

Agenda

Civic Works Committee

The 3rd Meeting of the Civic Works Committee

January 30, 2024

9:30 AM

Council Chambers - Please check the City website for additional meeting detail information. Meetings can be viewed via live-streaming on YouTube and the City Website.

The City of London is situated on the traditional lands of the Anishinaabek (AUh-nish-in-ah-bek), Haudenosaunee (Ho-den-no-show-nee), Lūnaapéewak (Len-ah-pay-wuk) and Attawandaron (Add-a-won-da-run).

We honour and respect the history, languages and culture of the diverse Indigenous people who call this territory home. The City of London is currently home to many First Nations, Métis and Inuit today.

As representatives of the people of the City of London, we are grateful to have the opportunity to work and live in this territory.

Members

Councillors A. Hopkins (Chair), J. Pribil, S. Trosow, S. Franke, D. Ferreira

The City of London is committed to making every effort to provide alternate formats and communication supports for meetings upon request. To make a request specific to this meeting, please contact CWC@london.ca or 519-661-2489 ext. 2425.

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6. Adjournment

Integrated Transportation Community Advisory Committee

Report

2nd Meeting of the Integrated Transportation Community Advisory Committee
January 17, 2024

Attendance T. Khan (Chair), R. Buchal, E. Eady, D. Foster, A. Husain, T. Kerr, V. Lubrano, D. Luthra, A. Santiago, J. Vareka and J. Bunn (Acting Committee Clerk)

ABSENT: A. Issa, S. Leitch, M. Malekzadeh, A. Pfeffer and E. Poirier

ALSO PRESENT: Councillors J. Pribil and C. Rahman; G. Dales, A. Denomme, S. Grady, D. MacRae, J. Michaud, A. Miller, N. Moffat, J. Raycroft, J. Skimming, J. Stanford, S. Wilson and P. Yeoman

The meeting was called to order at 3:01 PM; it being noted that R. Buchal, E. Eady, A. Husain, A. Santiago and J. Vareka were in remote attendance.

1. Call to Order

1.1 Disclosures of Pecuniary Interest

That it BE NOTED that no pecuniary interests were disclosed.

2. Scheduled Items

2.1 Richmond Street Pedestrian Crossing - Richmond Street North of Sunningdale Road

That it BE NOTED that the presentation from G. McDonald, AECOM, with respect to the Richmond Street Pedestrian Crossing at Richmond Street North of Sunningdale Road, as appended to the Agenda, was received.

2.2 Mobility Master Plan and London's Climate Goals

That it BE NOTED that the presentation, from S. Grady, Traffic and Transportation Engineer, with respect to the Mobility Master Plan and London's Climate Goals, as appended to the Added Agenda, was received.

3. Consent

3.1 1st Report of the Integrated Transportation Community Advisory Committee

That it BE NOTED that the 1st Report of the Integrated Transportation Community Advisory Committee, from the meeting held on December 14, 2023, was received.

3.2 Municipal Council Resolution - 12th Report of the Integrated Transportation Community Advisory Committee

That it BE NOTED that the Municipal Council Resolution, from the meeting held on December 19, 2023, with respect to the 12th Report of the Integrated Transportation Community Advisory Committee, was received.

3.3 Notice of Planning Application and Notice of Public Meeting - Zoning By-law Amendment - 1494 Commissioners Road West

That it BE NOTED that the Notice of Planning Application and Notice of Public Meeting, dated December 21, 2023, from B. House, Planner, with respect to a Zoning By-law Amendment related to the property located at 1494 Commissioners Road West, was received.

4. Sub-Committees and Working Groups

4.1 ITCAC Sub-Committees Work During the Last Term

That a Working Group BE CREATED to prepare a draft collaborative report, outlining the achievements of the Integrated Transportation Community Advisory Committee over the last term (May 2022 to November 2023), for submission to the Civic Works Committee.

4.2 (ADDED) Active Transportation Sub-Committee - Greenway Wastewater Treatment Plant Flood Protection Project - Thames Valley Parkway Closure and Need for Detour

That the Civic Administration BE REQUESTED to attend a future meeting of the Integrated Transportation Community Advisory Committee to present options for Thames Valley Parkway detours during the upcoming Greenway Wastewater Treatment Plant Flood Protection Project.

5. Items for Discussion

None.

6. Adjournment

The meeting adjourned at 5:05 PM.

Report to Civic Works Committee

To: Chair and Members
Civic Works Committee

From: Kelly Scherr, P.Eng., MBA, FEC
Deputy City Manager, Environment and Infrastructure

Subject: 2023 External Audit of London's Drinking Water Quality Management System and 2022 Management Review

Date: January 30, 2024

Recommendation

That, on the recommendation of the Deputy City Manager, Environment and Infrastructure, the following report on the 2023 External Audit of London's Drinking Water Quality Management System and the 2023 Management Review **BE RECEIVED** for information.

Executive Summary

Ontario's municipal drinking water systems may only be operated by accredited Operating Authorities. Accreditation is achieved and maintained through the implementation of Quality Management Systems that comply with Ontario's Drinking Water Quality Management Standard. Annual third-party external audits verify compliance. Ontario's Safe Drinking Water Act, 2002, requires that operators of municipal drinking water systems conduct annual Management Reviews of their Quality Management Systems to evaluate the continuing suitability, adequacy, and effectiveness of the Quality Management System.

The results of these reviews are required to be reported to the system owners. This report satisfies that regulatory requirement and provides a summary of the external audit that was completed on London's Drinking Water Quality Management System in 2023.

Linkage to the Corporate Strategic Plan

Municipal Council's Strategic Plan identifies "Well-Run City" as a strategic area of focus. This report supports the 2023-2027 Strategic Plan by demonstrating leadership and accountability in the management and provision of quality programs and services.

Analysis

1.0 Background Information

1.1 Previous Reports Related to this Matter

- 2022 External Audit of London's Drinking Water Quality Management System and 2022 Management Review, Civic Works Committee, January 31, 2023.

1.2 Context

A Quality Management System (QMS) can be defined as a set of interrelated elements (e.g., policies and procedures) that direct and control the way a facility operates with regard to quality. A QMS is a way of ensuring that an organization is consistently in control of the quality of the products or services that it supplies. The QMS for London's drinking-water system is documented in its Operational Plan.

