		Bonding and Insurance	LS	1	$ 2,500.00	$ 2,500.00
102	SPW 002		Mobilization and Demobilization	LS	1	$ 2,500.00	$ 2,500.00
103	SP 706	OPSS 706	Temporary Traffic Controls	LS	1	$ 500.00	$ 500.00
104	SP 805		Erosion and Sediment Controls				
a)		OPSS 805	Light Duty Silt Fence	m		$ 60.00	$ -
b)		OPSS 805	Terrifix Silt Sock	m	150	$ 55.00	$ 8,250.00
105	SP 206	OPSS 180, 206, 510	Excavation and Grading (local disposal)				
a)			Open Channel Drain Construction / Upstream of Stormwater Pond	m^3	35	$ 38.00	$ 1,330.00
b)			Opend Channel Drain Construction / Downstream of Stormwater Pond	m^3	30	$ 38.00	$ 1,140.00
c)			Open Channel Drain Construction / Elm Street	m^3	100	$ 38.00	$ 3,800.00
d)			Open Channel Drain Construction / Downstream of Drive-In Road	m^3	10	$ 38.00	$ 380.00
106	SP 804	OPSS 804	Seed and Cover	m^2	2,825	$ 3.00	$ 8,475.00

SP - Special Provisions	**SUB-TOTAL**	$ 28,875.00
OPSS - Ontario Provincial Standard Specifications		

Division 2 - Stormwater Pond site preparation and earthworks

Item No.	SP	OPSS / OPSD	Description	Unit	Quantity	Unit Price	Total
101	SPW 001		Bonding and Insurance (pond)	LS	1	$ 2,500.00	$ 2,500.00
102	SPW 002		Mobilization and Demobilization (pond)	LS	1	$ 2,500.00	$ 2,500.00
103	SP 706	OPSS 706	Temporary Traffic Controls (pond)	LS	1	$ 500.00	$ 500.00
104	SP 201	OPSS MUNI 201	Clearing and Grubbing (pond)	LS	1	$ 2,750.00	$ 2,750.00
105	SP 805		Erosion and Sediment Controls				
a)		OPSS 805	Light Duty Silt Fence	m	311	$ 60.00	$ 18,660.00
b)		OPSS 805	Terrifix Silt Sock	m	25	$ 55.00	$ 1,375.00
106	SP 206	OPSS 180, 206, 510	Excavation and Grading (local disposal)				
a)		OPSS 180, 206, 510	Open Channel Drain Construction with onsite disposal (Pond)	m^3	580	$ 38.00	$ 22,040.00
107	SP 804	OPSS 804	Seed and Cover	m^2	2,500	$ 3.00	$ 7,500.00

	SUB-TOTAL	$ 57,825.00

OPSS - Ontario Provincial Standard Specifications

Division 3 - Removals

Item No.	SP	OPSS / OPSD	Description	Unit	Quantity	Unit Price	Total
201	SP 510		Removals				
a)		OPSS MUNI 510	Gravel and Base Removal (Centerline Culverts)	m^2	650	$ 38.00	$ 24,700.00
b)		OPSS MUNI 510	Pavement Removals (Centerline Culverts)	m^2	650	$ 38.00	$ 24,700.00
c)		OPSS MUNI 510	Gravel and Base Removal (Entrance Culverts)	m^2	130	$ 38.00	$ 4,940.00
d)		OPSS MUNI 510	Pavement Removals (Enterance Culverts)	m^2	100	$ 38.00	$ 3,800.00
202	SP 201	OPSS MUNI 201	Clearing and Grubbing	LS	1	$ 2,750.00	$ 2,750.00
203	SP 510	OPSS MUNI 510	Removal of Pipes and Culverts (Robinson Lane)	m	17	$ 135.00	$ 2,295.00
204	SP 510	OPSS MUNI 510	Removal of Pipes and Culverts (SWM Pond)	m	29	$ 135.00	$ 3,915.00
205	SP 510	OPSS MUNI 510	Removal of Pipe and Culverts (Erma St)	m	16	$ 135.00	$ 2,160.00
206	SP 510	OPSS MUNI 510	Removal of Pipes and Culverts (Elm St W Driveways)	m	42	$ 135.00	$ 5,670.00
207	SP 510	OPSS MUNI 510	Removal of Pipes and Culverts (Drive-In Road)	m	31	$ 135.00	$ 4,185.00

SP - Special Provisions	**SUB-TOTAL**	$ 79,115.00
OPSS - Ontario Provincial Standard Specifications		

Elm Street West Option 1 - Decommission Pond - Overland Flow

Division 4 - Culverts

Item No.	SP	OPSS / OPSD	Description	Unit	Quantity	Unit Price	Total
301	SP 421		Pipe Culvert - Road Crossings				
a)		OPSS 421	Install 1000mm CSP pipes (Robinson Drive)	m	36	$ 900.00	$ 32,400.00
b)		OPSS 421	Install 1000mm CSP pipe (Erma Street)	m	48	$ 900.00	$ 43,200.00
c)		OPSS 421	Install 1200mm CSP Pipe (Drive-In Road)	m	62	$ 1,000.00	$ 62,000.00
302	SP 421		Pipe Culvert - Entrance Culverts				
a)		OPSS 421	Install 1000mm CSP pipes (Elm Street West)	m	84	$ 900.00	$ 75,600.00
303	SP 511	OPSS 511	Rip Rap on Filter Cloth (Provisional)	m2		$ 120.00	$ -

SP - Special Provisions	**SUB-TOTAL**	$ 213,200.00
OPSS - Ontario Provincial Standard Specifications		

Division 5 - Sewers and Appurtanences

Item No.	SP	OPSS / OPSD	Description	Unit	Quantity	Unit Price	Total
301	SP 421	OPSS 410	Sewer Pipe - Sparta Street				
302	SP 421	OPSS 407	Storm Sewer Maintenance Holes				
303	SP 511	OPSS 511	Rip Rap on Filter Cloth (Provisional)	m2			$ -

SP - Special Provisions	**SUB-TOTAL**	$ -
OPSS - Ontario Provincial Standard Specifications		

Division 6 - Roadworks

Item No.	SP	OPSS / OPSD	Description	Unit	Quantity	Unit Price	Total
401	SP 1010	OPSS 1010, 314	Granular B - Type 1 Road Subbase (300mm Depth)	m^2	650	$ 20.00	$ 13,000.00
402	SP1010		Granular A				
a)		OPSS 1010, 314	Road Base (150mm Depth)	m^2	650	$ 10.00	$ 6,500.00
b)		OPSS 1010, 314	Driveways (150mm Depth)	m^2	130	$ 10.00	$ 1,300.00
403	SP 1010	OPSS 310	Asphalt Paving				
a)		OPSS 310	Binder Course	m^2	650	$ 100.00	$ 65,000.00
b)		OPSS 310	Surface Course	m^2	650	$ 100.00	$ 65,000.00
c)		OPSS 310	Surface Course (Driveways)	m^2	100	$ 100.00	$ 10,000.00
SP - Special Provisions						**SUB-TOTAL**	$ 160,800.00
OPSS - Ontario Provincial Standard Specifications							

Elm Street West
Option 2 - Decommission Pond - Sewer & Overland Flow

Item	Description	Total Amount
1.0	General Items, Site Preparation and Earthworks	$28,875.00
2.0	Pond Works	$57,825.00
3.0	Removals	$174,570.00
4.0	Culverts	$206,600.00
5.0	Sewers and Appurtenances	$261,000.00
6.0	Road Works	$448,300.00
	Subtotal	**$1,177,170.00**
	Contingency (15%)	**$176,575.50**
	Total Tender Price	**$1,353,745.50**
	H.S.T.	**$175,986.92**
	Total Tender Price	**$1,529,732.42**

Cost to be Assessed to Laurentian Valley as a Special Benefit	
Subtotal	**$992,497.17**
Contingency (15%)	**$148,874.58**
Total Tender Price	**$1,141,371.74**
H.S.T.	**$148,378.33**
Total Tender Price	**$1,289,750.07**

Cost to be Assessed to the Drain	
Subtotal	**$126,847.83**
Contingency (15%)	**$19,027.17**
Total Tender Price	**$145,875.01**
H.S.T.	**$18,963.75**
Total Tender Price	**$164,838.76**

Cost to be Assessed to the Pond	
Subtotal	**$57,825.00**
Contingency (15%)	**$8,673.75**
Total Tender Price	**$66,498.75**
H.S.T.	**$8,644.84**
Total Tender Price	**$75,143.59**

Elm Street West Option 2 - Decommission Pond - Sewer & Overland Flow

Division 1 - General Items, Site Preparation and Earthworks

Item No.	SP	OPSS / OPSD	Description	Unit	Quantity	Unit Price	Total
101	SPW 001		Bonding and Insurance	LS	1	$ 2,500.00	$ 2,500.00
102	SPW 002		Mobilization and Demobilization	LS	1	$ 2,500.00	$ 2,500.00
103	SP 706	OPSS 706	Temporary Traffic Controls	LS	1	$ 500.00	$ 500.00
104	SP 805		Erosion and Sediment Controls				
a)		OPSS 805	Light Duty Silt Fence	m		$ 60.00	$ -
b)		OPSS 805	Terrifix Silt Sock	m	150	$ 55.00	$ 8,250.00
105	SP 206	OPSS 180, 206, 510	Excavation and Grading (local disposal)				
a)		OPSS 180, 206, 510	Open Channel Drain Construction with onsite disposal (US Pond)	m^3	35	$ 38.00	$ 1,330.00
			DS Pond	m^3	30	$ 38.00	$ 1,140.00
			Elm St	m^3	100	$ 38.00	$ 3,800.00
			DS Drive-In	m^3	10	$ 38.00	$ 380.00
106	SP 804	OPSS 804	Seed and Cover	m^2	2,825	$ 3.00	$ 8,475.00

SP - Special Provisions	**SUB-TOTAL**	$ 28,875.00
OPSS - Ontario Provincial Standard Specifications		

Division 2 - Stormwater Pond site preparation and earthworks

Item No.	SP	OPSS / OPSD	Description	Unit	Quantity	Unit Price	Total
101	SPW 001		Bonding and Insurance	LS	1	$ 2,500.00	$ 2,500.00
102	SPW 002		Mobilization and Demobilization	LS	1	$ 2,500.00	$ 2,500.00
103	SP 706	OPSS 706	Temporary Traffic Controls	LS	1	$ 500.00	$ 500.00
104	SP 201	OPSS MUNI 201	Clearing and Grubbing (pond)	LS	1	$ 2,750.00	$ 2,750.00
105	SP 805		Erosion and Sediment Controls				
a)		OPSS 805	Light Duty Silt Fence	m	311	$ 60.00	$ 18,660.00
b)		OPSS 805	Terrifix Silt Sock	m	25	$ 55.00	$ 1,375.00
106	SP 206	OPSS 180, 206, 510	Excavation and Grading (local disposal)				
a)		OPSS 180, 206, 510	Open Channel Drain Construction with onsite disposal (Pond)	m^3	580	$ 38.00	$ 22,040.00
107	SP 804	OPSS 804	Seed and Cover	m^2	2,500	$ 3.00	$ 7,500.00

SP - Special Provisions	**SUB-TOTAL**	$ 57,825.00
OPSS - Ontario Provincial Standard Specifications		

