

## Court of Revision Agenda

Tuesday, February 25, 2025, 6:00 pm  
Tecumseh Town Hall - Council Chambers  
917 Lesperance Road  
Tecumseh, Ontario N8N 1W9

**Pages**

**A. Roll Call**

**B. Call to Order**

**C. Land Acknowledgement**

We acknowledge that we are on land and surrounded by water, originally inhabited by Indigenous Peoples who have travelled this area since time immemorial. This territory is within the lands honoured by the Wampum Treaties; agreements between the Anishinaabe, Haudenosaunee, Leni Lenape and allied Nations to peacefully share and care for the resources around the Great Lakes. Specifically, we would like to acknowledge the presence of the Three Fires Confederacy Ojibwe, Odawa, Potawatomi and Huron/Wendat Peoples. We are dedicated to honouring Indigenous history and culture while remaining committed to moving forward respectfully with all First Nations, Inuit and Métis.

**D. Disclosure of Pecuniary Interest**

**E. Introduction and Purpose of Meeting**

The purpose of the meeting is to hear from any affected owner who wishes to appeal his/her assessment or any part thereof as set out in the Drainage Reports, prepared by Oliver Moir, P.Eng, of Dillon Consulting Limited, for the East McPherson Drain dated December 10, 2024 or the 11th Concession Drain dated December 9, 2024.

**F. Delegations**

**G. Communications**

1. East McPherson Drain

- |  |    |   |        |
|--|----|---|--------|
|  | a. | Public Notice dated January 31, 2025                                      | 4 - 7  |
|  | b. | PWES-2025-02 Request to Consider Engineer's Report - East McPherson Drain | 8 - 39 |

- c. By-Law 2025-015 East McPherson Drain (First and Second Readings) 40 - 62

Being a by-law to provide for the repair and improvements to the East McPherson Drain.

- d. Appeals from Landowners

**Recommendation**

Moved by \_\_\_\_\_

Seconded by \_\_\_\_\_

**That** the Communication items for East McPherson Drain listed 1 A to C on the agenda **be received;**

**And that** the Drainage Reports for the East Mc Pherson Drain as prepared by Oliver Moir, P.Eng, of Dillon Consulting Limited dated December 9, 2024 be approved and that the assessment herein be confirmed;

**And further that** By-Law 2025-015 be recommended for third and final reading upon the expiry of the appellants appeal period.

2. 11th Concession Drain

- a. Public Notice dated January 31, 2025 63 - 66

- b. PWES-2025-03 Request to Consider Engineer's Report - 11th Concession Drain 67 - 119

- c. By-Law 2025-014 11th Concession Drain (First and Second Readings) 120 - 142

Being a by-law to provide for the repair and improvements to the 11th Concession Drain.

d. Appeals from Landowners

**Recommendation**

Moved by \_\_\_\_\_

Seconded by \_\_\_\_\_

**That** the Communication items for East McPherson Drain listed 2 A to C on the agenda **be received**;

**And that** the Drainage Reports for the 11th Concession Drain as prepared by Oliver Moir, P.Eng, of Dillon Consulting Limited dated December 10, 2024 be approved and that the assessment herein **be confirmed**;

**And that** By-Law 2025-014 **be recommended** for third and final reading upon the expiry of the appellants appeal period.

H. Adjournment

**Recommendation**

Moved by \_\_\_\_\_

Seconded by \_\_\_\_\_

**That** there being no further business, the Tuesday, February 25, 2025 meeting of the Court of Revision **be adjourned** at \_\_\_\_\_ pm.

## NOTICE OF COURT OF REVISION MEETING

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January 31, 2025

**RE:** Notice of Court of Revision Meeting – East McPherson Drain

Dear Affected Stakeholders,

Please be advised that on Tuesday, January 28, 2025, Council of the Town of Tecumseh provisionally adopted the Engineer's Report prepared by Oliver Moir, P.Eng. of Dillon Consulting Ltd., dated December 10, 2024, for the repair and improvements of the East McPherson Drain under provisional By-Law No. 2025-15, which is attached herein exclusive of the Engineers Report. **A copy of the Engineer's Report is available for your review at our website [tecumseh.ca/live-work-and-explore/municipal-drains/](https://tecumseh.ca/live-work-and-explore/municipal-drains/).**

A public Council Meeting to hold the Court of Revision with respect to the Drainage Report will be held as follows:

Date: **Tuesday, February 25, 2025**

Time: **6:00 pm – 6:30 pm**

Place: **Tecumseh Town Hall, Council Chambers** (917 Lesperance Road, Tecumseh)

The purpose of the Court of Revision is to hear appeals on assessments. A landowner who has been assessed for drainage works may appeal to the Court of Revision on any of the following grounds:

- Any land or road has been assessed an amount that is too high or too low;
- Any land or road that should have been assessed has not been assessed; and/or
- Due consideration has not been given to the use being made of the land.

All notices of appeal to the Court shall be given to the Clerk by Saturday, February 15, 2025 (ten [10] days prior to the first sitting of the Court) and shall state the grounds of appeal. Should you wish to submit an appeal to the Court, please contact the Drainage Superintendent or Clerk to obtain the paperwork to file an appeal.

If you wish to appear before the Court, contact the Clerk, Robert Auger, at [rauger@tecumseh.ca](mailto:rauger@tecumseh.ca) or alternatively, submit a delegation request form online through the Town's website at [form.tecumseh.ca/Legislative-Services/Request-to-Appear-as-a-Delegate](https://form.tecumseh.ca/Legislative-Services/Request-to-Appear-as-a-Delegate) by 12:00 pm the day prior to the meeting. By registering as a delegate, persons are consenting to their image, voice, and comments being recorded and available for public viewing on the Town's website.



## NOTICE OF COURT OF REVISION MEETING

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Should you have additional concerns with respect to the drainage project or require a copy of the report in an alternative format, please contact the Town's Drainage Department using the contact information provided below.

Matthew Shiha, EIT  
Drainage Superintendent  
Public Works & Engineering Services  
(519) 735-2184 x 105  
mshiha@tecumseh.ca

Anne-Marie Moniz, C.Tech  
Assistant Drainage Superintendent  
Public Works & Engineering Services  
(519) 735-2184 x 138  
amoniz@tecumseh.ca

Sincerely,



Robert Auger  
Director, Legislative Services & Clerk



# The Corporation of the Town of Tecumseh

## By-Law Number 2025 - 015

Being a by-law to provide for the repair and improvements to the East McPherson Drain

**Whereas** the Council of The Corporation of the Town of Tecumseh (hereafter “Town”) has been requested to provide for the repair and improvement of the East McPherson;

**And Whereas** the Town procured a Drainage Report for the East McPherson and specifications from the consulting engineering firm of Dillon Consulting Limited, dated December 9, 2024 (hereafter “Drainage Report”);

**And Whereas** notice of a Public Meeting to hear comments from the affected property owners was given on Monday, January 6, 2025;

**And Whereas** a Public Meeting of Council was held on Tuesday, January 28, 2025 at 6:30 pm to hear from any affected property owners on the Drainage Report;

**And Whereas** the Council of The Corporation of the Town of Tecumseh is of the opinion that the repair and improvement of the East McPherson is desirable;

**Now Therefore the Council of The Corporation of The Town of Tecumseh Enacts as follows:**

1. **That** the Drainage Report providing for the repair and improvement of the East McPherson, dated December 9, 2024, as prepared by the consulting engineering firm Dillon Consulting Limited and attached hereto as Schedule “A” to this by-law, is hereby adopted and the drainage works as therein indicated and set forth is hereby approved and shall be completed in accordance therewith.
2. **That** the Treasurer, subject to the approval of Council, may agree with any bank or person for temporary advances of money to meet the costs of construction pending the completion of the drain and grants and computed payments are received.
3. **That** the Town may issue debentures for the amount borrowed and the amount of such debentures shall be reduced to the total amount of:
  - a) Grants received under Section 85 of the said Act;
  - b) Commuted payments made in respect of land and roads assessed.
4. **That** such debentures shall be made payable within five (5) years from the date of the debenture and shall bear interest at a rate as approved by resolution of Council.

- 5. **That** the specifications and General Specifications as established are adopted as set out in the Drainage Report which forms part of this by-law.
- 6. **That** the Mayor and Clerk are authorized to cause a contract for the construction of the works to be made and entered into with some person or persons, firm or corporations, subject to the approval of the Council to be declared by resolution.
- 7. **That** this by-law shall come into force upon and after the final passing thereof.

**Read** a first and second time this 28th day of January, 2025.

**Gary McNamara**

Signed with ConsignO Cloud (2025/01/30)  
Verify with verifio.com or Adobe Reader.



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Gary McNamara, Mayor

**Robert Auger**

Signed with ConsignO Cloud (2025/01/30)  
Verify with verifio.com or Adobe Reader.



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Robert Auger, Clerk

**Read** a third and final time this \_\_\_\_\_ day of \_\_\_\_\_, 2025.

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Gary McNamara, Mayor

---

Robert Auger, Clerk



## The Corporation of the Town of Tecumseh

Public Works & Engineering Services

**To:** Mayor and Members of Council

**From:** Phil Bartnik, Director Public Works & Engineering Services

**Date to Council:** January 28, 2025

**Report Number:** PWES-2025-02

**Subject:** Request to Consider Engineer's Report – East McPherson Drain (Al-Farra Culvert)

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### Recommendations

It is recommended:

**That** the Report and Specifications for the East McPherson Drain (Drain) as prepared by Oliver Moir, P.Eng., of Dillon Consulting Ltd., dated December 9, 2024 (Drainage Report) **be received**;

**And that** consideration **be given** to the first and second readings of a provisional by-law to adopt the Drainage Report in accordance with Section 42 of the Drainage Act (Act);

**And further that** notice **be given** to all affected landowners of the Court of Revision to be held on February 25, 2025 at 6:00 pm in accordance with Section 46(1) of the Act, subject to the adoption of the provisional by-law.

### Background

The purpose of this report is to provide a summary of the background and other information in order to assist Council in giving consideration to the Drainage Report in accordance with the Act.

On January 23, 2024 Council accepted the recommendation by the Director of Public Works & Engineering Services under Report No. [PWES-2024-01](#) and passed resolution (Motion: RCM-03/24) as follows:



That Oliver Moir, P.Eng., of Dillon Consulting Ltd. be appointed Drainage Engineer to make an examination of the East McPherson Drain drainage area as submitted by the landowner (Roll No. 440000000800000) in the "Notice of Request for Drainage Improvement" dated October 26, 2023.

And that a Drainage Report be prepared in accordance with Section 78 of the Drainage Act (Act), including provisions for future maintenance.

An on-site meeting was held on July 23, 2024. A summary of this meeting is included in the Schedule 'A-1' of the Drainage Report included as Attachment No. 1.

The Town received a draft report dated November 8, 2024, for discussion at a Public Information Centre (PIC). Invitations were sent to landowners and a PIC was held on Friday, November 22, 2024, at Town Hall to discuss the content of the draft report.

On December 9, 2024, Oliver Moir, P. Eng., filed a report dated December 9, 2024 for the repair and improvement to the Drain in accordance with Section 41 of the Act. On January 6, 2025, invitations were sent to all affected landowners and agencies that the Public Council Meeting to consider the Engineer's Report would be held on Tuesday, January 28, 2025 at 6:30 pm.

This Drainage Report provides for the construction of a new access as a result of a lapsed access agreement for the farm property.

## Comments

The sections of the Act referenced within this report are included in Schedule A which is attached to this Council Report as Attachment No. 2.

## Consideration by Council

Subject to the discretion of Council, the Drainage Report may be:

- a. Referred back to the Drainage Engineer for reconsideration if it appears that there are, or may be errors in the report or for any other reason the report should be reconsidered; or
- b. Provisionally approve by giving first and second readings to a Provisional By-law.

Following provisional adoption of the By-law, a meeting of the Court of Revision shall be scheduled to allow any affected owner of land assessed for the drainage works to appeal their assessed costs subject to the following:

- a. Any land or road has been assessed too high or too low; or
- b. Any land or road that should have been assessed has not been assessed; or
- c. Due consideration has not been given as to type of land use.

## Regulatory Approvals

Regulatory Approvals have been reviewed for the East McPherson Drain (Al-Farra Culvert) and consist of:

1) Essex Region Conservation Authority (ERCA) – *Conservation Authorities Act*

a. A permit from ERCA will be required prior to construction.

2) Department of Fisheries & Oceans (DFO) – *Fisheries Act*

a. A self-assessment has been completed and determined that this project does not require a formal review by DFO and the Drain should not contain any aquatic species at risk or critical habitat. Best management practices will be implemented during construction to minimize any potential for adverse impacts to fish and/or fish habitat.

3) Ministry of Environment, Conservation & Parks (MECP) – *Endangered Species Act*

a. The Town's Species-At-Risk Mitigation Plan continues to comply with the *Endangered Species Act*. The recommendation of the Mitigation Plan will be implemented, and the Town and Contractor will gather information on encountered species and/or mitigation plans implemented prior to and throughout construction.

## Consultations

Financial Services  
Dillon Consulting Ltd.

## Financial Implications

Per the Drainage Report, the total estimated cost for the access bridge is \$31,500 (excluding HST), which is assessed to the requesting landowner's 6.35 hectares (15.70 acres) property as Special Benefit Liability. The subject property is shown on the Watershed Plan (page 1 of 2) in the Drainage Report.

Other than costs to administer the project, the cost of constructing the project is 100% recoverable from the assessed lands in the Assessment Schedule included in the Drainage Report dated December 9, 2024. Additionally, the Drainage Report includes an Assessment Schedule for future maintenance that includes lands/roads owned by the Town.

For assessments in excess of \$5,000 the Town offers landowners the option of paying the balance plus interest over a five (5) year period; the annual payments are added as a special charge on their taxes.

### Link to Strategic Priorities

| Applicable                          | <a href="#">2023-2026 Strategic Priorities</a>  |
|-------------------------------------|---|
| <input checked="" type="checkbox"/> | Sustainable Growth: Achieve prosperity and a livable community through sustainable growth.                                |
| <input type="checkbox"/>            | Community Health and Inclusion: Integrate community health and inclusion into our places and spaces and everything we do. |
| <input type="checkbox"/>            | Service Experience: Enhance the experience of Team Tecumseh and our citizens through responsive and respectful service.   |

### Communications

Not applicable

Website

Social Media

News Release

Local Newspaper

This report has been reviewed by Senior Administration as indicated below and recommended for submission by the Chief Administrative Officer.

Prepared by:

Matthew Shiha, E.I.T.  
Drainage Superintendent

Reviewed by:

John Henderson, P.Eng.  
Manager Engineering Services

Reviewed by:

Phil Bartnik, P.Eng.  
Director Public Works & Engineering Services

Reviewed by:

Tom Kitsos, CPA, CMA, BComm  
Director Financial Services & Chief Financial Officer

Recommended by:

Margaret Misek-Evans, MCIP, RPP  
Chief Administrative Officer

| <b>Attachment Number</b> | <b>Attachment Name</b>   |
|--------------------------|--|
| 1                        | Drainage Report dated December 9, 2024 by Oliver Moir, P.Eng., of Dillon Consulting Ltd. |
| 2                        | Schedule A – Drainage Act Excerpts   |

**DRAINAGE REPORT  
FOR THE**

**NEW FARM BRIDGE ON  
PT. LOT 2, CONCESSION 11  
OVER THE  
EAST MCPHERSON DRAIN  
(AL-FARRA BRIDGE)**

**IN THE  
TOWN OF TECUMSEH**



FINAL  
9 DECEMBER, 2024  
OLIVER E. T. MOIR, P. ENG.  
FILE No. 24-8532  
TECUMSEH FILE No. E09MC(64)

File No. 24-8532

Mayor and Council  
Town of Tecumseh  
917 Lesperance Rd,  
Tecumseh, Ontario  
N8N 1W9

**Drainage Report for the  
New Farm Bridge on  
Pt. Lot 2, Concession 11  
Over the  
EAST MCPHERSON DRAIN (AL-FARRA BRIDGE)  
In the Town of Tecumseh**

Mayor and Council:

**Instructions**

The Municipality received a request for a new farm access bridge to serve Pt. Lot 2, Concession 11 (Roll No. 400-00800) over the East McPherson Drain, that was filed at the Town Office on the 26<sup>th</sup> day of October 2023. Council accepted the request under Section 78(1) of the Drainage Act and on the 26<sup>th</sup> day of January 2024 appointed Dillon Consulting Limited to prepare a report.

**Watershed Description**

The East McPherson Drain consists primarily of an open channel flowing along the easterly side of 11<sup>th</sup> Concession Road within the Town of Tecumseh. The drain commences approximately 140 m north of the boundary between Lot 1 and Lot 2, Concession 11. It proceeds northerly for approximately 1,335 m, draining into the South Talbot Road Drain East.

The lands comprising the watershed are predominantly agricultural use with some residential lots. There is little topographic relief. From the Ontario Soil Survey, the principle surficial soil in the study area is described as Brookston Clay which is defined as having poor natural drainage.

**On-Site Meeting**

An on-site meeting was held on 23 July 2024. A record of the meeting is provided in Schedule 'A-1', which is appended hereto.



10 Fifth Street South  
Chatham, Ontario  
Canada  
N7M 4V4  
Telephone  
519.354.7802  
Fax  
519.354.2050

## Drain History

The recent history of Engineers' reports for the East McPherson Drain is as follows:

- **11 April 2017 H. Pearson, P.Eng.:** The report recommended that the entire length of the East McPherson drain be excavated to remove accumulated sediment and vegetation and that the existing culverts should either be removed, replaced, or be cleaned. Topographic survey was completed to confirm the watershed boundary. The report also determined that approximately 30% of runoff generated from lands on the west side of the 11th Concession Road, which are primarily served by the Santo Drain, flow into the East McPherson Drain through road culverts interconnecting the two drains. This report serves as the governing by-law for the drain.

## Survey

Our topographic survey of the East McPherson Drain was carried out in August 2024. The topographic data was recorded for both upstream and downstream of the proposed site for the new access culvert.

## Design Considerations

A Guide for Engineers working under the Drainage Act in Ontario, OMAFA Publication 852 (2018) is the current reference document used by engineers carrying out drainage work on municipal drains under the Act. The 2-year design storm is the recommended design standard applied to municipal drains within rural Ontario specific to open drain channels and low hazard agricultural field access crossings. We have applied this criterion for the proposed East McPherson Drain bridge.

The new access culvert is designed for an upstream drainage area of approximately 10.5 hectares (approximately 26.0 acres). Lands on the west side of the 11<sup>th</sup> Concession Road are primarily served by the Santo Drain, however the East McPherson Drain conveys a portion of flows from the Santo Drain through road culverts which interconnect the two drains, as described in the 2017 East McPherson Drain Report.

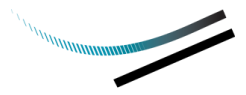
The size of the new culvert required is 750 mm diameter and the length designed to be 20.5 m to accommodate a minimum 12.2 m (40 ft) top width and sloping end treatment. A 12.2 m top width for the bridge is necessary considering the proximity of the road to the drain that limits turning radii of modern farm equipment. The culvert depth is designed to provide a minimum 10% embedment of the pipe invert below the design drain bottom.

## Allowances

In accordance with Sections 29 and 30 of the Drainage Act, we do not anticipate any agricultural lands being damaged or used as a result of the proposed drainage works. Any damage to the laneway or the existing grassed areas shall be restored to original conditions as part of the work. Therefore, 'Schedule B' for allowances has not been included in this report.

## Recommendations and Cost Estimate

Based on our review of the history, the information obtained from our examination and analysis of the survey data, we recommend that the East McPherson Drain be improved as described below:



| Item | Description  | Amount              |
|------|--|---------------------|
| 1.   | Supply and installation of a new 20.5 m long, 750 mm diameter corrugated high density polyethylene (HDPE) Boss 2000 (or approved equivalent), 320kPA including couplers (see specifications). Works includes the relocation of any existing tile downstream of new culvert.                      | \$7,000.00          |
| 2.   | Supply and install clear stone bedding materials (minimum 150 mm thickness) with filter fabric underlay under the new culvert pipe (approximately 15 tonnes).  | \$900.00            |
| 3.   | Supply and install full compacted Granular 'B' bedding and backfill materials from the pipe invert to the underside of the driveway material. (approximately 200 tonnes).  | \$7,000.00          |
| 4.   | Supply and installation of imported clean backfill material to be used as a buffer between the Granular 'B' material and stone erosion protection. (Approximately 15 m <sup>3</sup> ).<br>Work includes supply and placement of topsoil (100 mm thickness), fine grading and seeding of buffers. | \$600.00            |
| 5.   | Supply and install full compacted Granular 'A' (crushed limestone) compacted driveway surface, minimum 200 mm thickness (approximately 50 tonnes).   | \$2,500.00          |
| 6.   | Supply and install stone erosion protection for sloping end walls, minimum 300 mm thickness, c/w filter fabric underlay (approximately 35 m <sup>2</sup> ).  | \$3,000.00          |
| 7.   | Temporary silt control measures during construction.   | \$500.00            |
|      | <b>SUB-TOTAL</b>   | <b>\$21,500.00</b>  |
| 8.   | Survey, report, and assessment.  | \$7,500.00          |
| 9.   | Part-time construction observation and administration.   | \$1,500.00          |
| 10.  | Expenses and Incidentals.  | \$500.00            |
| 11.  | ERCA application review and permit fee.  | <u>\$500.00</u>     |
|      | <b>TOTAL ESTIMATE (excluding Net HST)</b>  | <b>\$ 31,500.00</b> |

The estimate provided in this report was prepared according to current materials and installation prices as of the date of this report. In the event of delays from the time of filing of the report by the Engineer to the time of tendering the work, it is understood that the estimate of cost is subject to inflation. The rate of inflation shall be calculated using the Consumer Price Index applied to the cost of construction from the date of the report to the date of tendering.



### **Assessment of Costs**

The individual assessments are comprised of three (3) assessment components:

- i. Benefit (*advantages relating to the betterment of lands, roads, buildings, or other structures resulting from the improvement to the drain*).
- ii. Outlet Liability (*part of cost required to provide outlet for lands and roads*).
- iii. Special Benefit (*additional work or feature that may not affect function of the drain*).

We have assessed the estimated costs against the affected lands and roads as listed in Schedule 'C' under "Value of Special Benefit," "Value of Benefit" and "Value of Outlet." Since there is only one Special Benefit assessment, a separate schedule for Details of Special Benefit (Schedule 'D') is not required or included herein.

### **Assessment Rationale**

There is no access to property Roll No. 400-00800 across the East McPherson Drain. The present access is owned by the owner of property Roll No. 400-00720. As stated by the requesting landowner, this access will no longer be available for use after October 2024.

Special Benefit assessment shown in Schedule 'C' was therefore derived as follows:

1. For the first time access bridge across East McPherson Drain, costs have been assessed 100% of the adjoining property Roll No. 400-00800 as listed under the "Value of Special Benefit".

### **Utilities**

It may become necessary to temporarily or permanently relocate utilities that may conflict with the construction recommended under this report. In accordance with Section 26 of the Drainage Act, we assess any relocation cost against the public utility having jurisdiction. Under Section 69 of the Drainage Act, the public utility is at liberty to do the work with its own forces, but if it should not exercise this option within a reasonable time, the Municipality will arrange to have this work completed and the costs will be charged to the appropriate public utility.

### **Future Maintenance**

We recommend that future work and repair and maintenance on the new access bridge be carried out by the Municipality and assessed in the same relative proportions as to the amounts listed in Schedule 'E' which represents an Assessment schedule for the future Maintenance.

Considering the current by-law for the East McPherson Drain, we recommend that 75% of the future maintenance costs be assessed against property Roll No. 400-00800 as a Special Benefit assessment and the remaining 25% as an Outlet liability assessment against the upstream lands and roads. A reduced assessment for future maintenance has been considered for lands which have an existing woodlot and/or to lands which are primarily served by the Santo Drain but use the East McPherson Drain as a secondary outlet.

The assessment is based on an arbitrary \$10,000 in future maintenance costs. These provisions for maintenance are subject, of course, to many variations that may be made under the authority of the Drainage Act.

### **Drawings and Specifications**

Attached to this report is Schedule ‘F’, which are Specifications setting out the details of the recommended works and Schedule ‘G’ which represent the drawings that are attached to this report.

**Page 1 of 2 – Watershed Plan**

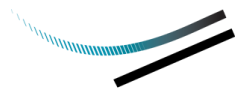
**Page 2 of 2 – Bridge Details**

### **Approvals**

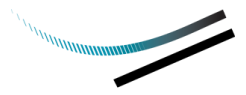
The construction and/or improvement to a drainage works, including repair and maintenance activities, and all operations connected therewith are subject to the approval, inspection, by-law, and regulations of all Municipal, Provincial, Federal, and other authorities having jurisdiction in respect to any matters embraced by the proposed works. Prior to any construction or maintenance works, the Municipality or proponent designated on the Municipality’s behalf shall obtain all required approvals/permits and confirm any construction limitations including timing windows, mitigation/off-setting measures, standard practices or any other limitations related to in-stream works.

In terms of a review of the proposed works by the Department of Fisheries and Oceans (DFO), we have undertaken a self-assessment and have determined that application requesting review is not required. The East McPherson Drain has been classified as a “Type F” drain by DFO and the impact zone representing 1km downstream of the proposed works is also classified as a “Type F” drain. Type F drains experience intermittent water flow only and provide minimal habitat for fish. As part of the work the following mitigation measures shall be implemented to avoid any adverse effects to the waterway.

- Works will not be conducted at times when flows are elevated due to the local rain events, storms, or seasonal floods. Work will be done in the dry.
- All disturbed soils on both banks and within the channel, including spoil must be stabilized immediately upon completion of work. The restoration of the site must be completed to a like or better conditions to what existed prior to the works.
- To prevent sediment entry into the drain, in the event of an unexpected rainfall, silt barriers and/or traps must be placed in the channel during the works and until the site has been stabilized. All sediment and erosion control measures are to be in accordance with related Ontario Provincial Standards. It is incumbent on the proponent and his/her contractors to ensure that sediment and erosion control measures are functioning and are maintained/upgraded as required.
- lated Ontario Provincial Standards. It is incumbent on the proponent and his/her contractors to ensure that sediment and erosion control measures are functioning and are maintained/upgraded as required.



- All activities should be controlled to prevent the entry of petroleum products, debris, rubble, concrete or other deleterious substances into the water. Vehicular refueling and maintenance should be conducted away from the water.



The East McPherson Drain may provide habitat to species at risk listed as listed under the Endangered Species Act. The Town of Tecumseh has developed a mitigation plan document recommending mitigation measures to minimize adverse effects on species at risk including monitoring and reporting requirements should an endangered, threatened, or special concern species (fishes, reptiles, amphibians, mollusks, birds, plants, trees) be encountered. The document will be made available to contractors during the tendering process and construction period.

In terms of review by the Essex Region Conservation Authority (ERCA), the proposed works contained herein were previously reviewed and accepted by the ERCA, refer to Schedule 'A-2'. An application for permit shall be submitted by the Municipality and accompanied by payment for the permit review fee of \$500.00 before construction of the new access bridge proceeds.

### **Grants**

The costs for a new access to agricultural land which is required because of a nullified access agreement with an adjoining residential land are not eligible for grant, in accordance with Section 2.3(i) of the OMAFA Agricultural Drainage Infrastructure Program policies.

Respectfully submitted,

**DILLON CONSULTING LIMITED**



Oliver E.T. Moir, P.Eng.  
OEM:jo:lld



# Meeting Summary

**Subject:** East McPherson – On-Site Meeting  
**Date:** July 23, 2024  
**Location:** 7000 11<sup>th</sup> Concession Road  
**Our File:** 24-8532

## Attendees

|                  |                                    |
|------------------|------------------------------------|
| Ahmed Al-Farra   | Landowner                          |
| Mark Fishleigh   | County of Essex                    |
| Anne-Marie Moniz | Town of Tecumseh (Town)            |
| Matt Shiha       | Town                               |
| Jerome Owen      | Dillon Consulting Limited (Dillon) |
| Oliver Moir      | Dillon                             |

## Notes

| Item | Discussion  | Action by |
|------|---|-----------|
| 1.   | <b>Introductions:</b>   |           |
| 1.1. | The Town appointed Dillon on the East McPherson Drain under Section 78 of the Drainage Act to prepare the drainage report for a new farm access culvert.  | INFO      |
| 2.   | <b>Project Background:</b>  |           |
| 2.1. | The property Roll No. 400-00800 requires access over the East McPherson Drain. The proposed development requires a new farm access bridge to 11 <sup>th</sup> Concession Road. <ul style="list-style-type: none"> <li>The lands requiring access currently have access from 11<sup>th</sup> Concession Road over an existing CSP culvert that provides access to property 440-00720 through a temporary access agreement. The agreement expires after October 2024.</li> </ul>  | INFO      |
| 3.   | <b>Project Pathway:</b>   |           |
| 3.1. | Dillon explained the Drainage Act process: <ul style="list-style-type: none"> <li>A request under Section 78 of the Drainage Act is submitted to the Town.</li> <li>The Engineer is appointed by the Town through Council.</li> <li>The on-site meeting is held for the engineer to gather information from landowners.</li> <li>Topographic survey is completed and a report is prepared.</li> <li>A meeting is held to consider the technical aspects of the report (Meeting to Consider).</li> <li>A meeting is held to consider the assessment (cost sharing) aspects of the report (Court of Revision).</li> <li>Following passing of the by-law, the drainage works are put out to tender.</li> </ul> | INFO      |

| Item | Discussion  | Action by |
|------|---|-----------|
| 4.   | <b>General Discussions</b>  | INFO      |
|      | <ul style="list-style-type: none"> <li>● Mr. Al-Farra asked if permission is needed to tile the land. <ul style="list-style-type: none"> <li>○ Dillon explained that only lands within the East McPherson Drain watershed may be tiled to the East McPherson Drain without approval from the Town. The property 400-00800 is partially within the East McPherson Drain watershed. Should Mr. Al-Farra wish to tile new lands into the East McPherson Drain, a request to investigate the drain’s capacity through the Drainage Act would need to be submitted to the Town.</li> <li>○ Installation of tile drainage systems need to be completed by a licensed contractor.</li> </ul> </li> <li>● Mr. Al-Farra indicated that the lands will be rented to a tenant for farming.</li> <li>● Mr. Al-Farra asked if it would be possible to use the new access for a future residential access. <ul style="list-style-type: none"> <li>○ The Town answered the process for residential development a separate process handled by city planning section. Requirements for residential access may depend on the proposed development and would be subject to the Planning Department’s approval.</li> <li>○ Mr. Al-Farra decided to leave the residential development considerations out of the drainage works.</li> </ul> </li> <li>● Mr. Al-Farra agreed with the proposed location of the bridge as shown on the invite request map.</li> <li>● Dillon explained farm access culverts are generally 7.3 m (30’) wide, however given the proximity between the road and drain bank, a wider access bridge would be needed to accommodate turning movements of farm equipment and may be up to 12.1 m wide (40’).</li> <li>● Culvert end protection would be sloping stone as the least costly.</li> <li>● The Town informed the Mr. Al-Farra that the construction work can be undertaken privately (without the use of a contractor), but a list of prerequisites must be completed, and evidence of previous construction experience must be presented.</li> </ul> |           |

**Errors and/or Omissions**

These minutes were prepared by Jerome Owen, who should be notified of any errors and/or omissions.

SCHEDULE 'A-2'



Moir, Oliver <omoir@dillon.ca>

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**East McPherson Drain - Al-Farra Farm Access**

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**Summer Locknick** <SLocknick@erca.org> Tue, Oct 8, 2024 at 2:59 PM  
To: "Moir, Oliver" <omoir@dillon.ca>  
Cc: Jerome Owen <jowen@dillon.ca>, "248532@dillon.ca" <248532@dillon.ca>, Matthew Shiha <mshiha@tecumseh.ca>

Good afternoon,

Thank you for providing the below information. I've had an opportunity to review the preliminary drawings and the available information and can confirm that this proposal, as presented in the preliminary stages, is something that this office can support.

We look forward to receiving the Final Drainage Report and Drawings. A completed Application for Permit form will be required from the municipality.

If you have any questions, please do not hesitate to contact this office.

Kind regards,



SUMMER LOCKNICK  
Regulations Analyst  
Essex Region Conservation Authority  
360 Fairview Avenue West, Suite 311 | Essex, Ontario | N8M 1Y6  
[slocknick@erca.org](mailto:slocknick@erca.org) [essexregionconservation.ca](http://essexregionconservation.ca)

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The ERCA Office is now open to the public **Tuesdays, Wednesdays and Thursdays** to provide "counter service"; however, services continue to be delivered online and through email. Please consult ERCA's website for more information and direction regarding online services (i.e. permitting, cottage bookings, seasonal passes etc.)

**"SCHEDULE C"**  
**SCHEDULE OF ASSESSMENT**  
**EAST McPHERSON DRAIN (AL-FARRA BRIDGE)**  
**TOWN OF TECUMSEH**

**PRIVATELY-OWNED - AGRICULTURAL LANDS**

| Roll No.   | Con. | Description | Area Affected |             | Owner             | Special<br>Benefit | Benefit       | Outlet        | Total<br>Assessment |
|--|------|-------------|---------------|-------------|-------------------|--------------------|---------------|---------------|---------------------|
|  |      |             | (Acres)       | (Ha.)       |                   |                    |               |               |                     |
| 400-00800  | 11   | Pt. Lot 2   | 15.70         | 6.35        | Ahmed S. Al-Farra | \$31,500.00        | \$0.00        | \$0.00        | \$31,500.00         |
| Total on Privately-Owned - Agricultural Lands..... |      |             |               |             |                   | \$31,500.00        | \$0.00        | \$0.00        | \$31,500.00         |
| <b>TOTAL ASSESSMENT .....</b>                      |      |             |               |             |                   | <b>\$31,500.00</b> | <b>\$0.00</b> | <b>\$0.00</b> | <b>\$31,500.00</b>  |
|  |      |             | (Acres)       | (Ha.)       |                   |                    |               |               |                     |
| <b>Total Area:</b>                                 |      |             | <b>15.70</b>  | <b>6.35</b> |                   |                    |               |               |                     |

**"SCHEDULE E"**  
**SCHEDULE OF ASSESSMENT FOR FUTURE MAINTENANCE**  
**EAST McPHERSON DRAIN (AL-FARRA BRIDGE)**  
**TOWN OF TECUMSEH**

**MUNICIPAL LANDS:**

| Description                   | Area Affected<br>(Acres) (Ha.) |      | Owner            | Special<br>Benefit | Benefit | Outlet   | Total<br>Assessment |
|-------------------------------|--------------------------------|------|------------------|--------------------|---------|----------|---------------------|
| 11th Concession Road          | 0.37                           | 0.15 | Town of Tecumseh | \$0.00             | \$0.00  | \$233.00 | \$233.00            |
| Total on Municipal Lands..... |                                |      |                  | \$0.00             | \$0.00  | \$233.00 | \$233.00            |

**PRIVATELY-OWNED - NON-AGRICULTURAL LANDS:**

| Roll No.   | Con. | Description   | Area Affected<br>(Acres) (Ha.) |        | Owner             | Special<br>Benefit | Benefit | Outlet   | Total<br>Assessment |
|--|------|---------------|--------------------------------|--------|-------------------|--------------------|---------|----------|---------------------|
| 400-00705  | 11   | Pt. Lot 2     | 0.49                           | 0.20   | Ronald W. Gerard  | \$0.00             | \$0.00  | \$186.00 | \$186.00            |
| 400-00720  | 11   | Pt. Lot 2     | 1.22                           | 0.49   | Peggy A. Gerard   | \$0.00             | \$0.00  | \$273.00 | \$273.00            |
| 410-05302  | 10   | Pt. Lot 1 & 2 | 1.80                           | 0.73 * | Patrick J. Gerard | \$0.00             | \$0.00  | \$92.00  | \$92.00             |
| Total on Privately-Owned - Non-Agricultural Lands..... |      |               |                                |        |                   | \$0.00             | \$0.00  | \$551.00 | \$551.00            |

**PRIVATELY-OWNED - AGRICULTURAL LANDS**

| Roll No.  | Con. | Description | Area Affected<br>(Acres) (Ha.) |        | Owner             | Special<br>Benefit | Benefit | Outlet     | Total<br>Assessment |
|-----------|------|-------------|--------------------------------|--------|-------------------|--------------------|---------|------------|---------------------|
| 400-00800 | 11   | Pt. Lot 2   | 15.70                          | 6.35 * | Ahmed S. Al-Farra | \$7,500.00         | \$0.00  | \$1,476.00 | \$8,976.00          |
| 410-05500 | 10   | Pt. Lot 2   | 6.38                           | 2.58 * | Gerald Santo      | \$0.00             | \$0.00  | \$240.00   | \$240.00            |

|                               |  |  |              |             |  |                   |               |                   |                    |
|-------------------------------|--|--|--------------|-------------|--|-------------------|---------------|-------------------|--------------------|
| <b>TOTAL ASSESSMENT</b> ..... |  |  |              |             |  | <b>\$7,500.00</b> | <b>\$0.00</b> | <b>\$2,500.00</b> | <b>\$10,000.00</b> |
|                               |  |  | (Acres)      | (Ha.)       |  |                   |               |                   |                    |
| <b>Total Area:</b>            |  |  | <b>19.58</b> | <b>7.92</b> |  |                   |               |                   |                    |

\* DENOTES A REDUCED ASSESSMENT



” SCHEDULE F”  
DRAINAGE REPORT FOR THE  
**EAST MCPHERSON DRAIN**  
IN THE TOWN OF TECUMSEH

**SPECIAL PROVISIONS**

**1.0 GENERAL SPECIFICATIONS**

The General Specifications attached hereto is part of “Schedule F.” It also forms part of this specification and is to be read with it, but where there is a difference between the requirements of the General Specifications and those of the Special Provisions which follow, the Special Provisions will take precedence.

**2.0 DESCRIPTION OF WORK**

The work to be carried out under this Contract includes, but is not limited to, the supply of all **labour, equipment and materials** to complete the following items:

- Supply and installation of a new 20.5 m long, 750 mm diameter corrugated high density polyethylene (HDPE) Boss 2000 (or approved equivalent), 320kPA including couplers (see specifications).
- Supply and install clear stone bedding materials (minimum 150 mm thickness) with filter fabric underlay under the new culvert pipe (approximately 15 tonnes).
- Supply and install full compacted Granular ‘B’ bedding and backfill materials from the pipe invert to the native material (approximately 200 tonnes).
- Supply and installation of imported clean backfill material to be used as a buffer between the Granular ‘B’ material and the stone erosion protection. (Approximately 15 m<sup>3</sup>). Work includes supply and placement of topsoil (100 mm thickness), fine grading and seeding of buffers.
- Supply and install full compacted Granular ‘A’ (crushed limestone) compacted driveway surface, minimum 200mm thickness (approximately 50 tonnes).
- Supply and install stone erosion protection for sloping end walls, minimum 300 mm thickness, c/w filter fabric underlay (approximately 35 m<sup>2</sup>).
- Temporary silt control measures during construction.

**3.0 ACCESS TO THE WORK**

Access to the drain shall be directly from the 11<sup>th</sup> Concession Road. Contractor shall make his/her own arrangements for any additional access for his/her convenience. Through traffic must be maintained at all times along municipal roads with the required traffic control as per Section 13.0 in the General Specifications. All construction materials for the bridge are to be placed on the field side of the roadside drains. Any damage resulting from the Contractor's access to the bridge site shall be restored to original conditions at the Contractor’s expense.

## WORKING AREA

The working area at the bridge site shall be restricted to the 9 m wide working corridor along the east side of the drain and including the road allowance for the 11<sup>th</sup> Concession Road provided through traffic is maintained as per Section 13.0 in the General Specifications.

**Any damages to lands and/or roads from the Contractor's work within the working areas for the bridge sites shall be rectified to pre-existing conditions at his/her expense.**

## 4.0 BRIDGE CONSTRUCTION

### 5.1 Location

The culvert shall be located and installed as shown on the drawings attached hereto.