In June 2023, an Off-site Surveillance Audit was conducted on London's Drinking Water Quality Management System by SAI Global Assurance Services. As required by Ontario's Drinking Water Quality Management Standard, the Top Management of the Operating Authority for London's drinking-water system conducted the annual Management Review for the system in November 2023.

2.0 Discussion and Considerations

2.1 Audit Findings

If auditors discover instances where the water system is not being operated according to the approved Operational Plan, these are reported as either major or minor non-conformances. When non-conformances are identified in an audit report, the water system operators are required to submit Non-conformance Reports to the auditor, detailing the root cause of the non-conformance, the action(s) taken to correct the incident and contain the problem, and the systemic (long term) corrective action(s) planned or taken to eliminate the root cause and prevent recurrence.

No issues of non-conformance were identified in London's 2023 external audit.

In addition to instances of non-conformance, auditors also draw upon their expertise and experience to report Opportunities for Improvement, which are suggestions as to how the Operational Plan might be improved. Two (2) Opportunities for Improvement were identified in London's 2023 external audit, which were subsequently addressed.

2.2 Management Review

On November 17, 2023, the Top Management team for London's drinking-water system (the Director – Water, Wastewater, and Stormwater and the Division Managers of Water Engineering and Water Operations) conducted the annual Management Review for London's Drinking Water Quality Management System. The results of the Management Review are summarized in Appendix 'A'.

Conclusion

In June 2023, an Off-site Surveillance Audit of the quality management system for London's drinking-water system was completed by a third-party auditor. No incidents of Non-conformance were identified in the audit report.

The Top Management team for London's water system conducted the annual Management Review for London's Drinking Water Quality Management System in November 2023, and have communicated the results of that review to Council in this report.

Prepared by: John Simon, P.Eng.
Division Manager, Water Operations

Submitted by: Ashley M. Rammeloo, MSc., P.Eng.
Director, Water, Wastewater, and Stormwater

Recommended by: Kelly Scherr, P. Eng., MBA, FEC
Deputy City Manager, Environment and Infrastructure

CC: Dan Huggins, Water Quality Manager
Aaron Rozentals - Division Manager, Water Engineering

Appendix A

RESULTS OF THE 2023 MANAGEMENT REVIEW	
Summary of Management Review	<p>The 2023 Management Review meeting was held on November 17, 2023. The meeting was attended by Ashley M. Rammeloo, Director – Water, Wastewater, and Stormwater, Aaron Rozentals, Division Manager – Water Engineering, John Simon, Division Manager – Water Operations, and Dan Huggins, Water Quality Manager and QMS Representative. The agenda items discussed were, a) Incidents of regulatory non-compliance, b) Incidents of adverse drinking water tests, c) Deviations from critical control point limits and response actions, d) Efficacy of the risk assessment process, e) Results of audits (internal and external), and effectiveness of recent corrective and preventive actions, f) Results of relevant emergency response testing, g) Operational performance, h) Drinking water quality trends, i) Follow-up action items from previous management reviews, j) Status of management action items identified between reviews, k) Changes that could affect the QMS, l) Summary of consumer feedback, m) Resources needed to maintain the QMS, n) Results of the infrastructure review, o) Operational Plan currency, content and updates, p) Summary of staff suggestions, and q) New Business.</p>
Action Items Identified	<ol style="list-style-type: none"> 1) Install accessory drains on the Southeast Reservoir access hatch structures and cover 6 redundant hatches with aluminum caps. 2) Re-evaluate downtown leak detection program, considering equipment upgrades and potential redeployment of leak monitoring devices. 3) Develop a workplan to replace the MagnaDrive Adjustable Speed Drives at the Southeast Pumping Station with Adjustable Frequency Drives. 4) Complete the installation of a new Bulk Water Filling Station at the site of the former White Oaks Pumping Station and demolish the Lambeth Bulk Water Filling Station building. 5) Replace three leaking Pressure Relief Valves at the Southeast Pumping Station. 6) Water Operations to develop a Standard Operating Procedure for the replacement of lead water service pipes.

Report to Civic Works Committee

To: Chair and Members
Civic Works Committee
From: Kelly Scherr, P.Eng., MBA, FEC
Deputy City Manager, Environment and Infrastructure
Subject: RFP 2023-189 Large Diameter Watermain Inspection
Date: January 30, 2024

Recommendation

That, on the recommendation of the Deputy City Manager, Environment and Infrastructure, the following actions **BE TAKEN** with respect to the award of consulting services for the Large Diameter Watermain Inspection project:

- a) GHD Limited **BE APPOINTED** to conduct consulting engineer services in the amount of \$1,275,707.94 including contingency, excluding HST, in accordance with Section 12.2(b) of the City of London's Procurement of Goods and Services Policy;
- b) the financing for the project **BE APPROVED** in accordance with the "Sources of Financing Report" attached hereto as Appendix 'A;'
- c) the Civic Administration **BE AUTHORIZED** to undertake all the administrative acts that are necessary in connection with this project;
- d) the approvals given herein **BE CONDITIONAL** upon the Corporation entering into a formal contract; and,
- e) the Mayor and City Clerk **BE AUTHORIZED** to execute any contract or other documents, if required, to give effect to these recommendations.

Executive Summary

This report recommends that GHD Limited be appointed as the consultant to undertake the large diameter watermain inspection of the Elviage Drive to Byron Baseline Road, White Oak Road, Southdale Road East, Springbank Drive, and Industrial Road pipelines.

The inspection of trunk watermains in an annual program designed to ensure the reliability of the City of London's water supply and allow staff to make informed decisions regarding condition and need for repair. This information helps mitigate the risk of catastrophic watermain breaks and helps to better manage our critical watermain assets.

The consultant recommended for award in this report will provide analysis of the noted watermains including leak detection, structural integrity assessment, structural evaluation, and remaining service life reporting. This will inform and aid decision making on future replacement projects and ensure appropriate budget allocation.

Linkage to the Corporate Strategic Plan

This project supports the 2023-2027 Strategic Plan through Climate Action and Sustainable Growth:

- The infrastructure gap is managed for all assets.
- Infrastructure is built, maintained, and secured to support future growth and protect the environment.