Division 3 - Removals

Item No.	SP	OPSS / OPSD	Description	Unit	Quantity	Unit Price	Total
201	SP 510		Removals				
a)		OPSS MUNI 510	Gravel and Base Removal (Centerline Culverts)	m^2	650	$ 38.00	$ 24,700.00
b)		OPSS MUNI 510	Pavement Removals (Centerline Culverts)	m^2	650	$ 38.00	$ 24,700.00
c)		OPSS MUNI 510	Gravel and Base Removal (Storm Sewer)	m^2	1,250	$ 38.00	$ 47,500.00
d)		OPSS MUNI 510	Pavement Removals (Storm Sewer)	m^2	1,250	$ 38.00	$ 47,500.00
e)		OPSS MUNI 510	Gravel and Base Removal (Entrance Culverts)	m^2	130	$ 38.00	$ 4,940.00
f)		OPSS MUNI 510	Pavement Removals (Enterance Culverts)	m^2	100	$ 38.00	$ 3,800.00
202	SP 201	OPSS MUNI 201	Clearing and Grubbing	LS	1	$ 5,500.00	$ 5,500.00
203	SP 510	OPSS MUNI 510	Removal of CSP Pipe and Culverts (Robinson Lane)	m	29	$ 135.00	$ 3,915.00
204	SP 510	OPSS MUNI 510	Removal of CSP Pipe and Culverts (Erma St)	m	16	$ 135.00	$ 2,160.00
205	SP 510	OPSS MUNI 510	Removal of CSP Pipe and Culverts (Elm St W)	m	42	$ 135.00	$ 5,670.00
206	SP 510	OPSS MUNI 510	Removal of Concrete Pipe and Culverts (Drive-In Road)	m	31	$ 135.00	$ 4,185.00

SP - Special Provisions	**SUB-TOTAL**	$ 174,570.00
OPSS - Ontario Provincial Standard Specifications		

Division 4 - Culverts

Item No.	SP	OPSS / OPSD	Description	Unit	Quantity	Unit Price	Total
301	SP 421		Pipe Culvert - Road Crossings				
a)		OPSS 421	Install 1000mm CSP pipes (Robinson Drive)	m	36	$ 900.00	$ 32,400.00
b)		OPSS 421	Install 900mm CSP pipe (Erma Street)	m	48	$ 850.00	$ 40,800.00
c)		OPSS 421	Install 1200mm CSP Pipe (Drive-In Road)	m	62	$ 1,000.00	$ 62,000.00
302	SP 421		Pipe Culvert - Entrance Culverts				
a)		OPSS 421	Install 900mm CSP pipes (Elm Street West)	m	84	$ 850.00	$ 71,400.00
303	SP 511	OPSS 511	Rip Rap on Filter Cloth (Provisional)	m2		$ 120.00	$ -

SP - Special Provisions	**SUB-TOTAL**	$ 206,600.00
OPSS - Ontario Provincial Standard Specifications		

Division 5 - Sewers and Appurtanences

Item No.	SP	OPSS / OPSD	Description	Unit	Quantity	Unit Price	Total
301	SP 421	OPSS 410	Sewer Pipe - Elm Street West				
a)			Install 900mm Concrete pipe.	m	225	$ 1,000.00	$ 225,000.00
302	SP 421	OPSS 407	Storm Sewer Structures				
a)			Install 1800mm Precast Concrete Maintenance Hole		3	$ 12,000.00	$ 36,000.00
303	SP 511	OPSS 511	Rip Rap on Filter Cloth (Provisional)	m2		$ 100.00	$ -

SP - Special Provisions	**SUB-TOTAL**	$ 261,000.00
OPSS - Ontario Provincial Standard Specifications		

Division 6 - Roadworks

Item No.	SP	OPSS / OPSD	Description	Unit	Quantity	Unit Price	Total
401	SP 1010	OPSS 1010, 314	Granular B - Type 1 Road Subbase (300mm Depth)				
a)		OPSS 1010, 314	Centerline Culverts	m^2	650	$ 20.00	$ 13,000.00
b)		OPSS 1010, 314	Storm Sewer	m^2	1,250	$ 20.00	$ 25,000.00
402	SP1010		Granular A (150mm Depth)				
a)		OPSS 1010, 314	Road Base (Centerline Culverts)	m^2	650	$ 10.00	$ 6,500.00
		OPSS 1010, 315	Road Base (Storm Sewer)	m^2	1,250	$ 10.00	$ 12,500.00
b)		OPSS 1010, 314	Driveways (150mm Depth)	m^2	130	$ 10.00	$ 1,300.00
403	SP 1010	OPSS 310	Asphalt Paving				
a)		OPSS 310	Binder Course (Centerline Culverts)	m^2	650	$ 100.00	$ 65,000.00
b)		OPSS 310	Surface Course (Centerline Culverts)	m^2	650	$ 100.00	$ 65,000.00
c)		OPSS 310	Binder Course (Storm Sewer)	m^2	1,250	$ 100.00	$ 125,000.00
d)		OPSS 310	Surface Course (Storm Sewer)	m^2	1,250	$ 100.00	$ 125,000.00
e)		OPSS 310	Surface Course (Driveways)	m^2	100	$ 100.00	$ 10,000.00
SP - Special Provisions						**SUB-TOTAL**	$ 448,300.00
OPSS - Ontario Provincial Standard Specifications							

Elm Street West
Option 3 - Update Pond - Overland Flow

Item	Description	Total Amount
1.0	General Items, Site Preparation and Earthworks	$28,875.00
2.0	Pond Works	$310,585.00
3.0	Removals	$81,865.00
4.0	Culverts	$200,400.00
5.0	Sewers and Appurtenances	$0.00
6.0	Road Works	$160,800.00
	Subtotal	**$782,525.00**
	Contingency (15%)	**$117,378.75**
	Total Tender Price	**$899,903.75**
	H.S.T.	**$116,987.49**
	Total Tender Price	**$1,016,891.24**

Cost to be Assessed to Laurentian Valley as a Special Benefit	
Subtotal	**$348,786.46**
Contingency (15%)	**$52,317.97**
Total Tender Price	**$401,104.42**
H.S.T.	**$52,143.58**
Total Tender Price	**$453,248.00**

Cost to be Assessed to the Drain	
Subtotal	**$123,153.54**
Contingency (15%)	**$18,473.03**
Total Tender Price	**$141,626.58**
H.S.T.	**$18,411.45**
Total Tender Price	**$160,038.03**

Cost to be Assessed to the Pond	
Subtotal	**$310,585.00**
Contingency (15%)	**$46,587.75**
Total Tender Price	**$357,172.75**
H.S.T.	**$46,432.46**
Total Tender Price	**$403,605.21**

Division 1 - General Items, Site Preparation and Earthworks

Item No.	SP	OPSS / OPSD	Description	Unit	Quantity	Unit Price	Total
101	SPW 001		Bonding and Insurance	LS	1	$ 2,500.00	$ 2,500.00
102	SPW 002		Mobilization and Demobilization	LS	1	$ 2,500.00	$ 2,500.00
103	SP 706	OPSS 706	Temporary Traffic Controls	LS	1	$ 500.00	$ 500.00
104	SP 805		Erosion and Sediment Controls				
a)		OPSS 805	Light Duty Silt Fence	m		$ 60.00	$ -
b)		OPSS 805	Terrifix Silt Sock	m	150	$ 55.00	$ 8,250.00
105	SP 206	OPSS 180, 206, 510	Excavation and Grading (local disposal)				
a)			Open Channel Drain Construction with onsite disposal (US Pond)	m^3	35	$ 38.00	$ 1,330.00
b)			DS Pond	m^3	30	$ 38.00	$ 1,140.00
c)			Elm St	m^3	100	$ 38.00	$ 3,800.00
d)			DS Drive-In	m^3	10	$ 38.00	$ 380.00
106	SP 804	OPSS 804	Seed and Cover	m^2	2,825	$ 3.00	$ 8,475.00

Division 2 - Stormwater Pond site preparation and earthworks

Item No.	SP	OPSS / OPSD	Description	Unit	Quantity	Unit Price	Total
101	SPW 001		Bonding and Insurance (pond)	LS	1	$ 2,500.00	$ 2,500.00
102	SPW 002		Mobilization and Demobilization (pond)	LS	1	$ 2,500.00	$ 2,500.00
103	SP 706	OPSS 706	Temporary Traffic Controls (pond)	LS	1	$ 500.00	$ 500.00
104	SP 201	OPSS MUNI 201	Clearing and Grubbing (pond)	LS	1	$ 2,750.00	$ 2,750.00
105	SP 805		Erosion and Sediment Controls				
a)		OPSS 805	Light Duty Silt Fence	m	311	$ 60.00	$ 18,660.00
b)		OPSS 805	Terrifix Silt Sock	m	25	$ 55.00	$ 1,375.00
106	SP 206	OPSS 180, 206, 510	Excavation and Grading (local disposal)				
a)		OPSS 180, 206, 510	Open Channel Drain Construction with onsite disposal (Pond)	m^3	6,600	$ 38.00	$ 250,800.00
107	SP 804	OPSS 804	Seed and Cover	m^2	2,500	$ 3.00	$ 7,500.00
108	SP 421	OPSS 421	Pipe Culverts - Stormwater Pond				
a)			Install 500mm Concrete Pipes (Pond Outlet)	m	30	$ 800.00	$ 24,000.00

SP - Special Provisions	**SUB-TOTAL**	$ 310,585.00

Division 3 - Removals

Item No.	SP	OPSS / OPSD	Description	Unit	Quantity	Unit Price	Total
201	SP 510	OPSS MUNI 510	Removals				
a)		OPSS MUNI 510	Gravel and Base Removal (Centerline Culverts)	m^2	650	$ 38.00	$ 24,700.00
b)		OPSS MUNI 510	Pavement Removals (Centerline Culverts)	m^2	650	$ 38.00	$ 24,700.00
c)		OPSS MUNI 510	Gravel and Base Removal (Entrance Culverts)	m^2	130	$ 38.00	$ 4,940.00
d)		OPSS MUNI 510	Pavement Removals (Enterance Culverts)	m^2	100	$ 38.00	$ 3,800.00
202	SP 201	OPSS MUNI 201	Clearing and Grubbing	LS	1	$ 5,500.00	$ 5,500.00
203	SP 510	OPSS MUNI 510	Removal of Pipes and Culverts (Robinson Lane)	m	17	$ 135.00	$ 2,295.00
204	SP 510	OPSS MUNI 510	Removal of Pipes and Culverts (SWM Pond)	m	29	$ 135.00	$ 3,915.00
205	SP 510	OPSS MUNI 510	Removal of Pipe and Culverts (Erma St)	m	16	$ 135.00	$ 2,160.00
206	SP 510	OPSS MUNI 510	Removal of Pipes and Culverts (Elm St W Driveways)	m	42	$ 135.00	$ 5,670.00
207	SP 510	OPSS MUNI 510	Removal of Pipes and Culverts (Drive-In Road)	m	31	$ 135.00	$ 4,185.00

Division 4 - Culverts

Item No.	SP	OPSS / OPSD	Description	Unit	Quantity	Unit Price	Total
301	SP 421	OPSS 421	Pipe Culvert - Road Crossings				
a)			Install 1000mm CSP pipes (Robinson Drive)	m	36	$ 900.00	$ 32,400.00
b)			Install 900mm CSP pipe (Erma Street)	m	48	$ 850.00	$ 40,800.00
c)			Install 1000mm CSP Pipe (Drive-In Road)	m	62	$ 900.00	$ 55,800.00
302	SP 421	OPSS 421	Pipe Culverts - Entrance Culverts				
a)			Install 900mm CSP pipes (Elm Street West Entrances)	m	84	$ 850.00	$ 71,400.00
303	SP 511	OPSS 511	Rip Rap on Filter Cloth (Provisional)	m2		$ 120.00	$ -

SP - Special Provisions	**SUB-TOTAL**	$ 200,400.00
OPSS - Ontario Provincial Standard Specifications		

Division 5 - Sewers and Appurtanences

Item No.	SP	OPSS / OPSD	Description	Unit	Quantity	Unit Price	Total
301	SP 421	OPSS 410	Sewer Pipe - Elm Street West				
a)			Install 900mm Concrete pipe.	m		$ 1,000.00	$ -
b)			Install 525mm Concrete pipe.	m		$ 1,000.00	$ -
302	SP 421	OPSS 407	Storm Sewer Structures				
a)			Install 3600mm Precast Concrete Maintenance Hole			$ 1,000.00	$ -
303	SP 511	OPSS 511	Rip Rap on Filter Cloth (Provisional)	m2		$ 100.00	$ -