### 5.2 Materials

Materials shall be as follows:

|   |   |
|---|---|
| <i>Culvert</i>  | <i>New 750 mm diameter solid (non-perforated) corrugated High Density Polyethylene (H.D.P.E.) smooth wall interior (Armtec Boss 2000 or approved equivalent) unless otherwise specified conforming to the following specifications: ASTM @3350, CSA B182.8-02 and OPSS 1840. The pipe is to provide a minimum pipe stiffness of 320 kPa. Joined using (water tight) "bell and spigot" connection type. Joints wrapped in "Non-Woven" geotextile filter fabric with a minimum strength equal to or greater than Terrafix 270R, Amoco 446, Mirafi 140NC or approved equivalent.</i> |
| <i>Bedding Below Pipe</i>                                   | <i>19 mm clear stone conforming to OPSS Division 10.</i>  |
| <i>Pipe Backfill to underside of road surface materials</i> | <i>Granular 'B' conforming to OPSS Division 10.</i>   |
| <i>Driveway Surface</i>                                     | <i>Granular 'A' made from crushed limestone conforming to OPSS Division 10. Minimum 200 mm thickness.</i>   |
| <i>Filter Fabric</i>  | <i>"Non-Woven" geotextile filter fabric with a minimum strength equal to or greater than Terrafix 270R, Amoco 4546, Mirafi 140NC or approved equivalent.</i>  |
| <i>Buffer Strips</i>  | <i>Dry native material free of topsoil, organic matter, broken concrete, steel, wood and deleterious substances.</i>  |
| <i>Topsoil over Buffer Strips</i>                           | <i>Salvaged or imported topsoil, fine graded and seeded. Minimum 100 mm thickness</i>   |
| <i>Erosion Stone</i>  | <i>All stone to be used for erosion protection shall be 125 – 250 mm clear quarried rock or OPSS 1001, minimum 300 mm thickness</i>   |

### 5.3 Culvert Installation

Suitable dykes shall be constructed in the drain so that the installation of the culvert can be accomplished in the dry. The drain bottom shall be cleaned, prepared, shaped, and compacted to suit the new culvert configuration, as shown on the drawings. Granular materials shall be compacted to 100% of their maximum dry density; imported clean native materials shall be supplied, placed and compacted to 95% of their maximum dry density. The Contractor shall note that imported native materials are required for backfill of the new bridge culvert, and the costs shall be included as part of the work.

### 5.4 Stone Erosion Protection

End walls shall be constructed of quarry stone rip-rap, as specified herein. Each end wall shall extend from the invert of the new culvert to the top of the proposed lane. The end walls shall be sloped 1 vertical to 1.5 horizontal with a filter fabric underlay surrounding the pipe and spanning across the entire width of the drain and wrapping around the drain banks to align with the ends of the new pipe culvert. The minimum thickness requirement of the erosion stone layer is 300 mm with no portion of the filter fabric to be exposed to sunlight.

### 5.5 Granular 'A' Driveway

The Contractor shall construct the driveway with a maximum 3% cross-fall grade consisting of a minimum 200 mm thickness of compacted Granular 'A' (crushed limestone) surface. The minimum top width of the driveway shall be as shown on the drawings.

### 5.6 Lateral Tile Drains

Should the Contractor encounter any lateral tiles within the proposed culvert limits not shown on attached drawings, the Contractor shall re-route the outlet tile drain(s) in consultation with the Drainage Superintendent, as required, to accommodate the new culvert. **Tile drain outlets through the wall of the new culvert pipe will not be permitted.** All costs associated with re-routing lateral tile drains (if any) shall be at the Contractor's expense.

### 5.7 Site Cleanup and Restoration

As part of the work and upon completion, the Contractor shall remove and dispose of, off-site any loose timber, logs, stumps, large stones, rubber tires, cinder blocks or other debris from the drain bottom and from the side slopes. Where the construction works cross a lawn, the Contractor shall take extreme care to avoid damaging the lawn, shrubs and trees encountered. Upon completion of the work, the Contractor shall completely restore the area by the placement and fine grading of topsoil and seeding or sodding the area as specified by the Engineer or Drainage Superintendent.

# GENERAL SPECIFICATIONS

## 1.0 AGREEMENT AND GENERAL CONDITIONS

The part of the Specifications headed "Special Provisions" which is attached hereto forms part of this Specification and is to be read with it. Where there is any difference between the requirements of this General Specification and those of the Special Provisions, the Special Provisions shall govern.

Where the word "Drainage Superintendent" is used in this specification, it shall mean the person or persons appointed by the Council of the Municipality having jurisdiction to superintend the work.

Tenders will be received, and contracts awarded only in the form of a lump sum contract for the completion of the whole work or of specified sections thereof. The Tenderer agrees to enter into a formal contract with the Municipality upon acceptance of the tender. The General Conditions of the contract and Form of Agreement shall be those of the Stipulated Price Contract CCDC2-Engineers, 1994 or the most recent revision of this document.

## 2.0 EXAMINATION OF SITE, PLANS AND SPECIFICATIONS

Each tenderer must visit the site and review the plans and specifications before submitting his/her tender and must satisfy himself/herself as to the extent of the work and local conditions to be met during the construction. Claims made at any time after submission of his/her tender that there was any misunderstanding of the terms and conditions of the contract relating to site conditions, will not be allowed. The Contractor will be at liberty, before bidding to examine any data in the possession of the Municipality or of the Engineer.

The quantities shown or indicated on the drawings or in the report are estimates only and are for the sole purpose of indicating to the tenderers the general magnitude of the work. The tenderer is responsible for checking the quantities for accuracy prior to submitting his/her tender.

## 3.0 MAINTENANCE PERIOD

The successful Tenderer shall guarantee the work for a period of one (1) year from the date of acceptance thereof from deficiencies that, in the opinion of the Engineer, were caused by faulty workmanship or materials. The successful Tenderer shall, at his/her own expense, make good and repair deficiencies and every part thereof, all to the satisfaction of the Engineer. Should the successful Tenderer for any cause, fail to do so, then the Municipality may do so and employ such other person or persons as the Engineer may deem proper to make such repairs or do such work, and the whole costs, charges and expense so incurred may be deducted from any amount due to the Tenderer or may be collected otherwise by the Municipality from the Tenderer.

## 4.0 GENERAL CO-ORDINATION

The Contractor shall be responsible for the coordination between the working forces of other organizations and utility companies in connection with this work. The Contractor shall have no cause of action against the Municipality or the Engineer for delays based on the allegation that the site of the work was not made available to him by the Municipality or the Engineer by reason of the acts, omissions, misfeasance or non-feasance of other organizations or utility companies engaged in other work.

## **5.0 RESPONSIBILITY FOR DAMAGES TO UTILITIES**

The Contractor shall note that overhead and underground utilities such as hydro, gas, telephone and water are not necessarily shown on the drawings. It is the Contractor's responsibility to contact utility companies for information regarding utilities, to exercise the necessary care in construction operations and to take other precautions to safeguard the utilities from damage.

All work on or adjacent to any utility, pipeline, railway, etc., is to be carried out in accordance with the requirements of the utility, pipeline, railway, or other, as the case may be, and its specifications for such work are to be followed as if they were part of this specification. The Contractor will be liable for any damage to utilities.

## **6.0 CONTRACTOR'S LIABILITY**

The Contractor, his/her agents and all workmen or persons under his/her control including sub-contractors, shall use due care that no person or property is injured and that no rights are infringed in the prosecution of the work. The Contractor shall be solely responsible for all damages, by whomsoever claimable, in respect to any injury to persons or property of whatever description and in respect of any infringement of any right, privilege or easement whatever, occasioned in the carrying on of the work, or by any neglect on the Contractor's part.

The Contractor shall indemnify and hold harmless the Municipality and the Engineer, their agents and employees from and against claims, demands, losses, costs, damages, actions, suits, or proceedings arising out of or attributable to the Contractor's performance of the contract.

## **7.0 PROPERTY BARS AND SURVEY MONUMENTS**

The Contractor shall be responsible for marking and protecting all property bars and survey monuments during construction. All missing, disturbed or damaged property bars and survey monuments shall be replaced at the Contractor's expense, by an Ontario Land Surveyor.

## **8.0 MAINTENANCE OF FLOW**

The Contractor shall, at his/her own cost and expense, permanently provide for and maintain the flow of all drains, ditches and water courses that may be encountered during the progress of the work.

## **9.0 ONTARIO PROVINCIAL STANDARDS**

Ontario Provincial Standard Specifications (OPSS) and Ontario Provincial Standard Drawings (OPSD) shall apply and govern at all times unless otherwise amended or extended in these Specifications or on the Drawing. Access to the electronic version of the Ontario Provincial Standards is available online through the MTO website, free of charge to all users. To access the electronic standards on the Web go to <http://www.mto.gov.on.ca/english/transrd/>. Under the title Technical Manuals is a link to the Ontario Provincial Standards. Users require Adobe Acrobat to view all pdf files.

## **10.0 APPROVALS, PERMITS AND NOTICES**

The construction of the works and all operations connected therewith are subject to the approval, inspection, by-laws and regulations of all Municipal, Provincial, Federal and other authorities having jurisdiction in respect to any matters embraced in this Contract. The Contractor shall obtain all approvals and permits and notify the affected authorities when carrying out work in the vicinity of any public utility, power, underground cables, railways, etc.

## 11.0 SUBLETTING

The Contractor shall keep the work under his/her personal control, and shall not assign, transfer, or sublet any portion without first obtaining the written consent of the Municipality.

## 12.0 TIME OF COMPLETION

The Contractor shall complete all work on or before the date fixed at the time of tendering. The Contractor will be held liable for any damages or expenses occasioned by his/her failure to complete the work on time and for any expenses of inspection, superintending, re-tendering or re-surveying, due to their neglect or failure to carry out the work in a timely manner.

## 13.0 TRAFFIC CONTROL

The Contractor will be required to control vehicular and pedestrian traffic along roads at all times and shall, at his/her own expense, provide for placing and maintaining such barricades, signs, flags, lights and flag persons as may be required to ensure public safety. The Contractor will be solely responsible for controlling traffic and shall appoint a representative to maintain the signs and warning lights at night, on weekends and holidays and at all other times that work is not in progress. All traffic control during construction shall be strictly in accordance with the **Occupational Health and Safety Act** and the current version of the **Ontario Traffic Manuals**. Access to the electronic version of the **Ontario Traffic Manual** is available online through the MTO website, free of charge to all users.

To access the electronic standards on the Web go to <http://www.mto.gov.on.ca/english/transrd/>, click on "Library Catalogue," under the "Title," enter "Ontario Traffic Manual" as the search. Open the applicable "Manual(s)" by choosing the "Access Key," once open look for the "Attachment," click the pdf file. Users require Adobe Acrobat to view all pdf files.

**Contractors are reminded of the requirements of the Occupational Health and Safety Act pertaining to Traffic Protection Plans for workers and Traffic Control Plan for Public Safety.**

## 14.0 SITE CLEANUP AND RESTORATION

As part of the work and upon completion, the Contractor shall remove and dispose of, off-site any loose timber, logs, stumps, large stones, rubber tires, cinder blocks or other debris from the drain bottom and from the side slopes. Where the construction works cross a lawn, the Contractor shall take extreme care to avoid damaging the lawn, shrubs and trees encountered. Upon completion of the work, the Contractor shall completely restore the area by the placement and fine grading of topsoil and seeding or sodding the area as specified by the Engineer or Drainage Superintendent.

## 15.0 UTILITY RELOCATION WORKS

In accordance with Section 26 of the Drainage Act, if utilities are encountered during the installation of the drainage works that conflict with the placement of the new culvert, the operating utility company shall relocate the utility at their own costs. The Contractor however will be responsible to co-ordinate these required relocations (if any) and their co-ordination work shall be considered incidental to the drainage works.

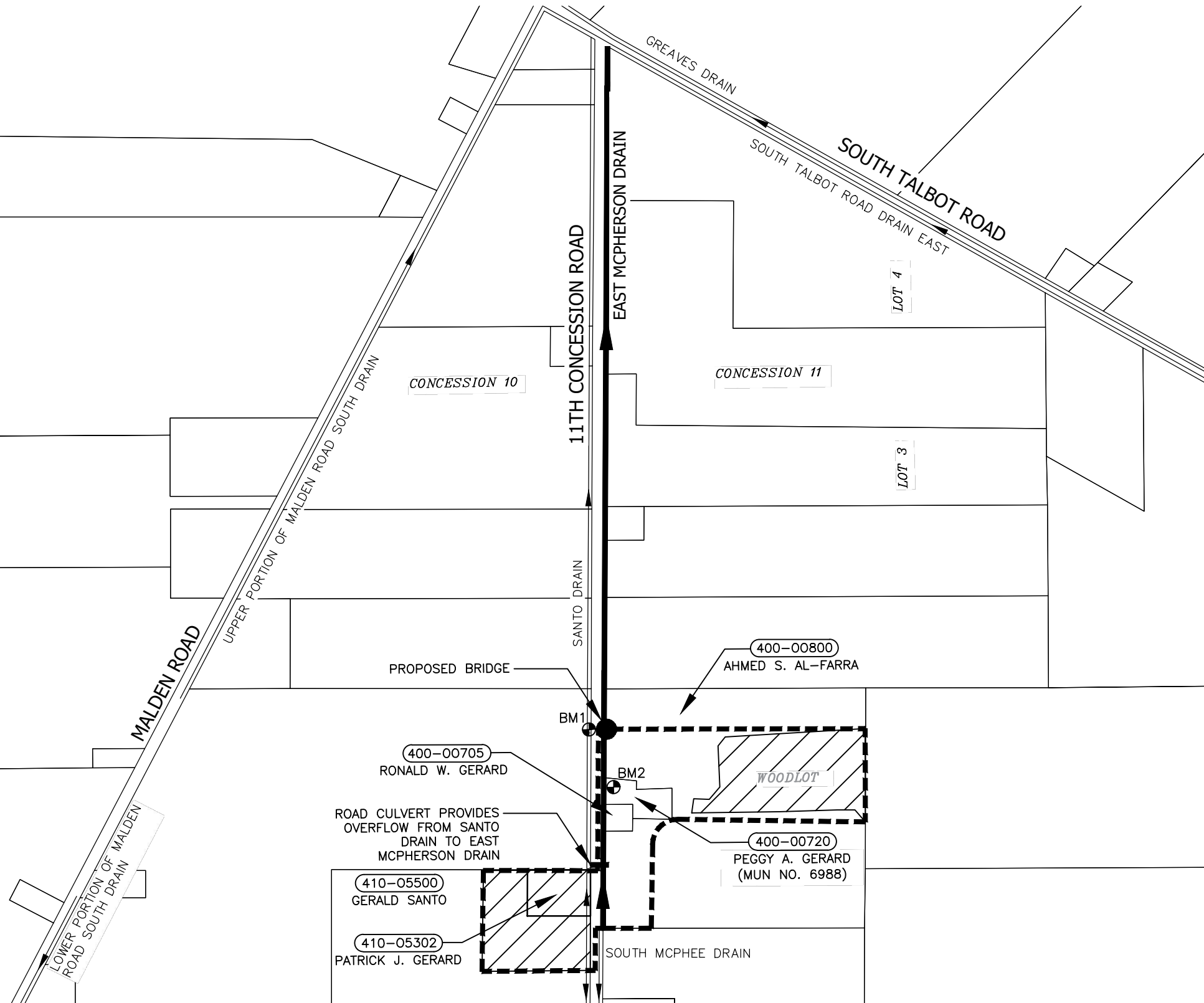
## **16.0 FINAL INSPECTION**

All work shall be carried out to the satisfaction of the Drainage Superintendent for the Municipality, in compliance with the specifications, drawings and the Drainage Act. Upon completion of the project, the work will be inspected by the Engineer and the Drainage Superintendent. Any deficiencies noted during the final inspection shall be immediately rectified by the Contractor.

Final inspection will be made by the Engineer within 20 days after the Drainage Superintendent has received notice in writing from the Contractor that the work is completed, or as soon thereafter as weather conditions permit.

## **17.0 FISHERIES CONCERNS**

Standard practices to be followed to minimize disruption to fish habitat include embedment of the culvert a minimum 10% below grade, constructing the work 'in the dry' and cutting only trees necessary to do the work (no clear-cutting). No in-water work is to occur during the timing window unless otherwise approved by the appropriate authorities.



**LEGEND**

- EAST MCPHERSON DRAIN DRAINAGE AREA
- EAST MCPHERSON DRAIN
- OTHER DRAINS
- NEW BRIDGE
- LOCAL BENCHMARK
- LAND ASSESSED AT REDUCED RATE

**BENCHMARKS**

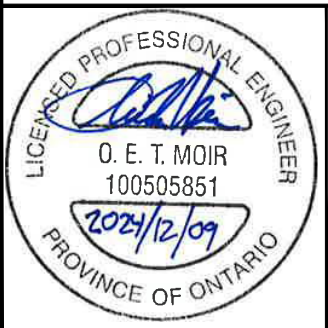
**BM1**  
TOP OF NAIL IN EAST FACE OF HYDRO POLE ON WEST SIDE OF 11TH CONCESSION ROAD, ACROSS FROM PROPERTY, ROLL NO. 400-00800  
ELEVATION=193.35m

**BM2**  
TOP OF 600mm CSP AT NORTH END OF ACCESS BRIDGE FOR MUN. NO. 6988 11TH CONCESSION ROAD  
ELEVATION=191.92m

**NOTE: CONTRACTOR TO VERIFY BENCHMARKS PRIOR TO CONSTRUCTION.**

**NOTE: CONTRACTOR SHALL ARRANGE TO HAVE ALL UTILITY LOCATES COMPLETED ONSITE PRIOR TO ANY EXCAVATION WORK. DILLON CONSULTING LIMITED DOES NOT GUARANTEE THE ACCURACY OF THE EXISTING UTILITIES SHOWN ON THE DRAWINGS. CONTRACTOR SHALL VERIFY THE LOCATION PRIOR TO COMMENCING WORK.**

**WATERSHED PLAN**  
SCALE=1:7,500



**Conditions of Use**

Verify elevations and/or dimensions on drawing prior to use. Report any discrepancies to Dillon Consulting Limited.

Do not scale dimensions from drawing.

Do not modify drawing, re-use it, or use it for purposes other than those intended at the time of its preparation without prior written permission from Dillon Consulting Limited.

| No. | ISSUED FOR                | DATE      | BY  |
|-----|---------------------------|-----------|-----|
| 3   | FINAL REPORT SUBMISSION   | DEC. 9/24 | OEM |
| 2   | PUBLIC INFORMATION CENTRE | NOV. 7/24 | OEM |
| 1   | CLIENT REVIEW             | OCT. 2/24 | OEM |

|                  |             |
|------------------|-------------|
| DESIGN           | REVIEWED BY |
| OEM              | VJH         |
| DRAWN            | CHECKED BY  |
| JAO              | TRO         |
| DATE             |             |
| December 9, 2024 |             |
| SCALE            |             |
| AS SHOWN         |             |

PROJECT NO. 24-8532

DRAWING SCALES BASED ON A 11" X 17" SHEET

**'SCHEDULE G'**

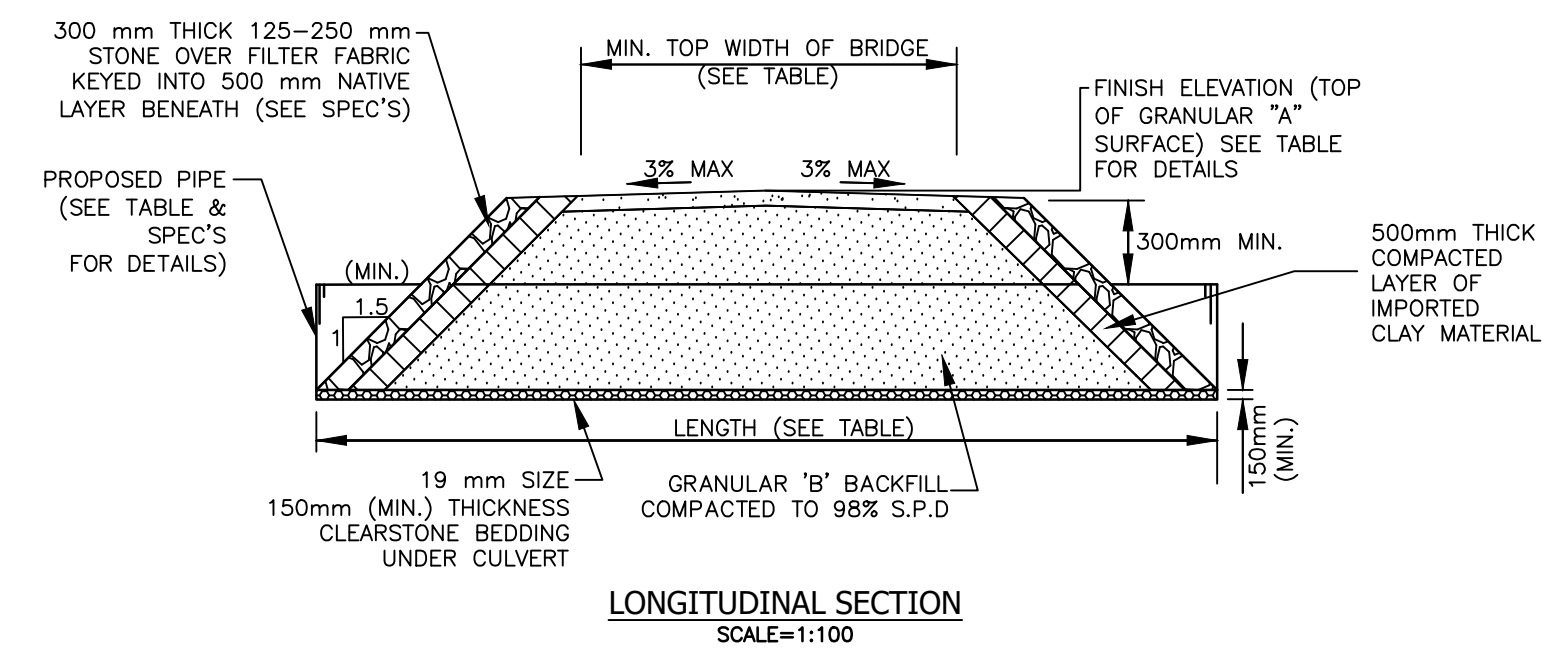
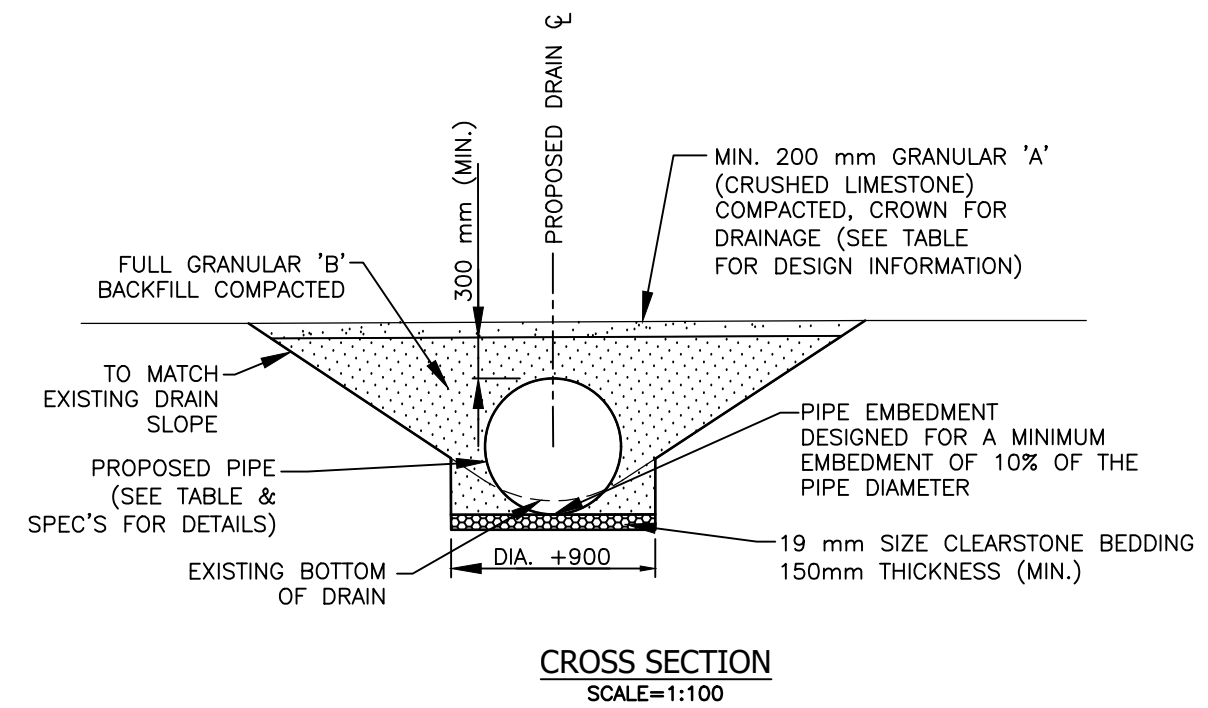
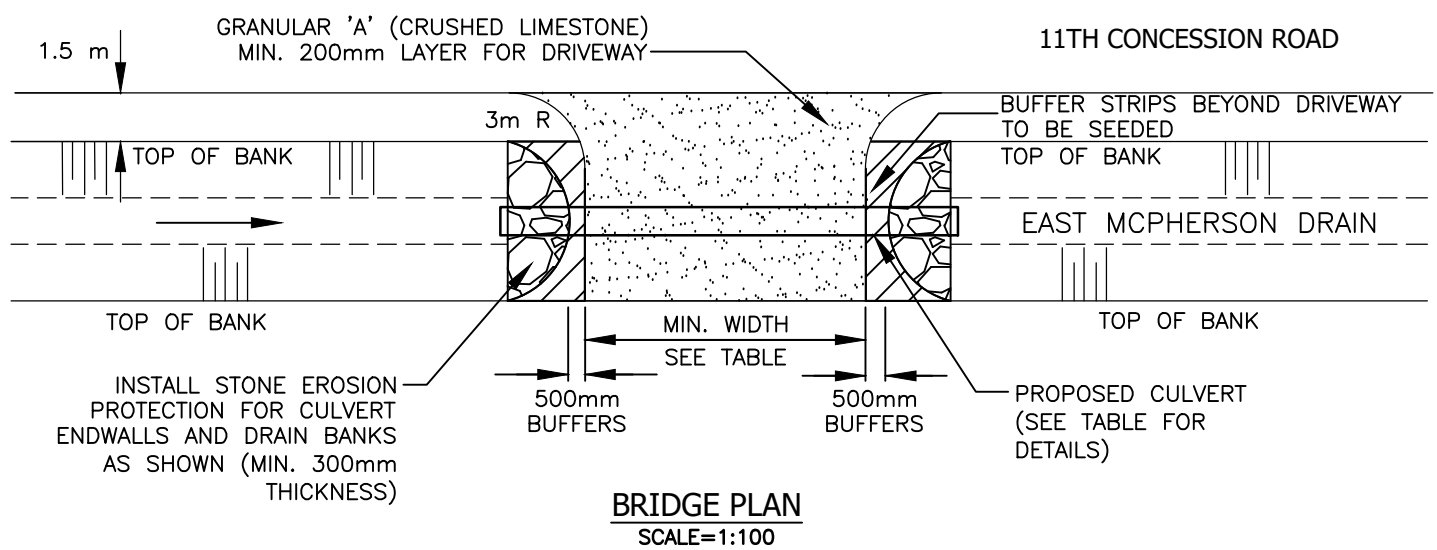
Drainage Report for the  
**EAST MCPHERSON DRAIN (AL-FARRA BRIDGE)**  
Town of Tecumseh

SHEET TITLE **WATERSHED PLAN**

PAGE NO. **1 of 2**

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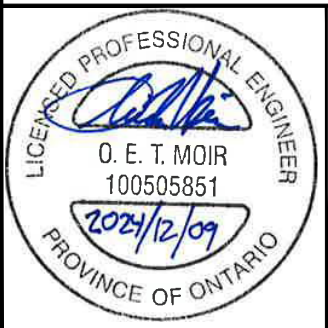




| DESCRIPTION  | BRIDGE DETAILS |
|--|----------------|
| PIPE INVERT ELEV. U/S SIDE(m)                        | 190.97         |
| PIPE INVERT ELEV. D/S SIDE(m)                        | 190.95         |
| TOP OF CL DRIVEWAY SURFACE ELEV. (m)                 | 192.98         |
| DRAIN BOTTOM (m) (DESIGN) (AT CENTRELINE OF CULVERT) | 191.04         |
| MIN. TOP WIDTH OF DRIVEWAY (m)                       | 12.20          |
| MIN. CULVERT GRADE (%)                               | 0.10           |
| CULVERT TYPE   | BOSS 2000      |
| CULVERT MATERIAL                                     | H.D.P.E.       |
| CULVERT LENGTH (m)                                   | 20.5           |
| PIPE SIZE (mm)                                       | 750            |
| CULVERT ENDWALL TYPE                                 | SLOPING        |

- NOTES:
- PRIVATE LATERAL DRAIN TILE OUTLETS DISCOVERED DURING THE COURSE OF WORK SHALL BE RELOCATED DOWNSTREAM OF THE NEW CULVERT OR AS DIRECTED BY THE DRAINAGE SUPERINTENDENT
  - CULVERT LOCATION TO BE CONFIRMED WITH THE ENGINEER OR DRAINAGE SUPERINTENDENT PRIOR TO CONSTRUCTION.
  - CONTRACTOR TO CLEANOUT DRAIN 3m UPSTREAM AND DOWNSTREAM OF CULVERT

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**Conditions of Use**  
 Verify elevations and/or dimensions on drawing prior to use. Report any discrepancies to Dillon Consulting Limited.  
 Do not scale dimensions from drawing.  
 Do not modify drawing, re-use it, or use it for purposes other than those intended at the time of its preparation without prior written permission from Dillon Consulting Limited.

| No. | ISSUED FOR                | DATE      | BY  |
|-----|---------------------------|-----------|-----|
| 3   | FINAL REPORT SUBMISSION   | DEC. 9/24 | OEM |
| 2   | PUBLIC INFORMATION CENTRE | NOV. 7/24 | OEM |
| 1   | CLIENT REVIEW             | OCT. 2/24 | OEM |

| DESIGN | REVIEWED BY      |
|--------|------------------|
| OEM    | VJH              |
| DRAWN  | CHECKED BY       |
| JAO    | TRO              |
| DATE   | December 9, 2024 |
| SCALE  | AS SHOWN         |

PROJECT NO. 24-8532  
 DRAWING SCALES BASED ON A 11" X 17" SHEET

**'SCHEDULE G'**  
 Drainage Report for the  
**EAST MCPHERSON DRAIN  
 (AL-FARRA BRIDGE)**  
 Town of Tecumseh

SHEET TITLE: **BRIDGE DETAILS**  
 PAGE NO.: **2 of 2**

## Legislation

### Petition

4 (1) A petition for the drainage by means of a drainage works of an area requiring drainage as described in the petition may be filed with the clerk of the local municipality in which the area is situate by,

- (a) the majority in number of the owners, as shown by the last revised assessment roll of lands in the area, including the owners of any roads in the area;
- (b) the owner or owners, as shown by the last revised assessment roll, of lands in the area representing at least 60 per cent of the hectarage in the area;
- (c) where a drainage works is required for a road or part thereof, the engineer, road superintendent or person having jurisdiction over such road or part, despite subsection 61 (5);
- (d) where a drainage works is required for the drainage of lands used for agricultural purposes, the Director. R.S.O. 1990, c. D.17, s. 4 (1).

### Form of petition

(2) A petition under subsection (1) shall be in the form prescribed by the regulations and, where it is filed by an owner or owners under clause (1) (a) or (b), shall be signed by such owner or owners. R.S.O. 1990, c. D.17, s. 4 (2).

### Petition where area lies on each side of boundary line

(3) Where it is desired to construct a drainage works for the drainage of an area composed of lands or roads lying on each side of a boundary line between two or more local municipalities, the council of any of them may proceed upon a petition as required by this Act in all respects, including the sending of notices, as if such area were entirely within the limits of the municipality. R.S.O. 1990, c. D.17, s. 4 (3).

### Person deemed owner

(4) Where a person who is the owner of land, but does not appear by the last revised assessment roll of the municipality to be the owner, is a petitioner, the person shall be deemed an owner if the person's ownership is proved to the satisfaction of the clerk, and, if the person who appears by the assessment roll to be the owner is a petitioner, the person's name shall be disregarded in determining the sufficiency of the petition. R.S.O. 1990, c. D.17, s. 4 (4).

### Persons jointly assessed

(5) Where two or more persons are jointly assessed for a property, in determining the sufficiency of a petition, they shall be deemed to be one owner. R.S.O. 1990, c. D.17, s. 4 (5).

### Section 25(1) – Engineer may assess a block, etc.

The council of the local municipality may direct the engineer to assess as a block, a built-up area designated by the council, and the sum assessed therefor may be levied against all the ratable properties in the designated area proportionately on the

basis of the assessed value of the land and buildings.

### **Section 25(2) – Assessments to be charged against public roads**

Where the engineer makes a block assessment under subsection (1), the engineer shall designate the proportion of the assessment to be charged against the public roads in the designated area.

### **Section 26 – Increased cost, how borne**

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.

### **Section 41(1) – Notice of drainage works**

Upon the filing of the engineer's report, the council of the initiating municipality, if it intends to proceed with the drainage works, shall, within thirty days of the filing of the report, cause the clerk of the initiating municipality to send a copy of the report and a notice stating,

- 1) the date of the filing of the report;
- 2) the name or other designation of the drainage works; and
- 3) the date of the council meeting at which the report will be considered, to;
  - a) the owners, in the initiating municipality, as shown by the last revised assessment roll to be the owners of lands and roads assessed for the drainage works or for which compensation or other allowances have been provided in the report;
  - b) the clerk of every other local municipality in which any land or road that is assessed for the drainage works or for which compensation or other allowances have been provided in the report is situate;
  - c) the secretary-treasurer of each conservation authority that has jurisdiction over any land affected by the report;
  - d) any railway company, public utility or road authority affected by the report, other than by way of assessment;
  - e) the Minister of Natural Resources where land under his or her jurisdiction may be affected by the report; and
  - f) the Director.

**Section 41(3) – Copy of report not required**

Despite subsections (1) and (2), where a block assessment is made, the notice to the owners of the lands so assessed need not be accompanied by a copy of the report.

**Section 41(3.1) – Same**

Despite subsections (1) and (2), the council of a local municipality is not required to send a copy of the report to owners of lands and roads assessed for a sum of less than \$100.

**Section 42 – Consideration of report**

The council of the initiating municipality at the meeting mentioned in section 41 shall consider the report, and, where the drainage works is requested on petition, shall give an opportunity to any person who has signed the petition to withdraw from it by filing a signed withdrawal with the clerk and shall also give those present owning lands within the area requiring drainage who have not signed the petition an opportunity to do so, and should any of the lands or roads owned by the municipality within the area requiring drainage as described in the petition be assessed, the council may by resolution authorize the head of the municipality to sign the petition for the municipality, and such signature counts as that of one person in favour of the petition.

**Section 65(1) – Subsequent subdivision of land**

If, after the final revision of an engineer's assessment of land for a drainage works, the land is divided by a change in ownership of any part, the clerk of the local municipality in which the land is situate shall instruct an engineer in writing to apportion the assessment among the parts into which the land was divided, taking into account the part of the land affected by the drainage works.

**Section 65(2) – Agreement on share of assessment**

If the owners of the subdivided land mutually agree on the share of the drainage assessment that each should pay, they may enter into a written agreement and file it

with the clerk of the local municipality and, if the agreement is approved by the council by resolution, no engineer need be instructed under subsection (1).

### **Section 76(1) - Varying original assessments for maintenance**

The Council of any local municipality liable for contribution to a drainage works in connection with which conditions have changed or circumstances have arisen such as to justify a variation of the assessment for maintenance and repair of the drainage works may make an application to the Tribunal, of which notice has been given to the head of every other municipality affected by the drainage works, for permission to procure a report of an engineer to vary the assessment, and, in the event of such permission being given, such council may appoint an engineer for such purpose and may adopt the report but, if all the lands and roads assessed or intended to be assessed lie within the limits of one local municipality, the council of that municipality may procure and adopt such report without such permission.

### **Section 76(2) – Proceedings on report of engineer**

The proceedings upon such report, excepting appeals, shall be the same, as nearly as may be, as upon the report for construction of the drainage works.

### **Section 76(3) – Appeal from report of engineer**

Any council served with a copy of such report may, within 45 days of such service, appeal to the Tribunal from the finding of the engineer as to the portion of the cost of the drainage works for which the municipality is liable.

### **Section 76(4) – Appeal from assessment**

Any owner of land assessed for maintenance or repair may appeal from the assessment in the report on the grounds and in the manner provided by Section 52 in the case of the construction of the drainage works.

### **Section 76(5) – Basis of future assessments**

An assessment determined under this section shall thereafter, until it is further varied, form the basis of any assessment for maintenance or repair of the drainage works affected thereby.

### **Section 78(1) – Improving, upon examination and report of engineer**

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).

## **Section 78(1.1) – Projects**

The projects referred to in subsections (1) are:

- 1) 1. Changing the course of the drainage works.
- 2) 2. Making a new outlet for the whole or any part of the drainage works.
- 3) 3. Constructing a tile drain under the bed of the whole or any part of the drainage works.
- 4) 4. Constructing, reconstructing or extending embankments, walls, dykes, dams, reservoirs, bridges, pumping stations or other protective works in connection with the drainage works.
- 5) 5. Extending the drainage works to an outlet.
- 6) 5.1 Improving or altering the drainage works if the drainage works is located on more than one property.
- 7) 6. Covering all or part of the drainage works.
- 8) 7. Consolidating two or more drainage works.
- 9) 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).

## **Section 78(2) – Notice to conservation authority**

2) An engineer shall not be appointed under subsection (1) until 30 days after a notice has been sent to the following persons advising them of the municipality's intent to undertake the major improvement project:

1. The secretary-treasurer of each conservation authority that has jurisdiction over any lands that would be affected by the project.
2. The prescribed persons. 2020, c. 18, Sched. 4, s. 9 (5).

## **Section 78(3) – Powers and duties of engineer**

(3) The engineer has all the powers and shall perform all the duties of an engineer appointed with respect to the construction of a drainage works under this Act. R.S.O. 1990, c. D.17, s. 78 (3).

## **Section 78(4) – Proceedings**

(4) All proceedings, including appeals, under this section shall be the same as on a report for the construction of a drainage works. R.S.O. 1990, c. D.17, s. 78(4).

## **Minor improvements to drainage works**

(5) Despite subsections (2) to (4), the Minister may prescribe the process for approving minor improvements to a drainage works mentioned in paragraph 8 of subsection (1.1). 2020, c. 18, Sched. 4, s. 9 (6).

## **AMENDMENTS TO ENGINEER'S REPORT**

84.1 (1) This section applies with respect to engineer's reports that are prepared for

the purpose of a petition under section 4 or for the purpose of section 78 and that are adopted by a municipal by-law. 2020, c. 18, Sched. 4, s. 10.

Approval process

(2) The Minister may, by regulation, set out the process by which the engineer's report may be amended and the process by which those amendments are to be approved. 2020, c. 18, Sched. 4, s. 10.

Section Amendments with date in force (28/09/2021)

# The Corporation of the Town of Tecumseh

## By-Law Number 2025 - 015

Being a by-law to provide for the repair and improvements to the East McPherson Drain

**Whereas** the Council of The Corporation of the Town of Tecumseh (hereafter “Town”) has been requested to provide for the repair and improvement of the East McPherson;

**And Whereas** the Town procured a Drainage Report for the East McPherson and specifications from the consulting engineering firm of Dillon Consulting Limited, dated December 9, 2024 (hereafter “Drainage Report”);

**And Whereas** notice of a Public Meeting to hear comments from the affected property owners was given on Monday, January 6, 2025;

**And Whereas** a Public Meeting of Council was held on Tuesday, January 28, 2025 at 6:30 pm to hear from any affected property owners on the Drainage Report;

**And Whereas** the Council of The Corporation of the Town of Tecumseh is of the opinion that the repair and improvement of the East McPherson is desirable;

**Now Therefore the Council of The Corporation of The Town of Tecumseh Enacts as follows:**

1. **That** the Drainage Report providing for the repair and improvement of the East McPherson, dated December 9, 2024, as prepared by the consulting engineering firm Dillon Consulting Limited and attached hereto as Schedule “A” to this by-law, is hereby adopted and the drainage works as therein indicated and set forth is hereby approved and shall be completed in accordance therewith.
2. **That** the Treasurer, subject to the approval of Council, may agree with any bank or person for temporary advances of money to meet the costs of construction pending the completion of the drain and grants and computed payments are received.
3. **That** the Town may issue debentures for the amount borrowed and the amount of such debentures shall be reduced to the total amount of:
  - a) Grants received under Section 85 of the said Act;
  - b) Commuted payments made in respect of land and roads assessed.
4. **That** such debentures shall be made payable within five (5) years from the date of the debenture and shall bear interest at a rate as approved by resolution of Council.