Analysis

1.0 Background Information

1.1 Previous Reports Related to this Matter.

- January 19, 2021 Civic Works Committee Report - RFP 20-60 Large Diameter Watermain Inspection
- February 5, 2019 Civic Works Committee Report - 2019 Large Diameter Watermain Inspection
- July 21, 2014 Civic Works Committee Report - Long-Term Large Diameter Pipe Inspection Strategy and Single Source Procurement
- May 29, 2012 Civic Works Committee Report - Concrete Pressure Pipe Inspection Fiber Optic Installation Amendment of Existing Contract

2.0 Discussion and Considerations

The City of London's trunk watermains are critical infrastructure in London's water supply system, ensuring adequate water supply and reliability for customers. The trunk watermains supply water to the smaller diameter pipelines which in turn supply water to individual customers.

Inspection of the City's trunk watermains will secure the reliability of the City of London's water supply and allow staff to make informed decisions regarding condition and need for repair. This year's annual inspection will identify the need to conduct maintenance on the trunk watermains, reducing the potential for catastrophic watermain breaks in the future. The decision of which sections of pipeline are inspected each year is based on pipe age, pipe material, criticality, and anticipated construction projects for that section.

For this iteration of the inspection program, five sections of pipe were identified for inspection with a total length of approximately 13.33 km. The inspections will be completed over a two-year period. The details of the pipelines being inspected are as follows:

- Elviage Rd to Byron Baseline Rd. Pipe is 2.6 kilometres of 600-millimetre steel, installed in 1962.
- White Oak Rd from Southdale Rd E to 137m West of Exeter Rd. Pipe is 2.16km of 600-milimeter Concrete SSP-381 installed in 1958.
- Southdale Rd E from Wellington Rd to Pond Mills Rd. Pipe is 2.4km of 400-milimeter DI CL-51 installed in 1974 and 1975.
- Springbank Dr from Wonderland Rd S to Intersection with 1200 concrete trunk main. Pipe is a double watermain of 1.6km each, 3.2km total of 450 CI installed in 1938.
- Industrial Rd from Veteran Memorial Parkway to Oxford St E, Oxford St E from Industrial Rd to Cuddy Blvd, Cuddy Blvd from Oxford St E to Page St, Page St from Cuddy Blvd to Crumlin Side Road and Crumlin Side Road from Cuddy Blvd to Dundas. Pipe is 2.97km total made up of 400 DI CL51 and 450 C301L installed in 1985 and 1986.

The consultant and their vendors will adopt Dynamic Response Imaging (DRI) technology. DRI technology incorporates a wave generator to introduce vibratory signals into the pipeline based on pipe type and material. The use of different frequencies with various algorithms enables the technology to detect leaks while assessing the distress indicator at the same inspection run. The technology is non-invasive, using existing features (eg. fire hydrants, valves, air valves, etc) and daylight potholes in absence of existing features.

3.0 Financial Impact/Considerations

3.1 Consulting Engineer Services

The inspections assignments were awarded on an individual basis and the two Proponents submitted separate technical and cost proposals for each of the five

inspections. These watermains were assessed by the Water Engineering Department before the request for proposal was issued and it was determined that the different technologies offered by each of the respective Proponents would be able to provide the desired level of inspection. In November of 2023, two engineering firms responded to the open Request for Proposal in accordance with section 12.2(b) of the City of London's Procurement of Goods and Services Policy.

After evaluation of the Request for Proposal submissions, the City's evaluation team determined that GHD Limited provided the best value, at a cost of \$1,275,707.74 (excluding HST), and their technology presented the least amount of operational risk for all five inspections. The technical proposals and fee submissions were evaluated in accordance with the City of London's Procurement of Goods and Services Policy, and it was found that the proposals met all the key project requirements and provided the best value to the City for inspection services.

Conclusion

GHD Limited has experience undertaking similar work while providing useful and actionable information for large diameter watermain repairs. GHD Limited has functioned as a subcontractor in a similar capacity for the City of London in the past, their team has experience with similar work and is professionally qualified to undertake the required inspections.

Based on the results of the request for proposal submissions and based on the review by the evaluation team, it is determined that retaining GHD Limited is in the best financial and technical interests of the City. It is recommended that GHD Limited be awarded this contract in the amount of \$1,275,707.94 (excluding H.S.T.) to undertake all tasks related to the five large diameter watermain inspections.

Prepared by:	Aaron Rozentals, GDPA, P.Eng., Division Manager, Water Engineering
Submitted by:	Ashley Rammeloo, MMSc., P.Eng. Director, Water, Wastewater, and Stormwater
Recommended by:	Kelly Scherr, P. Eng., MBA, FEC Deputy City Manager, Environment & Infrastructure
Appendix 'A'	Source of Financing
CC:	Audrey Kester, Water Demand Manager John Simon, Division Manager – Water Operations Dan Berringer, GHD Limited

Appendix "A"

#24014

January 30, 2024

(Award Contract)

Chair and Members

Civic Works Committee

RE: RFP 2023-189 Large Diameter Watermain Inspection

(Subledger NT24EW01)

Capital Project EW371722 - Watermain Condition Inspection

GHD Limited - \$1,275,707.94 (excluding HST)

Finance Supports Report on the Sources of Financing:

Finance Supports confirms that the cost of this project can be accommodated within the financing available for it in the Capital Budget and that, subject to the approval of the recommendation of the Deputy City Manager, Environment and Infrastructure, the detailed source of financing is:

Estimated Expenditures	Approved Budget	Committed To This Date	This Submission	Balance for Future Work
Engineering	1,423,452	23,201	1,298,160	102,091
Construction	586,432	0	0	586,432
Total Expenditures	\$2,009,884	\$23,201	\$1,298,160	\$688,523

Sources of Financing

Capital Water Rates	2,009,884	23,201	1,298,160	688,523
Total Financing	\$2,009,884	\$23,201	\$1,298,160	\$688,523

Financial Note:

Contract Price	\$1,275,708
Add: HST @13%	165,842
Total Contract Price Including Taxes	1,441,550
Less: HST Rebate	-143,390
Net Contract Price	\$1,298,160

Jason Davies

Manager of Financial Planning & Policy

ah

Report to Civic Works Committee

To: Chair and Members
Civic Works Committee

From: Kelly Scherr, P. Eng., MBA, FEC
Deputy City Manager, Environment & Infrastructure

Subject: Contract Award: Tender No. RFT-2023-264
East London Link Phase 3A West – Dundas Street

Date: January 30, 2024

Recommendation

That on the recommendation of the Deputy City Manager, Environment & Infrastructure, the following actions **BE TAKEN** with respect to the award of contracts for the East London Link Phase 3A West project; it being noted that in accordance with Section 13.2 of the City of London's Procurement of Goods and Services Policy, Request for Tender (RFT) contract awards greater than \$6,000,000 require approval of City Council:

- (a) the bid submitted by Bre-Ex Construction Inc. at its tendered price of \$9,277,302.47 excluding HST, for the East London Link Phase 3A West project, **BE ACCEPTED**; it being noted that the bid submitted by Bre-Ex Construction Inc. was the lowest of five (5) bids received and meets the City's specifications and requirements in all areas;
- (b) Dillon Consulting Limited **BE AUTHORIZED** to carry out the resident inspection and contract administration for the said project in accordance with the estimate, on file, at an upset amount of \$1,244,545.50, excluding HST, in accordance with Section 15.2 (g) of the City of London's Procurement of Goods and Services Policy;
- (c) the financing for this project **BE APPROVED** as set out in the Sources of Financing Report attached, as Appendix A;
- (d) the Civic Administration **BE AUTHORIZED** to undertake all administrative acts that are necessary in connection with this project;
- (e) the Civic Administration **BE AUTHORIZED** to undertake all administrative acts that are necessary in connection with this project as it relates to interaction with Canadian National Railway (CNR);
- (f) the Civic Administration **BE AUTHORIZED** to approve Memorandums of Understanding between the Corporation of the City of London and public utilities and private service owners in relation to the cost-sharing of servicing works contained within the East London Link and Municipal Infrastructure Improvements Phase 3A project contract;
- (g) the approval given, herein, **BE CONDITIONAL** upon the Corporation entering into a formal contract, or issuing a purchase order for the material to be supplied and the work to be done, relating to this project (Tender RFT-2023-264); and
- (h) the Mayor and City Clerk **BE AUTHORIZED** to execute any contract or other documents, if required, to give effect to these recommendations.

Executive Summary

This report recommends award of a tender to a contractor and continuation of consulting services for construction inspection and contract administration for the East London Link Phase 3A West project, which will reconstruct Dundas Street from Egerton Street to McCormick Boulevard. Figure 1 below depicts the East London Link corridor and the approximate limits of the Phase 3A West assignment.

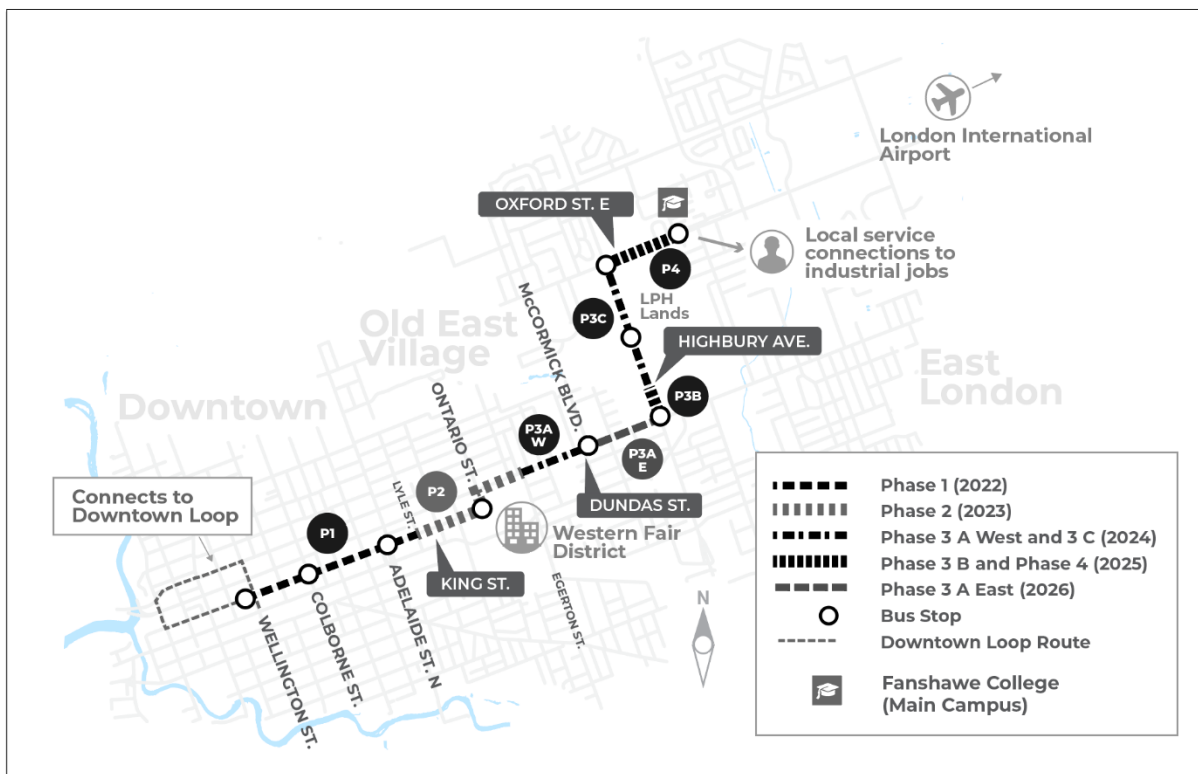


Figure 1: East London Link Project and the Phase 3A West Construction Limits (Dundas Street between Egerton Street and McCormick Boulevard)

Context

On March 26, 2019, Council approved the submission of funding applications for ten transit and transit supportive projects. All ten projects were approved under the Public Transit Infrastructure Stream (PTIS) program, including the East London Link.

On June 25, 2019, the Province pledged \$103.2 million through the PTIS program to the City of London for the ten projects. On August 23, 2019, the Federal government announced \$123.8 million for the same projects under the PTIS program. On October 10, 2019, the City of London received a letter from the Ontario Ministry of Transportation confirming financial commitment for the ten projects under the PTIS program.

The East London Link corridor covers approximately seven kilometers of roadway connecting to the Downtown Loop and through eastern London connecting to a proposed transit hub located on the Fanshawe College campus. The project will implement dedicated transit lanes with the goal of increasing transit frequency and reliability while improving capacity in general traffic lanes by removing buses from mixed traffic.

In addition to being a planned rapid transit corridor, the East London Link contains aging municipal infrastructure. There is a need to replace water, sanitary and storm infrastructure and update private utility services to support infrastructure renewal, population growth, re-development and revitalization along rapid transit corridors. These significant and challenging municipal infrastructure lifecycle replacements will be coordinated as part of this overall assignment.