SP - Special Provisions	**SUB-TOTAL**	$ -
OPSS - Ontario Provincial Standard Specifications		

Division 6 - Roadworks

Item No.	SP	OPSS / OPSD	Description	Unit	Quantity	Unit Price	Total
401	SP 1010	OPSS 1010, 314	Granular B - Type 1 Road Subbase (300mm Depth)	m^2	650	$ 20.00	$ 13,000.00
402	SP1010		Granular A				
a)		OPSS 1010, 314	Road Base (150mm Depth)	m^2	650	$ 10.00	$ 6,500.00
b)		OPSS 1010, 314	Driveway (150mm Depth)	m^2	130	$ 10.00	$ 1,300.00
403	SP 1010	OPSS 310	Asphalt Paving				
a)		OPSS 310	Binder Course	m^2	650	$ 100.00	$ 65,000.00
b)		OPSS 310	Surface Course	m^2	650	$ 100.00	$ 65,000.00
c)		OPSS 310	Surface Course (Driveways)	m^2	100	$ 100.00	$ 10,000.00
SP - Special Provisions						**SUB-TOTAL**	$ 160,800.00

Elm Street West
Option 4 - Update Pond - Storm Sewer

Item	Description	Total Amount
1.0	General Items, Site Preparation and Earthworks	$28,875.00
2.0	Pond Works	$310,585.00
3.0	Removals	$176,865.00
4.0	Culverts	$165,900.00
5.0	Sewers and Appurtenances	$261,000.00
6.0	Road Works	$448,300.00
	Subtotal	**$1,391,525.00**
	Contingency (15%)	**$208,728.75**
	Total Tender Price	**$1,600,253.75**
	H.S.T.	**$208,032.99**
	Total Tender Price	**$1,808,286.74**

Cost to be Assessed to Laurentian Valley as a Special Benefit	
Subtotal	**$954,563.95**
Contingency (15%)	**$143,184.59**
Total Tender Price	**$1,097,748.55**
H.S.T.	**$142,707.31**
Total Tender Price	**$1,240,455.86**

Cost to be Assessed to the Drain	
Subtotal	**$126,376.05**
Contingency (15%)	**$18,956.41**
Total Tender Price	**$145,332.45**
H.S.T.	**$18,893.22**
Total Tender Price	**$164,225.67**

Cost to be Assessed to the Pond	
Subtotal	**$310,585.00**
Contingency (15%)	**$46,587.75**
Total Tender Price	**$357,172.75**
H.S.T.	**$46,432.46**
Total Tender Price	**$403,605.21**

Elm Street West Option 4 - Update Pond - Storm Sewer

Division 1 - General Items, Site Preparation and Earthworks

Item No.	SP	OPSS / OPSD	Description	Unit	Quantity	Unit Price	Total
101	SPW 001		Bonding and Insurance	LS	1	$ 2,500.00	$ 2,500.00
102	SPW 002		Mobilization and Demobilization	LS	1	$ 2,500.00	$ 2,500.00
103	SP 706	OPSS 706	Temporary Traffic Controls	LS	1	$ 500.00	$ 500.00
104	SP 805		Erosion and Sediment Controls				
a)		OPSS 805	Light Duty Silt Fence	m		$ 60.00	$ -
b)		OPSS 805	Terrifix Silt Sock	m	150	$ 55.00	$ 8,250.00
105	SP 206	OPSS 180, 206, 510	Excavation and Grading (local disposal)				
a)			Open Channel Drain Construction with onsite disposal (US Pond)	m^3	35	$ 38.00	$ 1,330.00
b)			DS Pond	m^3	30	$ 38.00	$ 1,140.00
c)			Elm St	m^3	100	$ 38.00	$ 3,800.00
d)			DS Drive-In	m^3	10	$ 38.00	$ 380.00
106	SP 804	OPSS 804	Seed and Cover	m^2	2,825	$ 3.00	$ 8,475.00

SP - Special Provisions	**SUB-TOTAL**	$ 28,875.00
OPSS - Ontario Provincial Standard Specifications		

Division 2 - Stormwater Pond site preparation and earthworks

Item No.	SP	OPSS / OPSD	Description	Unit	Quantity	Unit Price	Total
101	SPW 001		Bonding and Insurance (pond)	LS	1	$ 2,500.00	$ 2,500.00
102	SPW 002		Mobilization and Demobilization (pond)	LS	1	$ 2,500.00	$ 2,500.00
103	SP 706	OPSS 706	Temporary Traffic Controls (pond)	LS	1	$ 500.00	$ 500.00
104	SP 201	OPSS MUNI 201	Clearing and Grubbing (pond)	LS	1	$ 2,750.00	$ 2,750.00
105	SP 805		Erosion and Sediment Controls				
a)		OPSS 805	Light Duty Silt Fence	m	311	$ 60.00	$ 18,660.00
b)		OPSS 805	Terrifix Silt Sock	m	25	$ 55.00	$ 1,375.00
106	SP 206	OPSS 180, 206, 510	Excavation and Grading (local disposal)				
a)		OPSS 180, 206, 510	Open Channel Drain Construction with onsite disposal (Pond)	m^3	6,600	$ 38.00	$ 250,800.00
107	SP 804	OPSS 804	Seed and Cover	m^2	2,500	$ 3.00	$ 7,500.00
108	SP 421	OPSS 421	Pipe Culverts - Stormwater Pond				
a)			Install 500mm Concrete Pipes (Pond Outlet)	m	30	$ 800.00	$ 24,000.00

SP - Special Provisions	**SUB-TOTAL**	$ 310,585.00
OPSS - Ontario Provincial Standard Specifications		

Division 3 - Removals

Item No.	SP	OPSS / OPSD	Description	Unit	Quantity	Unit Price	Total
201	SP 510	OPSS MUNI 510	Removals				
a)		OPSS MUNI 510	Gravel and Base Removal (Centerline Culverts)	m^2	650	$ 38.00	$ 24,700.00
b)		OPSS MUNI 510	Pavement Removals (Centerline Culverts)	m^2	650	$ 38.00	$ 24,700.00
c)		OPSS MUNI 510	Gravel and Base Removal (Storm Sewer)	m^2	1,250	$ 38.00	$ 47,500.00
d)		OPSS MUNI 510	Pavement Removals (Storm Sewer)	m^2	1,250	$ 38.00	$ 47,500.00
e)		OPSS MUNI 510	Gravel and Base Removal (Entrance Culverts)	m^2	130	$ 38.00	$ 4,940.00
f)		OPSS MUNI 510	Pavement Removals (Enterance Culverts)	m^2	100	$ 38.00	$ 3,800.00
202	SP 201	OPSS MUNI 201	Clearing and Grubbing	LS	1	$ 5,500.00	$ 5,500.00
203	SP 510	OPSS MUNI 510	Removal of CSP Pipe and Culverts (Robinson Lane)	m	17	$ 135.00	$ 2,295.00
204	SP 510	OPSS MUNI 510	Removal of Pipes and Culverts (SWM Pond)	m	29	$ 135.00	$ 3,915.00
204	SP 510	OPSS MUNI 510	Removal of CSP Pipe and Culverts (Erma St)	m	16	$ 135.00	$ 2,160.00
205	SP 510	OPSS MUNI 510	Removal of CSP Pipe and Culverts (Elm St W)	m	42	$ 135.00	$ 5,670.00

Division 4 - Culverts

Item No.	SP	OPSS / OPSD	Description	Unit	Quantity	Unit Price	Total
301	SP 421	OPSS 421	Pipe Culvert - Road Crossings				
a)			Install 1000mm CSP pipes (Robinson Drive)	m	36	$ 900.00	$ 32,400.00
b)			Install 600mm CSP pipe (Erma Street)	m	48	$ 800.00	$ 38,400.00
c)			Install 1000mm CSP Pipe (Drive-In Road)	m	31	$ 900.00	$ 27,900.00
302	SP 421	OPSS 421	Pipe Culverts - Entrance Culverts				
a)			Install 600mm CSP pipes (Elm Street West)	m	84	$ 800.00	$ 67,200.00
303	SP 511	OPSS 511	Rip Rap on Filter Cloth (Provisional)	m2		$ 120.00	$ -

SP - Special Provisions	**SUB-TOTAL**	$ 165,900.00
OPSS - Ontario Provincial Standard Specifications		

Division 5 - Sewers and Appurtanences

Item No.	SP	OPSS / OPSD	Description	Unit	Quantity	Unit Price	Total
301	SP 421	OPSS 410	Sewer Pipe - Elm Street West				
a)			Install 900mm Concrete pipe.	m	225	$ 1,000.00	$ 225,000.00
302	SP 421	OPSS 407	Storm Sewer Structures				
a)			Install 1800mm Precast Concrete Maintenance Hole	LS	3	$ 12,000.00	$ 36,000.00
303	SP 511	OPSS 511	Rip Rap on Filter Cloth (Provisional)	m2		$ 100.00	$ -

SP - Special Provisions	**SUB-TOTAL**	$ 261,000.00
OPSS - Ontario Provincial Standard Specifications		

Division 6 - Roadworks

Item No.	SP	OPSS / OPSD	Description	Unit	Quantity	Unit Price	Total
401	SP 1010	OPSS 1010, 314	Granular B - Type 1 Road Subbase (300mm Depth)				
a)		OPSS 1010, 314	Centerline Culverts	m^2	650	$ 20.00	$ 13,000.00
b)		OPSS 1010, 314	Storm Sewer	m^2	1,250	$ 20.00	$ 25,000.00
402	SP1010		Granular A (150mm Depth)				
a)		OPSS 1010, 314	Road Base (Centerline Culverts)	m^2	650	$ 10.00	$ 6,500.00
		OPSS 1010, 315	Road Base (Storm Sewer)	m^2	1,250	$ 10.00	$ 12,500.00
b)		OPSS 1010, 314	Driveway (150mm Depth)	m^2	130	$ 10.00	$ 1,300.00
403	SP 1010	OPSS 310	Asphalt Paving				
a)		OPSS 310	Binder Course (Centerline Culverts)	m^2	650	$ 100.00	$ 65,000.00

Sparta Street and Bardis Drive
Option 1 - Culvert and Channel Upgrades

Item	Description	Total Amount
1.0	General Items, Site Preparation and Earthworks	$26,787.90
2.0	Removals	$38,750.00
3.0	Culverts	$98,307.20
4.0	Sewers and Appurtenances	$0.00
5.0	Road Works	$64,850.00
	Subtotal	**$228,695.10**
	Contingency (15%)	**$34,304.27**
	Total Tender Price	**$262,999.37**
	H.S.T.	**$34,189.92**
	Total Tender Price	**$297,189.28**

Cost to be Assessed to Laurentian Valley as a Special Benefit	
Subtotal	**$162,577.68**
Contingency (15%)	**$24,386.65**
Total Tender Price	**$186,964.33**
H.S.T.	**$24,305.36**
Total Tender Price	**$211,269.69**

Cost to be Assessed to the Drain	
Subtotal	**$66,117.42**
Contingency (15%)	**$9,917.61**
Total Tender Price	**$76,035.04**
H.S.T.	**$9,884.55**
Total Tender Price	**$85,919.59**