5. **That** the specifications and General Specifications as established are adopted as set out in the Drainage Report which forms part of this by-law.
6. **That** the Mayor and Clerk are authorized to cause a contract for the construction of the works to be made and entered into with some person or persons, firm or corporations, subject to the approval of the Council to be declared by resolution.
7. **That** this by-law shall come into force upon and after the final passing thereof.

**Read** a first and second time this 28th day of January, 2025.

---

Gary McNamara, Mayor

---

Robert Auger, Clerk

**Read** a third and final time this **Choose an item.** day of **Choose an item.**, 2025.

---

Gary McNamara, Mayor

---

Robert Auger, Clerk

**DRAINAGE REPORT  
FOR THE**

**NEW FARM BRIDGE ON  
PT. LOT 2, CONCESSION 11  
OVER THE  
EAST MCPHERSON DRAIN  
(AL-FARRA BRIDGE)**

**IN THE  
TOWN OF TECUMSEH**



FINAL  
9 DECEMBER, 2024  
OLIVER E. T. MOIR, P. ENG.  
FILE No. 24-8532  
TECUMSEH FILE No. E09MC(64)

Mayor and Council  
Town of Tecumseh  
917 Lesperance Rd,  
Tecumseh, Ontario  
N8N 1W9

**Drainage Report for the  
New Farm Bridge on  
Pt. Lot 2, Concession 11  
Over the  
EAST MCPHERSON DRAIN (AL-FARRA BRIDGE)  
In the Town of Tecumseh**

Mayor and Council:

**Instructions**

The Municipality received a request for a new farm access bridge to serve Pt. Lot 2, Concession 11 (Roll No. 400-00800) over the East McPherson Drain, that was filed at the Town Office on the 26<sup>th</sup> day of October 2023. Council accepted the request under Section 78(1) of the Drainage Act and on the 26<sup>th</sup> day of January 2024 appointed Dillon Consulting Limited to prepare a report.

**Watershed Description**

The East McPherson Drain consists primarily of an open channel flowing along the easterly side of 11<sup>th</sup> Concession Road within the Town of Tecumseh. The drain commences approximately 140 m north of the boundary between Lot 1 and Lot 2, Concession 11. It proceeds northerly for approximately 1,335 m, draining into the South Talbot Road Drain East.

The lands comprising the watershed are predominantly agricultural use with some residential lots. There is little topographic relief. From the Ontario Soil Survey, the principle surficial soil in the study area is described as Brookston Clay which is defined as having poor natural drainage.

**On-Site Meeting**

An on-site meeting was held on 23 July 2024. A record of the meeting is provided in Schedule 'A-1', which is appended hereto.



10 Fifth Street South  
Chatham, Ontario  
Canada  
N7M 4V4  
Telephone  
519.354.7802  
Fax  
519.354.2050

## Drain History

The recent history of Engineers' reports for the East McPherson Drain is as follows:

- **11 April 2017 H. Pearson, P.Eng.:** The report recommended that the entire length of the East McPherson drain be excavated to remove accumulated sediment and vegetation and that the existing culverts should either be removed, replaced, or be cleaned. Topographic survey was completed to confirm the watershed boundary. The report also determined that approximately 30% of runoff generated from lands on the west side of the 11th Concession Road, which are primarily served by the Santo Drain, flow into the East McPherson Drain through road culverts interconnecting the two drains. This report serves as the governing by-law for the drain.

## Survey

Our topographic survey of the East McPherson Drain was carried out in August 2024. The topographic data was recorded for both upstream and downstream of the proposed site for the new access culvert.

## Design Considerations

A Guide for Engineers working under the Drainage Act in Ontario, OMAFA Publication 852 (2018) is the current reference document used by engineers carrying out drainage work on municipal drains under the Act. The 2-year design storm is the recommended design standard applied to municipal drains within rural Ontario specific to open drain channels and low hazard agricultural field access crossings. We have applied this criterion for the proposed East McPherson Drain bridge.

The new access culvert is designed for an upstream drainage area of approximately 10.5 hectares (approximately 26.0 acres). Lands on the west side of the 11<sup>th</sup> Concession Road are primarily served by the Santo Drain, however the East McPherson Drain conveys a portion of flows from the Santo Drain through road culverts which interconnect the two drains, as described in the 2017 East McPherson Drain Report.

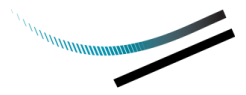
The size of the new culvert required is 750 mm diameter and the length designed to be 20.5 m to accommodate a minimum 12.2 m (40 ft) top width and sloping end treatment. A 12.2 m top width for the bridge is necessary considering the proximity of the road to the drain that limits turning radii of modern farm equipment. The culvert depth is designed to provide a minimum 10% embedment of the pipe invert below the design drain bottom.

## Allowances

In accordance with Sections 29 and 30 of the Drainage Act, we do not anticipate any agricultural lands being damaged or used as a result of the proposed drainage works. Any damage to the laneway or the existing grassed areas shall be restored to original conditions as part of the work. Therefore, 'Schedule B' for allowances has not been included in this report.

## Recommendations and Cost Estimate

Based on our review of the history, the information obtained from our examination and analysis of the survey data, we recommend that the East McPherson Drain be improved as described below:



| Item | Description  | Amount              |
|------|--|---------------------|
| 1.   | Supply and installation of a new 20.5 m long, 750 mm diameter corrugated high density polyethylene (HDPE) Boss 2000 (or approved equivalent), 320kPA including couplers (see specifications). Works includes the relocation of any existing tile downstream of new culvert.                      | \$7,000.00          |
| 2.   | Supply and install clear stone bedding materials (minimum 150 mm thickness) with filter fabric underlay under the new culvert pipe (approximately 15 tonnes).  | \$900.00            |
| 3.   | Supply and install full compacted Granular 'B' bedding and backfill materials from the pipe invert to the underside of the driveway material. (approximately 200 tonnes).  | \$7,000.00          |
| 4.   | Supply and installation of imported clean backfill material to be used as a buffer between the Granular 'B' material and stone erosion protection. (Approximately 15 m <sup>3</sup> ).<br>Work includes supply and placement of topsoil (100 mm thickness), fine grading and seeding of buffers. | \$600.00            |
| 5.   | Supply and install full compacted Granular 'A' (crushed limestone) compacted driveway surface, minimum 200 mm thickness (approximately 50 tonnes).   | \$2,500.00          |
| 6.   | Supply and install stone erosion protection for sloping end walls, minimum 300 mm thickness, c/w filter fabric underlay (approximately 35 m <sup>2</sup> ).  | \$3,000.00          |
| 7.   | Temporary silt control measures during construction.   | \$500.00            |
|      | <b>SUB-TOTAL</b>   | <b>\$21,500.00</b>  |
| 8.   | Survey, report, and assessment.  | \$7,500.00          |
| 9.   | Part-time construction observation and administration.   | \$1,500.00          |
| 10.  | Expenses and Incidentals.  | \$500.00            |
| 11.  | ERCA application review and permit fee.  | <u>\$500.00</u>     |
|      | <b>TOTAL ESTIMATE (excluding Net HST)</b>  | <b>\$ 31,500.00</b> |

The estimate provided in this report was prepared according to current materials and installation prices as of the date of this report. In the event of delays from the time of filing of the report by the Engineer to the time of tendering the work, it is understood that the estimate of cost is subject to inflation. The rate of inflation shall be calculated using the Consumer Price Index applied to the cost of construction from the date of the report to the date of tendering.

### **Assessment of Costs**

The individual assessments are comprised of three (3) assessment components:

- i. Benefit (*advantages relating to the betterment of lands, roads, buildings, or other structures resulting from the improvement to the drain*).
- ii. Outlet Liability (*part of cost required to provide outlet for lands and roads*).
- iii. Special Benefit (*additional work or feature that may not affect function of the drain*).

We have assessed the estimated costs against the affected lands and roads as listed in Schedule 'C' under "Value of Special Benefit," "Value of Benefit" and "Value of Outlet." Since there is only one Special Benefit assessment, a separate schedule for Details of Special Benefit (Schedule 'D') is not required or included herein.

### **Assessment Rationale**

There is no access to property Roll No. 400-00800 across the East McPherson Drain. The present access is owned by the owner of property Roll No. 400-00720. As stated by the requesting landowner, this access will no longer be available for use after October 2024.

Special Benefit assessment shown in Schedule 'C' was therefore derived as follows:

1. For the first time access bridge across East McPherson Drain, costs have been assessed 100% of the adjoining property Roll No. 400-00800 as listed under the "Value of Special Benefit".

### **Utilities**

It may become necessary to temporarily or permanently relocate utilities that may conflict with the construction recommended under this report. In accordance with Section 26 of the Drainage Act, we assess any relocation cost against the public utility having jurisdiction. Under Section 69 of the Drainage Act, the public utility is at liberty to do the work with its own forces, but if it should not exercise this option within a reasonable time, the Municipality will arrange to have this work completed and the costs will be charged to the appropriate public utility.

### **Future Maintenance**

We recommend that future work and repair and maintenance on the new access bridge be carried out by the Municipality and assessed in the same relative proportions as to the amounts listed in Schedule 'E' which represents an Assessment schedule for the future Maintenance.

Considering the current by-law for the East McPherson Drain, we recommend that 75% of the future maintenance costs be assessed against property Roll No. 400-00800 as a Special Benefit assessment and the remaining 25% as an Outlet liability assessment against the upstream lands and roads. A reduced assessment for future maintenance has been considered for lands which have an existing woodlot and/or to lands which are primarily served by the Santo Drain but use the East McPherson Drain as a secondary outlet.

The assessment is based on an arbitrary \$10,000 in future maintenance costs. These provisions for maintenance are subject, of course, to many variations that may be made under the authority of the Drainage Act.

### **Drawings and Specifications**

Attached to this report is Schedule ‘F’, which are Specifications setting out the details of the recommended works and Schedule ‘G’ which represent the drawings that are attached to this report.

**Page 1 of 2 – Watershed Plan**

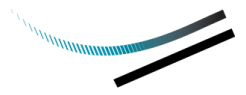
**Page 2 of 2 – Bridge Details**

### **Approvals**

The construction and/or improvement to a drainage works, including repair and maintenance activities, and all operations connected therewith are subject to the approval, inspection, by-law, and regulations of all Municipal, Provincial, Federal, and other authorities having jurisdiction in respect to any matters embraced by the proposed works. Prior to any construction or maintenance works, the Municipality or proponent designated on the Municipality’s behalf shall obtain all required approvals/permits and confirm any construction limitations including timing windows, mitigation/off-setting measures, standard practices or any other limitations related to in-stream works.

In terms of a review of the proposed works by the Department of Fisheries and Oceans (DFO), we have undertaken a self-assessment and have determined that application requesting review is not required. The East McPherson Drain has been classified as a “Type F” drain by DFO and the impact zone representing 1km downstream of the proposed works is also classified as a “Type F” drain. Type F drains experience intermittent water flow only and provide minimal habitat for fish. As part of the work the following mitigation measures shall be implemented to avoid any adverse effects to the waterway.

- Works will not be conducted at times when flows are elevated due to the local rain events, storms, or seasonal floods. Work will be done in the dry.
- All disturbed soils on both banks and within the channel, including spoil must be stabilized immediately upon completion of work. The restoration of the site must be completed to a like or better conditions to what existed prior to the works.
- To prevent sediment entry into the drain, in the event of an unexpected rainfall, silt barriers and/or traps must be placed in the channel during the works and until the site has been stabilized. All sediment and erosion control measures are to be in accordance with related Ontario Provincial Standards. It is incumbent on the proponent and his/her contractors to ensure that sediment and erosion control measures are functioning and are maintained/upgraded as required.
- lated Ontario Provincial Standards. It is incumbent on the proponent and his/her contractors to ensure that sediment and erosion control measures are functioning and are maintained/upgraded as required.



- All activities should be controlled to prevent the entry of petroleum products, debris, rubble, concrete or other deleterious substances into the water. Vehicular refueling and maintenance should be conducted away from the water.

The East McPherson Drain may provide habitat to species at risk listed as listed under the Endangered Species Act. The Town of Tecumseh has developed a mitigation plan document recommending mitigation measures to minimize adverse effects on species at risk including monitoring and reporting requirements should an endangered, threatened, or special concern species (fishes, reptiles, amphibians, mollusks, birds, plants, trees) be encountered. The document will be made available to contractors during the tendering process and construction period.

In terms of review by the Essex Region Conservation Authority (ERCA), the proposed works contained herein were previously reviewed and accepted by the ERCA, refer to Schedule 'A-2'. An application for permit shall be submitted by the Municipality and accompanied by payment for the permit review fee of \$500.00 before construction of the new access bridge proceeds.

### **Grants**

The costs for a new access to agricultural land which is required because of a nullified access agreement with an adjoining residential land are not eligible for grant, in accordance with Section 2.3(i) of the OMAFA Agricultural Drainage Infrastructure Program policies.

Respectfully submitted,

**DILLON CONSULTING LIMITED**



Oliver E.T. Moir, P.Eng.  
OEM:jo:lld





# Meeting Summary

**Subject:** East McPherson – On-Site Meeting  
**Date:** July 23, 2024  
**Location:** 7000 11<sup>th</sup> Concession Road  
**Our File:** 24-8532

## Attendees

|                  |                                    |
|------------------|------------------------------------|
| Ahmed Al-Farra   | Landowner                          |
| Mark Fishleigh   | County of Essex                    |
| Anne-Marie Moniz | Town of Tecumseh (Town)            |
| Matt Shiha       | Town                               |
| Jerome Owen      | Dillon Consulting Limited (Dillon) |
| Oliver Moir      | Dillon                             |

## Notes

| Item | Discussion  | Action by |
|------|---|-----------|
| 1.   | <b>Introductions:</b>   |           |
| 1.1. | The Town appointed Dillon on the East McPherson Drain under Section 78 of the Drainage Act to prepare the drainage report for a new farm access culvert.  | INFO      |
| 2.   | <b>Project Background:</b>  |           |
| 2.1. | The property Roll No. 400-00800 requires access over the East McPherson Drain. The proposed development requires a new farm access bridge to 11 <sup>th</sup> Concession Road. <ul style="list-style-type: none"> <li>The lands requiring access currently have access from 11<sup>th</sup> Concession Road over an existing CSP culvert that provides access to property 440-00720 through a temporary access agreement. The agreement expires after October 2024.</li> </ul>  | INFO      |
| 3.   | <b>Project Pathway:</b>   |           |
| 3.1. | Dillon explained the Drainage Act process: <ul style="list-style-type: none"> <li>A request under Section 78 of the Drainage Act is submitted to the Town.</li> <li>The Engineer is appointed by the Town through Council.</li> <li>The on-site meeting is held for the engineer to gather information from landowners.</li> <li>Topographic survey is completed and a report is prepared.</li> <li>A meeting is held to consider the technical aspects of the report (Meeting to Consider).</li> <li>A meeting is held to consider the assessment (cost sharing) aspects of the report (Court of Revision).</li> <li>Following passing of the by-law, the drainage works are put out to tender.</li> </ul> | INFO      |

| Item | Discussion  | Action by |
|------|---|-----------|
| 4.   | <b>General Discussions</b>  | INFO      |
|      | <ul style="list-style-type: none"> <li>● Mr. Al-Farra asked if permission is needed to tile the land. <ul style="list-style-type: none"> <li>○ Dillon explained that only lands within the East McPherson Drain watershed may be tiled to the East McPherson Drain without approval from the Town. The property 400-00800 is partially within the East McPherson Drain watershed. Should Mr. Al-Farra wish to tile new lands into the East McPherson Drain, a request to investigate the drain’s capacity through the Drainage Act would need to be submitted to the Town.</li> <li>○ Installation of tile drainage systems need to be completed by a licensed contractor.</li> </ul> </li> <li>● Mr. Al-Farra indicated that the lands will be rented to a tenant for farming.</li> <li>● Mr. Al-Farra asked if it would be possible to use the new access for a future residential access. <ul style="list-style-type: none"> <li>○ The Town answered the process for residential development a separate process handled by city planning section. Requirements for residential access may depend on the proposed development and would be subject to the Planning Department’s approval.</li> <li>○ Mr. Al-Farra decided to leave the residential development considerations out of the drainage works.</li> </ul> </li> <li>● Mr. Al-Farra agreed with the proposed location of the bridge as shown on the invite request map.</li> <li>● Dillon explained farm access culverts are generally 7.3 m (30’) wide, however given the proximity between the road and drain bank, a wider access bridge would be needed to accommodate turning movements of farm equipment and may be up to 12.1 m wide (40’).</li> <li>● Culvert end protection would be sloping stone as the least costly.</li> <li>● The Town informed the Mr. Al-Farra that the construction work can be undertaken privately (without the use of a contractor), but a list of prerequisites must be completed, and evidence of previous construction experience must be presented.</li> </ul> |           |

**Errors and/or Omissions**

These minutes were prepared by Jerome Owen, who should be notified of any errors and/or omissions.

SCHEDULE 'A-2'



Moir, Oliver <omoir@dillon.ca>

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**East McPherson Drain - Al-Farra Farm Access**

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**Summer Locknick** <SLocknick@erca.org> Tue, Oct 8, 2024 at 2:59 PM  
To: "Moir, Oliver" <omoir@dillon.ca>  
Cc: Jerome Owen <jowen@dillon.ca>, "248532@dillon.ca" <248532@dillon.ca>, Matthew Shiha <mshiha@tecumseh.ca>

Good afternoon,

Thank you for providing the below information. I've had an opportunity to review the preliminary drawings and the available information and can confirm that this proposal, as presented in the preliminary stages, is something that this office can support.

We look forward to receiving the Final Drainage Report and Drawings. A completed Application for Permit form will be required from the municipality.

If you have any questions, please do not hesitate to contact this office.

Kind regards,



SUMMER LOCKNICK  
Regulations Analyst  
Essex Region Conservation Authority  
360 Fairview Avenue West, Suite 311 | Essex, Ontario | N8M 1Y6  
[slocknick@erca.org](mailto:slocknick@erca.org) [essexregionconservation.ca](http://essexregionconservation.ca)

Please consider the environment before printing this email

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The ERCA Office is now open to the public **Tuesdays, Wednesdays and Thursdays** to provide "counter service"; however, services continue to be delivered online and through email. Please consult ERCA's website for more information and direction regarding online services (i.e. permitting, cottage bookings, seasonal passes etc.)

**"SCHEDULE C"**  
**SCHEDULE OF ASSESSMENT**  
**EAST McPHERSON DRAIN (AL-FARRA BRIDGE)**  
**TOWN OF TECUMSEH**

**PRIVATELY-OWNED - AGRICULTURAL LANDS**

| Roll No.   | Con. | Description | Area Affected |             | Owner             | Special Benefit    | Benefit       | Outlet        | Total Assessment   |
|--|------|-------------|---------------|-------------|-------------------|--------------------|---------------|---------------|--------------------|
|  |      |             | (Acres)       | (Ha.)       |                   |                    |               |               |                    |
| 400-00800  | 11   | Pt. Lot 2   | 15.70         | 6.35        | Ahmed S. Al-Farra | \$31,500.00        | \$0.00        | \$0.00        | \$31,500.00        |
| Total on Privately-Owned - Agricultural Lands..... |      |             |               |             |                   | \$31,500.00        | \$0.00        | \$0.00        | \$31,500.00        |
| <b>TOTAL ASSESSMENT .....</b>                      |      |             |               |             |                   | <b>\$31,500.00</b> | <b>\$0.00</b> | <b>\$0.00</b> | <b>\$31,500.00</b> |
|  |      |             | (Acres)       | (Ha.)       |                   |                    |               |               |                    |
| <b>Total Area:</b>                                 |      |             | <b>15.70</b>  | <b>6.35</b> |                   |                    |               |               |                    |

**"SCHEDULE E"**  
**SCHEDULE OF ASSESSMENT FOR FUTURE MAINTENANCE**  
**EAST McPHERSON DRAIN (AL-FARRA BRIDGE)**  
**TOWN OF TECUMSEH**

**MUNICIPAL LANDS:**

| Description                   | Area Affected |       | Owner            | Special Benefit | Benefit | Outlet   | Total Assessment |
|-------------------------------|---------------|-------|------------------|-----------------|---------|----------|------------------|
|                               | (Acres)       | (Ha.) |                  |                 |         |          |                  |
| 11th Concession Road          | 0.37          | 0.15  | Town of Tecumseh | \$0.00          | \$0.00  | \$233.00 | \$233.00         |
| Total on Municipal Lands..... |               |       |                  | \$0.00          | \$0.00  | \$233.00 | \$233.00         |

**PRIVATELY-OWNED - NON-AGRICULTURAL LANDS:**

| Roll No.   | Con. | Description   | Area Affected |        | Owner             | Special Benefit | Benefit | Outlet   | Total Assessment |
|--|------|---------------|---------------|--------|-------------------|-----------------|---------|----------|------------------|
|  |      |               | (Acres)       | (Ha.)  |                   |                 |         |          |                  |
| 400-00705  | 11   | Pt. Lot 2     | 0.49          | 0.20   | Ronald W. Gerard  | \$0.00          | \$0.00  | \$186.00 | \$186.00         |
| 400-00720  | 11   | Pt. Lot 2     | 1.22          | 0.49   | Peggy A. Gerard   | \$0.00          | \$0.00  | \$273.00 | \$273.00         |
| 410-05302  | 10   | Pt. Lot 1 & 2 | 1.80          | 0.73 * | Patrick J. Gerard | \$0.00          | \$0.00  | \$92.00  | \$92.00          |
| Total on Privately-Owned - Non-Agricultural Lands..... |      |               |               |        |                   | \$0.00          | \$0.00  | \$551.00 | \$551.00         |

**PRIVATELY-OWNED - AGRICULTURAL LANDS**

| Roll No.  | Con. | Description | Area Affected |        | Owner             | Special Benefit | Benefit | Outlet     | Total Assessment |
|-----------|------|-------------|---------------|--------|-------------------|-----------------|---------|------------|------------------|
|           |      |             | (Acres)       | (Ha.)  |                   |                 |         |            |                  |
| 400-00800 | 11   | Pt. Lot 2   | 15.70         | 6.35 * | Ahmed S. Al-Farra | \$7,500.00      | \$0.00  | \$1,476.00 | \$8,976.00       |
| 410-05500 | 10   | Pt. Lot 2   | 6.38          | 2.58 * | Gerald Santo      | \$0.00          | \$0.00  | \$240.00   | \$240.00         |

|                               |  |  |              |             |  |                   |               |                   |                    |
|-------------------------------|--|--|--------------|-------------|--|-------------------|---------------|-------------------|--------------------|
| <b>TOTAL ASSESSMENT</b> ..... |  |  |              |             |  | <b>\$7,500.00</b> | <b>\$0.00</b> | <b>\$2,500.00</b> | <b>\$10,000.00</b> |
|                               |  |  | (Acres)      | (Ha.)       |  |                   |               |                   |                    |
| <b>Total Area:</b>            |  |  | <b>19.58</b> | <b>7.92</b> |  |                   |               |                   |                    |

\* DENOTES A REDUCED ASSESSMENT

” SCHEDULE F”  
DRAINAGE REPORT FOR THE  
**EAST MCPHERSON DRAIN**  
IN THE TOWN OF TECUMSEH

**SPECIAL PROVISIONS**

**1.0 GENERAL SPECIFICATIONS**

The General Specifications attached hereto is part of “Schedule F.” It also forms part of this specification and is to be read with it, but where there is a difference between the requirements of the General Specifications and those of the Special Provisions which follow, the Special Provisions will take precedence.

**2.0 DESCRIPTION OF WORK**

The work to be carried out under this Contract includes, but is not limited to, the supply of all **labour, equipment and materials** to complete the following items:

- Supply and installation of a new 20.5 m long, 750 mm diameter corrugated high density polyethylene (HDPE) Boss 2000 (or approved equivalent), 320kPA including couplers (see specifications).
- Supply and install clear stone bedding materials (minimum 150 mm thickness) with filter fabric underlay under the new culvert pipe (approximately 15 tonnes).
- Supply and install full compacted Granular ‘B’ bedding and backfill materials from the pipe invert to the native material (approximately 200 tonnes).
- Supply and installation of imported clean backfill material to be used as a buffer between the Granular ‘B’ material and the stone erosion protection. (Approximately 15 m<sup>3</sup>). Work includes supply and placement of topsoil (100 mm thickness), fine grading and seeding of buffers.
- Supply and install full compacted Granular ‘A’ (crushed limestone) compacted driveway surface, minimum 200mm thickness (approximately 50 tonnes).
- Supply and install stone erosion protection for sloping end walls, minimum 300 mm thickness, c/w filter fabric underlay (approximately 35 m<sup>2</sup>).
- Temporary silt control measures during construction.

**3.0 ACCESS TO THE WORK**

Access to the drain shall be directly from the 11<sup>th</sup> Concession Road. Contractor shall make his/her own arrangements for any additional access for his/her convenience. Through traffic must be maintained at all times along municipal roads with the required traffic control as per Section 13.0 in the General Specifications. All construction materials for the bridge are to be placed on the field side of the roadside drains. Any damage resulting from the Contractor's access to the bridge site shall be restored to original conditions at the Contractor’s expense.

## WORKING AREA

The working area at the bridge site shall be restricted to the 9 m wide working corridor along the east side of the drain and including the road allowance for the 11<sup>th</sup> Concession Road provided through traffic is maintained as per Section 13.0 in the General Specifications.

**Any damages to lands and/or roads from the Contractor's work within the working areas for the bridge sites shall be rectified to pre-existing conditions at his/her expense.**

## 4.0 BRIDGE CONSTRUCTION

### 5.1 Location

The culvert shall be located and installed as shown on the drawings attached hereto.

### 5.2 Materials

Materials shall be as follows:

|   |   |
|---|---|
| <i>Culvert</i>  | <i>New 750 mm diameter solid (non-perforated) corrugated High Density Polyethylene (H.D.P.E.) smooth wall interior (Armtec Boss 2000 or approved equivalent) unless otherwise specified conforming to the following specifications: ASTM @3350, CSA B182.8-02 and OPSS 1840. The pipe is to provide a minimum pipe stiffness of 320 kPa. Joined using (water tight) "bell and spigot" connection type. Joints wrapped in "Non-Woven" geotextile filter fabric with a minimum strength equal to or greater than Terrafix 270R, Amoco 446, Mirafi 140NC or approved equivalent.</i> |
| <i>Bedding Below Pipe</i>                                   | <i>19 mm clear stone conforming to OPSS Division 10.</i>  |
| <i>Pipe Backfill to underside of road surface materials</i> | <i>Granular 'B' conforming to OPSS Division 10.</i>   |
| <i>Driveway Surface</i>                                     | <i>Granular 'A' made from crushed limestone conforming to OPSS Division 10. Minimum 200 mm thickness.</i>   |
| <i>Filter Fabric</i>  | <i>"Non-Woven" geotextile filter fabric with a minimum strength equal to or greater than Terrafix 270R, Amoco 4546, Mirafi 140NC or approved equivalent.</i>  |
| <i>Buffer Strips</i>  | <i>Dry native material free of topsoil, organic matter, broken concrete, steel, wood and deleterious substances.</i>  |
| <i>Topsoil over Buffer Strips</i>                           | <i>Salvaged or imported topsoil, fine graded and seeded. Minimum 100 mm thickness</i>   |
| <i>Erosion Stone</i>  | <i>All stone to be used for erosion protection shall be 125 – 250 mm clear quarried rock or OPSS 1001, minimum 300 mm thickness</i>   |

### 5.3 Culvert Installation

Suitable dykes shall be constructed in the drain so that the installation of the culvert can be accomplished in the dry. The drain bottom shall be cleaned, prepared, shaped, and compacted to suit the new culvert configuration, as shown on the drawings. Granular materials shall be compacted to 100% of their maximum dry density; imported clean native materials shall be supplied, placed and compacted to 95% of their maximum dry density. The Contractor shall note that imported native materials are required for backfill of the new bridge culvert, and the costs shall be included as part of the work.

### 5.4 Stone Erosion Protection

End walls shall be constructed of quarry stone rip-rap, as specified herein. Each end wall shall extend from the invert of the new culvert to the top of the proposed lane. The end walls shall be sloped 1 vertical to 1.5 horizontal with a filter fabric underlay surrounding the pipe and spanning across the entire width of the drain and wrapping around the drain banks to align with the ends of the new pipe culvert. The minimum thickness requirement of the erosion stone layer is 300 mm with no portion of the filter fabric to be exposed to sunlight.

### 5.5 Granular 'A' Driveway

The Contractor shall construct the driveway with a maximum 3% cross-fall grade consisting of a minimum 200 mm thickness of compacted Granular 'A' (crushed limestone) surface. The minimum top width of the driveway shall be as shown on the drawings.

### 5.6 Lateral Tile Drains

Should the Contractor encounter any lateral tiles within the proposed culvert limits not shown on attached drawings, the Contractor shall re-route the outlet tile drain(s) in consultation with the Drainage Superintendent, as required, to accommodate the new culvert. **Tile drain outlets through the wall of the new culvert pipe will not be permitted.** All costs associated with re-routing lateral tile drains (if any) shall be at the Contractor's expense.

### 5.7 Site Cleanup and Restoration

As part of the work and upon completion, the Contractor shall remove and dispose of, off-site any loose timber, logs, stumps, large stones, rubber tires, cinder blocks or other debris from the drain bottom and from the side slopes. Where the construction works cross a lawn, the Contractor shall take extreme care to avoid damaging the lawn, shrubs and trees encountered. Upon completion of the work, the Contractor shall completely restore the area by the placement and fine grading of topsoil and seeding or sodding the area as specified by the Engineer or Drainage Superintendent.



# GENERAL SPECIFICATIONS

## 1.0 AGREEMENT AND GENERAL CONDITIONS

The part of the Specifications headed "Special Provisions" which is attached hereto forms part of this Specification and is to be read with it. Where there is any difference between the requirements of this General Specification and those of the Special Provisions, the Special Provisions shall govern.

Where the word "Drainage Superintendent" is used in this specification, it shall mean the person or persons appointed by the Council of the Municipality having jurisdiction to superintend the work.

Tenders will be received, and contracts awarded only in the form of a lump sum contract for the completion of the whole work or of specified sections thereof. The Tenderer agrees to enter into a formal contract with the Municipality upon acceptance of the tender. The General Conditions of the contract and Form of Agreement shall be those of the Stipulated Price Contract CCDC2-Engineers, 1994 or the most recent revision of this document.

## 2.0 EXAMINATION OF SITE, PLANS AND SPECIFICATIONS

Each tenderer must visit the site and review the plans and specifications before submitting his/her tender and must satisfy himself/herself as to the extent of the work and local conditions to be met during the construction. Claims made at any time after submission of his/her tender that there was any misunderstanding of the terms and conditions of the contract relating to site conditions, will not be allowed. The Contractor will be at liberty, before bidding to examine any data in the possession of the Municipality or of the Engineer.

The quantities shown or indicated on the drawings or in the report are estimates only and are for the sole purpose of indicating to the tenderers the general magnitude of the work. The tenderer is responsible for checking the quantities for accuracy prior to submitting his/her tender.

## 3.0 MAINTENANCE PERIOD

The successful Tenderer shall guarantee the work for a period of one (1) year from the date of acceptance thereof from deficiencies that, in the opinion of the Engineer, were caused by faulty workmanship or materials. The successful Tenderer shall, at his/her own expense, make good and repair deficiencies and every part thereof, all to the satisfaction of the Engineer. Should the successful Tenderer for any cause, fail to do so, then the Municipality may do so and employ such other person or persons as the Engineer may deem proper to make such repairs or do such work, and the whole costs, charges and expense so incurred may be deducted from any amount due to the Tenderer or may be collected otherwise by the Municipality from the Tenderer.

## 4.0 GENERAL CO-ORDINATION

The Contractor shall be responsible for the coordination between the working forces of other organizations and utility companies in connection with this work. The Contractor shall have no cause of action against the Municipality or the Engineer for delays based on the allegation that the site of the work was not made available to him by the Municipality or the Engineer by reason of the acts, omissions, misfeasance or non-feasance of other organizations or utility companies engaged in other work.

## **5.0 RESPONSIBILITY FOR DAMAGES TO UTILITIES**

The Contractor shall note that overhead and underground utilities such as hydro, gas, telephone and water are not necessarily shown on the drawings. It is the Contractor's responsibility to contact utility companies for information regarding utilities, to exercise the necessary care in construction operations and to take other precautions to safeguard the utilities from damage.

All work on or adjacent to any utility, pipeline, railway, etc., is to be carried out in accordance with the requirements of the utility, pipeline, railway, or other, as the case may be, and its specifications for such work are to be followed as if they were part of this specification. The Contractor will be liable for any damage to utilities.

## **6.0 CONTRACTOR'S LIABILITY**

The Contractor, his/her agents and all workmen or persons under his/her control including sub-contractors, shall use due care that no person or property is injured and that no rights are infringed in the prosecution of the work. The Contractor shall be solely responsible for all damages, by whomsoever claimable, in respect to any injury to persons or property of whatever description and in respect of any infringement of any right, privilege or easement whatever, occasioned in the carrying on of the work, or by any neglect on the Contractor's part.

The Contractor shall indemnify and hold harmless the Municipality and the Engineer, their agents and employees from and against claims, demands, losses, costs, damages, actions, suits, or proceedings arising out of or attributable to the Contractor's performance of the contract.

## **7.0 PROPERTY BARS AND SURVEY MONUMENTS**

The Contractor shall be responsible for marking and protecting all property bars and survey monuments during construction. All missing, disturbed or damaged property bars and survey monuments shall be replaced at the Contractor's expense, by an Ontario Land Surveyor.

## **8.0 MAINTENANCE OF FLOW**

The Contractor shall, at his/her own cost and expense, permanently provide for and maintain the flow of all drains, ditches and water courses that may be encountered during the progress of the work.

## **9.0 ONTARIO PROVINCIAL STANDARDS**

Ontario Provincial Standard Specifications (OPSS) and Ontario Provincial Standard Drawings (OPSD) shall apply and govern at all times unless otherwise amended or extended in these Specifications or on the Drawing. Access to the electronic version of the Ontario Provincial Standards is available online through the MTO website, free of charge to all users. To access the electronic standards on the Web go to <http://www.mto.gov.on.ca/english/transrd/>. Under the title Technical Manuals is a link to the Ontario Provincial Standards. Users require Adobe Acrobat to view all pdf files.

## **10.0 APPROVALS, PERMITS AND NOTICES**

The construction of the works and all operations connected therewith are subject to the approval, inspection, by-laws and regulations of all Municipal, Provincial, Federal and other authorities having jurisdiction in respect to any matters embraced in this Contract. The Contractor shall obtain all approvals and permits and notify the affected authorities when carrying out work in the vicinity of any public utility, power, underground cables, railways, etc.

## 11.0 SUBLETTING

The Contractor shall keep the work under his/her personal control, and shall not assign, transfer, or sublet any portion without first obtaining the written consent of the Municipality.

## 12.0 TIME OF COMPLETION

The Contractor shall complete all work on or before the date fixed at the time of tendering. The Contractor will be held liable for any damages or expenses occasioned by his/her failure to complete the work on time and for any expenses of inspection, superintending, re-tendering or re-surveying, due to their neglect or failure to carry out the work in a timely manner.

## 13.0 TRAFFIC CONTROL

The Contractor will be required to control vehicular and pedestrian traffic along roads at all times and shall, at his/her own expense, provide for placing and maintaining such barricades, signs, flags, lights and flag persons as may be required to ensure public safety. The Contractor will be solely responsible for controlling traffic and shall appoint a representative to maintain the signs and warning lights at night, on weekends and holidays and at all other times that work is not in progress. All traffic control during construction shall be strictly in accordance with the **Occupational Health and Safety Act** and the current version of the **Ontario Traffic Manuals**. Access to the electronic version of the **Ontario Traffic Manual** is available online through the MTO website, free of charge to all users.

To access the electronic standards on the Web go to <http://www.mto.gov.on.ca/english/transrd/>, click on "Library Catalogue," under the "Title," enter "Ontario Traffic Manual" as the search. Open the applicable "Manual(s)" by choosing the "Access Key," once open look for the "Attachment," click the pdf file. Users require Adobe Acrobat to view all pdf files.

**Contractors are reminded of the requirements of the Occupational Health and Safety Act pertaining to Traffic Protection Plans for workers and Traffic Control Plan for Public Safety.**

## 14.0 SITE CLEANUP AND RESTORATION

As part of the work and upon completion, the Contractor shall remove and dispose of, off-site any loose timber, logs, stumps, large stones, rubber tires, cinder blocks or other debris from the drain bottom and from the side slopes. Where the construction works cross a lawn, the Contractor shall take extreme care to avoid damaging the lawn, shrubs and trees encountered. Upon completion of the work, the Contractor shall completely restore the area by the placement and fine grading of topsoil and seeding or sodding the area as specified by the Engineer or Drainage Superintendent.

## 15.0 UTILITY RELOCATION WORKS

In accordance with Section 26 of the Drainage Act, if utilities are encountered during the installation of the drainage works that conflict with the placement of the new culvert, the operating utility company shall relocate the utility at their own costs. The Contractor however will be responsible to co-ordinate these required relocations (if any) and their co-ordination work shall be considered incidental to the drainage works.

## **16.0 FINAL INSPECTION**

All work shall be carried out to the satisfaction of the Drainage Superintendent for the Municipality, in compliance with the specifications, drawings and the Drainage Act. Upon completion of the project, the work will be inspected by the Engineer and the Drainage Superintendent. Any deficiencies noted during the final inspection shall be immediately rectified by the Contractor.

Final inspection will be made by the Engineer within 20 days after the Drainage Superintendent has received notice in writing from the Contractor that the work is completed, or as soon thereafter as weather conditions permit.

## **17.0 FISHERIES CONCERNS**

Standard practices to be followed to minimize disruption to fish habitat include embedment of the culvert a minimum 10% below grade, constructing the work 'in the dry' and cutting only trees necessary to do the work (no clear-cutting). No in-water work is to occur during the timing window unless otherwise approved by the appropriate authorities.