Linkage to the Corporate Strategic Plan

This report supports the 2023-2027 Corporate Strategic Plan by contributing to the following outcomes:

- Mobility and Transportation:
 - Londoners of all identities, abilities and means can move throughout the city safely and efficiently
- Climate Action and Sustainable Growth
 - London's infrastructure and systems are built, maintained, and operated to meet the long-term needs of the community

Analysis

1.0 Background Information

1.1 Previous Reports Related to this Matter

- Civic Works Committee – June 19, 2012 – London 2030 Transportation Master Plan;
- Strategic Priorities and Policy Committee – July 24, 2017 – Rapid Transit Master Plan and Business Case;
- Strategic Priorities and Policy Committee – April 23, 2018 – Bus Rapid Transit Environmental Assessment Initiative;
- Civic Works Committee – March 14, 2019 – The History of London's Rapid Transit Initiative;
- Strategic Priorities and Policy Committee – March 25, 2019 – Investing in Canada Infrastructure Program, Public Transit Stream, Transportation Projects for Submission;
- Strategic Priorities and Policy Committee – October 28, 2019 – Investing in Canada Infrastructure Program, Public Transit Infrastructure Stream, Approved Projects;
- Civic Works Committee – January 7, 2020 – Downtown Loop and Municipal Infrastructure Improvements Appointment of Consulting Engineer;
- Civic Works Committee – August 11, 2020 – East London Link Transit and Municipal Infrastructure Improvements – Appointment of Consulting Engineer;
- Civic Works Committee – August 11, 2020 – Wellington Gateway Transit and Municipal Infrastructure Improvements – Appointment of Consulting Engineer;
- Civic Works Committee – February 1, 2022 – East London Link and Municipal Infrastructure Improvements Phase 1;
- Civic Works Committee – November 29, 2022 – Vendor of Record Contract Award, Rapid Transit Shelter Infrastructure; and
- Civic Works Committee – January 10, 2023 – East London Link and Municipal Infrastructure Improvements Phase 2.

2.0 Discussion and Considerations

2.1 East London Link Rapid Transit Corridor

The East London Link corridor is a mixed-use corridor, with existing land uses including historic businesses, residential neighbourhoods, and heavy industrial uses. The corridor is anchored by Downtown London at the western end and Fanshawe College at the eastern end, serving the Western Fairgrounds, Old East Village, 100 Kellogg Lane, the Stackhouse District, future development at the former McCormick and London Psychiatric Hospital lands, and Fanshawe College's main campus.

Local bus routes are currently focused on Dundas Street east of Wellington Street. Constructing the East London Link will repurpose and/or widen existing traffic lanes to introduce rapid transit operations, support existing local transit routes and improve capacity in general traffic lanes by moving buses out of mixed traffic.

While rebuilding the roads, the project will address necessary underground work, including replacing aging sewers and watermains in addition to revitalizing approximately seven kilometers of roadway in the core and east London. The municipal underground works within this project have been identified as high priority due to the age, condition, and associated risk of failure of the infrastructure.

Phase 1 of the East London Link started in 2022 by reconstructing King Street from Wellington Street to Lyle Street. In 2023, Phase 2 of the East London Link reconstructed King Street from Lyle Street to Ontario Street, Ontario Street from King Street to Dundas Street, and Dundas Street from Ontario Street to Egerton Street. East London Link Phase 2 reopened to traffic in December of 2023 with the exception of traffic signal work at the intersection of Ontario Street and King Street. There will be minor carryover works required in 2024.

Phase 3 of the East London Link encompasses Dundas Street from Egerton Street to Highbury Avenue North and Highbury Avenue North from Dundas Street to Oxford Street East. Given the scale and complexity of Phase 3 it has been broken up into four construction tenders:

- 3A West - Dundas Street from Egerton Street to McCormick Boulevard (2024)
- 3A East - McCormick Boulevard to Highbury Avenue North (2026)
- 3B Highbury Avenue North CPOCK Bridge (2024/2025)
- 3C Highbury Avenue North from Oxford Street East to the CPOCK Bridge (2024)

This contract award relates to Phase 3A West of the East London Link.

2.2 East London Link Phase 3A West Contract

This project involves reconstruction of Dundas Street from Egerton Street to McCormick Boulevard. The reconstruction will include the following improvements:

- Road reconstruction including new asphalt, boulevard enhancements, curb, gutter and sidewalks;
- Incorporating curbside bus-only lanes with transit priority signals to improve transit frequency and reliability;
- The addition of new rapid transit stops along Dundas Street at Kellogg Lane for eastbound and westbound, and Eleanor Street for westbound totalling to three stations;
- New street lights and traffic signal upgrades with transit signal priority;
- The addition of two new fully signalized intersections at Kellogg Lane and Eleanor Street;
- Installation of ductwork beneath the CNR tracks via directional drilling to support City and private utility infrastructure; and
- Hydro and other private utility improvements.

Sections of Dundas Street within the limits of Phase 3A West underwent underground infrastructure renewal works in 2018, reducing the scope of underground required for this contract. The reduced scope of underground work will aid in the contractor's ability to keep traffic flowing along Dundas Street with isolated closures where necessary.

2.3 East London Link Environmental Assessment Update

The rapid transit environmental assessment design concepts had proposed centre-running dedicated transit lanes for Ontario Street and Dundas Street. While centre-running bus lanes provide optimal rapid transit operations, applying this configuration to Dundas Street came with drawbacks such as limited left turn access to businesses and side streets, large stop spacing and considerable private property impacts.

The constrained Dundas Street segment of the east corridor presented further challenges through detailed design and an updated curbside dedicated lane design was reviewed that still provides bus-only lanes supporting higher order transit while enhancing access along the corridor and reducing property impacts. Curbside bus lanes also created the opportunity to include an additional stop servicing 100 Kellogg Lane, breaking up the longest stop spacing on the corridor of over 1.1kms. Following thorough analysis of design alternatives, the Dundas Street section of the corridor was revised to curbside bus lanes.

Curbside bus lanes are still transit-dedicated to support frequency and reliability similar to Downtown Loop and King Street. This design configuration continues to provide higher order transit operations, while balancing the interests of businesses, drivers and local transit users along Dundas Street.

Detailed design efforts also reviewed the proposed location for signalized intersections along Dundas Street. Considering current information regarding development plans in the area, it was concluded that the intersection of Dundas Street and Eleanor Street should be prioritized as a signalized intersection over McCormick Boulevard. The design for Dundas Street provides for fully signalized intersections at the newly aligned Ashland Avenue intersection to serve future redevelopment of the McCormick lands and at the Eleanor Street intersection to serve ongoing redevelopment of the 100 Kellogg Lane site. The McCormick Boulevard intersection will operate as a right-in/right-out side street connection.