Division 1 - General Items, Site Preparation and Earthworks

Item No.	SP	OPSS / OPSD	Description	Unit	Quantity	Unit Price	Total
101	SPW 001		Bonding and Insurance	LS	1	$ 5,000.00	$ 5,000.00
102	SPW 002		Mobilization and Demobilization	LS	1	$ 5,000.00	$ 5,000.00
103	SP 706	OPSS 706	Temporary Traffic Controls	LS	1	$ 1,000.00	$ 1,000.00
104	SP 805		Erosion and Sediment Controls				
a)		OPSS 805	Light Duty Silt Fence	m		$ 60.00	$ -
b)		OPSS 805	Terrifix Silt Sock	m	90	$ 55.00	$ 4,950.00
105	SP 206		Excavation and Grading (local disposal)				
a)		OPSS 180, 206, 510	Open Channel Drain Construction / Upstream of Bardis Drive	m^3	37	$ 38.00	$ 1,409.80
b)		OPSS 180, 206, 510	Open Channel Drain Construction / Sparta Street	m^3	70	$ 39.00	$ 2,726.10
c)		OPSS 180, 206, 510	Open Channel Drain Construction / Downstream of Drive-In Road	m^3	111	$ 40.00	$ 4,452.00
106	SP 804	OPSS 804	Seed and Cover	m^2	750	$ 3.00	$ 2,250.00

SP - Special Provisions	**SUB-TOTAL**	$ 26,787.90
OPSS - Ontario Provincial Standard Specifications		

Division 2 - Removals

Item No.	SP	OPSS / OPSD	Description	Unit	Quantity	Unit Price	Total
201	SP 510		Removals				
a)		OPSS MUNI 510	Gravel and Base Removal (Bardis Drive / Sparta Street)	m^2	200	$ 38.00	$ 7,600.00
			Gravel and Base Removal (Drivein Road)	m^2	90	$ 38.00	$ 3,420.00
b)		OPSS MUNI 510	Gravel Removals (Driveways)	m^2	25	$ 38.00	$ 950.00
			Asphalt Pavement Removal (Bardis Drive / Sparta Street)	m^2	200	$ 38.00	$ 7,600.00
c)		OPSS MUNI 510	Asphalt Pavement Removal (Drivein Road)	m^2	90	$ 38.00	$ 3,420.00
202	SP 201	OPSS MUNI 201	Clearing and Grubbing	LS	1	$ 5,500.00	$ 5,500.00
203	SP 510		Removal of Pipes and Culverts				
a)		OPSS MUNI 510	Centerline at Bardis Drive	m	18	$ 135.00	$ 2,430.00
b)		OPSS MUNI 510	Entrance Culverts on Starta Street	m	22	$ 135.00	$ 2,970.00
c)		OPSS MUNI 510	Entrance Culverts on Bardis Drive	m	0	$ 135.00	$ -
d)		OPSS MUNI 510	Centerline Culvert on Sparta Street	m	16	$ 135.00	$ 2,160.00
e)		OPSS MUNI 510	Centerline Culvert on Drive-In Road	m	20	$ 135.00	$ 2,700.00

	SUB-TOTAL	$ 38,750.00

OPSS - Ontario Provincial Standard Specifications

Division 3 - Culverts

Item No.	SP	OPSS / OPSD	Description	Unit	Quantity	Unit Price	Total
301	SP 421	OPSS 421	Pipe Culvert - Road Crossings				
a)			Install 900mm CSP pipes (Bardis Drive)	m	34	$ 850.00	$ 28,900.00
b)			Install 1000mm CSP pipe (Sparta Street)	m	16	$ 900.00	$ 14,400.00
c)			Install 1600mm CSP Pipe (Drive-In Road)	m	19	$ 1,000.00	$ 19,000.00
302	SP 421	OPSS 421	Pipe Culvert - Entrance Culverts				
a)			Install 900mm CSP pipes (Sparta Street)	m	42	$ 850.00	$ 35,700.00
303	SP 511	OPSS 511	Rip Rap on Filter Cloth (Provisional)	m2	3	$ 120.00	$ 307.20

SP - Special Provisions	**SUB-TOTAL**	$ 98,307.20
OPSS - Ontario Provincial Standard Specifications		

Division 4 - Sewers and Appurtanences

Item No.	SP	OPSS / OPSD	Description	Unit	Quantity	Unit Price	Total
301	SP 421	OPSS 410	Sewer Pipe - Sparta Street	m			
302	SP 421	OPSS 407	Storm Sewer Maintenance Holes - Sparta Street	m			
303	SP 511	OPSS 511	Rip Rap on Filter Cloth (Provisional)	m2		$ 100.00	$ -

	SUB-TOTAL	$ -

OPSS - Ontario Provincial Standard Specifications

Division 5 - Roadworks

Item No.	SP	OPSS / OPSD	Description	Unit	Quantity	Unit Price	Total
401	SP 1010		Granular B - Type 1 Road Subbase (300mm Depth)	m^2			$ -
a)		OPSS 1010, 314	Road Subbase (Bardis Drive / Sparta Street)	m^2	200	$ 20.00	$ 4,000.00
b)		OPSS 1010, 314	Road Subbase (Drive-in Road)	m^2	90	$ 20.00	$ 1,800.00
402	SP1010		Granular A (150mm Depth)				
a)		OPSS 1010, 314	(Bardis Drive / Sparta Street)	m^2	200	$ 10.00	$ 2,000.00
b)		OPSS 1010, 314	Road Subbase (Drive-in Road)	m^2	90	$ 10.00	$ 900.00
403	SP 1010		Asphalt Paving				
a)		OPSS 310	Binder Course (Bardis Drive / Sparta Street)	m^2	175	$ 100.00	$ 17,500.00
b)		OPSS 310	Surface Course (Bardis Drive / Sparta Street)	m^2	200	$ 101.00	$ 20,200.00
c)		OPSS 310	Binder Course (Drive-In Road)	m^2	90	$ 102.00	$ 9,180.00
d)		OPSS 310	Surface Course (Drive-In Road)	m^2	90	$ 103.00	$ 9,270.00
						SUB-TOTAL	$ 64,850.00

OPSS - Ontario Provincial Standard Specifications

Sparta Street and Bardis Drive
Option 2 - Strom Sewer

Item	Description	Total Amount
1.0	General Items, Site Preparation and Earthworks	$24,533.70
2.0	Removals	$140,360.00
3.0	Culverts	$59,707.20
4.0	Sewers and Appurtenances	$232,900.00
5.0	Road Works	$345,000.00
	Subtotal	**$802,500.90**
	Contingency (15%)	**$120,375.14**
	Total Tender Price	**$922,876.04**
	H.S.T.	**$119,973.88**
	Total Tender Price	**$1,042,849.92**

Cost to be Assessed to Laurentian Valley as a Special Benefit	
Subtotal	**$739,949.61**
Contingency (15%)	**$110,992.44**
Total Tender Price	**$850,942.05**
H.S.T.	**$110,622.47**
Total Tender Price	**$961,564.52**

Cost to be Assessed to the Drain	
Subtotal	**$62,551.29**
Contingency (15%)	**$9,382.69**
Total Tender Price	**$71,933.98**
H.S.T.	**$9,351.42**
Total Tender Price	**$81,285.40**

Sparta Street and Bardis Drive Option 2 - Strom Sewer

Division 1 - General Items, Site Preparation and Earthworks

Item No.	SP	OPSS / OPSD	Description	Unit	Quantity	Unit Price	Total
101	SPW 001		Bonding and Insurance	LS	1	$ 5,000.00	$ 5,000.00
102	SPW 002		Mobilization and Demobilization	LS	1	$ 5,000.00	$ 5,000.00
103	SP 706	OPSS 706	Temporary Traffic Controls	LS	1	$ 1,000.00	$ 1,000.00
104	SP 805		Erosion and Sediment Controls				
a)		OPSS 805	Light Duty Silt Fence	m		$ 60.00	$ -
b)		OPSS 805	Terrifix Silt Sock	m	90	$ 55.00	$ 4,950.00
105	SP 206		Excavation and Grading (local disposal)				
a)		OPSS 180, 206, 510	Open Channel Drain Construction / Upstream of Bardis Drive	m^3	37	$ 38.00	$ 1,409.80
b)		OPSS 180, 206, 510	Open Channel Drain Construction / Sparta Street	m^3	12	$ 39.00	$ 471.90
c)		OPSS 180, 206, 510	Open Channel Drain Construction / Downstream of Drive-In Road	m^3	111	$ 40.00	$ 4,452.00
106	SP 804	OPSS 804	Seed and Cover	m^2	750	$ 3.00	$ 2,250.00

	SUB-TOTAL	$ 24,533.70

OPSS - Ontario Provincial Standard Specifications

Division 2 - Removals

Item No.	SP	OPSS / OPSD	Description	Unit	Quantity	Unit Price	Total
201	SP 510		Removals				
a)		OPSS MUNI 510	Gravel and Base Removal (Bardis Drive / Sparta Street)	m^2	1,410	$ 38.00	$ 53,580.00
		OPSS MUNI 510	Gravel and Base Removal (Drivein Road)	m^2	90	$ 38.00	$ 3,420.00
b)		OPSS MUNI 510	Gravel Removals (Driveways)	m^2	215	$ 38.00	$ 8,170.00
c)		OPSS MUNI 510	Asphalt Pavement Removal (Bardis Drive / Sparta Street / Drivein Road)	m^2	1,410	$ 38.00	$ 53,580.00
		OPSS MUNI 510	Asphalt Pavement Removal (Drivein Road)	m^2	90	$ 38.00	$ 3,420.00
202	SP 201	OPSS MUNI 201	Clearing and Grubbing	LS	1	$ 5,500.00	$ 5,500.00
203	SP 510		Removal of Pipes and Culverts				
a)		OPSS MUNI 510	Centerline at Bardis Drive	m	18	$ 135.00	$ 2,430.00
b)		OPSS MUNI 510	Entrance Culverts on Starta Street	m	22	$ 135.00	$ 2,970.00
c)		OPSS MUNI 510	Entrance Culverts on Bardis Drive	m	18	$ 135.00	$ 2,430.00
d)		OPSS MUNI 510	Centerline Culvert on Sparta Street	m	16	$ 135.00	$ 2,160.00
e)		OPSS MUNI 510	Centerline Culvert on Drive-In Road	m	20	$ 135.00	$ 2,700.00

	SUB-TOTAL	$ 140,360.00

OPSS - Ontario Provincial Standard Specifications

Division 3 - Culverts

Item No.	SP	OPSS / OPSD	Description	Unit	Quantity	Unit Price	Total
301	SP 421	OPSS 421	Pipe Culvert - Road Crossings				
b)			Install 1000mm CSP pipe (Drive-In Road)	m	19	$ 900.00	$ 17,100.00
c)			Install 1000mm CSP pipe (Drive-In Road)	m	19	$ 900.00	$ 17,100.00
302	SP 421	OPSS 421	Pipe Culvert - Entrance Culverts				
a)			Install 600mm CSP pipes (Sparta Street)	m	42	$ 600.00	$ 25,200.00
303	SP 511	OPSS 511	Rip Rap on Filter Cloth (Provisional)	m^2	3	$ 120.00	$ 307.20

SP - Special Provisions	**SUB-TOTAL**	$ 59,707.20
OPSS - Ontario Provincial Standard Specifications		

Division 4 - Sewers and Appurtanences

Item No.	SP	OPSS / OPSD	Description	Unit	Quantity	Unit Price	Total
301	SP 421	OPSS 410	Storm Sewer Pipe - Sparta Street				
a)			Install 1050mm Concrete pipe. (Sparta Street)	m	154	$ 1,200.00	$ 184,800.00
b)			Install 525mm Concrete pipe. (Sparta Street)	m	20	$ 400.00	$ 8,000.00
302	SP 421	OPSS 407	Storm Sewer Maintenance Holes - Sparta Street				
a)			Install 2400mm Precast Concrete Maintenance Hole (Sparta Street)		2	$ 20,000.00	$ 40,000.00
303	SP 511	OPSS 511	Rip Rap on Filter Cloth (Provisional)	m^2	1	$ 100.00	$ 100.00