**LEGEND**

- EAST MCPHERSON DRAIN DRAINAGE AREA
- EAST MCPHERSON DRAIN
- OTHER DRAINS
- NEW BRIDGE
- LOCAL BENCHMARK
- LAND ASSESSED AT REDUCED RATE

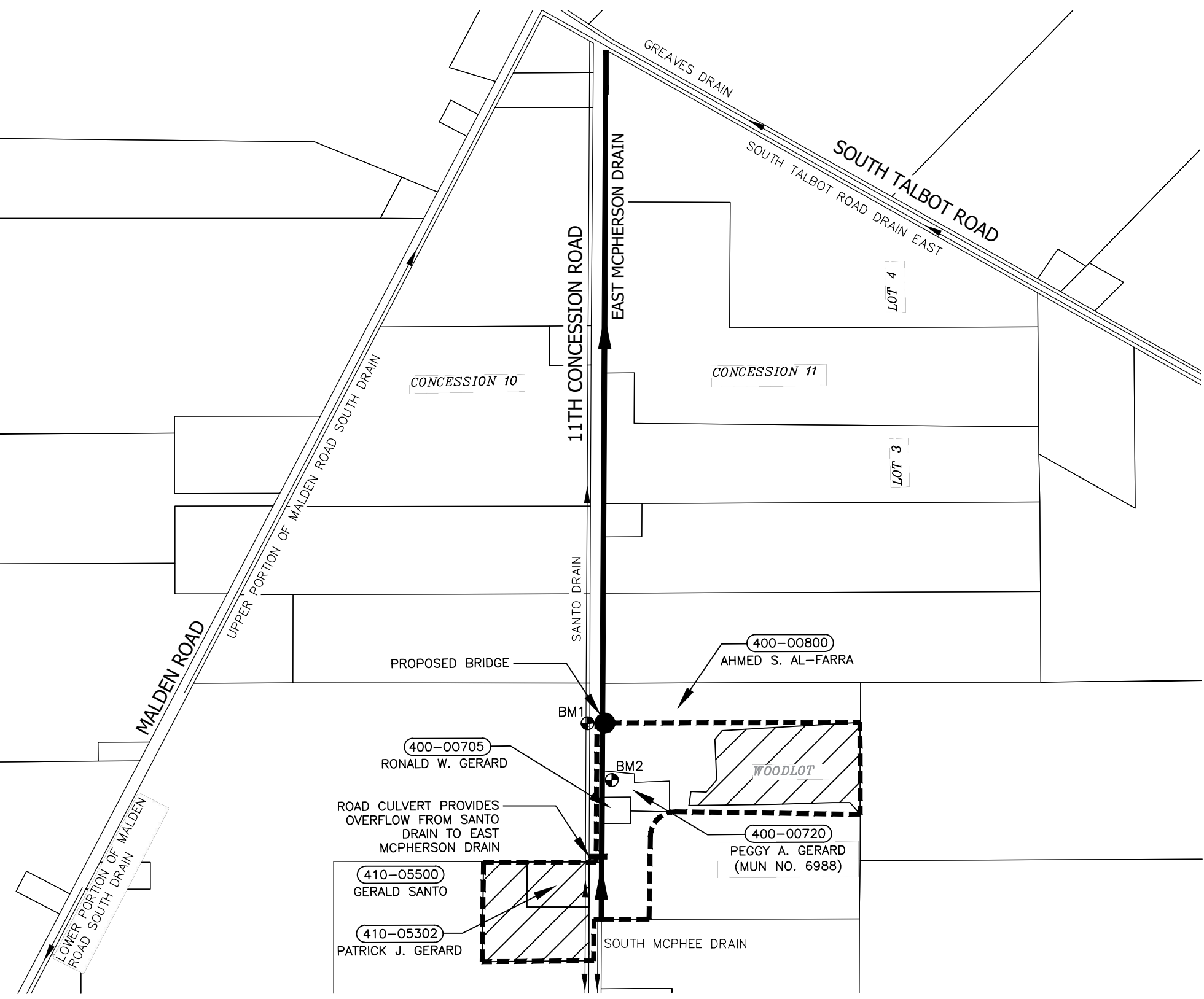
**BENCHMARKS**

**BM1**  
TOP OF NAIL IN EAST FACE OF HYDRO POLE ON WEST SIDE OF 11TH CONCESSION ROAD, ACROSS FROM PROPERTY, ROLL NO. 400-00800  
ELEVATION=193.35m

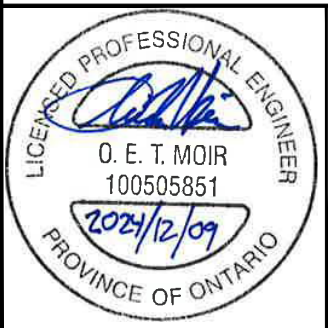
**BM2**  
TOP OF 600mm CSP AT NORTH END OF ACCESS BRIDGE FOR MUN. NO. 6988 11TH CONCESSION ROAD  
ELEVATION=191.92m

**NOTE: CONTRACTOR TO VERIFY BENCHMARKS PRIOR TO CONSTRUCTION.**

**NOTE: CONTRACTOR SHALL ARRANGE TO HAVE ALL UTILITY LOCATES COMPLETED ONSITE PRIOR TO ANY EXCAVATION WORK. DILLON CONSULTING LIMITED DOES NOT GUARANTEE THE ACCURACY OF THE EXISTING UTILITIES SHOWN ON THE DRAWINGS. CONTRACTOR SHALL VERIFY THE LOCATION PRIOR TO COMMENCING WORK.**



**WATERSHED PLAN**  
SCALE=1:7,500



**Conditions of Use**

Verify elevations and/or dimensions on drawing prior to use. Report any discrepancies to Dillon Consulting Limited.

Do not scale dimensions from drawing.

Do not modify drawing, re-use it, or use it for purposes other than those intended at the time of its preparation without prior written permission from Dillon Consulting Limited.

| No. | ISSUED FOR                | DATE      | BY  |
|-----|---------------------------|-----------|-----|
| 3   | FINAL REPORT SUBMISSION   | DEC. 9/24 | OEM |
| 2   | PUBLIC INFORMATION CENTRE | NOV. 7/24 | OEM |
| 1   | CLIENT REVIEW             | OCT. 2/24 | OEM |

|                  |             |
|------------------|-------------|
| DESIGN           | REVIEWED BY |
| OEM              | VJH         |
| DRAWN            | CHECKED BY  |
| JAO              | TRO         |
| DATE             |             |
| December 9, 2024 |             |
| SCALE            |             |
| AS SHOWN         |             |

PROJECT NO. 24-8532

DRAWING SCALES BASED ON A 11" X 17" SHEET

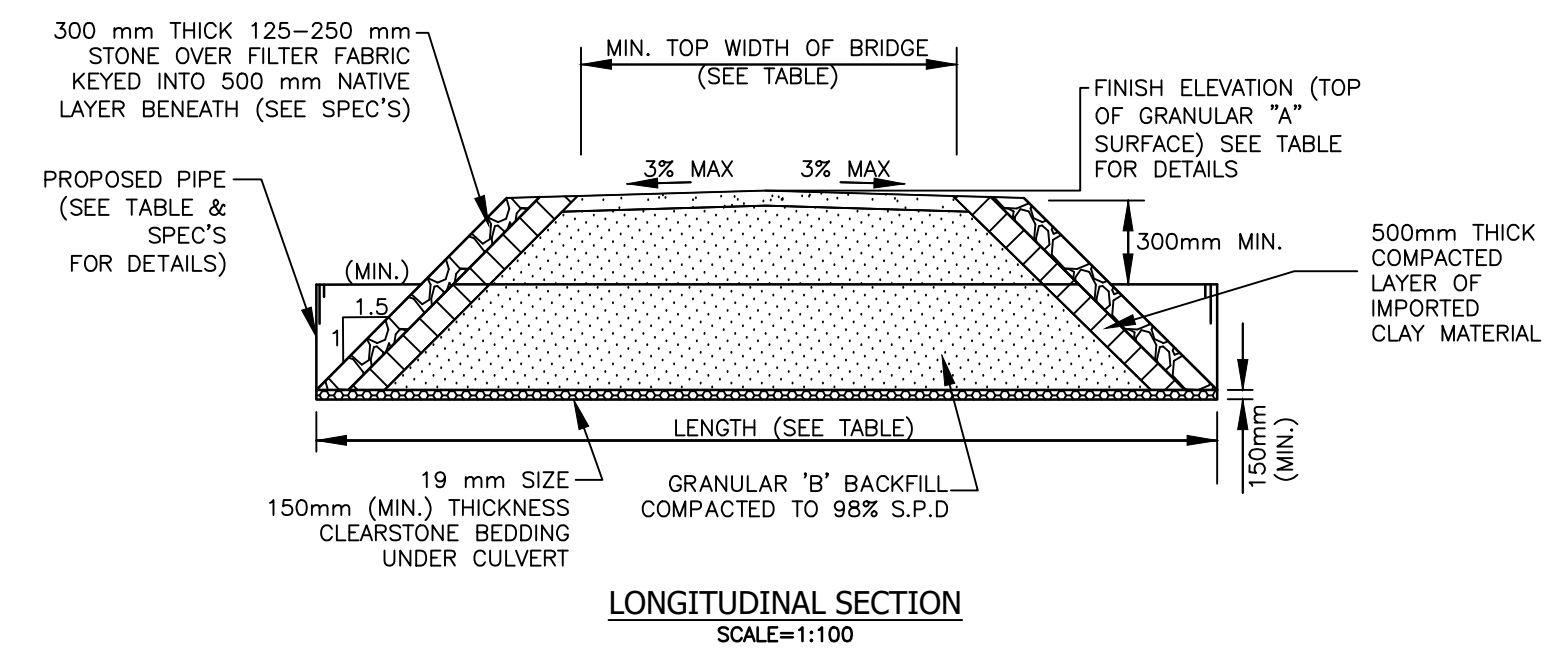
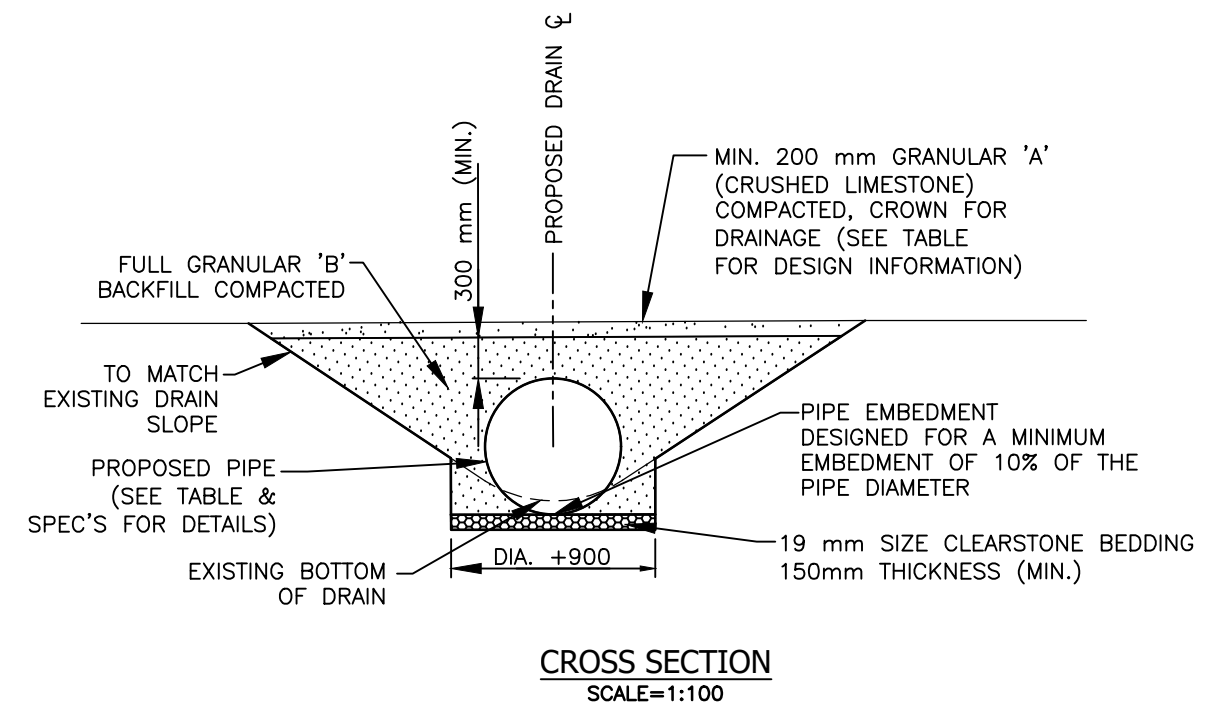
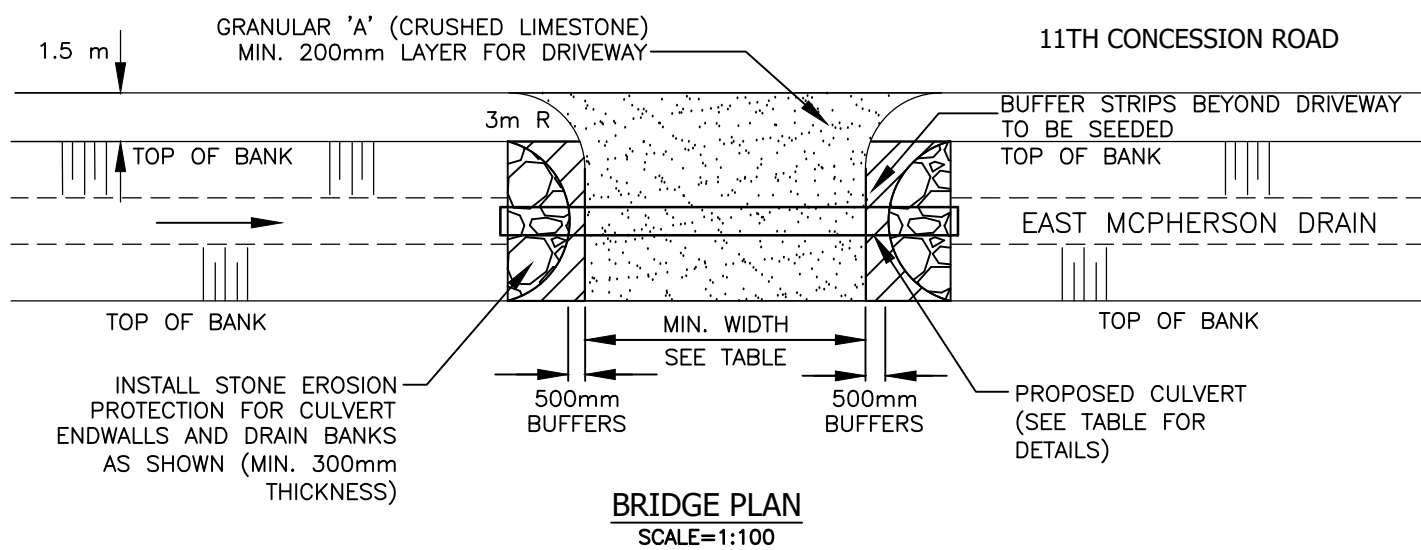
**'SCHEDULE G'**

Drainage Report for the  
**EAST MCPHERSON DRAIN (AL-FARRA BRIDGE)**  
Town of Tecumseh

SHEET TITLE **WATERSHED PLAN**

PAGE NO. **1 of 2**

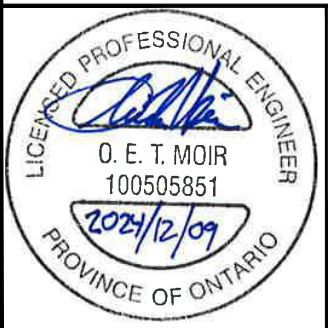
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| DESCRIPTION  | BRIDGE DETAILS |
|--|----------------|
| PIPE INVERT ELEV. U/S SIDE(m)                        | 190.97         |
| PIPE INVERT ELEV. D/S SIDE(m)                        | 190.95         |
| TOP OF CL DRIVEWAY SURFACE ELEV. (m)                 | 192.98         |
| DRAIN BOTTOM (m) (DESIGN) (AT CENTRELINE OF CULVERT) | 191.04         |
| MIN. TOP WIDTH OF DRIVEWAY (m)                       | 12.20          |
| MIN. CULVERT GRADE (%)                               | 0.10           |
| CULVERT TYPE   | BOSS 2000      |
| CULVERT MATERIAL                                     | H.D.P.E.       |
| CULVERT LENGTH (m)                                   | 20.5           |
| PIPE SIZE (mm)                                       | 750            |
| CULVERT ENDWALL TYPE                                 | SLOPING        |

- NOTES:
- PRIVATE LATERAL DRAIN TILE OUTLETS DISCOVERED DURING THE COURSE OF WORK SHALL BE RELOCATED DOWNSTREAM OF THE NEW CULVERT OR AS DIRECTED BY THE DRAINAGE SUPERINTENDENT
  - CULVERT LOCATION TO BE CONFIRMED WITH THE ENGINEER OR DRAINAGE SUPERINTENDENT PRIOR TO CONSTRUCTION.
  - CONTRACTOR TO CLEANOUT DRAIN 3m UPSTREAM AND DOWNSTREAM OF CULVERT

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**Conditions of Use**

Verify elevations and/or dimensions on drawing prior to use. Report any discrepancies to Dillon Consulting Limited.

Do not scale dimensions from drawing.

Do not modify drawing, re-use it, or use it for purposes other than those intended at the time of its preparation without prior written permission from Dillon Consulting Limited.

| No. | ISSUED FOR                | DATE      | BY  |
|-----|---------------------------|-----------|-----|
| 3   | FINAL REPORT SUBMISSION   | DEC. 9/24 | OEM |
| 2   | PUBLIC INFORMATION CENTRE | NOV. 7/24 | OEM |
| 1   | CLIENT REVIEW             | OCT. 2/24 | OEM |

| DESIGN | REVIEWED BY      |
|--------|------------------|
| OEM    | VJH              |
| DRAWN  | CHECKED BY       |
| JAO    | TRO              |
| DATE   | December 9, 2024 |
| SCALE  | AS SHOWN         |

PROJECT NO. 24-8532

DRAWING SCALES BASED ON A 11" X 17" SHEET

**'SCHEDULE G'**

Drainage Report for the EAST MCPHERSON DRAIN (AL-FARRA BRIDGE) Town of Tecumseh

SHEET TITLE **BRIDGE DETAILS**

PAGE NO. **2 of 2**

## NOTICE OF COURT OF REVISION MEETING

January 31, 2025

**RE:** Notice of Court of Revision Meeting – 11th Concession Drain

Dear Affected Stakeholders,

Please be advised that on Tuesday, January 28, 2025, Council of the Town of Tecumseh provisionally adopted the Engineer's Report prepared by Oliver Moir, P.Eng. of Dillon Consulting Ltd, dated December 10, 2024, for the repair and improvements of the 11<sup>th</sup> Concession Drain under provisional By-Law No. 2025-14, which is attached herein exclusive of the Engineers Report. **A copy of the Engineer's Report is available for your review at our website [tecumseh.ca/live-work-and-explore/municipal-drains/](https://tecumseh.ca/live-work-and-explore/municipal-drains/).**

A public Council Meeting to hold the Court of Revision with respect to the Drainage Report will be held as follows:

**Date: Tuesday, February 25, 2025**

**Time: 6:00 pm – 6:30 pm**

**Place: Tecumseh Town Hall, Council Chambers** (917 Lesperance Road, Tecumseh)

The purpose of the Court of Revision is to hear appeals on assessments. A landowner who has been assessed for drainage works may appeal to the Court of Revision on any of the following grounds:

- Any land or road has been assessed an amount that is too high or too low;
- Any land or road that should have been assessed has not been assessed; and/or
- Due consideration has not been given to the use being made of the land.

All notices of appeal to the Court shall be given to the Clerk by Saturday, February 15, 2025 (ten [10] days prior to the first sitting of the Court) and shall state the grounds of appeal. Should you wish to submit an appeal to the Court, please contact the Drainage Superintendent or Clerk to obtain the paperwork to file an appeal.

If you wish to appear before the Court, contact the Clerk, Robert Auger, at [rauger@tecumseh.ca](mailto:rauger@tecumseh.ca) or alternatively, submit a delegation request form online through the Town's website at [form.tecumseh.ca/Legislative-Services/Request-to-Appear-as-a-Delegate](https://form.tecumseh.ca/Legislative-Services/Request-to-Appear-as-a-Delegate) by 12:00 pm the day prior to the meeting. By registering as a delegate, persons are consenting to their image, voice, and comments being recorded and available for public viewing on the Town's website.



## NOTICE OF COURT OF REVISION MEETING

---

Should you have additional concerns with respect to the drainage project or require a copy of the report in an alternative format, please contact the Town's Drainage Department using the contact information provided below.

Matthew Shiha, EIT  
Drainage Superintendent  
Public Works & Engineering Services  
(519) 735-2184 x 105  
mshiha@tecumseh.ca

Anne-Marie Moniz, C.Tech  
Assistant Drainage Superintendent  
Public Works & Engineering Services  
(519) 735-2184 x 138  
amoniz@tecumseh.ca

Sincerely,



Robert Auger  
Director, Legislative Services & Clerk





# The Corporation of the Town of Tecumseh

## By-Law Number 2025 - 014

Being a by-law to provide for the repair and improvements to the 11th Concession Drain

**Whereas** the Council of The Corporation of the Town of Tecumseh (hereafter “Town”) has been requested to provide for the repair and improvement of the 11th Concession;

**And whereas** the Town procured a Drainage Report for the 11th Concession and specifications from the consulting engineering firm of Dillon Consulting Limited, dated December 10, 2024 (hereafter “Drainage Report”);

**And whereas** notice of a Public Meeting to hear comments from the affected property owners was given on Monday, January 6, 2025;

**And whereas** a Public Meeting of Council was held on Tuesday, January 28, 2025, at 6:30 pm to hear from any affected property owners on the Drainage Report;

**And Whereas** the Council of The Corporation of the Town of Tecumseh is of the opinion that the repair and improvement of the 11th Concession is desirable;

**Now Therefore the Council of The Corporation of The Town of Tecumseh Enacts as follows:**

1. **That** the Drainage Report providing for the repair and improvement of the 11th Concession, dated December 10, 2024, as prepared by the consulting engineering firm Dillon Consulting Limited and attached hereto as Schedule “A” to this by-law, is hereby adopted and the drainage works as therein indicated and set forth is hereby approved and shall be completed in accordance therewith.
2. **That** the Treasurer, subject to the approval of Council, may agree with any bank or person for temporary advances of money to meet the costs of construction pending the completion of the drain and grants and computed payments are received.
3. **That** the Town may issue debentures for the amount borrowed and the amount of such debentures shall be reduced to the total amount of:
  - a) Grants received under Section 85 of the said Act;
  - b) Commuted payments made in respect of land and roads assessed.
4. **That** such debentures shall be made payable within five (5) years from the date of the debenture and shall bear interest at a rate as approved by resolution of Council.

- 5. **That** the specifications and General Specifications as established are adopted as set out in the Drainage Report which forms part of this by-law.
- 6. **That** the Mayor and Clerk are authorized to cause a contract for the construction of the works to be made and entered into with some person or persons, firm or corporations, subject to the approval of the Council to be declared by resolution.
- 7. **That** this by-law shall come into force upon and after the final passing thereof.

**Read** a first and second time this 28th day of January, 2025.

**Gary McNamara**

Signed with ConsignO Cloud (2025/01/30)  
Verify with verifio.com or Adobe Reader.



\_\_\_\_\_  
Gary McNamara, Mayor

**Robert Auger**

Signed with ConsignO Cloud (2025/01/30)  
Verify with verifio.com or Adobe Reader.



\_\_\_\_\_  
Robert Auger, Clerk

**Read** a third and final time this \_\_\_\_\_ day of \_\_\_\_\_, 2025.

\_\_\_\_\_  
Gary McNamara, Mayor

\_\_\_\_\_  
Robert Auger, Clerk



## The Corporation of the Town of Tecumseh

Public Works & Engineering Services

**To:** Mayor and Members of Council

**From:** Phil Bartnik, Director Public Works & Engineering Services

**Date to Council:** January 28, 2025

**Report Number:** PWES-2025-03

**Subject:** Request to Consider Engineer's Report – 11<sup>th</sup> Concession Drain  
(Balkwill Culvert)

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### Recommendations

It is recommended:

**That** the Report and Specifications for the 11<sup>th</sup> Concession Drain (Drain) as prepared by Oliver Moir, P.Eng., of Dillon Consulting Ltd., dated December 10, 2024 (Drainage Report) **be received**;

**And that** consideration **be given** to the first and second readings of a provisional by-law to adopt the Drainage Report in accordance with Section 42 of the Drainage Act (Act);

**And further that** notice **be given** to all affected landowners of the Court of Revision to be held on February 25, 2025 at 6:00 pm in accordance with Section 46(1) of the Act, subject to the adoption of the provisional by-law.

### Background

The purpose of this report is to provide a summary of the background and other information in order to assist Council in giving consideration to the Drainage Report in accordance with the Act.

On August 13, 2024 Council accepted the recommendation by the Director of Public Works & Engineer Services under Report No. [PWES-2024-44](#) and passed resolution (Motion: RCM-188/24) as follows:

That Oliver Moir, P.Eng., of Dillon Consulting Limited be appointed Drainage Engineer to make an examination of the 11<sup>th</sup> Concession Drain as submitted by a Landowner in the "Notice of Request for Drainage Improvement" dated June 26, 2024;

And that a Drainage Report be prepared in accordance with Section 78 of the Drainage Act (Act), including provisions for future maintenance;

And further that Council delegate the authority to the Chief Administrative Officer, the Purchasing Coordinator and the Director Public Works & Engineering Services to execute an agreement, satisfactory in form to the Town Solicitor, with Dillon Consulting Limited.

An on-site meeting was held on September 20, 2024. A summary of this meeting is included in the Schedule 'A-1' of the Drainage Report included as Attachment No. 1.

The Town received a draft report dated December 5, 2024, for discussion at a Public Information Centre (PIC). Invitations were sent to landowners and a PIC was held on Monday, December 9, 2024, at Town Hall to discuss the content of the draft report.

On December 10, 2024, Oliver Moir, P. Eng., filed a report dated December 10, 2024 for the repair and improvement to the Drain in accordance with Section 41 of the Act. On January 6, 2025, invitations were sent to all affected landowners and agencies that the Public Council Meeting to consider the Engineer's Report would be held on Tuesday, January 28, 2025 at 6:30 pm.

This Drainage Report provides for the construction of a new access as outlined within the conditions of a recent consent application for a severance.

## **Comments**

The sections of the Act referenced within this report are included in Schedule A which is attached to this Council Report as Attachment No. 2.

## **Consideration by Council**

Subject to the discretion of Council, the Drainage Report may be:

- a. Referred back to the Drainage Engineer for reconsideration if it appears that there are, or may be errors in the report or for any other reason the report should be reconsidered; or
- b. Provisionally approve by giving first and second readings to a Provisional By-law.

Following provisional adoption of the By-law, a meeting of the Court of Revision shall be scheduled to allow any affected owner of land assessed for the drainage works to appeal their assessed costs subject to the following:

- a. Any land or road has been assessed too high or too low; or
- b. Any land or road that should have been assessed has not been assessed; or
- c. Due consideration has not been given as to type of land use.

## Regulatory Approvals

Regulatory Approvals have been reviewed for the 11<sup>th</sup> Concession Drain (Balkwill Culvert) and consist of:

1) Essex Region Conservation Authority (ERCA) – *Conservation Authorities Act*

- a. A permit from ERCA will be required prior to construction.

2) Department of Fisheries & Oceans (DFO) – *Fisheries Act*

- a. A self-assessment has been completed and determined that this project does not require a formal review by DFO and the Drain should not contain any aquatic species at risk or critical habitat. Best management practices will be implemented during construction to minimize any potential for adverse impacts to fish and/or fish habitat.

3) Ministry of Environment, Conservation & Parks (MECP) – *Endangered Species Act*

- a. The Town's Species-At-Risk Mitigation Plan continues to comply with the *Endangered Species Act*. The recommendations of the Mitigation Plan will be implemented, and the Town and Contractor will gather information on encountered species and/or mitigation plans implemented prior to and throughout construction.

## Consultations

Financial Services  
Dillon Consulting Ltd.

## Financial Implications

Per the Drainage Report, the total estimated cost for the access bridge is \$16,800 (excluding HST), which is assessed to the requesting landowner's 0.13 hectares (0.32 acres) property as Special Benefit Liability. The subject property is shown on the Watershed Plan (page 1 of 2) in the Drainage Report.

Other than costs to administer the project, the cost of constructing the project is 100% recoverable from the assessed lands in the Assessment Schedule included in the Drainage Report dated December 10, 2024. Additionally, the Drainage Report includes an Assessment Schedule for future maintenance. There are no affected Town owned lands/roads within the watershed that would receive an assessment.

For assessments in excess of \$5,000, the Town offers landowners the option of paying the balance plus interest over a five (5) year period; the annual payments are added as a special charge on their taxes.

**Link to Strategic Priorities**

|                                     |   |
|-------------------------------------|---|
| <b>Applicable</b>                   | <a href="#"><u>2023-2026 Strategic Priorities</u></a>   |
| <input checked="" type="checkbox"/> | Sustainable Growth: Achieve prosperity and a livable community through sustainable growth.                                |
| <input type="checkbox"/>            | Community Health and Inclusion: Integrate community health and inclusion into our places and spaces and everything we do. |
| <input type="checkbox"/>            | Service Experience: Enhance the experience of Team Tecumseh and our citizens through responsive and respectful service.   |

**Communications**

Not applicable

Website

Social Media

News Release

Local Newspaper

This report has been reviewed by Senior Administration as indicated below and recommended for submission by the Chief Administrative Officer.

Prepared by:

Matthew Shiha, E.I.T.  
Drainage Superintendent

Reviewed by:

John Henderson, P.Eng.  
Manager Engineering Services

Reviewed by:

Phil Bartnik, P.Eng.  
Director Public Works & Engineering Services

Reviewed by:

Tom Kitsos, CPA, CMA, BComm  
Director Financial Services & Chief Financial Officer

Recommended by:

Margaret Misek-Evans, MCIP, RPP  
Chief Administrative Officer

| <b>Attachment Number</b> | <b>Attachment Name</b>  |
|--------------------------|---|
| 1                        | Drainage Report dated December 10, 2024 by Oliver Moir, P.Eng., of Dillon Consulting Ltd. |
| 2                        | Schedule A – Drainage Act Excerpts  |

**DRAINAGE REPORT  
FOR**

**NEW ACCESS BRIDGE ON  
PT. LOT 17, CONCESSION 11  
OVER THE  
11<sup>TH</sup> CONCESSION DRAIN  
(BALKWILL BRIDGE)**

**IN THE  
TOWN OF TECUMSEH**



FINAL  
10 DECEMBER 2024  
OLIVER E. T. MOIR, P. ENG.  
FILE No. 24-9049  
TECUMSEH FILE No. E09EL(35)



File No. 24-9049

Mayor and Council  
Town of Tecumseh  
917 Lesperance Rd,  
Tecumseh, Ontario  
N8N 1W9

10 Fifth Street South  
Chatham, Ontario  
Canada  
N7M 4V4  
Telephone  
519.354.7802  
Fax  
519.354.2050

**Drainage Report for  
New Access Bridge on  
Pt. Lot 17, Concession 11 over the  
11<sup>TH</sup> CONCESSION DRAIN (BALKWILL BRIDGE)  
In the Town of Tecumseh**

Mayor and Council:

**Instructions**

The Municipality received a request from the landowner of property, Roll No. 560-04005 for a new access bridge to serve a proposed residential lot along County Road No. 43 on Pt. Lot 17, Concession 11 over the 11<sup>th</sup> Concession Drain on the 26<sup>th</sup> day of June 2024. Council accepted the request under Section 78(1) of the Drainage Act and on the 13<sup>rd</sup> day of August 2024 appointed Dillon Consulting Limited to prepare a report.

**Watershed Description**

The 11<sup>th</sup> Concession Drain is an open drain commencing in the South Pt. Lot 17, Concession 11. The drain flows in a northerly direction along the east side of County Road No. 43 (11<sup>th</sup> Concession Road) and turns easterly along the southerly limit of County Road No. 42 to its outlet into the Klondyke Drain.

The lands comprising the watershed are predominantly under intensive agricultural production with cash crops. There are several non-agricultural residential parcels in the watershed. There is little topographic relief. From the Ontario Soil Survey, the principle surficial soil in the study area is described as Brookston Clay, which is considered to have very poor drainage.

**On-Site Meeting**

An on-site meeting was held on 20 September 2024. A record of the meeting is provided in Schedule 'A-1', which is appended hereto.



## Drain History

The recent history of Engineers' reports for the 11th Concession Drain is as follows:

- **10 February 2014 by Mark D. Hernandez, P.Eng.:** The report recommended the incorporation of a private access culvert on Pt. Lots 19 & 20, Concession 11 as part of the 11th Concession Drain.
- **13 April 2006 by Tim R. Oliver, P.Eng.:** The report recommended the installation of a secondary access culvert for Roll No. 560-05400 under emergency provisions of the Drainage Act.
- **4 April 2000 by Lou Zarlenga, P.Eng.:** The report recommended a new farm access culvert and enclosure for Roll No. 560-04100. This report is an addendum to the 1998 report.
- **25 September 1998 by Lou Zarlenga, P.Eng.:** The report recommended the repair and improvement including widening and deepening of the open drain and the lowering and replacement of multiple access culverts.
- **16 September 1976 by Maurice Armstrong, P.Eng.:** The recommended work included the cleaning of the entire 11th Concession Drain.

## Survey

Our topographic survey and examination of the 11<sup>th</sup> Concession Drain was carried out in October 2024. The topographic data was recorded for both upstream and downstream of the proposed site for the new access culvert.

## Design Considerations

A Guide for Engineers working under the Drainage Act in Ontario, OMAFA Publication 852 (2018) is the current reference document used by engineers carrying out drainage work on municipal drains under the Act. The 2-year design storm is the recommended design standard applied to municipal drains within rural Ontario specific to open drain channels and low hazard agricultural field access crossings. We have applied this criterion for the proposed 11th Concession Drain bridge.

The new access culvert is designed for an upstream drainage area of approximately 1.32 hectares (3.26 acres). The size of the new culvert required is 450 mm diameter and the length designed to be 12.0 m long to accommodate a minimum 6.1 m (20 ft) top width and sloping end treatment. The culvert depth is designed to provide a minimum 10% embedment of the pipe invert below the drain bottom.

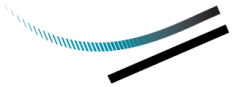
## Allowances

In accordance with Sections 29 and 30 of the Drainage Act, we do not anticipate any agricultural lands being damaged or used as a result of the proposed drainage works. Any damage to the roadway or the existing grassed areas shall be restored to original conditions as part of the work. Therefore, 'Schedule B' for allowances has not been included in this report.

## Recommendations and Cost Estimate

Based on our review of the history, the information obtained during the site meeting and our examination and analysis of the survey data, we recommend that the 11th Concession Drain be improved as described below:

| Item | Description  | Amount             |
|------|--|--------------------|
| 1.   | Mobilization and demobilization.   | \$2,000.00         |
| 2.   | Supply and installation of a new 12.0 m long, 450 mm diameter corrugated, solid, high-density polyethylene (HDPE) smooth wall, 320 kPa pipe, (Boss 2000 or approved equivalent) with gasketing joining system (see specifications). The work shall include site cleanup and restoration within the working area. | \$1,800.00         |
| 3.   | Supply and install clear stone bedding materials (minimum 150 mm thickness) with filter fabric underlay (approximately 5 tonnes).  | \$300.00           |
| 4.   | Supply and install full compacted Granular 'B' and materials to the underside of the driveway material. (approximately 15 tonnes).   | \$500.00           |
| 5.   | Supply and placement of imported clean native backfill material for outside driveway portion to construct 500 mm wide buffer strips (approximately 20 m <sup>3</sup> ).  | \$350.00           |
| 6.   | Supply and install Granular 'A' (crushed limestone) driveway surface, minimum 200 mm thickness (approximately 20 tonnes) to provide a minimum 6.1 m (20 feet) wide driveway.   | \$1,000.00         |
| 7.   | Supply and placement of stone erosion protection for sloping end walls, minimum 300 mm thickness, c/w filter fabric underlay (approximately 10 m <sup>2</sup> ).   | \$850.00           |
| 8.   | Temporary silt control measures during construction.   | \$500.00           |
|      | <b>SUB-TOTAL</b>   | <b>\$7,300.00</b>  |
| 9.   | Survey, report, assessment, and final inspection.  | \$7,500.00         |
| 10.  | Part time construction observation.  | \$1,000.00         |
| 11.  | Expenses and Incidentals.  | \$500.00           |
| 12.  | ERCA application review and permit fee.  | \$500.00           |
|      | <b>TOTAL ESTIMATE (excluding Net HST)</b>  | <b>\$16,800.00</b> |



The estimate provided in this report was prepared according to current materials and installation prices as of the date of this report. In the event of delays from the time of filing of the report by the Engineer to the time of tendering the work, it is understood that the estimate of cost is subject to inflation. The rate of inflation shall be calculated using the Consumer Price Index applied to the cost of construction from the date of the report to the date of tendering.

### **Assessment of Costs**

The individual assessments are comprised of three (3) assessment components:

- i. Benefit (*advantages relating to the betterment of lands, roads, buildings, or other structures resulting from the improvement to the drain*).
- ii. Outlet Liability (*part of cost required to provide outlet for lands and roads*).
- iii. Special Benefit (*additional work or feature that may not affect function of the drain*).

We have assessed the estimated costs against the affected lands and roads as listed in Schedule 'C' under "Value of Special Benefit," "Value of Benefit" and "Value of Outlet." Since there is only one Special Benefit assessment, a separate schedule for Details of Special Benefit (Schedule 'D') is not required or included herein.

### **Assessment Rationale**

The proposed access would be considered a secondary access to the property Roll No. 560-04005, until at which time the proposed lot severance is completed. For the purpose of assessment of the construction costs, 100% of the costs shall be assessed against Roll. No. 560-04005 as listed under the "Value of Special Benefit".

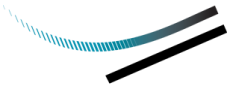
### **Utilities**

It may become necessary to temporarily or permanently relocate utilities that may conflict with the construction recommended under this report. In accordance with Section 26 of the Drainage Act, we assess any relocation cost against the public utility having jurisdiction. Under Section 69 of the Drainage Act, the public utility is at liberty to do the work with its own forces, but if it should not exercise this option within a reasonable time, the Municipality will arrange to have this work completed and the costs will be charged to the appropriate public utility.

### **Future Maintenance**

We recommend that all future work for repair and maintenance on the new access bridge be carried out by the Municipality and assessed 50% against the affected property (Roll No. 560-04005)(severed parcel) as a Special Benefit assessment and the remaining 50% assessed to the upstream lands and roads as Outlet liability assessment in the same relative proportions as to the amounts listed in Schedule 'E' which represents an assessment schedule for future maintenance.

The assessment is based on an arbitrary \$10,000 in future maintenance costs. These provisions for maintenance are subject, of course, to many variations that may be made under the authority of the Drainage Act.



## Drawings and Specifications

Attached to this report is Schedule 'F', which are Specifications setting out the details of the recommended works and Schedule 'G' which represent the drawings that are attached to this report.

**Page 1 of 2 – Watershed Plan**

**Page 2 of 2 – Bridge Details**

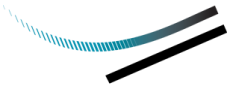
## Approvals

The construction and/or improvement to a drainage works, including repair and maintenance activities, and all operations connected therewith are subject to the approval, inspection, by-law, and regulations of all Municipal, Provincial, Federal and other authorities having jurisdiction in respect to any matters embraced by the proposed works. Prior to any construction or maintenance works, the Municipality or proponent designated on the Municipality's behalf shall obtain all required approvals/permits and confirm any construction limitations including timing windows, mitigation/off-setting measures, standard practices or any other limitations related to in-stream works.

In terms of a review of the proposed works by the Department of Fisheries and Oceans (DFO), we have undertaken a self-assessment and have determined that application requesting review is not required. The 11<sup>th</sup> Concession Drain has been classified as a "Type F" drain by DFO and the impact zone representing 1km downstream of the proposed works is also classified as a "Type F" drain. Type F drains experience intermittent water flow only and provide minimal habitat for fish. As part of the work the following mitigation measures shall be implemented to avoid any adverse effects to the waterway.

- Works will not be conducted at times when flows are elevated due to the local rain events, storms, or seasonal floods. Work will be done in the dry.
- All disturbed soils on both banks and within the channel, including spoil must be stabilized immediately upon completion of work. The restoration of the site must be completed to a like or better conditions to what existed prior to the works.
- To prevent sediment entry into the drain, in the event of an unexpected rainfall, silt barriers and/or traps must be placed in the channel during the works and until the site has been stabilized. All sediment and erosion control measures are to be in accordance with related Ontario Provincial Standards. It is incumbent on the proponent and his/her contractors to ensure that sediment and erosion control measures are functioning and are maintained/upgraded as required.
- All activities should be controlled to prevent the entry of petroleum products, debris, rubble, concrete or other deleterious substances into the water. Vehicular refueling and maintenance should be conducted away from the water.

The 11<sup>th</sup> Concession Drain may provide habitat to species at risk listed as listed under the Endangered Species Act.



The Town of Tecumseh has developed a mitigation plan document recommending mitigation measures to minimize adverse effects on species at risk including monitoring and reporting requirements should an endangered, threatened, or special concern species (fishes, reptiles, amphibians, mollusks, birds, plants, trees) be encountered. The document will be made available to contractors during the tendering process and construction period.

In terms of review by the Essex Region Conservation Authority (ERCA), the proposed works contained herein were previously reviewed and accepted by the ERCA, refer to Schedule 'A-2'. An application for permit shall be submitted by the Municipality and accompanied by payment for the permit review fee of \$500.00 before construction of the new access bridge proceeds.