In accordance with provincial legislation, the design revisions were not deemed significant in relation to matters of provincial importance. As such, a note-to-file was sufficient to satisfy provincial environmental assessment addendum requirements.

2.4 Construction Considerations

Mitigation of construction impacts is a priority for this project to minimize the impacts on local businesses and the public. Due to the large volume of work to be completed in a single construction season, multiple stages or substages may be constructed at the same time.

It will be the contractor's responsibility to manage business and local traffic through these areas as documented in the contractor's traffic management plan. The contract includes a pay item for the City, Contractor and the Contract Administrator to work collaboratively and review opportunities to streamline construction staging and overall project schedule in an effort to reduce resident, business, and social impacts.

The contractor will be permitted to work in multiple areas of Dundas Street at any time during construction. However, key restrictions and milestones have been identified in the contract special provisions, such as maintaining a minimum of two lanes of traffic during construction. The City will review and approve any periodic closures and the Contractor must maintain access throughout construction as per the standard contract documents.

It will be the contractor's responsibility to manage business access and traffic through these areas as documented in the contractor's traffic management plan. The City has committed to allowing flexibility in the staging of the work in the project so as to build efficiently and meet the completion date. To that end, the aforementioned staging

workshop will provide an opportunity for the Contractor, City, and Consultant teams to strategize with the goal of maximizing efficiency and minimizing disruption to the public.

2.5 Public Engagement and Consultation

The project team shared near-final designs and information on project status and next steps, through virtual and in-person public engagement opportunities and a two-week consultation period between October 9, 2023 to October 20, 2023. Two “Transit Tuesday” drop-in sessions were hosted on both Tuesday, October 10, 2023 and Tuesday, October 17, 2023 for residents, businesses and property owners to discuss the project in-person with the project team at the City of London Major Project’s office.

This engagement period was an opportunity for property owners, businesses and residents within the project area to bring forward questions and concerns. It was also a chance for the general public to learn more about the project. The project team also consulted directly with individual property owners and businesses throughout 2023. Important design information was shared, including road widening impacts, the introduction of centre-medians and changes to turning movements along rapid transit corridors as well as an overview of the future pavement markings for rapid transit lanes.

The project team also hand-delivered notices to tenants, residents and businesses along the project area. This in-person outreach was another opportunity to discuss the project directly with businesses and residents, answer questions, and highlight changes the project could bring to their operations through introducing transit-only lanes and new medians.

The City will continue to issue timely communications and traffic detour information to minimize potential impact to residents and businesses during construction. Some key ways to support this include:

- Devoting a dedicated business relations coordinator to the project, to act as a liaison between the City and individual businesses;
- Maintaining access to buildings and driveways throughout construction or providing alternative arrangements where needed; and
- Ensuring Londoners know the area is open for business during construction through targeted, strategic marketing.

The proposed staging of construction will be communicated to property and business owners at a pre-construction webinar in the spring. The webinar will identify access needs and alternative entry and exit points, and outline potential impacts during construction, including, but not limited to traffic, waste collection, and noise and vibrations.

Construction Coordination

None of the projects around the city happen in isolation. Rather, the City’s various project teams work closely together to ensure that construction projects are coordinated, and overall traffic impacts are mitigated and managed. We take a holistic approach to everything from communications to traffic calming, wayfinding, and coordination of early works.

Throughout the busy construction season, representatives from divisions across the City, London Transit Commission and private utilities meet weekly to discuss any works or events requiring lane restrictions or a full closure to protect parallel corridors and detour routes.

3.0 Financial Impact/Considerations

3.1 Procurement Process

Tenders for the East London Link and Infrastructure Improvements Phase 3A West project were opened on January 10, 2024. Five (5) contractors submitted tender prices as listed below, excluding HST.

Contractor	Company Name	Tender Price Submitted
1	Bre-Ex Construction Inc.	\$9,277,302.47
2	L82 Construction Ltd	\$9,793,524.16
3	J-AAR Excavating Limited	\$9,975,947.73
4	CH Excavating (2013)	\$10,557,323.46
5	Cassidy Construction London Ltd.	\$10,716,109.68

All tenders have been checked by Dillon Consulting Limited, Construction and Infrastructure Services and Procurement and Supply. No mathematical errors were found, and the results of the tendering process indicate a competitive process. The submission from Bre-Ex Construction Inc. was determined to meet all specifications and requirements of RFT-2023-264 and was determined to be the lowest compliant bid submission. The tender was advertised early and for an extended period of time to account for the larger scope of work, with an advanced tender posting notice completed. The tender estimate just prior to tender opening was \$10.58M excluding HST. This tender estimate also includes values for coordinated City and external utility works; see Source of Financing Appendix A for cost sharing details. All tenders include a contingency allowance of \$1,000,000.

The approved East London Link construction budget (RT1430-3A) has sufficient funds to award this contract. The construction project will be managed carefully to take advantage of cost efficiencies and potential surpluses from the contingency amounts included in the previously awarded construction phases of East London Link.

The construction industry in London and throughout Ontario has experienced unprecedented cost escalations and budget pressures across all projects. A business case has been included with the 2024-2027 Multi-Year Budget to request an additional budget. The Multi-Year Budget request reflects several factors that are impacting all construction projects, such as inflation, rising interest rates, supply chain issues, legislative changes, as well as a changing real estate market.

In an effort to offset these cost pressures, staff and the consultant design team continue to review value engineering design alternatives and seek budget efficiencies along all three of the Rapid Transit corridors. Each year, the rapid transit tenders have intentionally closed before year end, as timely contract awards yield significant efficiencies and cost savings by creating a more competitive bidding environment. London is also fortunate to have strong local construction and engineering industries that are committed to efficiently delivering these infrastructure projects from both a cost and schedule perspective.

While the City and design team has been successful in limiting the budget over-run where possible, the factors impacting the cost of the overall project have been further detailed in the 2024-2027 Multi-Year Budget case.