	SUB-TOTAL	$ 232,900.00

OPSS - Ontario Provincial Standard Specifications

Division 5 - Roadworks

Item No.	SP	OPSS / OPSD	Description	Unit	Quantity	Unit Price	Total
401	SP 1010	OPSS 1010, 314	Granular B - Type 1 Road Subbase (300mm Depth)	m^2			
a)		OPSS 1010, 314	Road Subbase (Bardis Drive / Sparta Street)	m^2	1,410	$ 20.00	$ 28,200.00
b)		OPSS 1010, 314	Road Subbase (Drive-in Road)	m^2	90	$ 20.00	$ 1,800.00
402	SP1010		Granular A				
a)		OPSS 1010, 314	(Bardis Drive / Sparta Street)	m^2	1,410	$ 10.00	$ 14,100.00
b)		OPSS 1010, 314	Road Subbase (Drive-in Road)	m^2	90	$ 10.00	$ 900.00
403	SP 1010		Asphalt Paving				
a)		OPSS 310	Binder Course (Bardis Drive / Sparta Street)	m^2	1,410	$ 100.00	$ 141,000.00
b)		OPSS 310	Surface Course (Bardis Drive / Sparta Street)	m^2	1,410	$ 100.00	$ 141,000.00
c)		OPSS 310	Binder Course (Drive-In Road)	m^2	90	$ 100.00	$ 9,000.00
d)		OPSS 310	Surface Course (Drive-In Road)	m^2	90	$ 100.00	$ 9,000.00

SP - Special Provisions	**SUB-TOTAL**	$ 345,000.00
OPSS - Ontario Provincial Standard Specifications		

Erma Ditch Construction

Item	Description	Total Amount
1.0	General Items, Site Preparation and Earthworks	$23,730.00
2.0	Removals	$1,000.00
	Subtotal	**$24,730.00**
	Contingency (15%)	**$3,709.50**
	Total Tender Price	**$28,439.50**
	H.S.T.	**$3,697.14**
	Total Tender Price	**$32,136.64**

Division 1 - General Items, Site Preparation and Earthworks

Item No.	SP	OPSS / OPSD	Description	Unit	Quantity	Unit Price	Total
101	SPW 001		Bonding and Insurance	LS	0	$ 5,000.00	$ -
102	SPW 002		Mobilization and Demobilization	LS	0	$ 5,000.00	$ -
103	SP 706	OPSS 706	Temporary Traffic Controls	LS	0	$ 1,000.00	$ -
104	SP 805		Erosion and Sediment Controls				
a)		OPSS 805	Light Duty Silt Fence	m	170	$ 60.00	$ 10,200.00
b)		OPSS 805	Terrifix Silt Sock	m	20	$ 55.00	$ 1,100.00
105	SP 206	OPSS 180, 206, 510	Excavation and Grading (local disposal)				
a)			Open Channel Drain Construction with onsite disposal (US Pond)	m^3	260	$ 38.00	$ 9,880.00
106	SP 804	OPSS 804	Seed and Cover	m^2	850	$ 3.00	$ 2,550.00

SP - Special Provisions	**SUB-TOTAL**	$ 23,730.00
OPSS - Ontario Provincial Standard Specifications		

Division 2 - Removals

Item No.	SP	OPSS / OPSD	Description	Unit	Quantity	Unit Price	Total
#REF!	SP 201	OPSS MUNI 201	Clearing and Grubbing	LS	1	$ 1,000.00	$ 1,000.00

Heritage Place Channel
Option 1 - Reestablish Drain

Item	Description	Total Amount
1.0	General Items, Site Preparation and Earthworks	$21,600.00
2.0	Removals	$1,342.00
3.0	Culverts and Erosion Protection	$73,780.80
4.0	Sewers and Appurtenances	$0.00
5.0	Road Works	$0.00
	Subtotal	**$96,722.80**
	Contingency (15%)	**$14,508.42**
	Total Tender Price	**$111,231.22**
	H.S.T.	**$14,460.06**
	Total Tender Price	**$125,691.28**

Cost to be Assessed to Laurentian Valley as a Special Benefit	
Subtotal	**$0.00**
Contingency (15%)	**$0.00**
Total Tender Price	**$0.00**
H.S.T.	**$0.00**
Total Tender Price	**$0.00**

Cost to be Assessed to the Drain	
Subtotal	**$96,722.80**
Contingency (15%)	**$14,508.42**
Total Tender Price	**$111,231.22**
H.S.T.	**$14,460.06**
Total Tender Price	**$125,691.28**

Heritage Place Channel Option 1 - Reestablish Drain

Division 1 - General Items, Site Preparation and Earthworks

Item No.	SP	OPSS / OPSD	Description	Unit	Quantity	Unit Price	Total
101	SPW 001		Bonding and Insurance	LS	1	$ 5,000.00	$ 5,000.00
102	SPW 002		Mobilization and Demobilization	LS	1	$ 5,000.00	$ 5,000.00
103	SP 706	OPSS 706	Temporary Traffic Controls	LS	1	$ 1,000.00	$ 1,000.00
104	SP 805		Erosion and Sediment Controls				
a)		OPSS 805	Light Duty Silt Fence	m	0	$ 60.00	$ -
b)		OPSS 805	Terrifix Silt Sock	m	20	$ 55.00	$ 1,100.00
105	SP 206		Excavation and Grading (local disposal)				
a)		OPSS 180, 206, 510	Reestablish Drain	m^3	175	$ 38.00	$ 6,650.00
106	SP 804	OPSS 804	Seed and Cover	m^2	950	$ 3.00	$ 2,850.00

	SUB-TOTAL	$ 21,600.00

OPSS - Ontario Provincial Standard Specifications

Division 2 - Removals

Item No.	SP	OPSS / OPSD	Description	Unit	Quantity	Unit Price	Total
201	SP 510		Removals				
a)		OPSS MUNI 510	Gravel and Base Removal (road)	m^2	0	$ 38.00	$ -
202	SP 201		Clearing and Grubbing	LS	0	$ 5,500.00	$ -
a)		OPSS MUNI 201	Clearing and Grubbing for Berm	m^2	671	$ 2.00	$ 1,342.00
203	SP 510		Removal of Pipes and Culverts				

	SUB-TOTAL	$ 1,342.00

OPSS - Ontario Provincial Standard Specifications

Division 3 - Culverts

Item No.	SP	OPSS / OPSD	Description	Unit	Quantity	Unit Price	Total
301	SP 421	OPSS 421	Pipe Culvert - Road Crossings				
302	SP 421	OPSS 421	Pipe Culvert - Entrance Culverts				
303	SP 511	OPSS 511	Rip Rap on Filter Cloth (Provisional)	m^2	615	$ 120.00	$ 73,780.80

SP - Special Provisions	**SUB-TOTAL**	$ 73,780.80
OPSS - Ontario Provincial Standard Specifications		

Division 4 - Sewers and Appurtanences

Item No.	SP	OPSS / OPSD	Description	Unit	Quantity	Unit Price	Total
301	SP 421	OPSS 410	Storm Sewer Pipe - Sparta Street				
302	SP 421	OPSS 407	Storm Sewer Maintenance Holes - Sparta Street				
303	SP 511	OPSS 511	Rip Rap on Filter Cloth (Provisional)	m^2	0	$ 100.00	$ -

	SUB-TOTAL	$ -

OPSS - Ontario Provincial Standard Specifications

Division 5 - Roadworks

Item No.	SP	OPSS / OPSD	Description	Unit	Quantity	Unit Price	Total
401	SP 1010	OPSS 1010, 314	Granular B - Type 1 Road Subbase (300mm Depth)	m^2			
a)		OPSS 1010, 314	Road Subbase	m^2	0	$ 20.00	$ -
402	SP1010		Granular A				
a)		OPSS 1010, 314	Road Granular A	m^2	0	$ 10.00	$ -
403	SP 1010		Asphalt Paving				
a)		OPSS 310	Binder Course	m^2	0	$ 100.00	$ -
b)		OPSS 310	Surface Course	m^2	0	$ 100.00	$ -

SP - Special Provisions	**SUB-TOTAL**	$ -
OPSS - Ontario Provincial Standard Specifications		

Heritage Place Channel
Option 2 - Reestablish Drain

Item	Description	Total Amount
1.0	General Items, Site Preparation and Earthworks	$28,060.00
2.0	Removals	$690.00
3.0	Culverts	$73,780.80
4.0	Sewers and Appurtenances	$0.00
5.0	Road Works	$0.00
	Subtotal	**$102,530.80**
	Contingency (15%)	**$15,379.62**
	Total Tender Price	**$117,910.42**
	H.S.T.	**$15,328.35**
	Total Tender Price	**$133,238.77**

Cost to be Assessed to Laurentian Valley as a Special Benefit	
Subtotal	**$0.00**
Contingency (15%)	**$0.00**
Total Tender Price	**$0.00**
H.S.T.	**$0.00**
Total Tender Price	**$0.00**

Cost to be Assessed to the Drain	
Subtotal	**$102,530.80**
Contingency (15%)	**$15,379.62**
Total Tender Price	**$117,910.42**
H.S.T.	**$15,328.35**
Total Tender Price	**$133,238.77**

Heritage Place Channel Option 2 - Reestablish Drain

Division 1 - General Items, Site Preparation and Earthworks

Item No.	SP	OPSS / OPSD	Description	Unit	Quantity	Unit Price	Total
101	SPW 001		Bonding and Insurance	LS	1	$ 5,000.00	$ 5,000.00
102	SPW 002		Mobilization and Demobilization	LS	1	$ 5,000.00	$ 5,000.00
103	SP 706	OPSS 706	Temporary Traffic Controls	LS	1	$ 1,000.00	$ 1,000.00
104	SP 805		Erosion and Sediment Controls				
a)		OPSS 805	Light Duty Silt Fence	m	0	$ 60.00	$ -
b)		OPSS 805	Terrifix Silt Sock	m	20	$ 55.00	$ 1,100.00
105	SP 206		Excavation and Grading (local disposal)				
a)		OPSS 180, 206, 510	Reestablis Drain	m^3	345	$ 38.00	$ 13,110.00
b)		OPSS 180, 206, 510	Berm Construction / Import Material	m^3	0	$ 78.00	$ -
106	SP 804	OPSS 804	Seed and Cover	m^2	950	$ 3.00	$ 2,850.00

	SUB-TOTAL	$ 28,060.00

OPSS - Ontario Provincial Standard Specifications

Heritage Place Channel Option 2 - Reestablish Drain

Division 2 - Removals

Item No.	SP	OPSS / OPSD	Description	Unit	Quantity	Unit Price	Total
201	SP 510		Removals				
a)		OPSS MUNI 510	Gravel and Base Removal (road)	m^2	0	$ 38.00	$ -
202	SP 201		Clearing and Grubbing	LS	0	$ 5,500.00	$ -
a)		OPSS MUNI 201	Clearing and Grubbing for Berm	m^2	345	$ 2.00	$ 690.00
203	SP 510		Removal of Pipes and Culverts				
a)		OPSS MUNI 510	Centerline	m	0	$ 135.00	$ -

	SUB-TOTAL	$ 690.00

OPSS - Ontario Provincial Standard Specifications

Division 3 - Culverts

Item No.	SP	OPSS / OPSD	Description	Unit	Quantity	Unit Price	Total
301	SP 421	OPSS 421	Pipe Culvert - Road Crossings				
302	SP 421	OPSS 421	Pipe Culvert - Entrance Culverts				
303	SP 511	OPSS 511	Rip Rap on Filter Cloth (Provisional)	m^2	615	$ 120.00	$ 73,780.80

SP - Special Provisions	**SUB-TOTAL**	$ 73,780.80
OPSS - Ontario Provincial Standard Specifications		

Division 4 - Sewers and Appurtanences

Item No.	SP	OPSS / OPSD	Description	Unit	Quantity	Unit Price	Total
301	SP 421	OPSS 410	Storm Sewer Pipe - Sparta Street				
302	SP 421	OPSS 407	Storm Sewer Maintenance Holes - Sparta Street				
303	SP 511	OPSS 511	Rip Rap on Filter Cloth (Provisional)	m^2	0	$ 100.00	$ -