### **Grants**

In accordance with the provisions of Sections 85, 86 and 87 of the Drainage Act, a grant in the amount of 33-1/3 percent of the assessment eligible for a grant may be made in respect to the assessment made under this report upon privately owned lands used for agricultural purposes. The assessments levied against privately owned agricultural land must also satisfy all other eligibility criteria set out in the Agricultural Drainage Infrastructure Program policies. Costs of drainage works associated with non-agricultural uses are not eligible for grant in accordance with Section 85 of the Drainage Act and Section 2.2(c) of the OMAFA Agricultural Drainage Infrastructure Program policies.

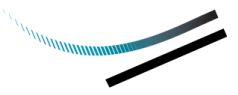
Respectfully submitted,



### **DILLON CONSULTING LIMITED**

Oliver E.T. Moir, P.Eng.

OEM:wlb:lld





# Meeting Summary

Subject: 11<sup>th</sup> Concession Drain  
 Date: 20 September 2024  
 Location: 11<sup>th</sup> Concession Road  
 Our File: 24-9049

## Attendees

|                  |                           |
|------------------|---------------------------|
| Jamie Balkwill   | Landowner                 |
| Erica Corey      | Landowner                 |
| Anne-Marie Moniz | Town of Tecumseh (Town)   |
| Matthew Shiha    | Town                      |
| Oliver Moir      | Dillon Consulting Limited |

## Notes

| Item | Discussion  | Action by |
|------|---|-----------|
| 1.   | Introductions:  |           |
| 1.1. | The Town appointed Dillon on the 11 <sup>th</sup> Concession Drain under Section 78 of the Drainage Act to prepare the drainage report for a new residential access culvert.  | INFO      |
| 2.   | Project Background:   |           |
| 2.1. | The property, Roll No. to be determined, requires access over the 11 <sup>th</sup> Concession Drain for a proposed residential property. There is no existing access as the property is yet to be severed from the existing farm parcel.  | INFO      |
| 3.   | Project Pathway:  |           |
| 3.1. | Dillon explained the Drainage Act process: <ul style="list-style-type: none"> <li>• A request under Section 78 of the Drainage Act is submitted to the Town.</li> <li>• The Engineer is appointed by the Town through Council.</li> <li>• The on-site meeting is held for the engineer to gather information from landowners.</li> <li>• Topographic survey is completed, and a report is prepared.</li> <li>• A Public Information Centre (PIC) meeting is held prior to the Meeting to Consider to give landowners the opportunity to provide comment on the report.</li> <li>• A meeting is held to consider the technical aspects of the report (Meeting to Consider).</li> <li>• A meeting is held to consider the assessment (cost sharing) aspects of the report (Court of Revision).</li> <li>• Following passing of the by-law, the drainage works are put out to tender.</li> </ul> | INFO      |

| Item | Discussion   | Action by |
|------|--|-----------|
| 4.   | <p data-bbox="383 247 626 275">General Discussions</p> <ul style="list-style-type: none"> <li data-bbox="397 296 1292 485">● Mr. Balkwill was informed that for new culverts over a municipal drain, 100% of the costs of construction and engineering are at the cost of the requesting landowner. Previous drainage works for similar requests have been in the range of \$25,000 - \$30,000 (construction &amp; engineering).</li> <li data-bbox="397 499 1292 978">● The following design aspects were discussed: <ul style="list-style-type: none"> <li data-bbox="493 541 1292 772">○ The culvert location is to be within the southerly quarter of the new lot's frontage. Mr. Balkwill can place a stake at the time of construction to define the centerline of the culvert. Sufficient space must be maintained between the new culvert and the existing hydrant access culvert located near the south limit of the proposed lot.</li> <li data-bbox="493 787 1240 814">○ Driveway material is to be Granular 'A' (crushed limestone).</li> <li data-bbox="493 829 906 856">○ End walls will be sloping stone.</li> <li data-bbox="493 871 1292 978">○ Top width will be 6.1m (20') unless requested otherwise. 6.1 m top width is standard for residential access culverts over municipal drains.</li> </ul> </li> <li data-bbox="397 993 1292 1140">● Mr. Balkwill requested a cost estimate for an additional 5 to 10 feet of top width. He was informed that future maintenance costs associated with the additional culvert length beyond the standard 6.1 m would not be shared with upstream lands.</li> <li data-bbox="397 1155 1292 1386">● The Town informed Mr. Balkwill that the construction work can be undertaken by a contractor of their choosing but a list of prerequisites must be completed, and evidence of previous construction experience must be presented. <ul style="list-style-type: none"> <li data-bbox="493 1318 1235 1386">○ Mr. Balkwill has a contractor that he would like to consider completing the works.</li> </ul> </li> <li data-bbox="397 1400 1203 1428">● Mr. Balkwill requested the report proceed as quickly as possible.</li> <li data-bbox="397 1442 1273 1512">● Grants through A.D.I.P. are not available for this project being that the works are associated with a residential development/non-agricultural.</li> <li data-bbox="397 1526 1292 1598">● Dillon will provide part-time construction observation and will complete a final inspection.</li> </ul> | INFO      |

### Errors and/or Omissions

These minutes were prepared by Oliver Moir, who should be notified of any errors and/or omissions.





# SCHEDULE 'A-2'

Owen, Jerome <jowen@dillon.ca>

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## Application for Permit - 11th Concession Drain - Balkwill Bridge (Town of Tecumseh)

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Summer Locknick <SLocknick@erca.org>

Mon, Dec 2, 2024 at 7:51 AM

To: "Moir, Oliver" <omoir@dillon.ca>

Cc: Jerome Owen <jowen@dillon.ca>, Matthew Shiha <mshiha@tecumseh.ca>, Anne-Marie Moniz <amoniz@tecumseh.ca>, "249049@dillon.ca" <249049@dillon.ca>

Good morning Oliver,

Thank you for the below confirmation and for providing the attached preliminary drawings for the 11<sup>th</sup> Concession Drain culvert, Project No. 24-9049. I've had an opportunity to review the preliminary drawings and the available information and can confirm that this proposal, as presented in the preliminary stages, is something that this office can support.

We look forward to receiving the Final Drainage Report and Drawings. A completed Application for Permit form will be required from the municipality.

If you have any questions, please do not hesitate to contact this office.

[Quoted text hidden]



**11th Concession - ERCA Application Supporting Documents (1).pdf**

742K

**"SCHEDULE C"**  
**SCHEDULE OF ASSESSMENT**  
**11th CONCESSION (BALKWILL BRIDGE)**  
**TOWN OF TECUMSEH**

**PRIVATELY-OWNED - NON-AGRICULTURAL LANDS:**

| Roll No.   | Con. | Description | Area Affected |             | Owner                     | Special Benefit    | Benefit       | Outlet        | Total Assessment   |
|--|------|-------------|---------------|-------------|---------------------------|--------------------|---------------|---------------|--------------------|
|  |      |             | (Acres)       | (Ha.)       |                           |                    |               |               |                    |
| 560-04005<br>(Severed Parcel)                          | 11   | Pt. Lot 17  | 0.32          | 0.13        | Jamie A. & Corey Balkwill | \$16,800.00        | \$0.00        | \$0.00        | \$16,800.00        |
| Total on Privately-Owned - Non-Agricultural Lands..... |      |             |               |             |                           | \$16,800.00        | \$0.00        | \$0.00        | \$16,800.00        |
| <b>TOTAL ASSESSMENT . . . . .</b>                      |      |             |               |             |                           | <b>\$16,800.00</b> | <b>\$0.00</b> | <b>\$0.00</b> | <b>\$16,800.00</b> |
|  |      |             | (Acres)       | (Ha.)       |                           |                    |               |               |                    |
| <b>Total Area:</b>                                     |      |             | <b>0.32</b>   | <b>0.13</b> |                           |                    |               |               |                    |

**"SCHEDULE E"**  
**SCHEDULE OF ASSESSMENT FOR FUTURE MAINTENANCE**  
**11th CONCESSION (BALKWILL BRIDGE)**  
**TOWN OF TECUMSEH**

**MUNICIPAL LANDS:**

| Description                        | Area Affected |       | Owner           | Special Benefit | Benefit | Outlet     | Total Assessment |
|------------------------------------|---------------|-------|-----------------|-----------------|---------|------------|------------------|
|                                    | (Acres)       | (Ha.) |                 |                 |         |            |                  |
| County Road No. 43 (11th Conc. Rd) | 0.25          | 0.10  | County of Essex | \$0.00          | \$0.00  | \$1,263.00 | \$1,263.00       |
| Total on Municipal Lands.....      |               |       |                 | \$0.00          | \$0.00  | \$1,263.00 | \$1,263.00       |

**PRIVATELY-OWNED - NON-AGRICULTURAL LANDS:**

| Roll No.   | Con. | Description | Area Affected |       | Owner                     | Special Benefit | Benefit | Outlet     | Total Assessment |
|--|------|-------------|---------------|-------|---------------------------|-----------------|---------|------------|------------------|
|  |      |             | (Acres)       | (Ha.) |                           |                 |         |            |                  |
| 560-04005<br>(Severed Parcel)                          | 11   | Pt. Lot 17  | 0.32          | 0.13  | Jamie A. & Corey Balkwill | \$5,000.00      | \$0.00  | \$985.00   | \$5,985.00       |
| 560-04001  | 11   | Pt. Lot 17  | 1.00          | 0.40  | Jamie Balkwill            | \$0.00          | \$0.00  | \$1,010.00 | \$1,010.00       |
| 560-04005<br>(Retained Parcel)                         | 11   | Pt. Lot 17  | 1.70          | 0.69  | Jamie A. & Corey Balkwill | \$0.00          | \$0.00  | \$1,742.00 | \$1,742.00       |
| Total on Privately-Owned - Non-Agricultural Lands..... |      |             |               |       |                           | \$5,000.00      | \$0.00  | \$3,737.00 | \$8,737.00       |

|                               |  |  |             |             |  |                   |               |                   |                    |
|-------------------------------|--|--|-------------|-------------|--|-------------------|---------------|-------------------|--------------------|
| <b>TOTAL ASSESSMENT</b> ..... |  |  |             |             |  | <b>\$5,000.00</b> | <b>\$0.00</b> | <b>\$5,000.00</b> | <b>\$10,000.00</b> |
|                               |  |  | (Acres)     | (Ha.)       |  |                   |               |                   |                    |
| <b>Total Area:</b>            |  |  | <b>3.28</b> | <b>1.32</b> |  |                   |               |                   |                    |

” SCHEDULE F”  
DRAINAGE REPORT FOR A  
NEW ACCESS BRIDGE ON  
PT. LOT 17, CONCESSION 11  
11<sup>TH</sup> CONCESSION DRAIN  
IN THE TOWN OF TECUMSEH  
SPECIAL PROVISIONS

**1.0 GENERAL SPECIFICATIONS**

The General Specifications attached hereto is part of “Schedule F.” It also forms part of this specification and is to be read with it, but where there is a difference between the requirements of the General Specifications and those of the Special Provisions which follow, the Special Provisions will take precedence.

**2.0 DESCRIPTION OF WORK**

The work to be carried out under this Contract includes, but is not limited to, the supply of all **labour, equipment and materials** to complete the following items:

- Mobilization and demobilization.
- Supply and installation of a new 12.0 m long, 450 mm diameter corrugated, solid, high-density polyethylene (HDPE) smooth wall, 320 kPa pipe, (Boss 2000 or approved equivalent) with gasketting joining system (see specifications). The work shall include site cleanup and restoration within the working area.
- Supply and install clearstone bedding materials (minimum 150 mm thickness) with filter fabric underlay (approximately 5 tonnes).
- Supply and install full compacted Granular ‘B’ and materials to the underside of the driveway material. (approximately 15 tonnes).
- Supply and placement of imported clean native backfill material for outside driveway portion to construct 500 mm wide buffer strips (approximately 20 m<sup>3</sup>).
- Supply and install Granular ‘A’ (crushed limestone) driveway surface, minimum 200 mm thickness (approximately 20 tonnes) to provide a minimum 6.1 m (20 feet) wide driveway.
- Supply and placement of stone erosion protection for sloping end walls, minimum 300 mm thickness, c/w filter fabric underlay (approximately 10 m<sup>2</sup>).
- Temporary silt control measures during construction.

**3.0 ACCESS TO THE WORK**

Access to the drain shall be from County Road No. 43 (11<sup>th</sup> Concession Road). Through traffic must be maintained at all times along municipal roads with the required traffic control as per Section 13.0 in the General Specifications. All construction materials for the bridge are to be stored on the field side of the 11<sup>th</sup> Concession Drain.

#### 4.0 WORKING AREA

The working area at the bridge site shall be restricted to a radius of 20.0 m from the proposed centre of the new culvert.

**Any damages to lands and/or roads from the Contractor's work within the working areas for the bridge sites shall be rectified to pre-existing conditions at his/her expense.**

#### 5.0 BRIDGE CONSTRUCTION

##### 5.1 Location of New Bridge

The new bridge structure shall be located and installed as shown on the drawings attached hereto.

##### 5.2 Materials for New Bridge

Materials shall be as follows:

|   |  |
|---|--|
| <i>Culvert</i>  | <i>New 450 mm diameter solid (non-perforated) corrugated High Density Polyethylene (H.D.P.E.) smooth wall interior (Armtex Boss 2000 or approved equivalent) unless otherwise specified conforming to the following specifications: ASTM @3350, CSA B182.8-02 and OPSS 1840. The pipe is to provide a minimum pipe stiffness of 320 kPa. Joined using (water tight) "bell and spigot" connection type. No single pipe length to be less than 6 metres in length.</i> |
| <i>Bedding Below Pipe</i>                                   | <i>19 mm clear stone conforming to OPSS Division 10.</i>   |
| <i>Pipe Backfill to underside of road surface materials</i> | <i>Granular 'B' conforming to OPSS Division 10.</i>  |
| <i>Driveway Surface</i>                                     | <i>Granular 'A' made from crushed limestone conforming to OPSS Division 10. Minimum 200 mm thickness.</i>  |
| <i>Filter Fabric</i>  | <i>"Non-Woven" geotextile filter fabric with a minimum strength equal to or greater than Terrafix 270R, Amoco 4546, Mirafi 140NC or approved equivalent.</i>   |
| <i>Buffer Strips</i>  | <i>Dry native material free of topsoil, organic matter, broken concrete, steel, wood and deleterious substances.</i>   |
| <i>Erosion Stone</i>  | <i>All stone to be used for erosion protection shall be 125 – 250 mm clear quarried rock or OPSS 1001, minimum 300 mm thickness.</i>   |

##### 5.3 Culvert Installation

Suitable dykes shall be constructed in the drain so that the installation of the culvert can be accomplished in the dry. The drain bottom shall be cleaned, prepared, shaped and compacted to suit the new culvert configuration, as shown on the drawings. Granular materials shall be compacted to 100% of their maximum dry density; imported clean native materials shall be supplied, placed and compacted to 95% of their maximum dry density. The Contractor shall note that imported native materials are required for backfill of the new bridge culvert, and the costs shall be included as part of the work.

#### **5.4 Sloping Stone End Walls**

End walls shall be constructed of quarry stone rip-rap, as specified herein. Each end wall shall extend from the invert of the new culvert to the top of the proposed lane. The end walls shall be sloped 1 vertical to 1.5 horizontal with a filter fabric underlay surrounding the pipe and spanning across the entire width of the drain and wrapping around the drain banks to align with the ends of the new pipe culvert. The minimum thickness requirement of the erosion stone layer is 300 mm with no portion of the filter fabric to be exposed to sunlight.

#### **5.5 Granular 'A' Driveway**

The Contractor shall construct the driveway with a maximum 3% cross-fall grade consisting of a minimum 200 mm thickness of compacted Granular 'A' (crushed limestone) surface. The minimum top width of the driveway shall be as shown on the drawings.

#### **5.6 Lateral Tile Drains**

Should the Contractor encounter any lateral tiles within the proposed culvert limits not shown on attached drawings, the Contractor shall re-route the outlet tile drain(s) in consultation with the Drainage Superintendent, as required, to accommodate the new culvert. **Tile drain outlets through the wall of the new culvert pipe will not be permitted.** All costs associated with re-routing lateral tile drains (if any) shall be at the Contractor's expense.

#### **5.7 Site Cleanup and Restoration**

As part of the work and upon completion, the Contractor shall remove and dispose of, off-site any loose timber, logs, stumps, large stones, rubber tires, cinder blocks or other debris from the drain bottom and from the side slopes. Where the construction works cross a lawn, the Contractor shall take extreme care to avoid damaging the lawn, shrubs and trees encountered. Upon completion of the work, the Contractor shall completely restore the area by the placement and fine grading of topsoil and seeding or sodding the area as specified by the Engineer or Drainage Superintendent.

# GENERAL SPECIFICATIONS

## 1.0 AGREEMENT AND GENERAL CONDITIONS

The part of the Specifications headed "Special Provisions" which is attached hereto forms part of this Specification and is to be read with it. Where there is any difference between the requirements of this General Specification and those of the Special Provisions, the Special Provisions shall govern.

Where the word "Drainage Superintendent" is used in this specification, it shall mean the person, or persons appointed by the Council of the Municipality having jurisdiction to superintend the work.

Tenders will be received, and contracts awarded only in the form of a lump sum contract for the completion of the whole work or of specified sections thereof. The Tenderer agrees to enter into a formal contract with the Municipality upon acceptance of the tender. The General Conditions of the contract and Form of Agreement shall be those of the Stipulated Price Contract CCDC2-Engineers, 1994 or the most recent revision of this document.

## 2.0 EXAMINATION OF SITE, PLANS AND SPECIFICATIONS

Each tenderer must visit the site and review the plans and specifications before submitting his/her tender and must satisfy himself/herself as to the extent of the work and local conditions to be met during the construction. Claims made at any time after submission of his/her tender that there was any misunderstanding of the terms and conditions of the contract relating to site conditions, will not be allowed. The Contractor will be at liberty, before bidding to examine any data in the possession of the Municipality or of the Engineer.

The quantities shown or indicated on the drawings or in the report are estimates only and are for the sole purpose of indicating to the tenderers the general magnitude of the work. The tenderer is responsible for checking the quantities for accuracy prior to submitting his/her tender.

## 3.0 MAINTENANCE PERIOD

The successful Tenderer shall guarantee the work for a period of one (1) year from the date of acceptance thereof from deficiencies that, in the opinion of the Engineer, were caused by faulty workmanship or materials. The successful Tenderer shall, at his/her own expense, make good and repair deficiencies and every part thereof, all to the satisfaction of the Engineer. Should the successful Tenderer for any cause, fail to do so, then the Municipality may do so and employ such other person or persons as the Engineer may deem proper to make such repairs or do such work, and the whole costs, charges, and expense so incurred may be deducted from any amount due to the Tenderer or may be collected otherwise by the Municipality from the Tenderer.

## 4.0 GENERAL CO-ORDINATION

The Contractor shall be responsible for the coordination between the working forces of other organizations and utility companies in connection with this work. The Contractor shall have no cause of action against the Municipality or the Engineer for delays based on the allegation that the site of the work was not made available to him by the Municipality or the Engineer by reason of the acts, omissions, misfeasance or non-feasance of other organizations or utility companies engaged in other work.

## **5.0 RESPONSIBILITY FOR DAMAGES TO UTILITIES**

The Contractor shall note that overhead and underground utilities such as hydro, gas, telephone and water are not necessarily shown on the drawings. It is the Contractor's responsibility to contact utility companies for information regarding utilities, to exercise the necessary care in construction operations and to take other precautions to safeguard the utilities from damage.

All work on or adjacent to any utility, pipeline, railway, etc., is to be carried out in accordance with the requirements of the utility, pipeline, railway, or other, as the case may be, and its specifications for such work are to be followed as if they were part of this specification. The Contractor will be liable for any damage to utilities.

## **6.0 CONTRACTOR'S LIABILITY**

The Contractor, his/her agents and all workmen or persons under his/her control including sub-contractors, shall use due care that no person or property is injured and that no rights are infringed in the prosecution of the work. The Contractor shall be solely responsible for all damages, by whomsoever claimable, in respect to any injury to persons or property of whatever description and in respect of any infringement of any right, privilege or easement whatever, occasioned in the carrying on of the work, or by any neglect on the Contractor's part.

The Contractor shall indemnify and hold harmless the Municipality and the Engineer, their agents, and employees from and against claims, demands, losses, costs, damages, actions, suits, or proceedings arising out of or attributable to the Contractor's performance of the contract.

## **7.0 PROPERTY BARS AND SURVEY MONUMENTS**

The Contractor shall be responsible for marking and protecting all property bars and survey monuments during construction. All missing, disturbed, or damaged property bars and survey monuments shall be replaced at the Contractor's expense, by an Ontario Land Surveyor.

## **8.0 MAINTENANCE OF FLOW**

The Contractor shall, at his/her own cost and expense, permanently provide for and maintain the flow of all drains, ditches and water courses that may be encountered during the progress of the work.

## **9.0 ONTARIO PROVINCIAL STANDARDS**

Ontario Provincial Standard Specifications (OPSS) and Ontario Provincial Standard Drawings (OPSD) shall apply and govern at all times unless otherwise amended or extended in these Specifications or on the Drawing. Access to the electronic version of the Ontario Provincial Standards is available online through the MTO website, free of charge to all users. To access the electronic standards on the Web go to <http://www.mto.gov.on.ca/english/transrd/>. Under the title Technical Manuals is a link to the Ontario Provincial Standards. Users require Adobe Acrobat to view all pdf files.

## **10.0 APPROVALS, PERMITS AND NOTICES**

The construction of the works and all operations connected therewith are subject to the approval, inspection, by-laws and regulations of all Municipal, Provincial, Federal and other authorities having jurisdiction in respect to any matters embraced in this Contract. The Contractor shall obtain all approvals and permits and notify the affected authorities when carrying out work in the vicinity of any public utility, power, underground cables, railways, etc.



## 11.0 SUBLETTING

The Contractor shall keep the work under his/her personal control, and shall not assign, transfer, or sublet any portion without first obtaining the written consent of the Municipality.

## 12.0 TIME OF COMPLETION

The Contractor shall complete all work on or before the date fixed at the time of tendering. The Contractor will be held liable for any damages or expenses occasioned by his/her failure to complete the work on time and for any expenses of inspection, superintending, re-tendering or re-surveying, due to their neglect or failure to carry out the work in a timely manner.

## 13.0 TRAFFIC CONTROL

The Contractor will be required to always control vehicular and pedestrian traffic along roads and shall, at his/her own expense, provide for placing and maintaining such barricades, signs, flags, lights, and flag persons as may be required to ensure public safety. The Contractor will be solely responsible for controlling traffic and shall appoint a representative to maintain the signs and warning lights at night, on weekends and holidays and at all other times that work is not in progress.

All traffic control during construction shall be strictly in accordance with the **Occupational Health and Safety Act** and the current version of the **Ontario Traffic Manuals**. Access to the electronic version of the **Ontario Traffic Manual** is available online through the MTO website, free of charge to all users.

To access the electronic standards on the Web, go to <http://www.mto.gov.on.ca/english/transrd/>, click on "Library Catalogue," under the "Title," enter "Ontario Traffic Manual" as the search. Open the applicable "Manual(s)" by choosing the "Access Key," once open look for the "Attachment," click the pdf file. Users require Adobe Acrobat to view all pdf files.

**Contractors are reminded of the requirements of the Occupational Health and Safety Act pertaining to Traffic Protection Plans for workers and Traffic Control Plan for Public Safety.**

## 14.0 SITE CLEANUP AND RESTORATION

As part of the work and upon completion, the Contractor shall remove and dispose of, off-site any loose timber, logs, stumps, large stones, rubber tires, cinder blocks or other debris from the drain bottom and from the side slopes. Where the construction works cross a lawn, the Contractor shall take extreme care to avoid damaging the lawn, shrubs and trees encountered. Upon completion of the work, the Contractor shall completely restore the area by the placement and fine grading of topsoil and seeding or sodding the area as specified by the Engineer or Drainage Superintendent.

## 15.0 UTILITY RELOCATION WORKS

In accordance with Section 26 of the Drainage Act, if utilities are encountered during the installation of the drainage works that conflict with the placement of the new culvert, the operating utility company shall relocate the utility at their own costs. The Contractor however will be responsible to co-ordinate these required relocations (if any) and their co-ordination work shall be considered incidental to the drainage works.

## **16.0 FINAL INSPECTION**

All work shall be carried out to the satisfaction of the Drainage Superintendent for the Municipality, in compliance with the specifications, drawings and the Drainage Act. Upon completion of the project, the work will be inspected by the Engineer and the Drainage Superintendent. Any deficiencies noted during the final inspection shall be immediately rectified by the Contractor.

Final inspection will be made by the Engineer within 20 days after the Drainage Superintendent has received notice in writing from the Contractor that the work is completed, or as soon thereafter as weather conditions permit.

## **17.0 FISHERIES CONCERNS**

Standard practices to be followed to minimize disruption to fish habitat include embedment of the culvert a minimum 10% below grade, constructing the work 'in the dry' and cutting only trees necessary to do the work (no clear-cutting). No in-water work is to occur during the timing window unless otherwise approved by the appropriate authorities.



**LEGEND**

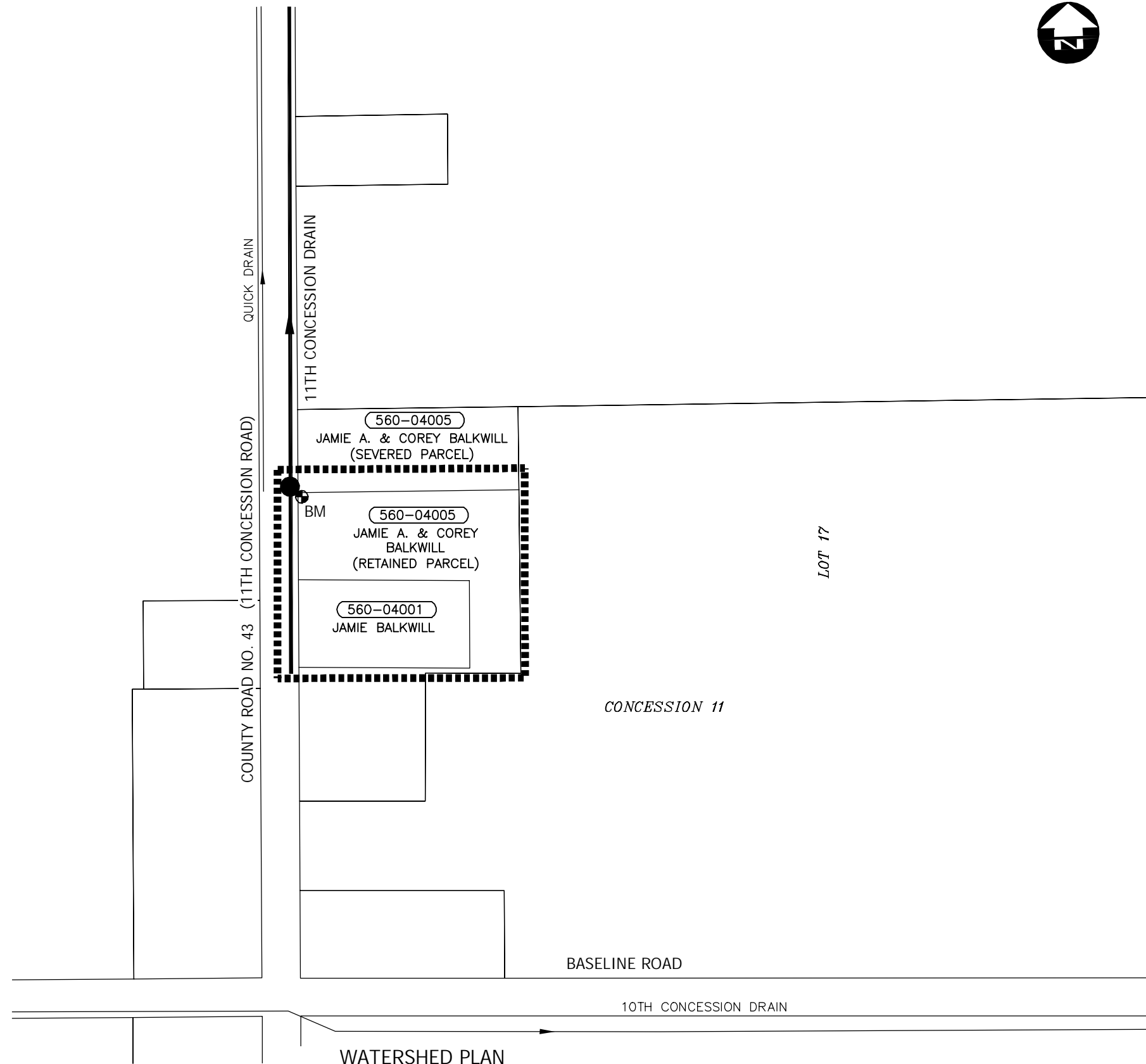
- 11TH CONCESSION DRAIN DRAINAGE AREA
- 11TH CONCESSION DRAIN
- OTHER DRAINS
- NEW BRIDGE
- BM ○ LOCAL BENCHMARK

**BENCHMARK**

**BM1**  
 TOP OF OPERATING NUT ON FIRE HYDRANT ON EAST SIDE OF COUNTY ROAD NO. 43 LOCATED APPROXIMATELY 255 METRES NORTH OF NORTH LIMIT OF BASELINE ROAD.  
 ELEVATION=184.69m

NOTE: CONTRACTOR TO VERIFY BENCHMARKS PRIOR TO CONSTRUCTION.

NOTE: CONTRACTOR SHALL ARRANGE TO HAVE ALL UTILITY LOCATES COMPLETED ONSITE PRIOR TO ANY EXCAVATION WORK. DILLON CONSULTING LIMITED DOES NOT GUARANTEE THE ACCURACY OF THE EXISTING UTILITIES SHOWN ON THE DRAWINGS. CONTRACTOR SHALL VERIFY THE LOCATION PRIOR TO COMMENCING WORK.



**WATERSHED PLAN**  
 SCALE=1:2,500



**Conditions of Use**

Verify elevations and/or dimensions on drawing prior to use. Report any discrepancies to Dillon Consulting Limited.

Do not scale dimensions from drawing.

Do not modify drawing, re-use it, or use it for purposes other than those intended at the time of its preparation without prior written permission from Dillon Consulting Limited.

|     |                           |    |            |     |
|-----|---------------------------|----|------------|-----|
| No. | ISSUED FOR                | 91 | DATE       | BY  |
| 3   | FINAL REPORT SUBMISSION   |    | DEC. 10/24 | OEM |
| 2   | PUBLIC INFORMATION CENTRE |    | DEC. 5/24  | OEM |
| 1   | CLIENT REVIEW             |    | NOV. 15/24 | OEM |

|        |                   |             |     |
|--------|-------------------|-------------|-----|
| DESIGN | JAO               | REVIEWED BY | VJH |
| DRAWN  | WLB               | CHECKED BY  | OEM |
| DATE   | December 10, 2024 |             |     |
| SCALE  | AS SHOWN          |             |     |

PROJECT NO. 24-9049

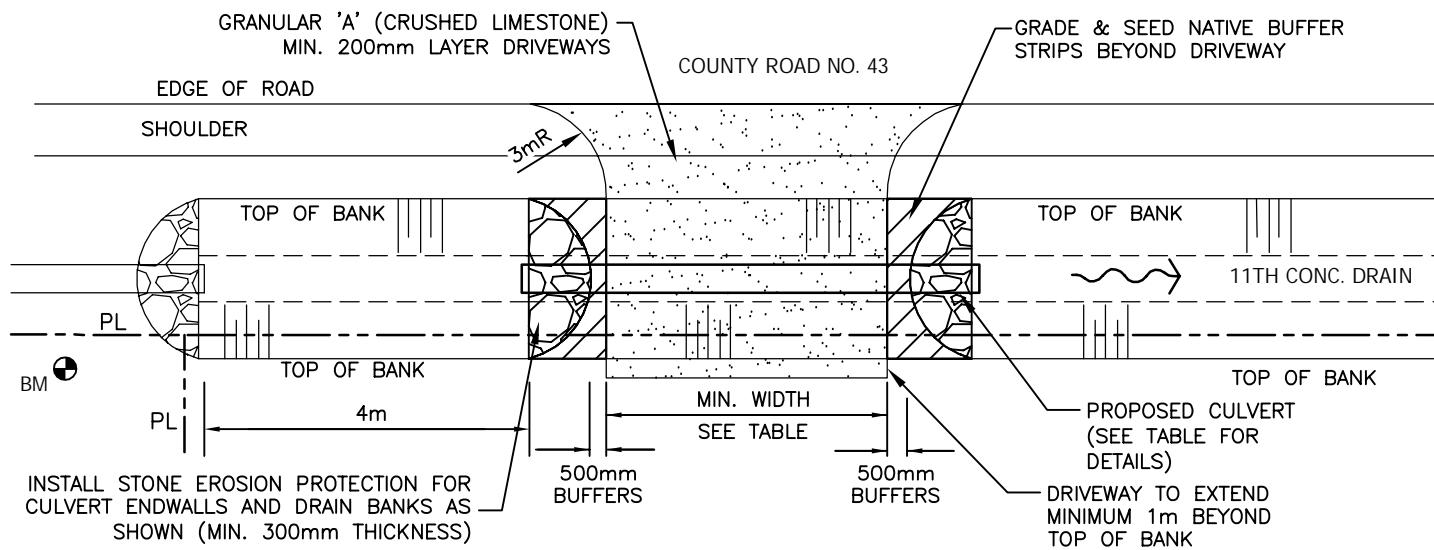
DRAWING SCALES BASED ON A 11" X 17" SHEET

'SCHEDULE G'

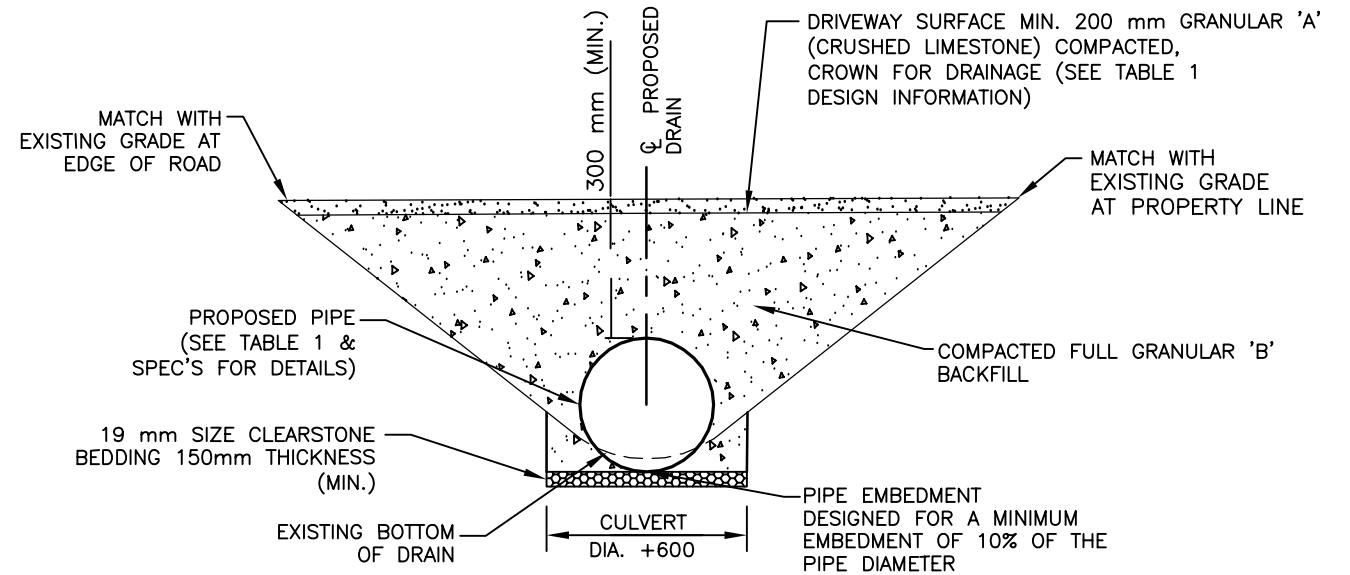
Drainage Report for the  
**11TH CONCESSION DRAIN**  
 (Balkwill Bridge)  
 Town of Tecumseh

SHEET TITLE **WATERSHED PLAN**

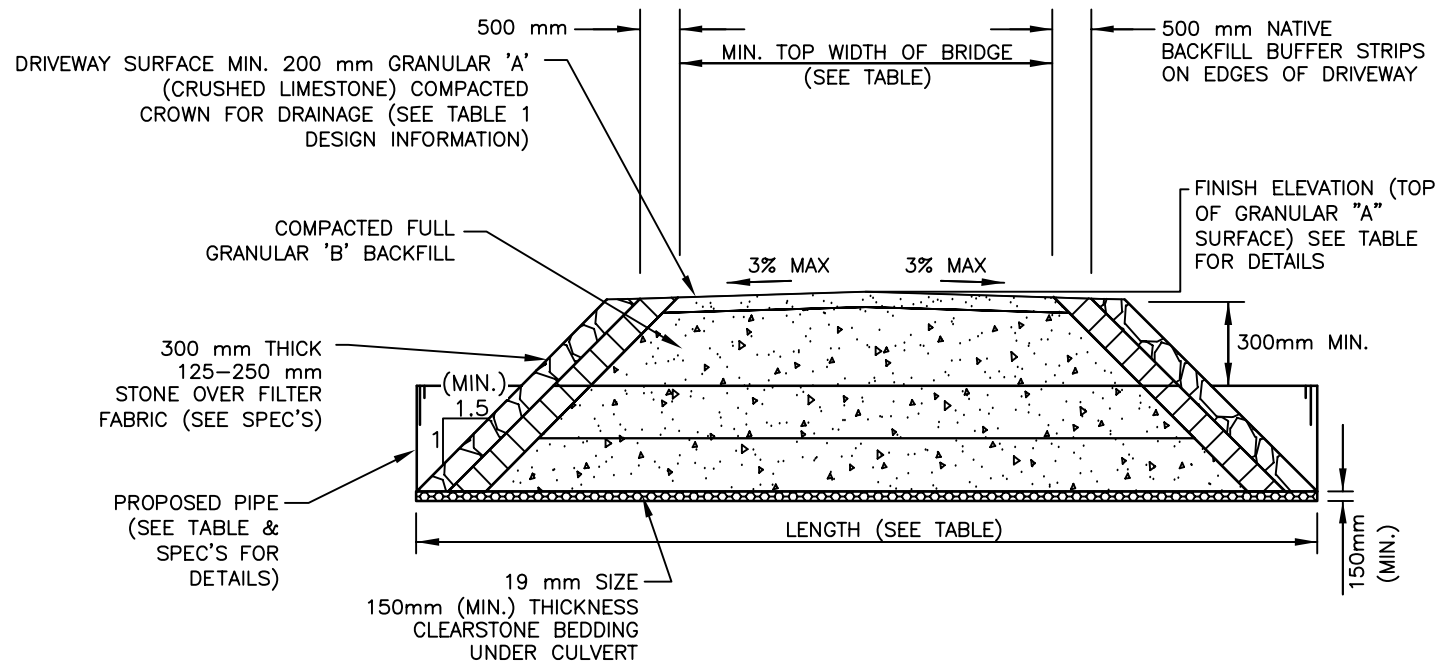
PAGE NO. 1 of 2



RESIDENTIAL BRIDGE PLAN  
N.T.S.



BRIDGE CROSS-SECTION  
N.T.S.



BRIDGE LONGITUDINAL SECTION  
N.T.S.