3.2 Consulting Services

Dillon Consulting Limited and AECOM Canada were awarded the detailed design of the East London Link and Infrastructure Improvements project by Council on August 25, 2020, as a partnership with Archibald, Gray, and McKay Engineering Ltd as a sub-consultant. The East London Link was broken up into four design phases to be led by the various teams. Dillon Consulting Ltd is the lead design consultant for Phase 3 – Dundas Street from Egerton to Highbury Avenue North, Highbury Avenue North from

Dundas Street to Oxford Street East. Due to the Consultant’s knowledge of the detailed design, a proposal for contract administration and construction observation was requested and the scope of fees were negotiated.

Staff have reviewed the fee submission for construction administration and construction observation of this project, including the time allocated to each project task, along with hourly rates provided by each of the Consultant’s staff members. The proposed contract administration consulting fees are slightly elevated as a percentage of construction compared with other rapid transit and infrastructure renewal program assignments, noting that this assignment incorporates specialty works such as trenchless utility installations under the CNR Railway and transit infrastructure elements including three curbside transit station platforms, related shelter and amenities, and that the phasing is proposed in a manner that will maintain two lanes open during construction, which extended the duration of construction activities for the entire 2024 construction season. It is also anticipated that greater consultant effort will be required to progress construction due to a number of site-specific issues, including property and parking access, multiple simultaneous construction work areas, extended working hours, private utility reconstruction, etc. Fees also include a provision to support proper management of on-site and excess soils as required under the new Ontario Regulation 406/19.

The City and the consultant will work closely with the contractor to find project efficiencies that reduce impacts and construction time where possible with the goal of reducing construction administration efforts. Any unused consulting fees will be reallocated to future Rapid Transit phases.

The continued use of Dillon Consulting Limited on this project for resident inspection and contract administration and construction observation is of financial advantage to the City because the firm has specific knowledge of the project and has undertaken work for which duplication would be required if another firm were to be selected.

In accordance with Section 15.2 (g) of the City of London’s Procurement of Goods and Services Policy, civic administration is recommending that Dillon Consulting Limited be authorized to carry out the remainder of engineering services, as construction administrators, and complete this project for a fee estimate of \$1,244,545.50, excluding HST. These fees are associated with the construction contract administration and resident inspection services to ensure that the City receives the product specified and associated value. The approval of this work will bring the total engineering services to \$12,946,131.30 excluding HST, as of January 2024.

3.3 Operating Budget Impacts

Phase 3A West of the project will revitalize Dundas Street within the proposed right-of-way resulting in the potential for marginal annual operating budget impacts to transportation, and parks operations. No sewer or water operational cost increases are expected. The following table summarizes anticipated additional increases from East London Link Phase 3A West:

SERVICE AREA	RATIONALE	ANNUAL OPERATIONAL COST INCREASE
Transportation Operations	Additional 0.5km of lane summer and winter maintenance	\$5,000
Parks Operations	Additional planters and streetscape enhancements	\$6,500
Traffic Operations	New signal at Kellogg Lane and Eleanor Street	\$32,000
Station Operations	Maintenance of 3 new RT curbside stations	\$144,000

The new bus shelters and related amenities for the rapid transit program is following a separate procurement process outside of the General Contract (GC) tenders to select the preferred Vendor of Records. To date in the Rapid Transit program only the platform bases have been constructed as part of the GC tenders. This will be the first project where the coordination for implementation of above ground shelter and amenities is included directly in the GC tender. From an incremental budget impact perspective, the operational requirements related to the Rapid Transit station maintenance has been detailed in the 2024 Assessment Growth Rapid Transit Implementation Case.

Any property tax supported operational budget impacts will be addressed as part of the annual assessment growth process where appropriate.

Conclusion

Civic Administration has reviewed the tender bids and recommends Bre-Ex Construction Inc be awarded the construction contract for the East London Link Phase 3A West project at the submitted tender price of \$9,277,302.47.

Dillon Consulting Limited has demonstrated an understanding of the City's requirements for this project, and it is recommended that this firm continue as the consulting engineer for the purpose of contract administration and resident supervision services, as it is in the best financial and technical interests of the City. The contract administration assignment is valued at an upset amount of \$1,244,545.50, excluding HST.

Prepared by: Ardian Spahiu, P.Eng., Acting Division Manager,
Major Projects

Submitted by: Jennie Dann, P.Eng., Director, Construction &
Infrastructure Services

Recommended by: Kelly Scherr, P.Eng., MBA, FEC Deputy City Manager,
Environment & Infrastructure

Appendix A – Sources of Financing report

Appendix "A"

#24013
January 30, 2024
(Award Contract)

Chair and Members
Civic Works Committee

RE: Contract Award: Tender No. RFT-2023-264
East London Link Phase 3A West - Dundas Street
(Subledger RD220005)
Capital Project EW376523 - Infrastructure Renewal Program - Watermains
Capital Project RT1430-3A - East London Link - Construction Rapid Transit
Capital Project RT1430-3D - East London Link - Stops Rapid Transit
Capital Project RT1430-3C - East London Link - TIMMS Rapid Transit
Bre-Ex Construction Inc. - \$9,277,302.47 (excluding HST)
Dillon Consulting Limited - \$1,244,545.50 (excluding HST)

Finance Supports Report on the Sources of Financing:

Finance Supports confirms that the cost of this purchase can be accommodated within the financing available for it in the Capital Budget and that, subject to the approval of the Deputy City Manager, Environment and Infrastructure, the detailed source of financing is:

Estimated Expenditures	Approved Budget	Approved Forecasted 2024 Budget (note 1)	Revised Budget	Committed To Date	This Submission	Balance for Future Work
EW376523 - Infrastructure Renewal Program - Watermains						
Engineering	2,500,000	0	2,500,000	1,423,894	37,360	1,038,746
Construction	15,786,488	0	15,786,488	13,272,640	278,387	2,235,461
City Related Expenses	887	0	887	887	0	0
EW376523 Total	18,287,375	0	18,287,375	14,697,421	315,747	3,274,207
RT1430-3A - East London Link - Construction Rapid Transit						
Engineering	6,929,606	0	7,794,964	6,833,441	786,212	175,311
Engineering (Utilities Share)	287,717	0	397,113	287,717	109,396	0
Construction	44,102,000	0	43,236,642	35,349,944	5,860,207	2,026,491
Construction (Utilities Share)	4,820,277	0	5,636,182	4,820,277	815,905	0
Utilities	18,704,000	0	18,704,000	6,102,547	791,397	11,810,056
City Related Expenses	3,960,123	1,309,000	5,269,123	673,684	0	4,595,439
RT1430-3A Total	78,803,723	1,309,000	81,038,024	54,067,610	8,363,117	18,607,297
RT1430-3D - East London Link - Stops Rapid Transit						
Engineering	761,713	0	978,268	727,630	198,199	52,439
Construction	8,112,131	0	7,895,576	6,152,884	1,477,629	265,063
ICIP Ineligible Expenses	47,156	0	47,156	47,156	0	0
RT1430-3D Total	8,921,000	0	8,921,000	6,927,670	1,675,828	317,502
RT1430-3C - East London Link - TIMMS Rapid Transit						
Engineering	156,747	0	201,023	154,994	39,767	6,262
Construction	3,442,331	0	3,398,055	695,412	296,286	2,406,357
Traffic Signals	150,922	0	150,922	150,922	0	0
RT1430-3C Total	3,750,000	0	3,750,000	1,001,328	336,053	2,412,619
Total Expenditures	\$109,762,098	\$1,309,000	\$111,996,399	\$76,694,029	\$10,690,745	\$24,611,625