	SUB-TOTAL	$ -

OPSS - Ontario Provincial Standard Specifications

Division 5 - Roadworks

Item No.	SP	OPSS / OPSD	Description	Unit	Quantity	Unit Price	Total
401	SP 1010	OPSS 1010, 314	Granular B - Type 1 Road Subbase (300mm Depth)	m^2			
a)		OPSS 1010, 314	Road Subbase	m^2	0	$ 20.00	$ -
402	SP1010		Granular A				
a)		OPSS 1010, 314	Road Granular A	m^2	0	$ 10.00	$ -
403	SP 1010		Asphalt Paving				
a)		OPSS 310	Binder Course	m^2	0	$ 100.00	$ -
b)		OPSS 310	Surface Course	m^2	0	$ 100.00	$ -

SP - Special Provisions	**SUB-TOTAL**	$ -
OPSS - Ontario Provincial Standard Specifications		

Taylor Heights Subdivision
Option 1 - Constructed Berm

Item	Description	Total Amount
1.0	General Items, Site Preparation and Earthworks	$38,750.00
2.0	Removals	$6,600.00
3.0	Culverts	$0.00
4.0	Sewers and Appurtenances	$3,200.00
5.0	Road Works	$0.00
	Subtotal	**$48,550.00**
	Contingency (15%)	**$7,282.50**
	Total Tender Price	**$55,832.50**
	H.S.T.	**$7,258.23**
	Total Tender Price	**$63,090.73**

Cost to be Assessed to Laurentian Valley as a Special Benefit	
Subtotal	**$0.00**
Contingency (15%)	**$0.00**
Total Tender Price	**$0.00**
H.S.T.	**$0.00**
Total Tender Price	**$0.00**

Cost to be Assessed to the Drain	
Subtotal	**$48,550.00**
Contingency (15%)	**$7,282.50**
Total Tender Price	**$55,832.50**
H.S.T.	**$7,258.23**
Total Tender Price	**$63,090.73**

Division 1 - General Items, Site Preparation and Earthworks

Item No.	SP	OPSS / OPSD	Description	Unit	Quantity	Unit Price	Total
101	SPW 001		Bonding and Insurance	LS	1	$ 5,000.00	$ 5,000.00
102	SPW 002		Mobilization and Demobilization	LS	1	$ 5,000.00	$ 5,000.00
103	SP 706	OPSS 706	Temporary Traffic Controls	LS	1	$ 1,000.00	$ 1,000.00
104	SP 805		Erosion and Sediment Controls				
a)		OPSS 805	Light Duty Silt Fence	m	150	$ 60.00	$ 9,000.00
b)		OPSS 805	Terrifix Silt Sock	m	0	$ 55.00	$ -
105	SP 206		Excavation and Grading (local disposal)				
a)		OPSS 180, 206, 510	Topsoil Removal for Berm Construction	m^3	72	$ 38.00	$ 2,736.00
b)		OPSS 180, 206, 510	Berm Construction / Import Material	m^3	185	$ 78.00	$ 14,430.00
c)		OPSS 180, 206, 510		m^3	0	$ 40.00	$ -
106	SP 804	OPSS 804	Seed and Cover	m^2	528	$ 3.00	$ 1,584.00

	SUB-TOTAL	$ 38,750.00

OPSS - Ontario Provincial Standard Specifications

Division 2 - Removals

Item No.	SP	OPSS / OPSD	Description	Unit	Quantity	Unit Price	Total
201	SP 510		Removals				
a)		OPSS MUNI 510	Gravel and Base Removal (road)	m^2	0	$ 38.00	$ -
202	SP 201		Clearing and Grubbing	LS	0	$ 5,500.00	$ -
a)		OPSS MUNI 201	Clearing and Grubbing for Berm	m^2	800	$ 2.00	$ 1,600.00
b)		OPSS MUNI 201	Deadfall Removal	LS	1	$ 5,000.00	$ 5,000.00
203	SP 510		Removal of Pipes and Culverts				
a)		OPSS MUNI 510	Centerline	m	0	$ 135.00	$ -

	SUB-TOTAL	$ 6,600.00

OPSS - Ontario Provincial Standard Specifications

Division 3 - Culverts

Item No.	SP	OPSS / OPSD	Description	Unit	Quantity	Unit Price	Total
301	SP 421	OPSS 421	Pipe Culvert - Road Crossings				
a)			Install 1000mm CSP pipe (Road)	m	0	$ 900.00	$ -
302	SP 421	OPSS 421	Pipe Culvert - Entrance Culverts				
a)			Install 600mm CSP pipes (Road)	m	0	$ 600.00	$ -
303	SP 511	OPSS 511	Rip Rap on Filter Cloth (Provisional)	m^2	0	$ 120.00	$ -

SP - Special Provisions	**SUB-TOTAL**	$ -
OPSS - Ontario Provincial Standard Specifications		

Division 4 - Sewers and Appurtanences

Item No.	SP	OPSS / OPSD	Description	Unit	Quantity	Unit Price	Total
301	SP 421	OPSS 410	Storm Sewer Pipe - Sparta Street				
a)			Install 525mm Concrete pipe.	m	8	$ 400.00	$ 3,200.00
302	SP 421	OPSS 407	Storm Sewer Maintenance Holes - Sparta Street				
a)			Install 2400mm Precast Concrete Maintenance Hole		0	$ 20,000.00	$ -
303	SP 511	OPSS 511	Rip Rap on Filter Cloth (Provisional)	m^2	0	$ 100.00	$ -

	SUB-TOTAL	$ 3,200.00

OPSS - Ontario Provincial Standard Specifications

Division 5 - Roadworks

Item No.	SP	OPSS / OPSD	Description	Unit	Quantity	Unit Price	Total
401	SP 1010	OPSS 1010, 314	Granular B - Type 1 Road Subbase (300mm Depth)	m^2			
a)		OPSS 1010, 314	Road Subbase	m^2	0	$ 20.00	$ -
402	SP1010		Granular A				
a)		OPSS 1010, 314	Road Granular A	m^2	0	$ 10.00	$ -
403	SP 1010		Asphalt Paving				
a)		OPSS 310	Binder Course	m^2	0	$ 100.00	$ -
b)		OPSS 310	Surface Course	m^2	0	$ 100.00	$ -

SP - Special Provisions	**SUB-TOTAL**	$ -
OPSS - Ontario Provincial Standard Specifications		

Taylor Heights Subdivision
Option 2 - Reestablish Drain

Item	Description	Total Amount
1.0	General Items, Site Preparation and Earthworks	$31,255.00
2.0	Removals	$9,600.00
3.0	Culverts	$0.00
4.0	Sewers and Appurtenances	$0.00
5.0	Road Works	$0.00
	Subtotal	**$40,855.00**
	Contingency (15%)	**$6,128.25**
	Total Tender Price	**$46,983.25**
	H.S.T.	**$6,107.82**
	Total Tender Price	**$53,091.07**

Cost to be Assessed to Laurentian Valley as a Special Benefit	
Subtotal	**$0.00**
Contingency (15%)	**$0.00**
Total Tender Price	**$0.00**
H.S.T.	**$0.00**
Total Tender Price	**$0.00**

Cost to be Assessed to the Drain	
Subtotal	**$40,855.00**
Contingency (15%)	**$6,128.25**
Total Tender Price	**$46,983.25**
H.S.T.	**$6,107.82**
Total Tender Price	**$53,091.07**

Division 1 - General Items, Site Preparation and Earthworks

Item No.	SP	OPSS / OPSD	Description	Unit	Quantity	Unit Price	Total
101	SPW 001		Bonding and Insurance	LS	1	$ 5,000.00	$ 5,000.00
102	SPW 002		Mobilization and Demobilization	LS	1	$ 5,000.00	$ 5,000.00
103	SP 706	OPSS 706	Temporary Traffic Controls	LS	1	$ 1,000.00	$ 1,000.00
104	SP 805		Erosion and Sediment Controls				
a)		OPSS 805	Light Duty Silt Fence	m	0	$ 60.00	$ -
b)		OPSS 805	Terrifix Silt Sock	m	75	$ 55.00	$ 4,125.00
105	SP 206		Excavation and Grading (local disposal)				
a)		OPSS 180, 206, 510	Topsoil Removal for Berm Construction	m^3	310	$ 38.00	$ 11,780.00
b)		OPSS 180, 206, 510	Berm Construction / Import Material	m^3	0	$ 78.00	$ -
c)		OPSS 180, 206, 510		m^3	0	$ 40.00	$ -
106	SP 804	OPSS 804	Seed and Cover	m^2	1,450	$ 3.00	$ 4,350.00

	SUB-TOTAL	$ 31,255.00

OPSS - Ontario Provincial Standard Specifications

Division 2 - Removals

Item No.	SP	OPSS / OPSD	Description	Unit	Quantity	Unit Price	Total
201	SP 510		Removals				
a)		OPSS MUNI 510	Gravel and Base Removal (road)	m^2	0	$ 38.00	$ -
202	SP 201		Clearing and Grubbing	LS	0	$ 5,500.00	$ -
a)		OPSS MUNI 201	Clearing and Grubbing for Berm	m^2	2,300	$ 2.00	$ 4,600.00
b)		OPSS MUNI 201	Deadfall Removal	LS	1	$ 5,000.00	$ 5,000.00
203	SP 510		Removal of Pipes and Culverts				
a)		OPSS MUNI 510	Centerline	m	0	$ 135.00	$ -

	SUB-TOTAL	$ 9,600.00

OPSS - Ontario Provincial Standard Specifications

Division 3 - Culverts

Item No.	SP	OPSS / OPSD	Description	Unit	Quantity	Unit Price	Total
301	SP 421	OPSS 421	Pipe Culvert - Road Crossings				
302	SP 421	OPSS 421	Pipe Culvert - Entrance Culverts				
303	SP 511	OPSS 511	Rip Rap on Filter Cloth (Provisional)	m^2	0	$ 120.00	$ -

SP - Special Provisions	**SUB-TOTAL**	$ -
OPSS - Ontario Provincial Standard Specifications		

Division 4 - Sewers and Appurtanences

Item No.	SP	OPSS / OPSD	Description	Unit	Quantity	Unit Price	Total
301	SP 421	OPSS 410	Storm Sewer Pipe - Sparta Street				
302	SP 421	OPSS 407	Storm Sewer Maintenance Holes - Sparta Street				
303	SP 511	OPSS 511	Rip Rap on Filter Cloth (Provisional)	m^2	0	$ 100.00	$ -

	SUB-TOTAL	$ -
OPSS - Ontario Provincial Standard Specifications		

Division 5 - Roadworks

Item No.	SP	OPSS / OPSD	Description	Unit	Quantity	Unit Price	Total
401	SP 1010	OPSS 1010, 314	Granular B - Type 1 Road Subbase (300mm Depth)	m^2			
a)		OPSS 1010, 314	Road Subbase	m^2	0	$ 20.00	$ -
402	SP1010		Granular A				
a)		OPSS 1010, 314	Road Granular A	m^2	0	$ 10.00	$ -
403	SP 1010		Asphalt Paving				
a)		OPSS 310	Binder Course	m^2	0	$ 100.00	$ -
b)		OPSS 310	Surface Course	m^2	0	$ 100.00	$ -

SP - Special Provisions	**SUB-TOTAL**	$ -
OPSS - Ontario Provincial Standard Specifications		

Taylor Heights Subdivision
Option 3 - Constructed Berm

Item	Description	Total Amount
1.0	General Items, Site Preparation and Earthworks	$44,629.70
2.0	Removals	$6,800.00
3.0	Culverts	$0.00
4.0	Sewers and Appurtenances	$3,200.00
5.0	Road Works	$1,500.00
	Subtotal	**$56,129.70**
	Contingency (15%)	**$8,419.46**
	Total Tender Price	**$64,549.16**
	H.S.T.	**$8,391.39**
	Total Tender Price	**$72,940.55**