NOTE: CONTRACTOR TO CLEAN OUT DRAIN  
3m UPSTREAM & DOWNSTREAM OF CULVERT

TABLE 1 - ACCESS BRIDGE DESIGN INFORMATION

| DESCRIPTION  | BRIDGE        |
|--|---------------|
| PIPE INVERT ELEV. U/S SIDE(m)                        | 183.08        |
| PIPE INVERT ELEV. D/S SIDE(m)                        | 183.06        |
| TOP OF C&D DRIVEWAY SURFACE ELEV. (m)                | 183.98        |
| DRAIN BOTTOM (m) (DESIGN) (AT CENTRELINE OF CULVERT) | 183.12        |
| MIN. TOP WIDTH OF DRIVEWAY (m)                       | 6.1           |
| MIN. CULVERT GRADE (%)                               | 0.10          |
| CULVERT MATERIAL                                     | H.D.P.E.      |
| CULVERT LENGTH (m)                                   | 12.0          |
| PIPE SIZE (mm)                                       | 450           |
| CULVERT ENDWALL TYPE                                 | SLOPING STONE |



Conditions of Use

Verify elevations and/or dimensions on drawing prior to use. Report any discrepancies to Dillon Consulting Limited.  
Do not scale dimensions from drawing.  
Do not modify drawing, re-use it, or use it for purposes other than those intended at the time of its preparation without prior written permission from Dillon Consulting Limited.

| No. | ISSUED FOR                | DATE       | BY  |
|-----|---------------------------|------------|-----|
| 3   | FINAL REPORT SUBMISSION   | DEC. 10/24 | OEM |
| 2   | PUBLIC INFORMATION CENTRE | DEC. 5/24  | OEM |
| 1   | CLIENT REVIEW             | NOV. 15/24 | OEM |

| DESIGN | REVIEWED BY       |
|--------|-------------------|
| JA0    | VJH               |
| DRAWN  | CHECKED BY        |
| WLB    | OEM               |
| DATE   | December 10, 2024 |
| SCALE  | AS SHOWN          |

|  |   |         |
|--|---|---------|
|  | PROJECT NO.                               | 24-9049 |
|  | DRAWING SCALES BASED ON A 11" X 17" SHEET |         |

| 'SCHEDULE G'   |         |
|--|---------|
| Drainage Report for the<br><b>11TH CONCESSION DRAIN</b><br>(Balkwill Bridge)<br>Town of Tecumseh |         |
| SHEET TITLE  | DETAILS |
| PAGE NO.   | 2 of 2  |

## Legislation

### Petition

4 (1) A petition for the drainage by means of a drainage works of an area requiring drainage as described in the petition may be filed with the clerk of the local municipality in which the area is situate by,

- (a) the majority in number of the owners, as shown by the last revised assessment roll of lands in the area, including the owners of any roads in the area;
- (b) the owner or owners, as shown by the last revised assessment roll, of lands in the area representing at least 60 per cent of the hectarage in the area;
- (c) where a drainage works is required for a road or part thereof, the engineer, road superintendent or person having jurisdiction over such road or part, despite subsection 61 (5);
- (d) where a drainage works is required for the drainage of lands used for agricultural purposes, the Director. R.S.O. 1990, c. D.17, s. 4 (1).

### Form of petition

(2) A petition under subsection (1) shall be in the form prescribed by the regulations and, where it is filed by an owner or owners under clause (1) (a) or (b), shall be signed by such owner or owners. R.S.O. 1990, c. D.17, s. 4 (2).

### Petition where area lies on each side of boundary line

(3) Where it is desired to construct a drainage works for the drainage of an area composed of lands or roads lying on each side of a boundary line between two or more local municipalities, the council of any of them may proceed upon a petition as required by this Act in all respects, including the sending of notices, as if such area were entirely within the limits of the municipality. R.S.O. 1990, c. D.17, s. 4 (3).

### Person deemed owner

(4) Where a person who is the owner of land, but does not appear by the last revised assessment roll of the municipality to be the owner, is a petitioner, the person shall be deemed an owner if the person's ownership is proved to the satisfaction of the clerk, and, if the person who appears by the assessment roll to be the owner is a petitioner, the person's name shall be disregarded in determining the sufficiency of the petition. R.S.O. 1990, c. D.17, s. 4 (4).

### Persons jointly assessed

(5) Where two or more persons are jointly assessed for a property, in determining the sufficiency of a petition, they shall be deemed to be one owner. R.S.O. 1990, c. D.17, s. 4 (5).

### Section 25(1) – Engineer may assess a block, etc.

The council of the local municipality may direct the engineer to assess as a block, a built-up area designated by the council, and the sum assessed therefor may be levied against all the ratable properties in the designated area proportionately on the

basis of the assessed value of the land and buildings.

### **Section 25(2) – Assessments to be charged against public roads**

Where the engineer makes a block assessment under subsection (1), the engineer shall designate the proportion of the assessment to be charged against the public roads in the designated area.

### **Section 26 – Increased cost, how borne**

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.

### **Section 41(1) – Notice of drainage works**

Upon the filing of the engineer's report, the council of the initiating municipality, if it intends to proceed with the drainage works, shall, within thirty days of the filing of the report, cause the clerk of the initiating municipality to send a copy of the report and a notice stating,

- 1) the date of the filing of the report;
- 2) the name or other designation of the drainage works; and
- 3) the date of the council meeting at which the report will be considered, to;
  - a) the owners, in the initiating municipality, as shown by the last revised assessment roll to be the owners of lands and roads assessed for the drainage works or for which compensation or other allowances have been provided in the report;
  - b) the clerk of every other local municipality in which any land or road that is assessed for the drainage works or for which compensation or other allowances have been provided in the report is situate;
  - c) the secretary-treasurer of each conservation authority that has jurisdiction over any land affected by the report;
  - d) any railway company, public utility or road authority affected by the report, other than by way of assessment;
  - e) the Minister of Natural Resources where land under his or her jurisdiction may be affected by the report; and
  - f) the Director.

**Section 41(3) – Copy of report not required**

Despite subsections (1) and (2), where a block assessment is made, the notice to the owners of the lands so assessed need not be accompanied by a copy of the report.

**Section 41(3.1) – Same**

Despite subsections (1) and (2), the council of a local municipality is not required to send a copy of the report to owners of lands and roads assessed for a sum of less than \$100.

**Section 42 – Consideration of report**

The council of the initiating municipality at the meeting mentioned in section 41 shall consider the report, and, where the drainage works is requested on petition, shall give an opportunity to any person who has signed the petition to withdraw from it by filing a signed withdrawal with the clerk and shall also give those present owning lands within the area requiring drainage who have not signed the petition an opportunity to do so, and should any of the lands or roads owned by the municipality within the area requiring drainage as described in the petition be assessed, the council may by resolution authorize the head of the municipality to sign the petition for the municipality, and such signature counts as that of one person in favour of the petition.

**Section 65(1) – Subsequent subdivision of land**

If, after the final revision of an engineer's assessment of land for a drainage works, the land is divided by a change in ownership of any part, the clerk of the local municipality in which the land is situate shall instruct an engineer in writing to apportion the assessment among the parts into which the land was divided, taking into account the part of the land affected by the drainage works.

**Section 65(2) – Agreement on share of assessment**

If the owners of the subdivided land mutually agree on the share of the drainage assessment that each should pay, they may enter into a written agreement and file it

with the clerk of the local municipality and, if the agreement is approved by the council by resolution, no engineer need be instructed under subsection (1).

### **Section 76(1) - Varying original assessments for maintenance**

The Council of any local municipality liable for contribution to a drainage works in connection with which conditions have changed or circumstances have arisen such as to justify a variation of the assessment for maintenance and repair of the drainage works may make an application to the Tribunal, of which notice has been given to the head of every other municipality affected by the drainage works, for permission to procure a report of an engineer to vary the assessment, and, in the event of such permission being given, such council may appoint an engineer for such purpose and may adopt the report but, if all the lands and roads assessed or intended to be assessed lie within the limits of one local municipality, the council of that municipality may procure and adopt such report without such permission.

### **Section 76(2) – Proceedings on report of engineer**

The proceedings upon such report, excepting appeals, shall be the same, as nearly as may be, as upon the report for construction of the drainage works.

### **Section 76(3) – Appeal from report of engineer**

Any council served with a copy of such report may, within 45 days of such service, appeal to the Tribunal from the finding of the engineer as to the portion of the cost of the drainage works for which the municipality is liable.

### **Section 76(4) – Appeal from assessment**

Any owner of land assessed for maintenance or repair may appeal from the assessment in the report on the grounds and in the manner provided by Section 52 in the case of the construction of the drainage works.

### **Section 76(5) – Basis of future assessments**

An assessment determined under this section shall thereafter, until it is further varied, form the basis of any assessment for maintenance or repair of the drainage works affected thereby.

### **Section 78(1) – Improving, upon examination and report of engineer**

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).



## **Section 78(1.1) – Projects**

The projects referred to in subsections (1) are:

- 1) 1. Changing the course of the drainage works.
- 2) 2. Making a new outlet for the whole or any part of the drainage works.
- 3) 3. Constructing a tile drain under the bed of the whole or any part of the drainage works.
- 4) 4. Constructing, reconstructing or extending embankments, walls, dykes, dams, reservoirs, bridges, pumping stations or other protective works in connection with the drainage works.
- 5) 5. Extending the drainage works to an outlet.
- 6) 5.1 Improving or altering the drainage works if the drainage works is located on more than one property.
- 7) 6. Covering all or part of the drainage works.
- 8) 7. Consolidating two or more drainage works.
- 9) 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).

## **Section 78(2) – Notice to conservation authority**

2) An engineer shall not be appointed under subsection (1) until 30 days after a notice has been sent to the following persons advising them of the municipality's intent to undertake the major improvement project:

1. The secretary-treasurer of each conservation authority that has jurisdiction over any lands that would be affected by the project.
2. The prescribed persons. 2020, c. 18, Sched. 4, s. 9 (5).

## **Section 78(3) – Powers and duties of engineer**

(3) The engineer has all the powers and shall perform all the duties of an engineer appointed with respect to the construction of a drainage works under this Act. R.S.O. 1990, c. D.17, s. 78 (3).

## **Section 78(4) – Proceedings**

(4) All proceedings, including appeals, under this section shall be the same as on a report for the construction of a drainage works. R.S.O. 1990, c. D.17, s. 78(4).

## **Minor improvements to drainage works**

(5) Despite subsections (2) to (4), the Minister may prescribe the process for approving minor improvements to a drainage works mentioned in paragraph 8 of subsection (1.1). 2020, c. 18, Sched. 4, s. 9 (6).

## **AMENDMENTS TO ENGINEER'S REPORT**

84.1 (1) This section applies with respect to engineer's reports that are prepared for

the purpose of a petition under section 4 or for the purpose of section 78 and that are adopted by a municipal by-law. 2020, c. 18, Sched. 4, s. 10.

Approval process

(2) The Minister may, by regulation, set out the process by which the engineer's report may be amended and the process by which those amendments are to be approved. 2020, c. 18, Sched. 4, s. 10.

Section Amendments with date in force (28/09/2021)

**DRAINAGE REPORT  
FOR THE**

**NEW FARM BRIDGE ON  
PT. LOT 2, CONCESSION 11  
OVER THE  
EAST MCPHERSON DRAIN  
(AL-FARRA BRIDGE)**

**IN THE  
TOWN OF TECUMSEH**



FINAL  
9 DECEMBER, 2024  
OLIVER E. T. MOIR, P. ENG.  
FILE No. 24-8532  
TECUMSEH FILE NO. E09MC(64)



Mayor and Council  
Town of Tecumseh  
917 Lesperance Rd,  
Tecumseh, Ontario  
N8N 1W9

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Chatham, Ontario  
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N7M 4V4  
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**Drainage Report for the  
New Farm Bridge on  
Pt. Lot 2, Concession 11  
Over the  
EAST MCPHERSON DRAIN (AL-FARRA BRIDGE)  
In the Town of Tecumseh**

Mayor and Council:

**Instructions**

The Municipality received a request for a new farm access bridge to serve Pt. Lot 2, Concession 11 (Roll No. 400-00800) over the East McPherson Drain, that was filed at the Town Office on the 26<sup>th</sup> day of October 2023. Council accepted the request under Section 78(1) of the Drainage Act and on the 26<sup>th</sup> day of January 2024 appointed Dillon Consulting Limited to prepare a report.

**Watershed Description**

The East McPherson Drain consists primarily of an open channel flowing along the easterly side of 11<sup>th</sup> Concession Road within the Town of Tecumseh. The drain commences approximately 140 m north of the boundary between Lot 1 and Lot 2, Concession 11. It proceeds northerly for approximately 1,335 m, draining into the South Talbot Road Drain East.

The lands comprising the watershed are predominantly agricultural use with some residential lots. There is little topographic relief. From the Ontario Soil Survey, the principle surficial soil in the study area is described as Brookston Clay which is defined as having poor natural drainage.

**On-Site Meeting**

An on-site meeting was held on 23 July 2024. A record of the meeting is provided in Schedule 'A-1', which is appended hereto.

## Drain History

The recent history of Engineers' reports for the East McPherson Drain is as follows:

- **11 April 2017 H. Pearson, P.Eng.:** The report recommended that the entire length of the East McPherson drain be excavated to remove accumulated sediment and vegetation and that the existing culverts should either be removed, replaced, or be cleaned. Topographic survey was completed to confirm the watershed boundary. The report also determined that approximately 30% of runoff generated from lands on the west side of the 11th Concession Road, which are primarily served by the Santo Drain, flow into the East McPherson Drain through road culverts interconnecting the two drains. This report serves as the governing by-law for the drain.

## Survey

Our topographic survey of the East McPherson Drain was carried out in August 2024. The topographic data was recorded for both upstream and downstream of the proposed site for the new access culvert.

## Design Considerations

A Guide for Engineers working under the Drainage Act in Ontario, OMAFA Publication 852 (2018) is the current reference document used by engineers carrying out drainage work on municipal drains under the Act. The 2-year design storm is the recommended design standard applied to municipal drains within rural Ontario specific to open drain channels and low hazard agricultural field access crossings. We have applied this criterion for the proposed East McPherson Drain bridge.

The new access culvert is designed for an upstream drainage area of approximately 10.5 hectares (approximately 26.0 acres). Lands on the west side of the 11<sup>th</sup> Concession Road are primarily served by the Santo Drain, however the East McPherson Drain conveys a portion of flows from the Santo Drain through road culverts which interconnect the two drains, as described in the 2017 East McPherson Drain Report.

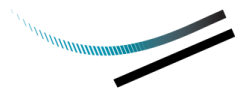
The size of the new culvert required is 750 mm diameter and the length designed to be 20.5 m to accommodate a minimum 12.2 m (40 ft) top width and sloping end treatment. A 12.2 m top width for the bridge is necessary considering the proximity of the road to the drain that limits turning radii of modern farm equipment. The culvert depth is designed to provide a minimum 10% embedment of the pipe invert below the design drain bottom.

## Allowances

In accordance with Sections 29 and 30 of the Drainage Act, we do not anticipate any agricultural lands being damaged or used as a result of the proposed drainage works. Any damage to the laneway or the existing grassed areas shall be restored to original conditions as part of the work. Therefore, 'Schedule B' for allowances has not been included in this report.

## Recommendations and Cost Estimate

Based on our review of the history, the information obtained from our examination and analysis of the survey data, we recommend that the East McPherson Drain be improved as described below:



| Item | Description  | Amount              |
|------|--|---------------------|
| 1.   | Supply and installation of a new 20.5 m long, 750 mm diameter corrugated high density polyethylene (HDPE) Boss 2000 (or approved equivalent), 320kPA including couplers (see specifications). Works includes the relocation of any existing tile downstream of new culvert.                      | \$7,000.00          |
| 2.   | Supply and install clear stone bedding materials (minimum 150 mm thickness) with filter fabric underlay under the new culvert pipe (approximately 15 tonnes).  | \$900.00            |
| 3.   | Supply and install full compacted Granular 'B' bedding and backfill materials from the pipe invert to the underside of the driveway material. (approximately 200 tonnes).  | \$7,000.00          |
| 4.   | Supply and installation of imported clean backfill material to be used as a buffer between the Granular 'B' material and stone erosion protection. (Approximately 15 m <sup>3</sup> ).<br>Work includes supply and placement of topsoil (100 mm thickness), fine grading and seeding of buffers. | \$600.00            |
| 5.   | Supply and install full compacted Granular 'A' (crushed limestone) compacted driveway surface, minimum 200 mm thickness (approximately 50 tonnes).   | \$2,500.00          |
| 6.   | Supply and install stone erosion protection for sloping end walls, minimum 300 mm thickness, c/w filter fabric underlay (approximately 35 m <sup>2</sup> ).  | \$3,000.00          |
| 7.   | Temporary silt control measures during construction.   | \$500.00            |
|      | <b>SUB-TOTAL</b>   | <b>\$21,500.00</b>  |
| 8.   | Survey, report, and assessment.  | \$7,500.00          |
| 9.   | Part-time construction observation and administration.   | \$1,500.00          |
| 10.  | Expenses and Incidentals.  | \$500.00            |
| 11.  | ERCA application review and permit fee.  | <u>\$500.00</u>     |
|      | <b>TOTAL ESTIMATE (excluding Net HST)</b>  | <b>\$ 31,500.00</b> |

The estimate provided in this report was prepared according to current materials and installation prices as of the date of this report. In the event of delays from the time of filing of the report by the Engineer to the time of tendering the work, it is understood that the estimate of cost is subject to inflation. The rate of inflation shall be calculated using the Consumer Price Index applied to the cost of construction from the date of the report to the date of tendering.

### **Assessment of Costs**

The individual assessments are comprised of three (3) assessment components:

- i. Benefit (*advantages relating to the betterment of lands, roads, buildings, or other structures resulting from the improvement to the drain*).
- ii. Outlet Liability (*part of cost required to provide outlet for lands and roads*).
- iii. Special Benefit (*additional work or feature that may not affect function of the drain*).

We have assessed the estimated costs against the affected lands and roads as listed in Schedule 'C' under "Value of Special Benefit," "Value of Benefit" and "Value of Outlet." Since there is only one Special Benefit assessment, a separate schedule for Details of Special Benefit (Schedule 'D') is not required or included herein.

### **Assessment Rationale**

There is no access to property Roll No. 400-00800 across the East McPherson Drain. The present access is owned by the owner of property Roll No. 400-00720. As stated by the requesting landowner, this access will no longer be available for use after October 2024.

Special Benefit assessment shown in Schedule 'C' was therefore derived as follows:

1. For the first time access bridge across East McPherson Drain, costs have been assessed 100% of the adjoining property Roll No. 400-00800 as listed under the "Value of Special Benefit".

### **Utilities**

It may become necessary to temporarily or permanently relocate utilities that may conflict with the construction recommended under this report. In accordance with Section 26 of the Drainage Act, we assess any relocation cost against the public utility having jurisdiction. Under Section 69 of the Drainage Act, the public utility is at liberty to do the work with its own forces, but if it should not exercise this option within a reasonable time, the Municipality will arrange to have this work completed and the costs will be charged to the appropriate public utility.

### **Future Maintenance**

We recommend that future work and repair and maintenance on the new access bridge be carried out by the Municipality and assessed in the same relative proportions as to the amounts listed in Schedule 'E' which represents an Assessment schedule for the future Maintenance.

Considering the current by-law for the East McPherson Drain, we recommend that 75% of the future maintenance costs be assessed against property Roll No. 400-00800 as a Special Benefit assessment and the remaining 25% as an Outlet liability assessment against the upstream lands and roads. A reduced assessment for future maintenance has been considered for lands which have an existing woodlot and/or to lands which are primarily served by the Santo Drain but use the East McPherson Drain as a secondary outlet.

The assessment is based on an arbitrary \$10,000 in future maintenance costs. These provisions for maintenance are subject, of course, to many variations that may be made under the authority of the Drainage Act.

### **Drawings and Specifications**

Attached to this report is Schedule ‘F’, which are Specifications setting out the details of the recommended works and Schedule ‘G’ which represent the drawings that are attached to this report.

**Page 1 of 2 – Watershed Plan**

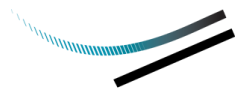
**Page 2 of 2 – Bridge Details**

### **Approvals**

The construction and/or improvement to a drainage works, including repair and maintenance activities, and all operations connected therewith are subject to the approval, inspection, by-law, and regulations of all Municipal, Provincial, Federal, and other authorities having jurisdiction in respect to any matters embraced by the proposed works. Prior to any construction or maintenance works, the Municipality or proponent designated on the Municipality’s behalf shall obtain all required approvals/permits and confirm any construction limitations including timing windows, mitigation/off-setting measures, standard practices or any other limitations related to in-stream works.

In terms of a review of the proposed works by the Department of Fisheries and Oceans (DFO), we have undertaken a self-assessment and have determined that application requesting review is not required. The East McPherson Drain has been classified as a “Type F” drain by DFO and the impact zone representing 1km downstream of the proposed works is also classified as a “Type F” drain. Type F drains experience intermittent water flow only and provide minimal habitat for fish. As part of the work the following mitigation measures shall be implemented to avoid any adverse effects to the waterway.

- Works will not be conducted at times when flows are elevated due to the local rain events, storms, or seasonal floods. Work will be done in the dry.
- All disturbed soils on both banks and within the channel, including spoil must be stabilized immediately upon completion of work. The restoration of the site must be completed to a like or better conditions to what existed prior to the works.
- To prevent sediment entry into the drain, in the event of an unexpected rainfall, silt barriers and/or traps must be placed in the channel during the works and until the site has been stabilized. All sediment and erosion control measures are to be in accordance with related Ontario Provincial Standards. It is incumbent on the proponent and his/her contractors to ensure that sediment and erosion control measures are functioning and are maintained/upgraded as required.
- lated Ontario Provincial Standards. It is incumbent on the proponent and his/her contractors to ensure that sediment and erosion control measures are functioning and are maintained/upgraded as required.





- All activities should be controlled to prevent the entry of petroleum products, debris, rubble, concrete or other deleterious substances into the water. Vehicular refueling and maintenance should be conducted away from the water.

The East McPherson Drain may provide habitat to species at risk listed as listed under the Endangered Species Act. The Town of Tecumseh has developed a mitigation plan document recommending mitigation measures to minimize adverse effects on species at risk including monitoring and reporting requirements should an endangered, threatened, or special concern species (fishes, reptiles, amphibians, mollusks, birds, plants, trees) be encountered. The document will be made available to contractors during the tendering process and construction period.

In terms of review by the Essex Region Conservation Authority (ERCA), the proposed works contained herein were previously reviewed and accepted by the ERCA, refer to Schedule 'A-2'. An application for permit shall be submitted by the Municipality and accompanied by payment for the permit review fee of \$500.00 before construction of the new access bridge proceeds.

### **Grants**

The costs for a new access to agricultural land which is required because of a nullified access agreement with an adjoining residential land are not eligible for grant, in accordance with Section 2.3(i) of the OMAFA Agricultural Drainage Infrastructure Program policies.

Respectfully submitted,

**DILLON CONSULTING LIMITED**



Oliver E.T. Moir, P.Eng.  
OEM:jo:lld

# Meeting Summary

**Subject:** East McPherson – On-Site Meeting  
**Date:** July 23, 2024  
**Location:** 7000 11<sup>th</sup> Concession Road  
**Our File:** 24-8532

## Attendees

|                  |                                    |
|------------------|------------------------------------|
| Ahmed Al-Farra   | Landowner                          |
| Mark Fishleigh   | County of Essex                    |
| Anne-Marie Moniz | Town of Tecumseh (Town)            |
| Matt Shiha       | Town                               |
| Jerome Owen      | Dillon Consulting Limited (Dillon) |
| Oliver Moir      | Dillon                             |

## Notes

| Item | Discussion  | Action by |
|------|---|-----------|
| 1.   | <b>Introductions:</b>   |           |
| 1.1. | The Town appointed Dillon on the East McPherson Drain under Section 78 of the Drainage Act to prepare the drainage report for a new farm access culvert.  | INFO      |
| 2.   | <b>Project Background:</b>  |           |
| 2.1. | The property Roll No. 400-00800 requires access over the East McPherson Drain. The proposed development requires a new farm access bridge to 11 <sup>th</sup> Concession Road. <ul style="list-style-type: none"> <li>The lands requiring access currently have access from 11<sup>th</sup> Concession Road over an existing CSP culvert that provides access to property 440-00720 through a temporary access agreement. The agreement expires after October 2024.</li> </ul>  | INFO      |
| 3.   | <b>Project Pathway:</b>   |           |
| 3.1. | Dillon explained the Drainage Act process: <ul style="list-style-type: none"> <li>A request under Section 78 of the Drainage Act is submitted to the Town.</li> <li>The Engineer is appointed by the Town through Council.</li> <li>The on-site meeting is held for the engineer to gather information from landowners.</li> <li>Topographic survey is completed and a report is prepared.</li> <li>A meeting is held to consider the technical aspects of the report (Meeting to Consider).</li> <li>A meeting is held to consider the assessment (cost sharing) aspects of the report (Court of Revision).</li> <li>Following passing of the by-law, the drainage works are put out to tender.</li> </ul> | INFO      |

| Item | Discussion  | Action by |
|------|---|-----------|
| 4.   | <b>General Discussions</b>  | INFO      |
|      | <ul style="list-style-type: none"> <li>● Mr. Al-Farra asked if permission is needed to tile the land. <ul style="list-style-type: none"> <li>○ Dillon explained that only lands within the East McPherson Drain watershed may be tiled to the East McPherson Drain without approval from the Town. The property 400-00800 is partially within the East McPherson Drain watershed. Should Mr. Al-Farra wish to tile new lands into the East McPherson Drain, a request to investigate the drain’s capacity through the Drainage Act would need to be submitted to the Town.</li> <li>○ Installation of tile drainage systems need to be completed by a licensed contractor.</li> </ul> </li> <li>● Mr. Al-Farra indicated that the lands will be rented to a tenant for farming.</li> <li>● Mr. Al-Farra asked if it would be possible to use the new access for a future residential access. <ul style="list-style-type: none"> <li>○ The Town answered the process for residential development a separate process handled by city planning section. Requirements for residential access may depend on the proposed development and would be subject to the Planning Department’s approval.</li> <li>○ Mr. Al-Farra decided to leave the residential development considerations out of the drainage works.</li> </ul> </li> <li>● Mr. Al-Farra agreed with the proposed location of the bridge as shown on the invite request map.</li> <li>● Dillon explained farm access culverts are generally 7.3 m (30’) wide, however given the proximity between the road and drain bank, a wider access bridge would be needed to accommodate turning movements of farm equipment and may be up to 12.1 m wide (40’).</li> <li>● Culvert end protection would be sloping stone as the least costly.</li> <li>● The Town informed the Mr. Al-Farra that the construction work can be undertaken privately (without the use of a contractor), but a list of prerequisites must be completed, and evidence of previous construction experience must be presented.</li> </ul> |           |

### Errors and/or Omissions

These minutes were prepared by Jerome Owen, who should be notified of any errors and/or omissions.

SCHEDULE 'A-2'



Moir, Oliver <omoir@dillon.ca>

---

**East McPherson Drain - Al-Farra Farm Access**

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**Summer Locknick** <SLocknick@erca.org> Tue, Oct 8, 2024 at 2:59 PM  
To: "Moir, Oliver" <omoir@dillon.ca>  
Cc: Jerome Owen <jowen@dillon.ca>, "248532@dillon.ca" <248532@dillon.ca>, Matthew Shiha <mshiha@tecumseh.ca>

Good afternoon,

Thank you for providing the below information. I've had an opportunity to review the preliminary drawings and the available information and can confirm that this proposal, as presented in the preliminary stages, is something that this office can support.

We look forward to receiving the Final Drainage Report and Drawings. A completed Application for Permit form will be required from the municipality.

If you have any questions, please do not hesitate to contact this office.

Kind regards,



SUMMER LOCKNICK  
Regulations Analyst  
Essex Region Conservation Authority  
360 Fairview Avenue West, Suite 311 | Essex, Ontario | N8M 1Y6  
[slocknick@erca.org](mailto:slocknick@erca.org) [essexregionconservation.ca](http://essexregionconservation.ca)

Please consider the environment before printing this email

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The ERCA Office is now open to the public **Tuesdays, Wednesdays and Thursdays** to provide "counter service"; however, services continue to be delivered online and through email. Please consult ERCA's website for more information and direction regarding online services (i.e. permitting, cottage bookings, seasonal passes etc.)

**"SCHEDULE C"**  
**SCHEDULE OF ASSESSMENT**  
**EAST McPHERSON DRAIN (AL-FARRA BRIDGE)**  
**TOWN OF TECUMSEH**

**PRIVATELY-OWNED - AGRICULTURAL LANDS**

| Roll No.   | Con. | Description | Area Affected |             | Owner             | Special<br>Benefit | Benefit       | Outlet        | Total<br>Assessment |
|--|------|-------------|---------------|-------------|-------------------|--------------------|---------------|---------------|---------------------|
|  |      |             | (Acres)       | (Ha.)       |                   |                    |               |               |                     |
| 400-00800  | 11   | Pt. Lot 2   | 15.70         | 6.35        | Ahmed S. Al-Farra | \$31,500.00        | \$0.00        | \$0.00        | \$31,500.00         |
| Total on Privately-Owned - Agricultural Lands..... |      |             |               |             |                   | \$31,500.00        | \$0.00        | \$0.00        | \$31,500.00         |
| <b>TOTAL ASSESSMENT .....</b>                      |      |             |               |             |                   | <b>\$31,500.00</b> | <b>\$0.00</b> | <b>\$0.00</b> | <b>\$31,500.00</b>  |
|  |      |             | (Acres)       | (Ha.)       |                   |                    |               |               |                     |
| <b>Total Area:</b>                                 |      |             | <b>15.70</b>  | <b>6.35</b> |                   |                    |               |               |                     |

**"SCHEDULE E"**  
**SCHEDULE OF ASSESSMENT FOR FUTURE MAINTENANCE**  
**EAST McPHERSON DRAIN (AL-FARRA BRIDGE)**  
**TOWN OF TECUMSEH**

**MUNICIPAL LANDS:**

| Description                   | Area Affected |       | Owner            | Special Benefit | Benefit | Outlet   | Total Assessment |
|-------------------------------|---------------|-------|------------------|-----------------|---------|----------|------------------|
|                               | (Acres)       | (Ha.) |                  |                 |         |          |                  |
| 11th Concession Road          | 0.37          | 0.15  | Town of Tecumseh | \$0.00          | \$0.00  | \$233.00 | \$233.00         |
| Total on Municipal Lands..... |               |       |                  | \$0.00          | \$0.00  | \$233.00 | \$233.00         |

**PRIVATELY-OWNED - NON-AGRICULTURAL LANDS:**

| Roll No.   | Con. | Description   | Area Affected |        | Owner             | Special Benefit | Benefit | Outlet   | Total Assessment |
|--|------|---------------|---------------|--------|-------------------|-----------------|---------|----------|------------------|
|  |      |               | (Acres)       | (Ha.)  |                   |                 |         |          |                  |
| 400-00705  | 11   | Pt. Lot 2     | 0.49          | 0.20   | Ronald W. Gerard  | \$0.00          | \$0.00  | \$186.00 | \$186.00         |
| 400-00720  | 11   | Pt. Lot 2     | 1.22          | 0.49   | Peggy A. Gerard   | \$0.00          | \$0.00  | \$273.00 | \$273.00         |
| 410-05302  | 10   | Pt. Lot 1 & 2 | 1.80          | 0.73 * | Patrick J. Gerard | \$0.00          | \$0.00  | \$92.00  | \$92.00          |
| Total on Privately-Owned - Non-Agricultural Lands..... |      |               |               |        |                   | \$0.00          | \$0.00  | \$551.00 | \$551.00         |

**PRIVATELY-OWNED - AGRICULTURAL LANDS**

| Roll No.  | Con. | Description | Area Affected |        | Owner             | Special Benefit | Benefit | Outlet     | Total Assessment |
|-----------|------|-------------|---------------|--------|-------------------|-----------------|---------|------------|------------------|
|           |      |             | (Acres)       | (Ha.)  |                   |                 |         |            |                  |
| 400-00800 | 11   | Pt. Lot 2   | 15.70         | 6.35 * | Ahmed S. Al-Farra | \$7,500.00      | \$0.00  | \$1,476.00 | \$8,976.00       |
| 410-05500 | 10   | Pt. Lot 2   | 6.38          | 2.58 * | Gerald Santo      | \$0.00          | \$0.00  | \$240.00   | \$240.00         |

**TOTAL ASSESSMENT . . . . . \$7,500.00 \$0.00 \$2,500.00 \$10,000.00**

(Acres) (Ha.)  
 -----  
**Total Area: 19.58 7.92**

\* DENOTES A REDUCED ASSESSMENT

” SCHEDULE F”  
DRAINAGE REPORT FOR THE  
**EAST MCPHERSON DRAIN**  
IN THE TOWN OF TECUMSEH

**SPECIAL PROVISIONS**

**1.0 GENERAL SPECIFICATIONS**

The General Specifications attached hereto is part of “Schedule F.” It also forms part of this specification and is to be read with it, but where there is a difference between the requirements of the General Specifications and those of the Special Provisions which follow, the Special Provisions will take precedence.

**2.0 DESCRIPTION OF WORK**

The work to be carried out under this Contract includes, but is not limited to, the supply of all **labour, equipment and materials** to complete the following items:

- Supply and installation of a new 20.5 m long, 750 mm diameter corrugated high density polyethylene (HDPE) Boss 2000 (or approved equivalent), 320kPA including couplers (see specifications).
- Supply and install clear stone bedding materials (minimum 150 mm thickness) with filter fabric underlay under the new culvert pipe (approximately 15 tonnes).
- Supply and install full compacted Granular ‘B’ bedding and backfill materials from the pipe invert to the native material (approximately 200 tonnes).
- Supply and installation of imported clean backfill material to be used as a buffer between the Granular ‘B’ material and the stone erosion protection. (Approximately 15 m<sup>3</sup>). Work includes supply and placement of topsoil (100 mm thickness), fine grading and seeding of buffers.
- Supply and install full compacted Granular ‘A’ (crushed limestone) compacted driveway surface, minimum 200mm thickness (approximately 50 tonnes).
- Supply and install stone erosion protection for sloping end walls, minimum 300 mm thickness, c/w filter fabric underlay (approximately 35 m<sup>2</sup>).
- Temporary silt control measures during construction.

**3.0 ACCESS TO THE WORK**

Access to the drain shall be directly from the 11<sup>th</sup> Concession Road. Contractor shall make his/her own arrangements for any additional access for his/her convenience. Through traffic must be maintained at all times along municipal roads with the required traffic control as per Section 13.0 in the General Specifications. All construction materials for the bridge are to be placed on the field side of the roadside drains. Any damage resulting from the Contractor's access to the bridge site shall be restored to original conditions at the Contractor’s expense.

## WORKING AREA

The working area at the bridge site shall be restricted to the 9 m wide working corridor along the east side of the drain and including the road allowance for the 11<sup>th</sup> Concession Road provided through traffic is maintained as per Section 13.0 in the General Specifications.

**Any damages to lands and/or roads from the Contractor's work within the working areas for the bridge sites shall be rectified to pre-existing conditions at his/her expense.**

## 4.0 BRIDGE CONSTRUCTION

### 5.1 Location

The culvert shall be located and installed as shown on the drawings attached hereto.

### 5.2 Materials

Materials shall be as follows:

|   |   |
|---|---|
| <i>Culvert</i>  | <i>New 750 mm diameter solid (non-perforated) corrugated High Density Polyethylene (H.D.P.E.) smooth wall interior (Armtec Boss 2000 or approved equivalent) unless otherwise specified conforming to the following specifications: ASTM @3350, CSA B182.8-02 and OPSS 1840. The pipe is to provide a minimum pipe stiffness of 320 kPa. Joined using (water tight) "bell and spigot" connection type. Joints wrapped in "Non-Woven" geotextile filter fabric with a minimum strength equal to or greater than Terrafix 270R, Amoco 446, Mirafi 140NC or approved equivalent.</i> |
| <i>Bedding Below Pipe</i>                                   | <i>19 mm clear stone conforming to OPSS Division 10.</i>  |
| <i>Pipe Backfill to underside of road surface materials</i> | <i>Granular 'B' conforming to OPSS Division 10.</i>   |
| <i>Driveway Surface</i>                                     | <i>Granular 'A' made from crushed limestone conforming to OPSS Division 10. Minimum 200 mm thickness.</i>   |
| <i>Filter Fabric</i>  | <i>"Non-Woven" geotextile filter fabric with a minimum strength equal to or greater than Terrafix 270R, Amoco 4546, Mirafi 140NC or approved equivalent.</i>  |
| <i>Buffer Strips</i>  | <i>Dry native material free of topsoil, organic matter, broken concrete, steel, wood and deleterious substances.</i>  |
| <i>Topsoil over Buffer Strips</i>                           | <i>Salvaged or imported topsoil, fine graded and seeded. Minimum 100 mm thickness</i>   |
| <i>Erosion Stone</i>  | <i>All stone to be used for erosion protection shall be 125 – 250 mm clear quarried rock or OPSS 1001, minimum 300 mm thickness</i>   |



### 5.3 Culvert Installation

Suitable dykes shall be constructed in the drain so that the installation of the culvert can be accomplished in the dry. The drain bottom shall be cleaned, prepared, shaped, and compacted to suit the new culvert configuration, as shown on the drawings. Granular materials shall be compacted to 100% of their maximum dry density; imported clean native materials shall be supplied, placed and compacted to 95% of their maximum dry density. The Contractor shall note that imported native materials are required for backfill of the new bridge culvert, and the costs shall be included as part of the work.

### 5.4 Stone Erosion Protection

End walls shall be constructed of quarry stone rip-rap, as specified herein. Each end wall shall extend from the invert of the new culvert to the top of the proposed lane. The end walls shall be sloped 1 vertical to 1.5 horizontal with a filter fabric underlay surrounding the pipe and spanning across the entire width of the drain and wrapping around the drain banks to align with the ends of the new pipe culvert. The minimum thickness requirement of the erosion stone layer is 300 mm with no portion of the filter fabric to be exposed to sunlight.

### 5.5 Granular 'A' Driveway

The Contractor shall construct the driveway with a maximum 3% cross-fall grade consisting of a minimum 200 mm thickness of compacted Granular 'A' (crushed limestone) surface. The minimum top width of the driveway shall be as shown on the drawings.

### 5.6 Lateral Tile Drains

Should the Contractor encounter any lateral tiles within the proposed culvert limits not shown on attached drawings, the Contractor shall re-route the outlet tile drain(s) in consultation with the Drainage Superintendent, as required, to accommodate the new culvert. **Tile drain outlets through the wall of the new culvert pipe will not be permitted.** All costs associated with re-routing lateral tile drains (if any) shall be at the Contractor's expense.

### 5.7 Site Cleanup and Restoration

As part of the work and upon completion, the Contractor shall remove and dispose of, off-site any loose timber, logs, stumps, large stones, rubber tires, cinder blocks or other debris from the drain bottom and from the side slopes. Where the construction works cross a lawn, the Contractor shall take extreme care to avoid damaging the lawn, shrubs and trees encountered. Upon completion of the work, the Contractor shall completely restore the area by the placement and fine grading of topsoil and seeding or sodding the area as specified by the Engineer or Drainage Superintendent.

# GENERAL SPECIFICATIONS

## 1.0 AGREEMENT AND GENERAL CONDITIONS

The part of the Specifications headed "Special Provisions" which is attached hereto forms part of this Specification and is to be read with it. Where there is any difference between the requirements of this General Specification and those of the Special Provisions, the Special Provisions shall govern.

Where the word "Drainage Superintendent" is used in this specification, it shall mean the person or persons appointed by the Council of the Municipality having jurisdiction to superintend the work.

Tenders will be received, and contracts awarded only in the form of a lump sum contract for the completion of the whole work or of specified sections thereof. The Tenderer agrees to enter into a formal contract with the Municipality upon acceptance of the tender. The General Conditions of the contract and Form of Agreement shall be those of the Stipulated Price Contract CCDC2-Engineers, 1994 or the most recent revision of this document.

## 2.0 EXAMINATION OF SITE, PLANS AND SPECIFICATIONS

Each tenderer must visit the site and review the plans and specifications before submitting his/her tender and must satisfy himself/herself as to the extent of the work and local conditions to be met during the construction. Claims made at any time after submission of his/her tender that there was any misunderstanding of the terms and conditions of the contract relating to site conditions, will not be allowed. The Contractor will be at liberty, before bidding to examine any data in the possession of the Municipality or of the Engineer.

The quantities shown or indicated on the drawings or in the report are estimates only and are for the sole purpose of indicating to the tenderers the general magnitude of the work. The tenderer is responsible for checking the quantities for accuracy prior to submitting his/her tender.

## 3.0 MAINTENANCE PERIOD

The successful Tenderer shall guarantee the work for a period of one (1) year from the date of acceptance thereof from deficiencies that, in the opinion of the Engineer, were caused by faulty workmanship or materials. The successful Tenderer shall, at his/her own expense, make good and repair deficiencies and every part thereof, all to the satisfaction of the Engineer. Should the successful Tenderer for any cause, fail to do so, then the Municipality may do so and employ such other person or persons as the Engineer may deem proper to make such repairs or do such work, and the whole costs, charges and expense so incurred may be deducted from any amount due to the Tenderer or may be collected otherwise by the Municipality from the Tenderer.

## 4.0 GENERAL CO-ORDINATION

The Contractor shall be responsible for the coordination between the working forces of other organizations and utility companies in connection with this work. The Contractor shall have no cause of action against the Municipality or the Engineer for delays based on the allegation that the site of the work was not made available to him by the Municipality or the Engineer by reason of the acts, omissions, misfeasance or non-feasance of other organizations or utility companies engaged in other work.

## **5.0 RESPONSIBILITY FOR DAMAGES TO UTILITIES**

The Contractor shall note that overhead and underground utilities such as hydro, gas, telephone and water are not necessarily shown on the drawings. It is the Contractor's responsibility to contact utility companies for information regarding utilities, to exercise the necessary care in construction operations and to take other precautions to safeguard the utilities from damage.

All work on or adjacent to any utility, pipeline, railway, etc., is to be carried out in accordance with the requirements of the utility, pipeline, railway, or other, as the case may be, and its specifications for such work are to be followed as if they were part of this specification. The Contractor will be liable for any damage to utilities.

## **6.0 CONTRACTOR'S LIABILITY**

The Contractor, his/her agents and all workmen or persons under his/her control including sub-contractors, shall use due care that no person or property is injured and that no rights are infringed in the prosecution of the work. The Contractor shall be solely responsible for all damages, by whomsoever claimable, in respect to any injury to persons or property of whatever description and in respect of any infringement of any right, privilege or easement whatever, occasioned in the carrying on of the work, or by any neglect on the Contractor's part.

The Contractor shall indemnify and hold harmless the Municipality and the Engineer, their agents and employees from and against claims, demands, losses, costs, damages, actions, suits, or proceedings arising out of or attributable to the Contractor's performance of the contract.

## **7.0 PROPERTY BARS AND SURVEY MONUMENTS**

The Contractor shall be responsible for marking and protecting all property bars and survey monuments during construction. All missing, disturbed or damaged property bars and survey monuments shall be replaced at the Contractor's expense, by an Ontario Land Surveyor.

## **8.0 MAINTENANCE OF FLOW**

The Contractor shall, at his/her own cost and expense, permanently provide for and maintain the flow of all drains, ditches and water courses that may be encountered during the progress of the work.

## **9.0 ONTARIO PROVINCIAL STANDARDS**

Ontario Provincial Standard Specifications (OPSS) and Ontario Provincial Standard Drawings (OPSD) shall apply and govern at all times unless otherwise amended or extended in these Specifications or on the Drawing. Access to the electronic version of the Ontario Provincial Standards is available online through the MTO website, free of charge to all users. To access the electronic standards on the Web go to <http://www.mto.gov.on.ca/english/transrd/>. Under the title Technical Manuals is a link to the Ontario Provincial Standards. Users require Adobe Acrobat to view all pdf files.

## **10.0 APPROVALS, PERMITS AND NOTICES**

The construction of the works and all operations connected therewith are subject to the approval, inspection, by-laws and regulations of all Municipal, Provincial, Federal and other authorities having jurisdiction in respect to any matters embraced in this Contract. The Contractor shall obtain all approvals and permits and notify the affected authorities when carrying out work in the vicinity of any public utility, power, underground cables, railways, etc.

### **11.0 SUBLETTING**

The Contractor shall keep the work under his/her personal control, and shall not assign, transfer, or sublet any portion without first obtaining the written consent of the Municipality.

### **12.0 TIME OF COMPLETION**

The Contractor shall complete all work on or before the date fixed at the time of tendering. The Contractor will be held liable for any damages or expenses occasioned by his/her failure to complete the work on time and for any expenses of inspection, superintending, re-tendering or re-surveying, due to their neglect or failure to carry out the work in a timely manner.

### **13.0 TRAFFIC CONTROL**

The Contractor will be required to control vehicular and pedestrian traffic along roads at all times and shall, at his/her own expense, provide for placing and maintaining such barricades, signs, flags, lights and flag persons as may be required to ensure public safety. The Contractor will be solely responsible for controlling traffic and shall appoint a representative to maintain the signs and warning lights at night, on weekends and holidays and at all other times that work is not in progress. All traffic control during construction shall be strictly in accordance with the **Occupational Health and Safety Act** and the current version of the **Ontario Traffic Manuals**. Access to the electronic version of the **Ontario Traffic Manual** is available online through the MTO website, free of charge to all users.

To access the electronic standards on the Web go to <http://www.mto.gov.on.ca/english/transrd/>, click on "Library Catalogue," under the "Title," enter "Ontario Traffic Manual" as the search. Open the applicable "Manual(s)" by choosing the "Access Key," once open look for the "Attachment," click the pdf file. Users require Adobe Acrobat to view all pdf files.

**Contractors are reminded of the requirements of the Occupational Health and Safety Act pertaining to Traffic Protection Plans for workers and Traffic Control Plan for Public Safety.**

### **14.0 SITE CLEANUP AND RESTORATION**

As part of the work and upon completion, the Contractor shall remove and dispose of, off-site any loose timber, logs, stumps, large stones, rubber tires, cinder blocks or other debris from the drain bottom and from the side slopes. Where the construction works cross a lawn, the Contractor shall take extreme care to avoid damaging the lawn, shrubs and trees encountered. Upon completion of the work, the Contractor shall completely restore the area by the placement and fine grading of topsoil and seeding or sodding the area as specified by the Engineer or Drainage Superintendent.

### **15.0 UTILITY RELOCATION WORKS**

In accordance with Section 26 of the Drainage Act, if utilities are encountered during the installation of the drainage works that conflict with the placement of the new culvert, the operating utility company shall relocate the utility at their own costs. The Contractor however will be responsible to co-ordinate these required relocations (if any) and their co-ordination work shall be considered incidental to the drainage works.

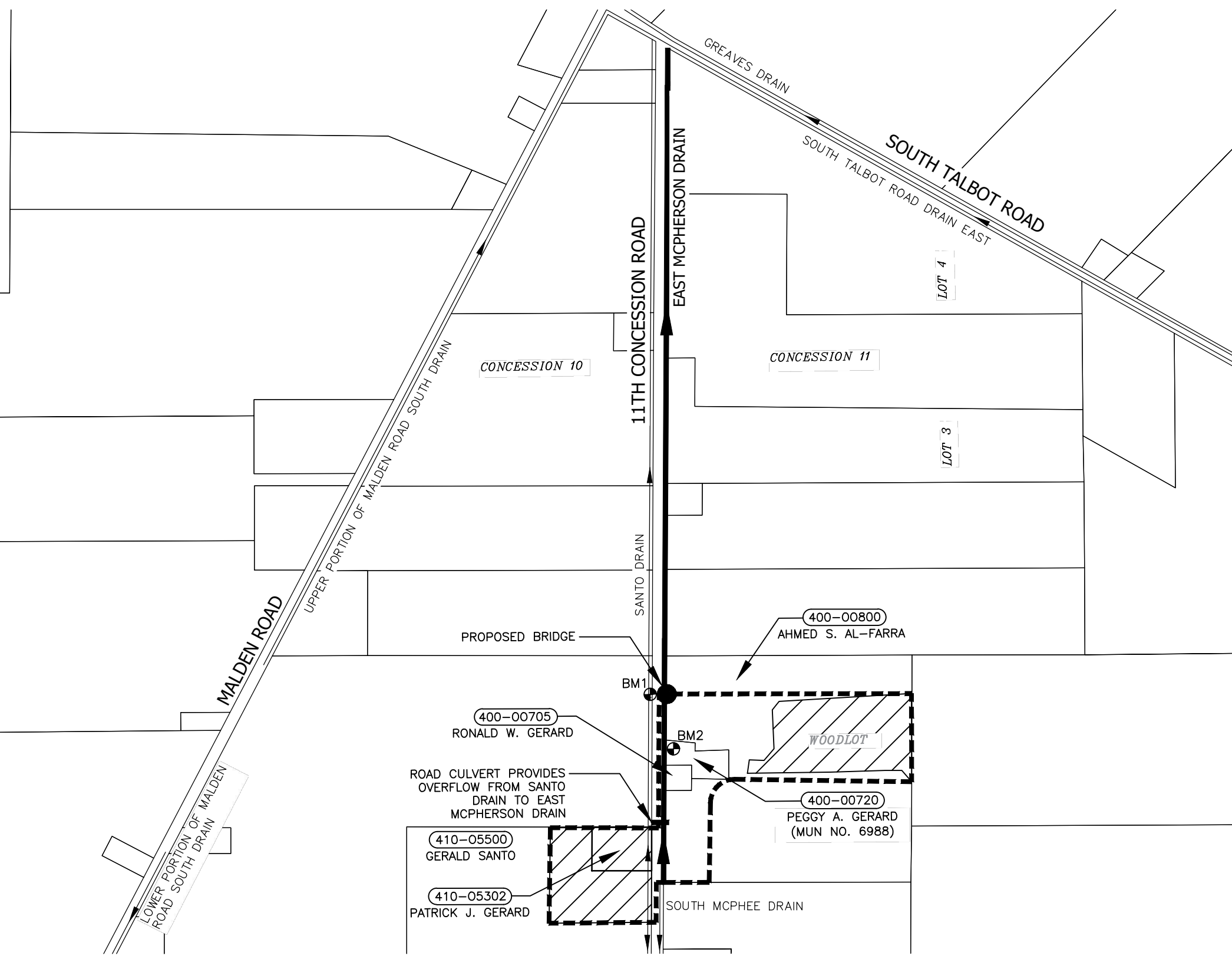
## **16.0 FINAL INSPECTION**

All work shall be carried out to the satisfaction of the Drainage Superintendent for the Municipality, in compliance with the specifications, drawings and the Drainage Act. Upon completion of the project, the work will be inspected by the Engineer and the Drainage Superintendent. Any deficiencies noted during the final inspection shall be immediately rectified by the Contractor.

Final inspection will be made by the Engineer within 20 days after the Drainage Superintendent has received notice in writing from the Contractor that the work is completed, or as soon thereafter as weather conditions permit.

## **17.0 FISHERIES CONCERNS**

Standard practices to be followed to minimize disruption to fish habitat include embedment of the culvert a minimum 10% below grade, constructing the work 'in the dry' and cutting only trees necessary to do the work (no clear-cutting). No in-water work is to occur during the timing window unless otherwise approved by the appropriate authorities.



**LEGEND**

- EAST MCPHERSON DRAIN DRAINAGE AREA
- EAST MCPHERSON DRAIN
- OTHER DRAINS
- NEW BRIDGE
- LOCAL BENCHMARK
- LAND ASSESSED AT REDUCED RATE

**BENCHMARKS**

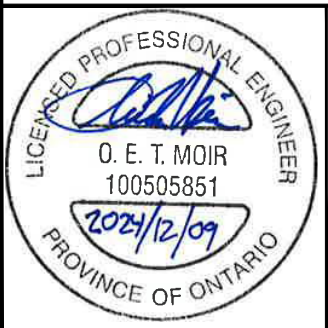
**BM1**  
TOP OF NAIL IN EAST FACE OF HYDRO POLE ON WEST SIDE OF 11TH CONCESSION ROAD, ACROSS FROM PROPERTY, ROLL NO. 400-00800  
ELEVATION=193.35m

**BM2**  
TOP OF 600mm CSP AT NORTH END OF ACCESS BRIDGE FOR MUN. NO. 6988 11TH CONCESSION ROAD  
ELEVATION=191.92m

**NOTE: CONTRACTOR TO VERIFY BENCHMARKS PRIOR TO CONSTRUCTION.**

**NOTE: CONTRACTOR SHALL ARRANGE TO HAVE ALL UTILITY LOCATES COMPLETED ONSITE PRIOR TO ANY EXCAVATION WORK. DILLON CONSULTING LIMITED DOES NOT GUARANTEE THE ACCURACY OF THE EXISTING UTILITIES SHOWN ON THE DRAWINGS. CONTRACTOR SHALL VERIFY THE LOCATION PRIOR TO COMMENCING WORK.**

**WATERSHED PLAN**  
SCALE=1:7,500



**Conditions of Use**

Verify elevations and/or dimensions on drawing prior to use. Report any discrepancies to Dillon Consulting Limited.

Do not scale dimensions from drawing.

Do not modify drawing, re-use it, or use it for purposes other than those intended at the time of its preparation without prior written permission from Dillon Consulting Limited.

| No. | ISSUED FOR                | DATE      | BY  |
|-----|---------------------------|-----------|-----|
| 3   | FINAL REPORT SUBMISSION   | DEC. 9/24 | OEM |
| 2   | PUBLIC INFORMATION CENTRE | NOV. 7/24 | OEM |
| 1   | CLIENT REVIEW             | OCT. 2/24 | OEM |

|                  |             |
|------------------|-------------|
| DESIGN           | REVIEWED BY |
| OEM              | VJH         |
| DRAWN            | CHECKED BY  |
| JAO              | TRO         |
| DATE             |             |
| December 9, 2024 |             |
| SCALE            |             |
| AS SHOWN         |             |

PROJECT NO. 24-8532

DRAWING SCALES BASED ON A 11" X 17" SHEET

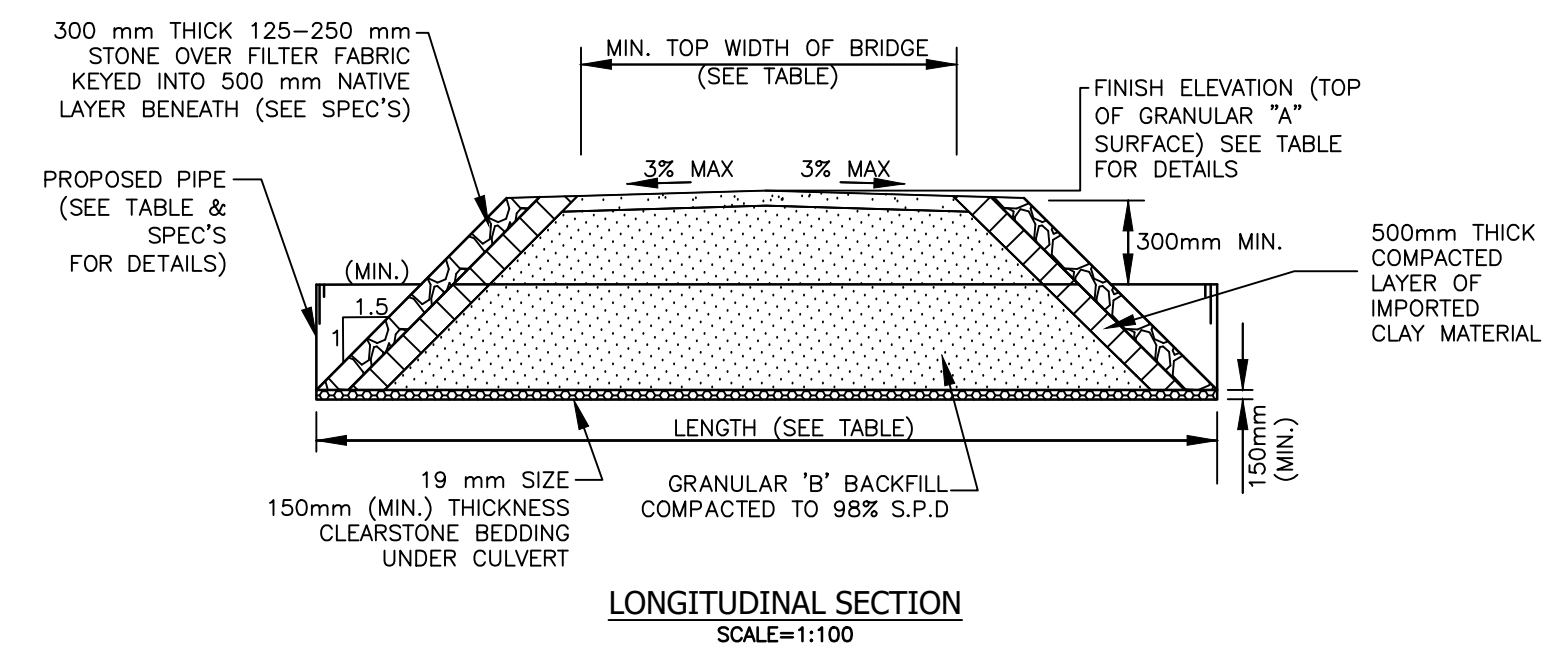
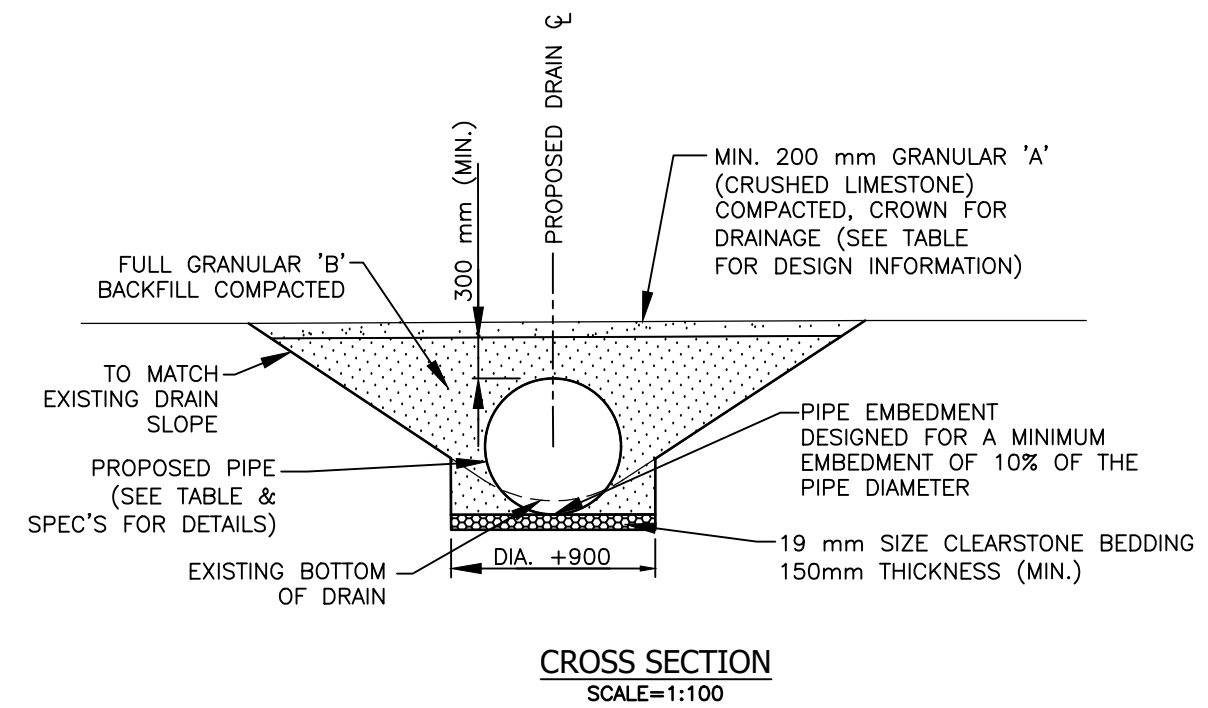
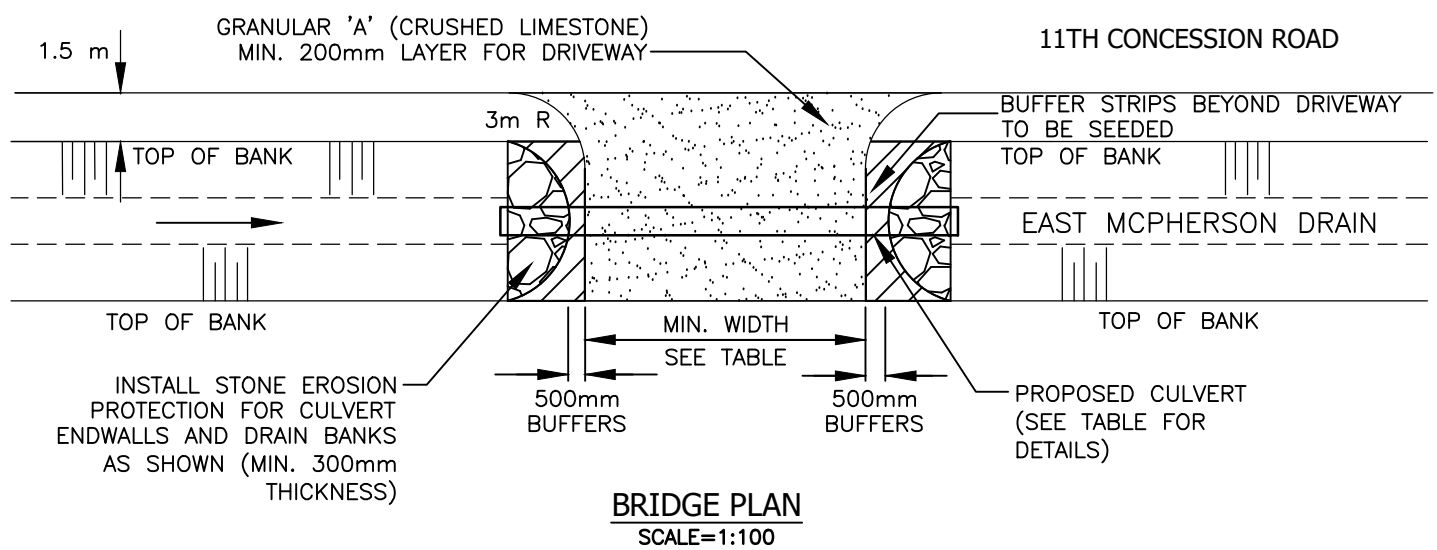
**'SCHEDULE G'**

Drainage Report for the  
**EAST MCPHERSON DRAIN (AL-FARRA BRIDGE)**  
Town of Tecumseh

SHEET TITLE **WATERSHED PLAN**

PAGE NO. **1 of 2**

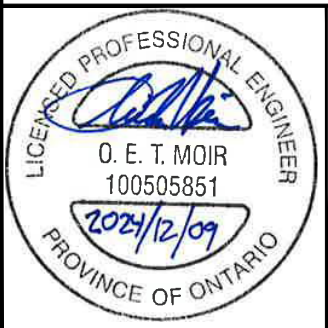
Dec 06, 2024 - 5:28pm C:\Users\330EM\appdata\local\temp\AcPublish\_20828\248532-03-DRN-CON.dwg



| DESCRIPTION  | BRIDGE DETAILS |
|--|----------------|
| PIPE INVERT ELEV. U/S SIDE(m)                        | 190.97         |
| PIPE INVERT ELEV. D/S SIDE(m)                        | 190.95         |
| TOP OF CL DRIVEWAY SURFACE ELEV. (m)                 | 192.98         |
| DRAIN BOTTOM (m) (DESIGN) (AT CENTRELINE OF CULVERT) | 191.04         |
| MIN. TOP WIDTH OF DRIVEWAY (m)                       | 12.20          |
| MIN. CULVERT GRADE (%)                               | 0.10           |
| CULVERT TYPE   | BOSS 2000      |
| CULVERT MATERIAL                                     | H.D.P.E.       |
| CULVERT LENGTH (m)                                   | 20.5           |
| PIPE SIZE (mm)                                       | 750            |
| CULVERT ENDWALL TYPE                                 | SLOPING        |

- NOTES:
- PRIVATE LATERAL DRAIN TILE OUTLETS DISCOVERED DURING THE COURSE OF WORK SHALL BE RELOCATED DOWNSTREAM OF THE NEW CULVERT OR AS DIRECTED BY THE DRAINAGE SUPERINTENDENT
  - CULVERT LOCATION TO BE CONFIRMED WITH THE ENGINEER OR DRAINAGE SUPERINTENDENT PRIOR TO CONSTRUCTION.
  - CONTRACTOR TO CLEANOUT DRAIN 3m UPSTREAM AND DOWNSTREAM OF CULVERT

Dec 06, 2024 - 5:28pm C:\Users\330EM\appdata\local\temp\AcPublish\_20828\248532-03-DRN-CON.dwg



**Conditions of Use**

Verify elevations and/or dimensions on drawing prior to use. Report any discrepancies to Dillon Consulting Limited.

Do not scale dimensions from drawing.

Do not modify drawing, re-use it, or use it for purposes other than those intended at the time of its preparation without prior written permission from Dillon Consulting Limited.

| No. | ISSUED FOR                | DATE      | BY  |
|-----|---------------------------|-----------|-----|
| 3   | FINAL REPORT SUBMISSION   | DEC. 9/24 | OEM |
| 2   | PUBLIC INFORMATION CENTRE | NOV. 7/24 | OEM |
| 1   | CLIENT REVIEW             | OCT. 2/24 | OEM |

| DESIGN | REVIEWED BY      |
|--------|------------------|
| OEM    | VJH              |
| DRAWN  | CHECKED BY       |
| JAO    | TRO              |
| DATE   | December 9, 2024 |
| SCALE  | AS SHOWN         |

PROJECT NO. 24-8532

DRAWING SCALES BASED ON A 11" X 17" SHEET

**'SCHEDULE G'**

Drainage Report for the  
**EAST MCPHERSON DRAIN  
(AL-FARRA BRIDGE)**  
Town of Tecumseh

SHEET TITLE **BRIDGE DETAILS**

PAGE NO. **2 of 2**

# The Corporation of the Town of Tecumseh

## By-Law Number 2025 - 014

Being a by-law to provide for the repair and improvements to the 11th Concession Drain

**Whereas** the Council of The Corporation of the Town of Tecumseh (hereafter "Town") has been requested to provide for the repair and improvement of the 11th Concession;

**And whereas** the Town procured a Drainage Report for the 11th Concession and specifications from the consulting engineering firm of Dillon Consulting Limited, dated December 9, 2024 (hereafter "Drainage Report");

**And whereas** notice of a Public Meeting to hear comments from the affected property owners was given on Monday, January 6, 2025;

**And whereas** a Public Meeting of Council was held on Tuesday, January 28, 2025, at 6:30 pm to hear from any affected property owners on the Drainage Report;

**And Whereas** the Council of The Corporation of the Town of Tecumseh is of the opinion that the repair and improvement of the 11th Concession is desirable;

**Now Therefore the Council of The Corporation of The Town of Tecumseh Enacts as follows:**

1. **That** the Drainage Report providing for the repair and improvement of the 11th Concession, dated December 9, 2024, as prepared by the consulting engineering firm Dillon Consulting Limited and attached hereto as Schedule "A" to this by-law, is hereby adopted and the drainage works as therein indicated and set forth is hereby approved and shall be completed in accordance therewith.
2. **That** the Treasurer, subject to the approval of Council, may agree with any bank or person for temporary advances of money to meet the costs of construction pending the completion of the drain and grants and computed payments are received.
3. **That** the Town may issue debentures for the amount borrowed and the amount of such debentures shall be reduced to the total amount of:
  - a) Grants received under Section 85 of the said Act;
  - b) Commuted payments made in respect of land and roads assessed.
4. **That** such debentures shall be made payable within five (5) years from the date of the debenture and shall bear interest at a rate as approved by resolution of Council.



5. **That** the specifications and General Specifications as established are adopted as set out in the Drainage Report which forms part of this by-law.
6. **That** the Mayor and Clerk are authorized to cause a contract for the construction of the works to be made and entered into with some person or persons, firm or corporations, subject to the approval of the Council to be declared by resolution.
7. **That** this by-law shall come into force upon and after the final passing thereof.

**Read** a first and second time this 28th day of January, 2025.

---

Gary McNamara, Mayor

---

Robert Auger, Clerk

**Read** a third and final time this Choose an item. day of Choose an item., 2025.

---

Gary McNamara, Mayor

---

Robert Auger, Clerk

**DRAINAGE REPORT  
FOR**

**NEW ACCESS BRIDGE ON  
PT. LOT 17, CONCESSION 11  
OVER THE  
11<sup>TH</sup> CONCESSION DRAIN  
(BALKWILL BRIDGE)**

**IN THE  
TOWN OF TECUMSEH**



FINAL  
10 DECEMBER 2024  
OLIVER E. T. MOIR, P. ENG.  
FILE No. 24-9049  
TECUMSEH FILE No. E09EL(35)

File No. 24-9049

Mayor and Council  
Town of Tecumseh  
917 Lesperance Rd,  
Tecumseh, Ontario  
N8N 1W9

10 Fifth Street South  
Chatham, Ontario  
Canada  
N7M 4V4  
Telephone  
519.354.7802  
Fax  
519.354.2050

**Drainage Report for  
New Access Bridge on  
Pt. Lot 17, Concession 11 over the  
11<sup>TH</sup> CONCESSION DRAIN (BALKWILL BRIDGE)  
In the Town of Tecumseh**

Mayor and Council:

**Instructions**

The Municipality received a request from the landowner of property, Roll No. 560-04005 for a new access bridge to serve a proposed residential lot along County Road No. 43 on Pt. Lot 17, Concession 11 over the 11<sup>th</sup> Concession Drain on the 26<sup>th</sup> day of June 2024. Council accepted the request under Section 78(1) of the Drainage Act and on the 13<sup>rd</sup> day of August 2024 appointed Dillon Consulting Limited to prepare a report.

**Watershed Description**

The 11<sup>th</sup> Concession Drain is an open drain commencing in the South Pt. Lot 17, Concession 11. The drain flows in a northerly direction along the east side of County Road No. 43 (11<sup>th</sup> Concession Road) and turns easterly along the southerly limit of County Road No. 42 to its outlet into the Klondyke Drain.

The lands comprising the watershed are predominantly under intensive agricultural production with cash crops. There are several non-agricultural residential parcels in the watershed. There is little topographic relief. From the Ontario Soil Survey, the principle surficial soil in the study area is described as Brookston Clay, which is considered to have very poor drainage.

**On-Site Meeting**

An on-site meeting was held on 20 September 2024. A record of the meeting is provided in Schedule 'A-1', which is appended hereto.



## Drain History

The recent history of Engineers' reports for the 11th Concession Drain is as follows:

- **10 February 2014 by Mark D. Hernandez, P.Eng.:** The report recommended the incorporation of a private access culvert on Pt. Lots 19 & 20, Concession 11 as part of the 11th Concession Drain.
- **13 April 2006 by Tim R. Oliver, P.Eng.:** The report recommended the installation of a secondary access culvert for Roll No. 560-05400 under emergency provisions of the Drainage Act.
- **4 April 2000 by Lou Zarlenga, P.Eng.:** The report recommended a new farm access culvert and enclosure for Roll No. 560-04100. This report is an addendum to the 1998 report.
- **25 September 1998 by Lou Zarlenga, P.Eng.:** The report recommended the repair and improvement including widening and deepening of the open drain and the lowering and replacement of multiple access culverts.
- **16 September 1976 by Maurice Armstrong, P.Eng.:** The recommended work included the cleaning of the entire 11th Concession Drain.

## Survey

Our topographic survey and examination of the 11<sup>th</sup> Concession Drain was carried out in October 2024. The topographic data was recorded for both upstream and downstream of the proposed site for the new access culvert.

## Design Considerations

A Guide for Engineers working under the Drainage Act in Ontario, OMAFA Publication 852 (2018) is the current reference document used by engineers carrying out drainage work on municipal drains under the Act. The 2-year design storm is the recommended design standard applied to municipal drains within rural Ontario specific to open drain channels and low hazard agricultural field access crossings. We have applied this criterion for the proposed 11th Concession Drain bridge.

The new access culvert is designed for an upstream drainage area of approximately 1.32 hectares (3.26 acres). The size of the new culvert required is 450 mm diameter and the length designed to be 12.0 m long to accommodate a minimum 6.1 m (20 ft) top width and sloping end treatment. The culvert depth is designed to provide a minimum 10% embedment of the pipe invert below the drain bottom.

## Allowances

In accordance with Sections 29 and 30 of the Drainage Act, we do not anticipate any agricultural lands being damaged or used as a result of the proposed drainage works. Any damage to the roadway or the existing grassed areas shall be restored to original conditions as part of the work. Therefore, 'Schedule B' for allowances has not been included in this report.

## Recommendations and Cost Estimate

Based on our review of the history, the information obtained during the site meeting and our examination and analysis of the survey data, we recommend that the 11th Concession Drain be improved as described below:

| Item | Description  | Amount             |
|------|--|--------------------|
| 1.   | Mobilization and demobilization.   | \$2,000.00         |
| 2.   | Supply and installation of a new 12.0 m long, 450 mm diameter corrugated, solid, high-density polyethylene (HDPE) smooth wall, 320 kPa pipe, (Boss 2000 or approved equivalent) with gasketing joining system (see specifications). The work shall include site cleanup and restoration within the working area. | \$1,800.00         |
| 3.   | Supply and install clear stone bedding materials (minimum 150 mm thickness) with filter fabric underlay (approximately 5 tonnes).  | \$300.00           |
| 4.   | Supply and install full compacted Granular 'B' and materials to the underside of the driveway material. (approximately 15 tonnes).   | \$500.00           |
| 5.   | Supply and placement of imported clean native backfill material for outside driveway portion to construct 500 mm wide buffer strips (approximately 20 m <sup>3</sup> ).  | \$350.00           |
| 6.   | Supply and install Granular 'A' (crushed limestone) driveway surface, minimum 200 mm thickness (approximately 20 tonnes) to provide a minimum 6.1 m (20 feet) wide driveway.   | \$1,000.00         |
| 7.   | Supply and placement of stone erosion protection for sloping end walls, minimum 300 mm thickness, c/w filter fabric underlay (approximately 10 m <sup>2</sup> ).   | \$850.00           |
| 8.   | Temporary silt control measures during construction.   | \$500.00           |
|      | <b>SUB-TOTAL</b>   | <b>\$7,300.00</b>  |
| 9.   | Survey, report, assessment, and final inspection.  | \$7,500.00         |
| 10.  | Part time construction observation.  | \$1,000.00         |
| 11.  | Expenses and Incidentals.  | \$500.00           |
| 12.  | ERCA application review and permit fee.  | \$500.00           |
|      | <b>TOTAL ESTIMATE (excluding Net HST)</b>  | <b>\$16,800.00</b> |

The estimate provided in this report was prepared according to current materials and installation prices as of the date of this report. In the event of delays from the time of filing of the report by the Engineer to the time of tendering the work, it is understood that the estimate of cost is subject to inflation. The rate of inflation shall be calculated using the Consumer Price Index applied to the cost of construction from the date of the report to the date of tendering.

### **Assessment of Costs**

The individual assessments are comprised of three (3) assessment components:

- i. Benefit (*advantages relating to the betterment of lands, roads, buildings, or other structures resulting from the improvement to the drain*).
- ii. Outlet Liability (*part of cost required to provide outlet for lands and roads*).
- iii. Special Benefit (*additional work or feature that may not affect function of the drain*).

We have assessed the estimated costs against the affected lands and roads as listed in Schedule 'C' under "Value of Special Benefit," "Value of Benefit" and "Value of Outlet." Since there is only one Special Benefit assessment, a separate schedule for Details of Special Benefit (Schedule 'D') is not required or included herein.

### **Assessment Rationale**

The proposed access would be considered a secondary access to the property Roll No. 560-04005, until at which time the proposed lot severance is completed. For the purpose of assessment of the construction costs, 100% of the costs shall be assessed against Roll. No. 560-04005 as listed under the "Value of Special Benefit".

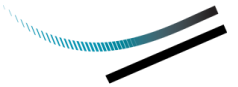
### **Utilities**

It may become necessary to temporarily or permanently relocate utilities that may conflict with the construction recommended under this report. In accordance with Section 26 of the Drainage Act, we assess any relocation cost against the public utility having jurisdiction. Under Section 69 of the Drainage Act, the public utility is at liberty to do the work with its own forces, but if it should not exercise this option within a reasonable time, the Municipality will arrange to have this work completed and the costs will be charged to the appropriate public utility.

### **Future Maintenance**

We recommend that all future work for repair and maintenance on the new access bridge be carried out by the Municipality and assessed 50% against the affected property (Roll No. 560-04005)(severed parcel) as a Special Benefit assessment and the remaining 50% assessed to the upstream lands and roads as Outlet liability assessment in the same relative proportions as to the amounts listed in Schedule 'E' which represents an assessment schedule for future maintenance.

The assessment is based on an arbitrary \$10,000 in future maintenance costs. These provisions for maintenance are subject, of course, to many variations that may be made under the authority of the Drainage Act.



## Drawings and Specifications

Attached to this report is Schedule 'F', which are Specifications setting out the details of the recommended works and Schedule 'G' which represent the drawings that are attached to this report.

**Page 1 of 2 – Watershed Plan**

**Page 2 of 2 – Bridge Details**

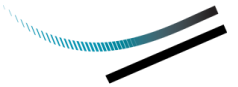
## Approvals

The construction and/or improvement to a drainage works, including repair and maintenance activities, and all operations connected therewith are subject to the approval, inspection, by-law, and regulations of all Municipal, Provincial, Federal and other authorities having jurisdiction in respect to any matters embraced by the proposed works. Prior to any construction or maintenance works, the Municipality or proponent designated on the Municipality's behalf shall obtain all required approvals/permits and confirm any construction limitations including timing windows, mitigation/off-setting measures, standard practices or any other limitations related to in-stream works.

In terms of a review of the proposed works by the Department of Fisheries and Oceans (DFO), we have undertaken a self-assessment and have determined that application requesting review is not required. The 11<sup>th</sup> Concession Drain has been classified as a "Type F" drain by DFO and the impact zone representing 1km downstream of the proposed works is also classified as a "Type F" drain. Type F drains experience intermittent water flow only and provide minimal habitat for fish. As part of the work the following mitigation measures shall be implemented to avoid any adverse effects to the waterway.

- Works will not be conducted at times when flows are elevated due to the local rain events, storms, or seasonal floods. Work will be done in the dry.
- All disturbed soils on both banks and within the channel, including spoil must be stabilized immediately upon completion of work. The restoration of the site must be completed to a like or better conditions to what existed prior to the works.
- To prevent sediment entry into the drain, in the event of an unexpected rainfall, silt barriers and/or traps must be placed in the channel during the works and until the site has been stabilized. All sediment and erosion control measures are to be in accordance with related Ontario Provincial Standards. It is incumbent on the proponent and his/her contractors to ensure that sediment and erosion control measures are functioning and are maintained/upgraded as required.
- All activities should be controlled to prevent the entry of petroleum products, debris, rubble, concrete or other deleterious substances into the water. Vehicular refueling and maintenance should be conducted away from the water.

The 11<sup>th</sup> Concession Drain may provide habitat to species at risk listed as listed under the Endangered Species Act.



The Town of Tecumseh has developed a mitigation plan document recommending mitigation measures to minimize adverse effects on species at risk including monitoring and reporting requirements should an endangered, threatened, or special concern species (fishes, reptiles, amphibians, mollusks, birds, plants, trees) be encountered. The document will be made available to contractors during the tendering process and construction period.

In terms of review by the Essex Region Conservation Authority (ERCA), the proposed works contained herein were previously reviewed and accepted by the ERCA, refer to Schedule 'A-2'. An application for permit shall be submitted by the Municipality and accompanied by payment for the permit review fee of \$500.00 before construction of the new access bridge proceeds.

### **Grants**

In accordance with the provisions of Sections 85, 86 and 87 of the Drainage Act, a grant in the amount of 33-1/3 percent of the assessment eligible for a grant may be made in respect to the assessment made under this report upon privately owned lands used for agricultural purposes. The assessments levied against privately owned agricultural land must also satisfy all other eligibility criteria set out in the Agricultural Drainage Infrastructure Program policies. Costs of drainage works associated with non-agricultural uses are not eligible for grant in accordance with Section 85 of the Drainage Act and Section 2.2(c) of the OMAFA Agricultural Drainage Infrastructure Program policies.

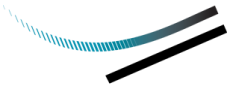
Respectfully submitted,



### **DILLON CONSULTING LIMITED**

Oliver E.T. Moir, P.Eng.