Cost to be Assessed to Laurentian Valley as a Special Benefit	
Subtotal	**$1,500.00**
Contingency (15%)	**$225.00**
Total Tender Price	**$1,725.00**
H.S.T.	**$224.25**
Total Tender Price	**$1,949.25**

Cost to be Assessed to the Drain	
Subtotal	**$54,629.70**
Contingency (15%)	**$8,194.46**
Total Tender Price	**$62,824.16**
H.S.T.	**$8,167.14**
Total Tender Price	**$70,991.30**

Division 1 - General Items, Site Preparation and Earthworks

Item No.	SP	OPSS / OPSD	Description	Unit	Quantity	Unit Price	Total
101	SPW 001		Bonding and Insurance	LS	1	$ 5,000.00	$ 5,000.00
102	SPW 002		Mobilization and Demobilization	LS	1	$ 5,000.00	$ 5,000.00
103	SP 706	OPSS 706	Temporary Traffic Controls	LS	1	$ 1,000.00	$ 1,000.00
104	SP 805		Erosion and Sediment Controls				
a)		OPSS 805	Light Duty Silt Fence	m	150	$ 60.00	$ 9,000.00
b)		OPSS 805	Terrifix Silt Sock	m	0	$ 55.00	$ -
105	SP 206		Excavation and Grading (local disposal)				
a)		OPSS 180, 206, 510	Topsoil Removal for Berm Construction	m^3	87	$ 38.00	$ 3,311.70
b)		OPSS 180, 206, 510	Berm Construction / Import Material	m^3	245	$ 78.00	$ 19,110.00
c)		OPSS 180, 206, 510		m^3	0	$ 40.00	$ -
106	SP 804	OPSS 804	Seed and Cover	m^2	736	$ 3.00	$ 2,208.00

	SUB-TOTAL	$ 44,629.70

OPSS - Ontario Provincial Standard Specifications

Division 2 - Removals

Item No.	SP	OPSS / OPSD	Description	Unit	Quantity	Unit Price	Total
201	SP 510		Removals				
a)		OPSS MUNI 510	Gravel and Base Removal (road)	m^2	0	$ 38.00	$ -
202	SP 201		Clearing and Grubbing	LS	0	$ 5,500.00	$ -
a)		OPSS MUNI 201	Clearing and Grubbing for Berm	m^2	900	$ 2.00	$ 1,800.00
b)		OPSS MUNI 201	Deadfall Removal	LS	1	$ 5,000.00	$ 5,000.00
203	SP 510		Removal of Pipes and Culverts				
a)		OPSS MUNI 510	Centerline	m	0	$ 135.00	$ -

	SUB-TOTAL	$ 6,800.00

OPSS - Ontario Provincial Standard Specifications

Division 3 - Culverts

Item No.	SP	OPSS / OPSD	Description	Unit	Quantity	Unit Price	Total
301	SP 421	OPSS 421	Pipe Culvert - Road Crossings				
302	SP 421	OPSS 421	Pipe Culvert - Entrance Culverts				
303	SP 511	OPSS 511	Rip Rap on Filter Cloth (Provisional)	m^2	0	$ 120.00	$ -

SP - Special Provisions	**SUB-TOTAL**	$ -
OPSS - Ontario Provincial Standard Specifications		

Division 4 - Sewers and Appurtanences

Item No.	SP	OPSS / OPSD	Description	Unit	Quantity	Unit Price	Total
301	SP 421	OPSS 410	Storm Sewer Pipe - Sparta Street				
a)			Install 525mm Concrete pipe.	m	8	$ 400.00	$ 3,200.00
302	SP 421	OPSS 407	Storm Sewer Maintenance Holes - Sparta Street				
303	SP 511	OPSS 511	Rip Rap on Filter Cloth (Provisional)	m^2	0	$ 100.00	$ -

	SUB-TOTAL	$ 3,200.00

OPSS - Ontario Provincial Standard Specifications

Division 5 - Roadworks

Item No.	SP	OPSS / OPSD	Description	Unit	Quantity	Unit Price	Total
401	SP 1010	OPSS 1010, 314	Granular B - Type 1 Road Subbase (300mm Depth)	m^2			
a)		OPSS 1010, 314	Road Subbase	m^2	0	$ 20.00	$ -
402	SP1010		Granular A				
a)		OPSS 1010, 314	Road Granular A	m^2	150	$ 10.00	$ 1,500.00
403	SP 1010		Asphalt Paving				
a)		OPSS 310	Binder Course	m^2	0	$ 100.00	$ -
b)		OPSS 310	Surface Course	m^2	0	$ 100.00	$ -

SP - Special Provisions	**SUB-TOTAL**	$ 1,500.00
OPSS - Ontario Provincial Standard Specifications		

Appendix H

Action Table

Item #	Action Area (Address / Location)	Problem Description Summary (From Resident)	Affected Resident / Comments Received	Potential Conceptual Solution (from Wills)	Support Studies Required	Can the Improvement be managed Under Sec 78?	Is some improvement under Sec 78 required to Support a Solution?	Authorized to Proceed?	Authorized Scope (Items in bold to be included in an Additional Service Request)	Anticipated Assessment of Charges
	On-Site Meeting									
1	4 Heritage Place	Concerned about creekbed erosion and contamination of well water. Would like Environmental Impact Assessment (EIA) to determine the current water quality indicators in the creek	Jacquline Maartense	Review capacity of channel; increase flow area and add erosion protection measures to channel, if required. Water Quality analysis is not typical under Municipal Drainage projects	Terrestrial and Fisheries Studies Archeology Topographic Survey	Yes	Yes	Proceed	**Wills: to provide an erosion assessment and preliminary design to address erosion concerns.** Wills to confirm with OMAFRA regarding the assessment of costs to the Drain **Survey: Additional Survey will be required.** **Other: Terrestrial, fisheries and archeology studies will be required**	Costs assessed to the Drain (Pending confirmation with OMAFRA)
2	6 Ridge Drive	Creek overflows during spring causing erosion.	Richard Harrison	Review capacity of channel; increase flow area and add erosion protection measures to channel, if required.	Terrestrial and Fisheries Studies Archeology Topographic Survey	Yes	Yes	Proceed	**Wills: to provide an erosion assessment preliminary design to address erosion concerns.** Work will not be included as part of the Section 78 Work. **Survey: Additional Survey will be required.** **Other: Terrestrial, fisheries and archeology studies will be required**	Costs assessed to Laurentain Township
3	7 Ridge Drive	Creek overflows during spring causing erosion.	Randy and Sandra Kreutz	Review capacity of channel; increase flow area and add erosion protection measures to channel, if required.	Terrestrial and Fisheries Studies Archeology Topographic Survey	Yes	Yes	Proceed	Wills: to provide a preliminary design to address erosion concerns. Work will not be included as part of the Section 78 Work. **Survey: Additional Survey will be required.** **Other: Terrestrial, fisheries and archeology studies will be required**	Costs assessed to Laurentain Township
4	11 Ridge Drive	Flooding in backyard. Properties at 8, 9 and 10 Ridge Drive have filled in ditch which is restricting flow.	Brenda Lacroix	Grading and ditch improvements may be required to connect the drainage problem to the Pleasantview Drain; construction may be on private property	Topographic Survey	No	Unlikely	No Action	Wills: No Action for this Item	-
5	1200 Pembroke Street East	Ditch on Highway 148 (fronting property) does not function properly. Expressed concern of costs associated with the maintenance of the drain. Indicated a dramatic change to watercourse through the property and implicated upstream development.	Sheila Ryan	Grading and ditch improvements may be required to connect the drainage problem to the Pleasantview Drain; construction may be on private property	Topographic Survey	No	Unlikely	No Action	Wills: No Action for this Item	-
6	112 Stoneyfield Road	Since filling in ditches and installing a sewer-based roadside drainage system, the groundwater table has risen. Indicated multiple septic failures. Noted that the installed storm drain becomes plugged	Frank Plue	Improve local drainage to road-side sewer system, and confirm no internal maintenance issues	Topographic Survey Sewer Investigation	No	No	No Action	Wills: No Action for this Item	-
7	160 Pleasant View Drive	Erosion causing retaining wall to fail. Unsure who owns retaining wall.	Greg Pilon	Repair Retaining Wall and confirm channel capacity and stability	Topographic Survey	Yes	Yes	No Action	Wills: No Action for this Item	-
8	172 Drive In Road	Ditches are not sized appropriately. Catchbasin at Drive In Road is too small	Dwyla Doran	Increase capacity of channel. Increase capacity of Storm Sewer	Topographic Survey	No	No	Proceed	**Wills: to provide a preliminary design to address flooding concerns. Work is in addition to the 'two detailed improvement areas' (page 4 of proposal)** **Survey: Survey in excess of the assumed '3 days' (page 7 of proposal)**	Costs assessed to Laurentain Township and shared with County
9	91 Elm Street West	[This property owner asked us to contact them by phone - Ken S called January 27th] - The ditches and culverts on Elm Street are too shallow. Non-Maintenance of the drain has led to reduced capacity. There is a subdrain under the ditch on Elm, which helped but is crushed	Rick Miller	Increase capacity of local ditches and sewers on Elm Street; will likely require improvements to the drain to achieve positive drainage. Grading may be required on private property.	Topographic Survey	No	Yes	Proceed	Wills: to provide a preliminary design to address capacity concerns on Elm Street which will include open ditch and sewer options; this is included as '1 of 2 detailed improvement areas'. Survey: Survey included in assumed '3 days' (page 7 of proposal)	Costs assessed to Laurentain Township
10	33 Erma Street	Deep ditches make maintenance difficult resulting in poor drainage and pose safety risk	Chris Pleau	Increase capacity of channel. Review the cross section of the drain to ensure optimal safety (eg. wider, shallower channel with flatter side slopes)		Yes	Yes	Proceed	Wills: to provide a detailed design to address capacity concerns . This work is directly part of the Pleasantview Drain and included as part of the Section 78 Work. Open ditch and pipe options to be provided as part of the preliminary engineers report. Survey: Survey included in assumed '3 days' (page 7 of proposal)	Costs assessed to the Drain
11	27 Erma Street	Erosion and flooding of backyard	Kyle Dickson	Increase capacity of local ditches and sewers on Erma Street and improve conveyance from the rear of the properties to the frontage; will likely require improvements to the drain to achieve positive drainage. Grading may be required on private property.	Topographic Survey	No	Likely	Proceed	Wills: to provide a preliminary design to address drainage concerns. Options will be considered to divert flows to the rear of the Elm Street properties using the existing easement or as part of the D'arcy development, or improvements on Erma Street. This is included as '1 of 2 detailed improvement areas'. Survey: Survey included in assumed '3 days' (page 7 of proposal)	Costs assessed to Laurentain Township
12	15 Erma Street	Flooding of backyard. French drain overwhelmed. Culvert overwhelmed.	Tony Scott	Increase capacity of local ditches and sewers on Erma Street and improve conveyance from the rear of the properties to the frontage; will likely require improvements to the drain to achieve positive drainage. Grading may be required on private property.	Topographic Survey	No	Likely	Proceed	Wills: to provide a preliminary design to address drainage concerns. 2 Options will be considered to divert flows to the rear of the Elm Street properties using the existing easement or as part of the D'arcy development, or improvements on Erma Street . This is included as '1 of 2 detailed improvement areas'. Survey: Survey included in assumed '3 days' (page 7 of proposal)	Costs assessed to Laurentain Township
13	2651 Greenwood Road	Concerned about impact of future developments not being account for	Darcy Smith	Coordinate with Developers and developer's engineers to establish appropriate peak flow control targets		Yes	Yes	Proceed	**Wills: to connect with owner's engineer to discuss peak flow targets and discharge locations. This work will be conducted on an hourly basis (page 4 of proposal)**	Costs assessed to the Drain
14	12 International D'youville drive	Concerned about cost of maintenance for new developments	Micheal Fadock	Review existing schedule of assessment and communicate future costs.		Yes	Yes	Proceed	**Wills: to connect with owner's engineer to discuss peak flow targets and discharge locations. This work will be conducted on an hourly basis (page 4 of proposal)**	Costs assessed to the Drain
15	D'youville drive/Ball st (around the high school)	Concerned about cost of maintenance for new developments	Micheal Fadock	Review existing schedule of assessment and communicate future costs.		Yes	Yes	Proceed	**Wills: to connect with owner's engineer to discuss peak flow targets and discharge locations. This work will be conducted on an hourly basis (page 4 of proposal)**	Costs assessed to the Drain
16	1304-B Pembroke Street East	Concerned about removal of trees along driveway	Chris Sanzo	No action necessary		No	No	No Action	Wills: No Action for this Item	-
17	36 Taylor Heights Drive	The backs of the drain are eroding and require repair to avoid loss of rear year.	Ryan Graveline	Review capacity of channel; increase flow area and add erosion protection measures to channel, if required.		Yes	Yes	Proceed	**Wills: to provide design to address drainage and erosion concerns. This location is in addition to the 2 detailed improvement areas** **Survey: Additional Survey will be required.**	Costs assessed to the Drain
18	108 Acres, Drive In Road	Concerned about costs associated with drain	Dino Varvaresos	Review existing schedule of assessment and communicate future costs.		Yes	Yes	Proceed	**Wills: to connect with landower to discuss assessment costs. This work will be conducted on an hourly basis (page 4 of proposal)**	Costs assessed to the Drain