OEM:wlb:lld







# Meeting Summary

Subject: 11<sup>th</sup> Concession Drain  
 Date: 20 September 2024  
 Location: 11<sup>th</sup> Concession Road  
 Our File: 24-9049

## Attendees

|                  |                           |
|------------------|---------------------------|
| Jamie Balkwill   | Landowner                 |
| Erica Corey      | Landowner                 |
| Anne-Marie Moniz | Town of Tecumseh (Town)   |
| Matthew Shiha    | Town                      |
| Oliver Moir      | Dillon Consulting Limited |

## Notes

| Item | Discussion  | Action by |
|------|---|-----------|
| 1.   | Introductions:  |           |
| 1.1. | The Town appointed Dillon on the 11 <sup>th</sup> Concession Drain under Section 78 of the Drainage Act to prepare the drainage report for a new residential access culvert.  | INFO      |
| 2.   | Project Background:   |           |
| 2.1. | The property, Roll No. to be determined, requires access over the 11 <sup>th</sup> Concession Drain for a proposed residential property. There is no existing access as the property is yet to be severed from the existing farm parcel.  | INFO      |
| 3.   | Project Pathway:  |           |
| 3.1. | Dillon explained the Drainage Act process: <ul style="list-style-type: none"> <li>• A request under Section 78 of the Drainage Act is submitted to the Town.</li> <li>• The Engineer is appointed by the Town through Council.</li> <li>• The on-site meeting is held for the engineer to gather information from landowners.</li> <li>• Topographic survey is completed, and a report is prepared.</li> <li>• A Public Information Centre (PIC) meeting is held prior to the Meeting to Consider to give landowners the opportunity to provide comment on the report.</li> <li>• A meeting is held to consider the technical aspects of the report (Meeting to Consider).</li> <li>• A meeting is held to consider the assessment (cost sharing) aspects of the report (Court of Revision).</li> <li>• Following passing of the by-law, the drainage works are put out to tender.</li> </ul> | INFO      |

| Item | Discussion   | Action by |
|------|--|-----------|
| 4.   | <p data-bbox="383 247 626 275">General Discussions</p> <ul style="list-style-type: none"> <li data-bbox="397 296 1292 485">● Mr. Balkwill was informed that for new culverts over a municipal drain, 100% of the costs of construction and engineering are at the cost of the requesting landowner. Previous drainage works for similar requests have been in the range of \$25,000 - \$30,000 (construction &amp; engineering).</li> <li data-bbox="397 499 1292 978">● The following design aspects were discussed: <ul style="list-style-type: none"> <li data-bbox="493 541 1292 772">○ The culvert location is to be within the southerly quarter of the new lot's frontage. Mr. Balkwill can place a stake at the time of construction to define the centerline of the culvert. Sufficient space must be maintained between the new culvert and the existing hydrant access culvert located near the south limit of the proposed lot.</li> <li data-bbox="493 787 1240 814">○ Driveway material is to be Granular 'A' (crushed limestone).</li> <li data-bbox="493 829 906 856">○ End walls will be sloping stone.</li> <li data-bbox="493 871 1292 978">○ Top width will be 6.1m (20') unless requested otherwise. 6.1 m top width is standard for residential access culverts over municipal drains.</li> </ul> </li> <li data-bbox="397 993 1292 1140">● Mr. Balkwill requested a cost estimate for an additional 5 to 10 feet of top width. He was informed that future maintenance costs associated with the additional culvert length beyond the standard 6.1 m would not be shared with upstream lands.</li> <li data-bbox="397 1155 1292 1386">● The Town informed Mr. Balkwill that the construction work can be undertaken by a contractor of their choosing but a list of prerequisites must be completed, and evidence of previous construction experience must be presented. <ul style="list-style-type: none"> <li data-bbox="493 1318 1235 1386">○ Mr. Balkwill has a contractor that he would like to consider completing the works.</li> </ul> </li> <li data-bbox="397 1400 1203 1428">● Mr. Balkwill requested the report proceed as quickly as possible.</li> <li data-bbox="397 1442 1273 1512">● Grants through A.D.I.P. are not available for this project being that the works are associated with a residential development/non-agricultural.</li> <li data-bbox="397 1526 1292 1598">● Dillon will provide part-time construction observation and will complete a final inspection.</li> </ul> | INFO      |

### Errors and/or Omissions

These minutes were prepared by Oliver Moir, who should be notified of any errors and/or omissions.

**SCHEDULE 'A-2'**

Owen, Jerome &lt;jowen@dillon.ca&gt;

---

**Application for Permit - 11th Concession Drain - Balkwill Bridge (Town of Tecumseh)**

---

**Summer Locknick** <SLocknick@erca.org>

Mon, Dec 2, 2024 at 7:51 AM

To: "Moir, Oliver" &lt;omoir@dillon.ca&gt;

Cc: Jerome Owen &lt;jowen@dillon.ca&gt;, Matthew Shiha &lt;mshiha@tecumseh.ca&gt;, Anne-Marie Moniz &lt;amoniz@tecumseh.ca&gt;, "249049@dillon.ca" &lt;249049@dillon.ca&gt;

Good morning Oliver,

Thank you for the below confirmation and for providing the attached preliminary drawings for the 11<sup>th</sup> Concession Drain culvert, Project No. 24-9049. I've had an opportunity to review the preliminary drawings and the available information and can confirm that this proposal, as presented in the preliminary stages, is something that this office can support.

We look forward to receiving the Final Drainage Report and Drawings. A completed Application for Permit form will be required from the municipality.

If you have any questions, please do not hesitate to contact this office.

[Quoted text hidden]

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 **11th Concession - ERCA Application Supporting Documents (1).pdf**  
742K

**"SCHEDULE C"**  
**SCHEDULE OF ASSESSMENT**  
**11th CONCESSION (BALKWILL BRIDGE)**  
**TOWN OF TECUMSEH**

**PRIVATELY-OWNED - NON-AGRICULTURAL LANDS:**

| Roll No.   | Con. | Description | Area Affected |             | Owner                     | Special Benefit    | Benefit       | Outlet        | Total Assessment   |
|--|------|-------------|---------------|-------------|---------------------------|--------------------|---------------|---------------|--------------------|
|  |      |             | (Acres)       | (Ha.)       |                           |                    |               |               |                    |
| 560-04005<br>(Severed Parcel)                          | 11   | Pt. Lot 17  | 0.32          | 0.13        | Jamie A. & Corey Balkwill | \$16,800.00        | \$0.00        | \$0.00        | \$16,800.00        |
| Total on Privately-Owned - Non-Agricultural Lands..... |      |             |               |             |                           | \$16,800.00        | \$0.00        | \$0.00        | \$16,800.00        |
| <b>TOTAL ASSESSMENT . . . . .</b>                      |      |             |               |             |                           | <b>\$16,800.00</b> | <b>\$0.00</b> | <b>\$0.00</b> | <b>\$16,800.00</b> |
|  |      |             | (Acres)       | (Ha.)       |                           |                    |               |               |                    |
| <b>Total Area:</b>                                     |      |             | <b>0.32</b>   | <b>0.13</b> |                           |                    |               |               |                    |

**"SCHEDULE E"**  
**SCHEDULE OF ASSESSMENT FOR FUTURE MAINTENANCE**  
**11th CONCESSION (BALKWILL BRIDGE)**  
**TOWN OF TECUMSEH**

**MUNICIPAL LANDS:**

| Description                        | Area Affected |       | Owner           | Special Benefit | Benefit | Outlet     | Total Assessment |
|------------------------------------|---------------|-------|-----------------|-----------------|---------|------------|------------------|
|                                    | (Acres)       | (Ha.) |                 |                 |         |            |                  |
| County Road No. 43 (11th Conc. Rd) | 0.25          | 0.10  | County of Essex | \$0.00          | \$0.00  | \$1,263.00 | \$1,263.00       |
| Total on Municipal Lands.....      |               |       |                 | \$0.00          | \$0.00  | \$1,263.00 | \$1,263.00       |

**PRIVATELY-OWNED - NON-AGRICULTURAL LANDS:**

| Roll No.   | Con. | Description | Area Affected |       | Owner                     | Special Benefit | Benefit | Outlet     | Total Assessment |
|--|------|-------------|---------------|-------|---------------------------|-----------------|---------|------------|------------------|
|  |      |             | (Acres)       | (Ha.) |                           |                 |         |            |                  |
| 560-04005<br>(Severed Parcel)                          | 11   | Pt. Lot 17  | 0.32          | 0.13  | Jamie A. & Corey Balkwill | \$5,000.00      | \$0.00  | \$985.00   | \$5,985.00       |
| 560-04001  | 11   | Pt. Lot 17  | 1.00          | 0.40  | Jamie Balkwill            | \$0.00          | \$0.00  | \$1,010.00 | \$1,010.00       |
| 560-04005<br>(Retained Parcel)                         | 11   | Pt. Lot 17  | 1.70          | 0.69  | Jamie A. & Corey Balkwill | \$0.00          | \$0.00  | \$1,742.00 | \$1,742.00       |
| Total on Privately-Owned - Non-Agricultural Lands..... |      |             |               |       |                           | \$5,000.00      | \$0.00  | \$3,737.00 | \$8,737.00       |

|                               |  |  |             |             |  |                   |               |                   |                    |
|-------------------------------|--|--|-------------|-------------|--|-------------------|---------------|-------------------|--------------------|
| <b>TOTAL ASSESSMENT</b> ..... |  |  |             |             |  | <b>\$5,000.00</b> | <b>\$0.00</b> | <b>\$5,000.00</b> | <b>\$10,000.00</b> |
|                               |  |  | (Acres)     | (Ha.)       |  |                   |               |                   |                    |
| <b>Total Area:</b>            |  |  | <b>3.28</b> | <b>1.32</b> |  |                   |               |                   |                    |

” SCHEDULE F”  
DRAINAGE REPORT FOR A  
NEW ACCESS BRIDGE ON  
PT. LOT 17, CONCESSION 11  
11<sup>TH</sup> CONCESSION DRAIN  
IN THE TOWN OF TECUMSEH  
SPECIAL PROVISIONS

**1.0 GENERAL SPECIFICATIONS**

The General Specifications attached hereto is part of “Schedule F.” It also forms part of this specification and is to be read with it, but where there is a difference between the requirements of the General Specifications and those of the Special Provisions which follow, the Special Provisions will take precedence.

**2.0 DESCRIPTION OF WORK**

The work to be carried out under this Contract includes, but is not limited to, the supply of all **labour, equipment and materials** to complete the following items:

- Mobilization and demobilization.
- Supply and installation of a new 12.0 m long, 450 mm diameter corrugated, solid, high-density polyethylene (HDPE) smooth wall, 320 kPa pipe, (Boss 2000 or approved equivalent) with gasketting joining system (see specifications). The work shall include site cleanup and restoration within the working area.
- Supply and install clearstone bedding materials (minimum 150 mm thickness) with filter fabric underlay (approximately 5 tonnes).
- Supply and install full compacted Granular ‘B’ and materials to the underside of the driveway material. (approximately 15 tonnes).
- Supply and placement of imported clean native backfill material for outside driveway portion to construct 500 mm wide buffer strips (approximately 20 m<sup>3</sup>).
- Supply and install Granular ‘A’ (crushed limestone) driveway surface, minimum 200 mm thickness (approximately 20 tonnes) to provide a minimum 6.1 m (20 feet) wide driveway.
- Supply and placement of stone erosion protection for sloping end walls, minimum 300 mm thickness, c/w filter fabric underlay (approximately 10 m<sup>2</sup>).
- Temporary silt control measures during construction.

**3.0 ACCESS TO THE WORK**

Access to the drain shall be from County Road No. 43 (11<sup>th</sup> Concession Road). Through traffic must be maintained at all times along municipal roads with the required traffic control as per Section 13.0 in the General Specifications. All construction materials for the bridge are to be stored on the field side of the 11<sup>th</sup> Concession Drain.

#### 4.0 WORKING AREA

The working area at the bridge site shall be restricted to a radius of 20.0 m from the proposed centre of the new culvert.

**Any damages to lands and/or roads from the Contractor's work within the working areas for the bridge sites shall be rectified to pre-existing conditions at his/her expense.**

#### 5.0 BRIDGE CONSTRUCTION

##### 5.1 Location of New Bridge

The new bridge structure shall be located and installed as shown on the drawings attached hereto.

##### 5.2 Materials for New Bridge

Materials shall be as follows:

|   |  |
|---|--|
| <i>Culvert</i>  | <i>New 450 mm diameter solid (non-perforated) corrugated High Density Polyethylene (H.D.P.E.) smooth wall interior (Armtec Boss 2000 or approved equivalent) unless otherwise specified conforming to the following specifications: ASTM @3350, CSA B182.8-02 and OPSS 1840. The pipe is to provide a minimum pipe stiffness of 320 kPa. Joined using (water tight) "bell and spigot" connection type. No single pipe length to be less than 6 metres in length.</i> |
| <i>Bedding Below Pipe</i>                                   | <i>19 mm clear stone conforming to OPSS Division 10.</i>   |
| <i>Pipe Backfill to underside of road surface materials</i> | <i>Granular 'B' conforming to OPSS Division 10.</i>  |
| <i>Driveway Surface</i>                                     | <i>Granular 'A' made from crushed limestone conforming to OPSS Division 10. Minimum 200 mm thickness.</i>  |
| <i>Filter Fabric</i>  | <i>"Non-Woven" geotextile filter fabric with a minimum strength equal to or greater than Terrafix 270R, Amoco 4546, Mirafi 140NC or approved equivalent.</i>   |
| <i>Buffer Strips</i>  | <i>Dry native material free of topsoil, organic matter, broken concrete, steel, wood and deleterious substances.</i>   |
| <i>Erosion Stone</i>  | <i>All stone to be used for erosion protection shall be 125 – 250 mm clear quarried rock or OPSS 1001, minimum 300 mm thickness.</i>   |

##### 5.3 Culvert Installation

Suitable dykes shall be constructed in the drain so that the installation of the culvert can be accomplished in the dry. The drain bottom shall be cleaned, prepared, shaped and compacted to suit the new culvert configuration, as shown on the drawings. Granular materials shall be compacted to 100% of their maximum dry density; imported clean native materials shall be supplied, placed and compacted to 95% of their maximum dry density. The Contractor shall note that imported native materials are required for backfill of the new bridge culvert, and the costs shall be included as part of the work.

#### **5.4 Sloping Stone End Walls**

End walls shall be constructed of quarry stone rip-rap, as specified herein. Each end wall shall extend from the invert of the new culvert to the top of the proposed lane. The end walls shall be sloped 1 vertical to 1.5 horizontal with a filter fabric underlay surrounding the pipe and spanning across the entire width of the drain and wrapping around the drain banks to align with the ends of the new pipe culvert. The minimum thickness requirement of the erosion stone layer is 300 mm with no portion of the filter fabric to be exposed to sunlight.

#### **5.5 Granular 'A' Driveway**

The Contractor shall construct the driveway with a maximum 3% cross-fall grade consisting of a minimum 200 mm thickness of compacted Granular 'A' (crushed limestone) surface. The minimum top width of the driveway shall be as shown on the drawings.

#### **5.6 Lateral Tile Drains**

Should the Contractor encounter any lateral tiles within the proposed culvert limits not shown on attached drawings, the Contractor shall re-route the outlet tile drain(s) in consultation with the Drainage Superintendent, as required, to accommodate the new culvert. **Tile drain outlets through the wall of the new culvert pipe will not be permitted.** All costs associated with re-routing lateral tile drains (if any) shall be at the Contractor's expense.

#### **5.7 Site Cleanup and Restoration**

As part of the work and upon completion, the Contractor shall remove and dispose of, off-site any loose timber, logs, stumps, large stones, rubber tires, cinder blocks or other debris from the drain bottom and from the side slopes. Where the construction works cross a lawn, the Contractor shall take extreme care to avoid damaging the lawn, shrubs and trees encountered. Upon completion of the work, the Contractor shall completely restore the area by the placement and fine grading of topsoil and seeding or sodding the area as specified by the Engineer or Drainage Superintendent.



# GENERAL SPECIFICATIONS

## 1.0 AGREEMENT AND GENERAL CONDITIONS

The part of the Specifications headed "Special Provisions" which is attached hereto forms part of this Specification and is to be read with it. Where there is any difference between the requirements of this General Specification and those of the Special Provisions, the Special Provisions shall govern.

Where the word "Drainage Superintendent" is used in this specification, it shall mean the person, or persons appointed by the Council of the Municipality having jurisdiction to superintend the work.

Tenders will be received, and contracts awarded only in the form of a lump sum contract for the completion of the whole work or of specified sections thereof. The Tenderer agrees to enter into a formal contract with the Municipality upon acceptance of the tender. The General Conditions of the contract and Form of Agreement shall be those of the Stipulated Price Contract CCDC2-Engineers, 1994 or the most recent revision of this document.

## 2.0 EXAMINATION OF SITE, PLANS AND SPECIFICATIONS

Each tenderer must visit the site and review the plans and specifications before submitting his/her tender and must satisfy himself/herself as to the extent of the work and local conditions to be met during the construction. Claims made at any time after submission of his/her tender that there was any misunderstanding of the terms and conditions of the contract relating to site conditions, will not be allowed. The Contractor will be at liberty, before bidding to examine any data in the possession of the Municipality or of the Engineer.

The quantities shown or indicated on the drawings or in the report are estimates only and are for the sole purpose of indicating to the tenderers the general magnitude of the work. The tenderer is responsible for checking the quantities for accuracy prior to submitting his/her tender.

## 3.0 MAINTENANCE PERIOD

The successful Tenderer shall guarantee the work for a period of one (1) year from the date of acceptance thereof from deficiencies that, in the opinion of the Engineer, were caused by faulty workmanship or materials. The successful Tenderer shall, at his/her own expense, make good and repair deficiencies and every part thereof, all to the satisfaction of the Engineer. Should the successful Tenderer for any cause, fail to do so, then the Municipality may do so and employ such other person or persons as the Engineer may deem proper to make such repairs or do such work, and the whole costs, charges, and expense so incurred may be deducted from any amount due to the Tenderer or may be collected otherwise by the Municipality from the Tenderer.

## 4.0 GENERAL CO-ORDINATION

The Contractor shall be responsible for the coordination between the working forces of other organizations and utility companies in connection with this work. The Contractor shall have no cause of action against the Municipality or the Engineer for delays based on the allegation that the site of the work was not made available to him by the Municipality or the Engineer by reason of the acts, omissions, misfeasance or non-feasance of other organizations or utility companies engaged in other work.

## **5.0 RESPONSIBILITY FOR DAMAGES TO UTILITIES**

The Contractor shall note that overhead and underground utilities such as hydro, gas, telephone and water are not necessarily shown on the drawings. It is the Contractor's responsibility to contact utility companies for information regarding utilities, to exercise the necessary care in construction operations and to take other precautions to safeguard the utilities from damage.

All work on or adjacent to any utility, pipeline, railway, etc., is to be carried out in accordance with the requirements of the utility, pipeline, railway, or other, as the case may be, and its specifications for such work are to be followed as if they were part of this specification. The Contractor will be liable for any damage to utilities.

## **6.0 CONTRACTOR'S LIABILITY**

The Contractor, his/her agents and all workmen or persons under his/her control including sub-contractors, shall use due care that no person or property is injured and that no rights are infringed in the prosecution of the work. The Contractor shall be solely responsible for all damages, by whomsoever claimable, in respect to any injury to persons or property of whatever description and in respect of any infringement of any right, privilege or easement whatever, occasioned in the carrying on of the work, or by any neglect on the Contractor's part.

The Contractor shall indemnify and hold harmless the Municipality and the Engineer, their agents, and employees from and against claims, demands, losses, costs, damages, actions, suits, or proceedings arising out of or attributable to the Contractor's performance of the contract.

## **7.0 PROPERTY BARS AND SURVEY MONUMENTS**

The Contractor shall be responsible for marking and protecting all property bars and survey monuments during construction. All missing, disturbed, or damaged property bars and survey monuments shall be replaced at the Contractor's expense, by an Ontario Land Surveyor.

## **8.0 MAINTENANCE OF FLOW**

The Contractor shall, at his/her own cost and expense, permanently provide for and maintain the flow of all drains, ditches and water courses that may be encountered during the progress of the work.

## **9.0 ONTARIO PROVINCIAL STANDARDS**

Ontario Provincial Standard Specifications (OPSS) and Ontario Provincial Standard Drawings (OPSD) shall apply and govern at all times unless otherwise amended or extended in these Specifications or on the Drawing. Access to the electronic version of the Ontario Provincial Standards is available online through the MTO website, free of charge to all users. To access the electronic standards on the Web go to <http://www.mto.gov.on.ca/english/transrd/>. Under the title Technical Manuals is a link to the Ontario Provincial Standards. Users require Adobe Acrobat to view all pdf files.

## **10.0 APPROVALS, PERMITS AND NOTICES**

The construction of the works and all operations connected therewith are subject to the approval, inspection, by-laws and regulations of all Municipal, Provincial, Federal and other authorities having jurisdiction in respect to any matters embraced in this Contract. The Contractor shall obtain all approvals and permits and notify the affected authorities when carrying out work in the vicinity of any public utility, power, underground cables, railways, etc.

## **11.0 SUBLETTING**

The Contractor shall keep the work under his/her personal control, and shall not assign, transfer, or sublet any portion without first obtaining the written consent of the Municipality.

## **12.0 TIME OF COMPLETION**

The Contractor shall complete all work on or before the date fixed at the time of tendering. The Contractor will be held liable for any damages or expenses occasioned by his/her failure to complete the work on time and for any expenses of inspection, superintending, re-tendering or re-surveying, due to their neglect or failure to carry out the work in a timely manner.

## **13.0 TRAFFIC CONTROL**

The Contractor will be required to always control vehicular and pedestrian traffic along roads and shall, at his/her own expense, provide for placing and maintaining such barricades, signs, flags, lights, and flag persons as may be required to ensure public safety. The Contractor will be solely responsible for controlling traffic and shall appoint a representative to maintain the signs and warning lights at night, on weekends and holidays and at all other times that work is not in progress.

All traffic control during construction shall be strictly in accordance with the **Occupational Health and Safety Act** and the current version of the **Ontario Traffic Manuals**. Access to the electronic version of the **Ontario Traffic Manual** is available online through the MTO website, free of charge to all users.

To access the electronic standards on the Web, go to <http://www.mto.gov.on.ca/english/transrd/>, click on "Library Catalogue," under the "Title," enter "Ontario Traffic Manual" as the search. Open the applicable "Manual(s)" by choosing the "Access Key," once open look for the "Attachment," click the pdf file. Users require Adobe Acrobat to view all pdf files.

**Contractors are reminded of the requirements of the Occupational Health and Safety Act pertaining to Traffic Protection Plans for workers and Traffic Control Plan for Public Safety.**

## **14.0 SITE CLEANUP AND RESTORATION**

As part of the work and upon completion, the Contractor shall remove and dispose of, off-site any loose timber, logs, stumps, large stones, rubber tires, cinder blocks or other debris from the drain bottom and from the side slopes. Where the construction works cross a lawn, the Contractor shall take extreme care to avoid damaging the lawn, shrubs and trees encountered. Upon completion of the work, the Contractor shall completely restore the area by the placement and fine grading of topsoil and seeding or sodding the area as specified by the Engineer or Drainage Superintendent.

## **15.0 UTILITY RELOCATION WORKS**

In accordance with Section 26 of the Drainage Act, if utilities are encountered during the installation of the drainage works that conflict with the placement of the new culvert, the operating utility company shall relocate the utility at their own costs. The Contractor however will be responsible to co-ordinate these required relocations (if any) and their co-ordination work shall be considered incidental to the drainage works.

## **16.0 FINAL INSPECTION**

All work shall be carried out to the satisfaction of the Drainage Superintendent for the Municipality, in compliance with the specifications, drawings and the Drainage Act. Upon completion of the project, the work will be inspected by the Engineer and the Drainage Superintendent. Any deficiencies noted during the final inspection shall be immediately rectified by the Contractor.

Final inspection will be made by the Engineer within 20 days after the Drainage Superintendent has received notice in writing from the Contractor that the work is completed, or as soon thereafter as weather conditions permit.

## **17.0 FISHERIES CONCERNS**

Standard practices to be followed to minimize disruption to fish habitat include embedment of the culvert a minimum 10% below grade, constructing the work 'in the dry' and cutting only trees necessary to do the work (no clear-cutting). No in-water work is to occur during the timing window unless otherwise approved by the appropriate authorities.



**LEGEND**

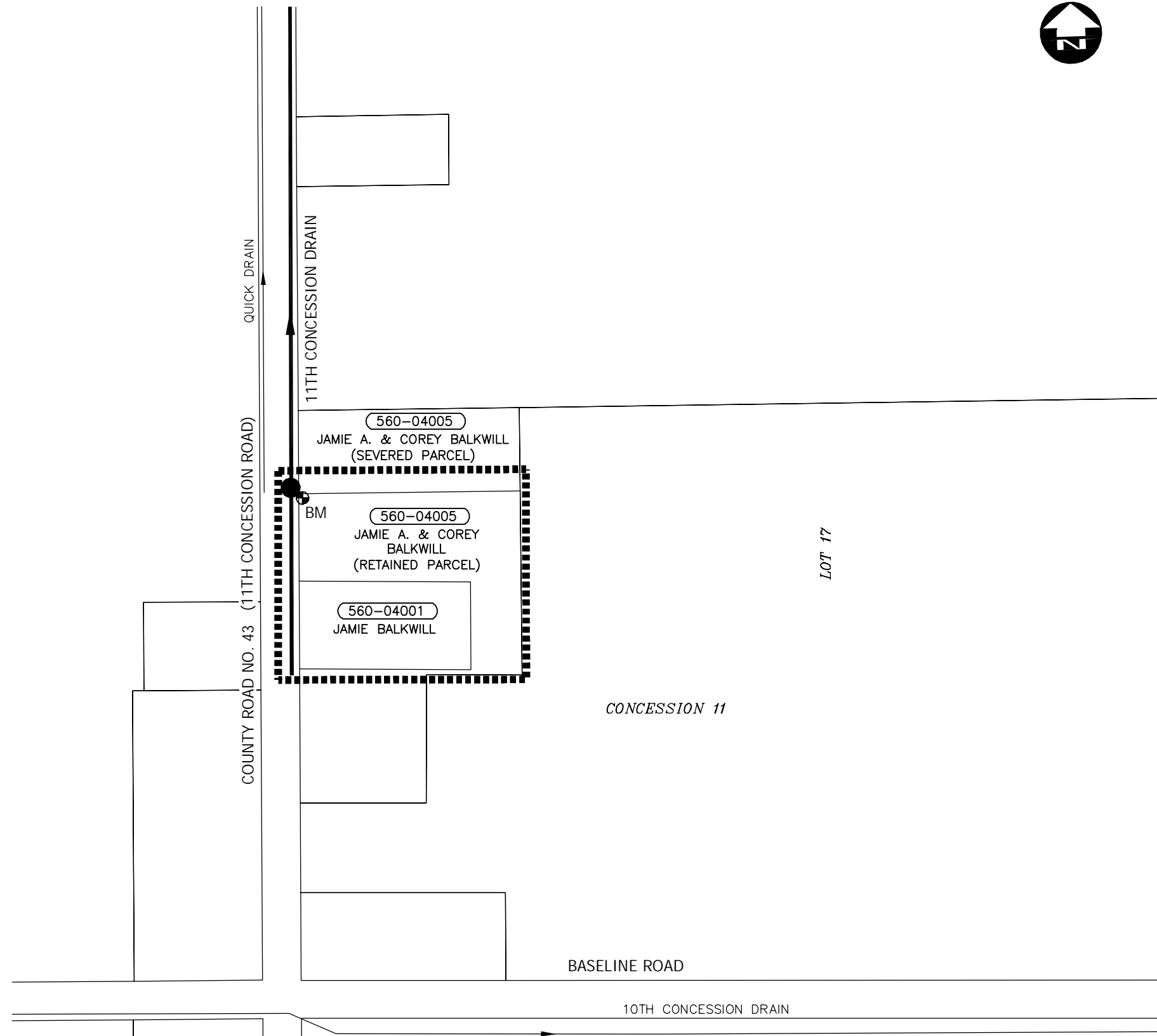
- 11TH CONCESSION DRAIN DRAINAGE AREA
- 11TH CONCESSION DRAIN
- OTHER DRAINS
- NEW BRIDGE
- BM ○ LOCAL BENCHMARK

**BENCHMARK**

**BM1**  
 TOP OF OPERATING NUT ON FIRE HYDRANT ON EAST SIDE OF COUNTY ROAD NO. 43 LOCATED APPROXIMATELY 255 METRES NORTH OF NORTH LIMIT OF BASELINE ROAD.  
 ELEVATION=184.69m

NOTE: CONTRACTOR TO VERIFY BENCHMARKS PRIOR TO CONSTRUCTION.

NOTE: CONTRACTOR SHALL ARRANGE TO HAVE ALL UTILITY LOCATES COMPLETED ONSITE PRIOR TO ANY EXCAVATION WORK. DILLON CONSULTING LIMITED DOES NOT GUARANTEE THE ACCURACY OF THE EXISTING UTILITIES SHOWN ON THE DRAWINGS. CONTRACTOR SHALL VERIFY THE LOCATION PRIOR TO COMMENCING WORK.



**WATERSHED PLAN**  
 SCALE=1:2,500



**Conditions of Use**

Verify elevations and/or dimensions on drawing prior to use. Report any discrepancies to Dillon Consulting Limited.

Do not scale dimensions from drawing.

Do not modify drawing, re-use it, or use it for purposes other than those intended at the time of its preparation without prior written permission from Dillon Consulting Limited.

|     |                           |     |            |     |
|-----|---------------------------|-----|------------|-----|
| No. | ISSUED FOR                | 141 | DATE       | BY  |
| 3   | FINAL REPORT SUBMISSION   |     | DEC. 10/24 | OEM |
| 2   | PUBLIC INFORMATION CENTRE |     | DEC. 5/24  | OEM |
| 1   | CLIENT REVIEW             |     | NOV. 15/24 | OEM |

|        |                   |             |     |
|--------|-------------------|-------------|-----|
| DESIGN | JAO               | REVIEWED BY | VJH |
| DRAWN  | WLB               | CHECKED BY  | OEM |
| DATE   | December 10, 2024 |             |     |
| SCALE  | AS SHOWN          |             |     |

PROJECT NO. 24-9049

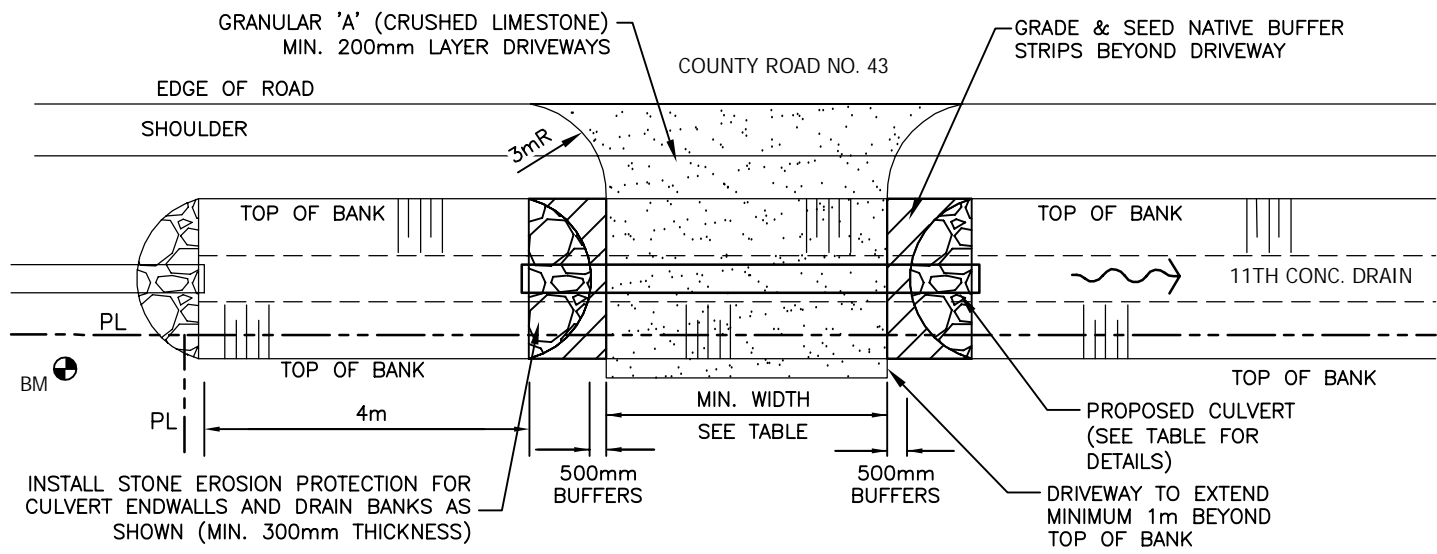
DRAWING SCALES BASED ON A 11" X 17" SHEET

'SCHEDULE G'

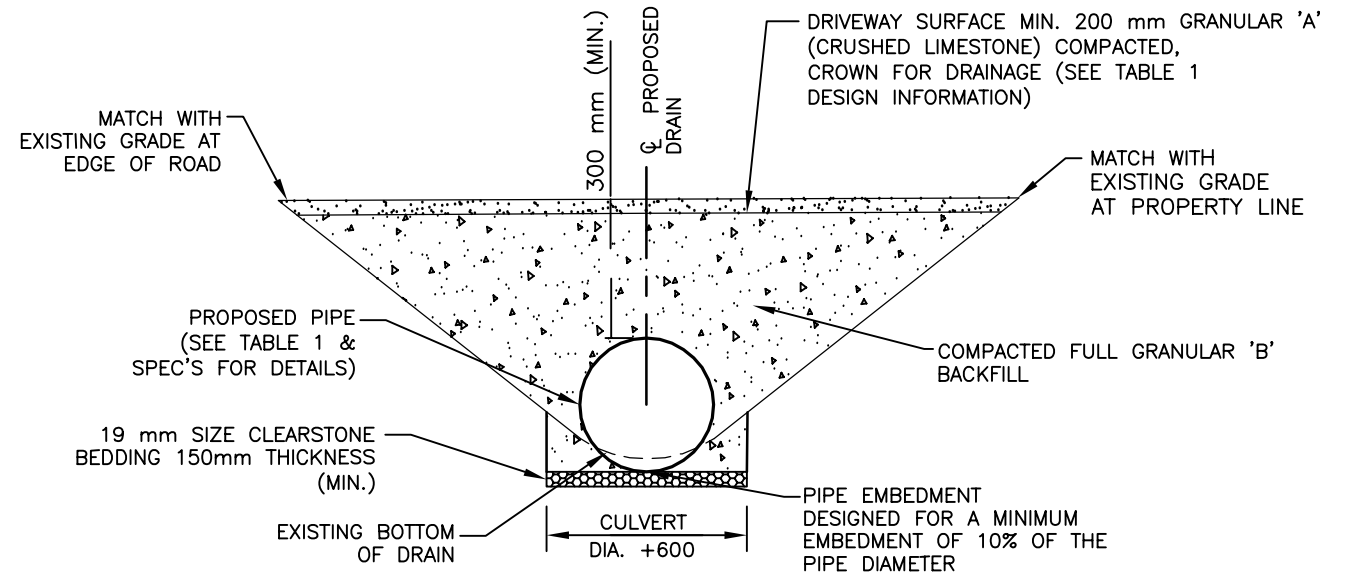
Drainage Report for the  
**11TH CONCESSION DRAIN**  
 (Balkwill Bridge)  
 Town of Tecumseh

SHEET TITLE **WATERSHED PLAN**

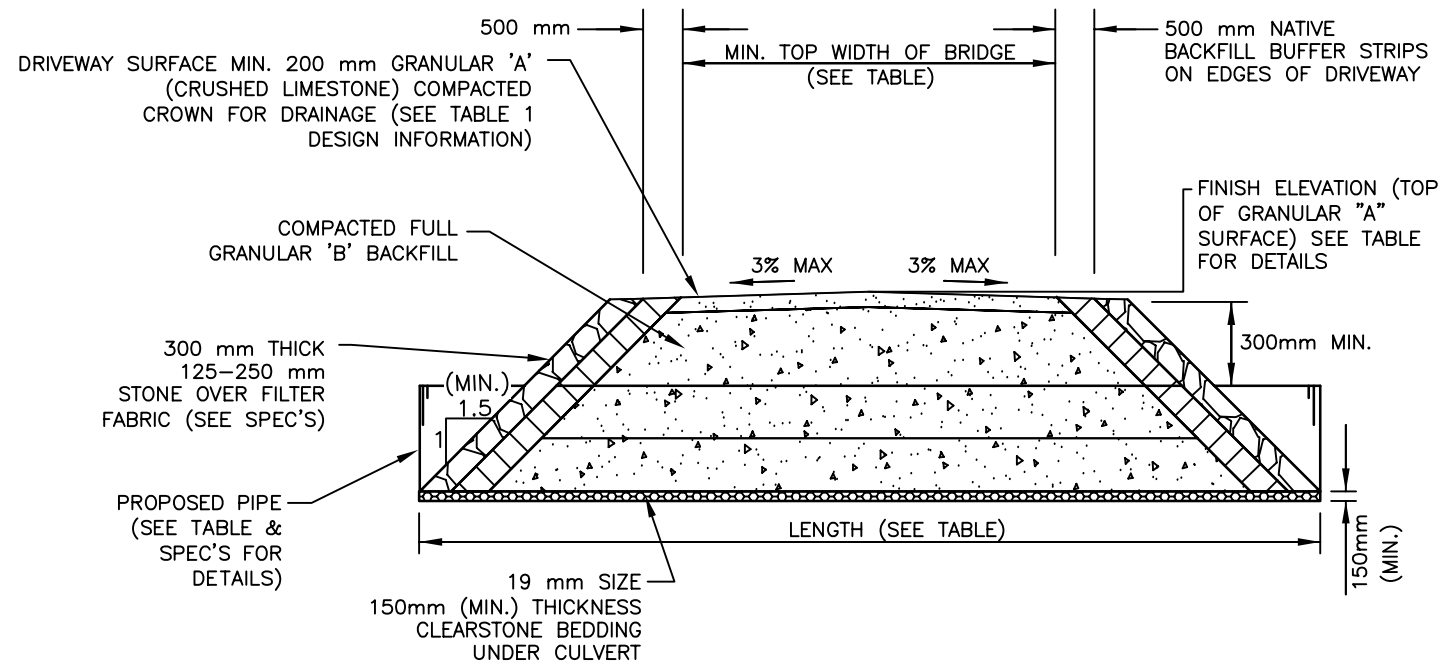
PAGE NO. 1 of 2



**RESIDENTIAL BRIDGE PLAN**  
N.T.S.



**BRIDGE CROSS-SECTION**  
N.T.S.



**BRIDGE LONGITUDINAL SECTION**  
N.T.S.

NOTE: CONTRACTOR TO CLEAN OUT DRAIN 3m UPSTREAM & DOWNSTREAM OF CULVERT

| TABLE 1 - ACCESS BRIDGE DESIGN INFORMATION           |               |
|--|---------------|
| DESCRIPTION  | BRIDGE        |
| PIPE INVERT ELEV. U/S SIDE(m)                        | 183.08        |
| PIPE INVERT ELEV. D/S SIDE(m)                        | 183.06        |
| TOP OF $\phi$ DRIVEWAY SURFACE ELEV. (m)             | 183.98        |
| DRAIN BOTTOM (m) (DESIGN) (AT CENTRELINE OF CULVERT) | 183.12        |
| MIN. TOP WIDTH OF DRIVEWAY (m)                       | 6.1           |
| MIN. CULVERT GRADE (%)                               | 0.10          |
| CULVERT MATERIAL                                     | H.D.P.E.      |
| CULVERT LENGTH (m)                                   | 12.0          |
| PIPE SIZE (mm)                                       | 450           |
| CULVERT ENDWALL TYPE                                 | SLOPING STONE |



**Conditions of Use**

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Do not scale dimensions from drawing.  
Do not modify drawing, re-use it, or use it for purposes other than those intended at the time of its preparation without prior written permission from Dillon Consulting Limited.

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| 3   | FINAL REPORT SUBMISSION   | DEC. 10/24 | OEM |
| 2   | PUBLIC INFORMATION CENTRE | DEC. 5/24  | OEM |
| 1   | CLIENT REVIEW             | NOV. 15/24 | OEM |
| No. | ISSUED FOR                | DATE       | BY  |

| DESIGN | REVIEWED BY       |
|--------|-------------------|
| JAO    | VJH               |
| DRAWN  | CHECKED BY        |
| WLB    | OEM               |
| DATE   | December 10, 2024 |
| SCALE  | AS SHOWN          |

PROJECT NO. 24-9049  
DRAWING SCALES BASED ON A 11" X 17" SHEET

'SCHEDULE G'  
Drainage Report for the  
**11TH CONCESSION DRAIN**  
(Balkwill Bridge)  
Town of Tecumseh

SHEET TITLE: **DETAILS**  
PAGE NO.: 2 of 2