Item #	Action Area (Address / Location)	Problem Description Summary (From Resident)	Affected Resident / Comments Received	Potential Conceptual Solution (from Wills)	Support Studies Required	Can the Improvement be managed Under Sec 78?	Is some improvement under Sec 78 required to Support a Solution?	Authorized to Proceed?	Authorized Scope (Items in bold to be included in an Additional Service Request)	Anticipated Assessment of Charges
19	206 Drive In Road	Property floods after heavy rain, from farmers field to east.	Terry Carmody	Increase capacity of local ditches and sewers on Drive In Road and improve conveyance from the rear of the properties to the frontage; will likely require improvements to the drain to achieve positive drainage. Grading may be required on private property.		No	Likely	Proceed	Wills: to provide a preliminary design to address capacity concerns on Sparta/Athens Street; this is included as '2 of 2 detailed improvement areas'. Survey: Survey included in assumed '3 days' (page 7 of proposal)	Costs assessed to Laurentain Township
20	93 Sparta Street	Ditch and culvert is always full of water resulting in injury performing lawn maintenance.	Andrew Lebert	Increase capacity of local ditches and sewers on Sparta Street and improve conveyance from the rear of the properties to the frontage; will likely require improvements to the drain to achieve positive drainage. Grading may be required on private property.		No	Likely	Proceed	Wills: to provide a preliminary design to address capacity concerns on Sparta/Athens Street; options will be assessed to increase capacity of ditch and culverts or provide a storm sewer. This is included as '2 of 2 detailed improvement areas'. Survey: Survey included in assumed '3 days' (page 7 of proposal)	Costs assessed to Laurentain Township
21	94 Athens Street	Ditch full of water, water between houses and saturated backyard	Leslie Spencer	Increase capacity of local ditches and sewers on Athens Street; will likely require improvements to the drain to achieve positive drainage. Grading may be required on private property.	Survey	No	Likely	Proceed	Wills: to provide a preliminary design to address capacity concerns on Sparta/Athens Street; options will be assessed to increase capacity of ditch and culverts or provide a storm sewer. This is included as '2 of 2 detailed improvement areas'. Survey: Survey included in assumed '3 days' (page 7 of proposal)	Costs assessed to Laurentain Township
22	City of Pembroke	Catchment drawn are incorrect.		Adjust Catchments as suggested		Yes	Yes	Proceed	**Wills: to will review the catchment areas in question. Will require some field investigation and simple topographic survey**	Costs assessed to the Drain
	Drain Specific Problems Identified in the Drainage and Hydrology Report, Pleasantview Municipal Drain and Branches, Wills, February 2024									
23	Channel (3031) Heritage Place to Ottawa River	Capacity of the channel is insufficient	Laurentian Valley	Increase the capacity of the channel	Survey	Yes	Yes	Proceed	Discussed in item 1 - 4	-
24	Channel (3029) Ridge Drive to Heritage Place	Capacity of the channel is insufficient	Laurentian Valley	Increase the capacity of the channel	Survey	Yes	Yes	Proceed	Discussed in item 1 - 4	-
25	Channel (3026) Highway 148 to Ridge Drive	Capacity of the channel is insufficient	Laurentian Valley	Increase the capacity of the channel	Survey	Yes	Yes	Proceed	Discussed in item 1 - 4	-
26	Channel (3020, 3022, 3024) Pleasantview Drive to Highway 148	Channel meets current design standards	Laurentian Valley	No action required	No Action Required	N/A	Yes	No Action	Wills: No Action for this Item	-
27	Channel (3018) Elm Street East/Spruce Street to Pleasantview Drive	Channel meets current design standards	Laurentian Valley	No action required	No Action Required	N/A	Yes	No Action	Wills: No Action for this Item	-
28	Channel on Elm Street East (3016) Drive-In Road to Spruce Street	Channel meets current design standards	Laurentian Valley	No action required	No Action Required	N/A	Yes	No Action	Wills: No Action for this Item	-
29	Channel on Elm Street West (3011) Erma Street to Drive-In Road	Channel meets current design standards	Laurentian Valley	Increase the capacity of the channel / Install Storm Sewer	Survey	Yes	Yes	Proceed	Discussed in item 10	
30	Channel (3008) Stormwater Management Pond to Erma Street	channel meets current design standards	Laurentian Valley	No action required	No Action Required	N/A	Yes	Proceed	Wills: to provide a detailed design to address capacity concerns; ditch cleanout anticipated. Will consider the outlet discussions with the adjacent developer.	Costs assessed to the Drain
31	Stormwater Management Pond Robinson Lane to Erma Street	Pond does not Function as Designed,	Laurentian Valley	Redesign Pond / Remove Pond	Survey	Yes	Yes	Proceed	Wills: to provide a detailed design to address pond deficiencies; will include options to remove or update the pond. Will consider the outlet discussions with the adjacent developer. Survey: Survey included in assumed '3 days' (page 7 of proposal)	Costs assessed to the Drain
32	Channel (3003) Channel 3002 to Robinson Lane	Channel meets current design standards	Laurentian Valley	No action required	No Action Required	N/A	Yes	Proceed	Wills: to provide a detailed design to address capacity concerns; ditch cleanout anticipated.	Costs assessed to the Drain
33	Channel (3002) Private Property to Channel 3003	Channel meets current design standards	Laurentian Valley	No action required	No Action Required	N/A	Yes	Proceed	Wills: to provide a detailed design to address capacity concerns; ditch cleanout anticipated.	Costs assessed to the Drain
34	Channel on Highway 148 (4016) Old Mill Road to Highway 148	Channel meets current design standards	Laurentian Valley	No action required	No Action Required	N/A	Yes	No Action	Wills: No Action for this Item	-
35	Channel (4014, 4013, 4012) Channel 410 to Old Mill Road	Capacity of the channel is insufficient	Laurentian Valley	Increase the capacity of the channel	Survey	Yes	Yes	Proceed	Wills: to provide a detailed design to address capacity concerns; ditch cleanout anticipated. Survey: Survey included in assumed '3 days' (page 7 of proposal)	Costs assessed to the Drain
36	Channel (4010) Channel 4009 to Chennel 4012)	Channel meets current design standards	Laurentian Valley	No action required	No Action Required	N/A	Yes	Proceed	Wills: to provide a detailed design to address capacity concerns; ditch cleanout anticipated. Survey: Survey included in assumed '3 days' (page 7 of proposal)	Costs assessed to the Drain
37	Channel (4009, 4007, 4006, 4004, 4003) Drive-In Road to Channel 4010	Capacity of the channel is insufficient	Laurentian Valley	Increase the capacity of the channel	Survey	Yes	Yes	Proceed	Wills: to provide a detailed design to address capacity concerns; ditch cleanout anticipated. Survey: Survey included in assumed '3 days' (page 7 of proposal)	Costs assessed to the Drain
38	Sparta Street Bardi's Drive to Drive-In Road	Capacity of the channel is insufficient	Laurentian Valley	Increase the capacity of the channel	Survey	No	Yes	Proceed	Discussed in Item 19 - 21	-
39	Centerline Culvert (Culvert #9) Heritage Place	Existing centerline culvert does not achieve current design standards	Laurentian Valley	Upgrade culvert to current design standards	Survey	Yes	Yes	Proceed	Wills: to provide a preliminary design to size culvert; noting that the culvert is in fair condition	Costs assessed to the Drain
40	Centerline Culvert (Culvert #8) Algonquin Trail	Existing centerline culvert does not achieve current design standards	Laurentian Valley	Upgrade culvert to current design standards	Survey	Yes	Yes	Proceed	Wills: to provide a preliminary design to size culvert; noting that the culvert is in fair condition	Costs assessed to the Drain
41	Centerline Culvert (Culvert #7) Ridge Drive	Existing centerline culvert does not achieve current design standards	Laurentian Valley	Upgrade culvert to current design standards	Survey	Yes	Yes	Proceed	Wills: to provide a preliminary design to size culvert; noting that the culvert is in fair condition	Costs assessed to the Drain
42	Centerline Culvert (culvert #6) Highway 148 (Pembroke St E)	Existing centerline culvert does not achieve current design standards	Laurentian Valley	Upgrade culvert to current design standards	Survey	Yes	Yes	Proceed	Wills: to provide a preliminary design to size culvert; noting that the culvert is in fair condition	Costs assessed to the Drain
43	Centerline Culvert (Culvert #5) Pleasant View Drive	Existing centerline culvert does not achieve current design standards	Laurentian Valley	Upgrade culvert to current design standards	Survey	Yes	Yes	Proceed	Wills: to provide a preliminary design to size culvert; noting that the culvert is in fair condition	Costs assessed to the Drain
44	Centerline Culvert (culvert #4) Elm Street East	Existing centerline culvert does not achieve current design standards	Laurentian Valley	Upgrade culvert to current design standards	Survey	Yes	Yes	Proceed	Wills: to provide a detailed design to size culvert.	Costs assessed to the Drain

Item #	Action Area (Address / Location)	Problem Description Summary (From Resident)	Affected Resident / Comments Received	Potential Conceptual Solution (from Wills)	Support Studies Required	Can the Improvement be managed Under Sec 78?	Is some improvement under Sec 78 required to Support a Solution?	Authorized to Proceed?	Authorized Scope (Items in bold to be included in an Additional Service Request)	Anticipated Assessment of Charges
45	Centerline Culvert (Culvert #3) Drive-In Road	Existing centerline culvert does not achieve current design standards	Laurentian Valley	Upgrade culvert to current design standards	Survey	Yes	Yes	Proceed	Wills: to provide a detailed design to size culvert.	Costs assessed to the Drain
46	Centerline Culvert (Culvert #2) Erma Street	Existing centerline culvert does not achieve current design standards	Laurentian Valley	Upgrade culvert to current design standards	Survey	Yes	Yes	Proceed	Wills: to provide a detailed design to size culvert.	Costs assessed to the Drain
47	Centerline Culvert (Culvert #1) Robinson Lane	Existing centerline culvert does not achieve current design standards	Laurentian Valley	Upgrade culvert to current design standards	Survey	Yes	Yes	Proceed	Wills: to provide a detailed design to size culvert.	Costs assessed to the Drain
48	Centerline Culvert (Culvert #10) Drive-In Road	Existing centerline culvert does not achieve current design standards	Laurentian Valley	Upgrade culvert to current design standards	Survey	Yes	Yes	Proceed	Wills: to provide a detailed design to size culvert.	Costs assessed to the Drain