Sources of Financing	Approved Budget	Approved Forecasted 2024 Budget (note 1)	Revised Budget	Committed To Date	This Submission	Balance for Future Work
EW376523 - Infrastructure Renewal Program - Watermains						
Capital Water Rates	12,193,444	0	12,193,444	12,193,444	0	0
Drawdown from Water Works Renewal Reserve Fund	4,668,931	0	4,668,931	1,078,977	315,747	3,274,207
Canada Community-Building Fund	1,425,000	0	1,425,000	1,425,000	0	0
EW376523 Total	18,287,375	0	18,287,375	14,697,421	315,747	3,274,207
RT1430-3A - East London Link - Construction Rapid Transit						
Capital Levy	1,283,152	0	1,283,152	852,460	129,494	301,199
Debenture By-law No. W.-5683-100	0	22,692	22,692	0	0	22,692
Public Transit Infrastructure Stream (PTIS) - Federal Funding	29,478,292	523,600	30,001,892	19,583,847	2,975,126	7,442,919
Public Transit Infrastructure Stream (PTIS) - Provincial Funding	24,562,786	436,290	24,999,076	16,318,240	2,479,024	6,201,812
Drawdown from City Services - Roads Reserve Fund (Development Charges) (note 2)	9,371,499	326,418	9,697,917	9,697,917	0	0
Debenture By-law No. W.-5683-100 (Serviced through City Services - Roads Reserve Fund (Development Charges)) (note 2)	9,000,000	0	9,000,000	2,507,153	1,854,172	4,638,675
Other Contributions (note 3 and 4)	5,107,994	0	6,033,295	5,107,994	925,301	0
RT1430-3A Total	78,803,723	1,309,000	81,038,024	54,067,610	8,363,117	18,607,297

Appendix "A"

#24013
January 30, 2024
(Award Contract)

Chair and Members
Civic Works Committee

RE: Contract Award: Tender No. RFT-2023-264
East London Link Phase 3A West - Dundas Street
(Subledger RD220005)

Sources of Financing Continued	Approved Budget	Approved		Committed To Date	This Submission	Balance for Future Work
		Forecasted 2024 Budget (note 1)	Revised Budget			
RT1430-3D - East London Link - Stops Rapid Transit						
Capital Levy	1,356,162	0	1,356,162	1,053,138	254,758	48,266
Public Transit Infrastructure Stream (PTIS) - Federal Funding	3,568,400	0	3,568,400	2,771,068	670,331	127,001
Public Transit Infrastructure Stream (PTIS) - Provincial Funding	2,973,369	0	2,973,369	2,308,992	558,553	105,823
Drawdown from City Services - Transit Reserve Fund (Development Charges) (note 2)	1,023,069	0	1,023,069	794,472	192,186	36,411
RT1430-3D Total	8,921,000	0	8,921,000	6,927,670	1,675,828	317,502
RT1430-3C - East London Link - TIMMS Rapid Transit						
Capital Levy	65,008	0	65,008	17,358	5,826	41,824
Public Transit Infrastructure Stream (PTIS) - Federal Funding	1,500,000	0	1,500,000	400,531	134,421	965,048
Public Transit Infrastructure Stream (PTIS) - Provincial Funding	1,249,875	0	1,249,875	333,743	112,006	804,126
Drawdown from City Services - Roads Reserve Fund (Development Charges) (note 2)	935,117	0	935,117	249,696	83,800	601,622
RT1430-3C Total	3,750,000	0	3,750,000	1,001,328	336,053	2,412,619
Total Financing	\$109,762,098	\$1,309,000	\$111,996,399	\$76,694,029	\$10,690,745	\$24,611,625
Financial Note (Engineering)	EW376523	RT1430-3A	RT1430-3A (Utilities)	London Hydro	Bell	Rogers
Contract Price	\$36,714	\$772,614	\$91,972	\$48,164	\$3,734	\$44,306
Add: HST @13%	4,773	100,440	11,956	6,261	485	5,760
Total Contract Price Including Taxes	41,487	873,054	103,928	54,425	4,219	50,066
Less: HST Rebate	-4,127	-86,842	-10,338	-6,261	-485	-5,760
Net Contract Price	\$37,360	\$786,212	\$93,590	\$48,164	\$3,734	\$44,306
	Telus	RT1430-3D	RT1430-3C	Total Engineering		
Contract Price	\$13,192	\$194,771	\$39,079	\$1,244,546		
Add: HST @13%	1,715	25,320	5,080	155,545		
Total Contract Price Including Taxes	14,907	220,091	44,159	1,400,091		
Less: HST Rebate	-1,715	-21,892	-4,392	-135,567		
Net Contract Price	\$13,192	\$198,199	\$39,767	\$1,264,524		
Financial Note (Construction):	EW376523	RT1430-3A	RT1430-3A (Utilities)	London Hydro	Bell	Rogers
Contract Price	\$273,573	\$5,758,851	\$685,738	\$358,969	\$27,715	\$330,601
Add: HST @13%	35,564	748,651	89,146	46,666	3,603	42,978
Total Contract Price Including Taxes	309,137	6,507,502	774,884	405,635	31,318	373,579
Less: HST Rebate	-30,750	-647,295	-77,077	-46,666	-3,603	-42,978
Net Contract Price	\$278,387	\$5,860,207	\$697,807	\$358,969	\$27,715	\$330,601
	Telus	RT1430-3D	RT1430-3C	Total Construction		
Contract Price	\$98,620	\$1,452,073	\$291,162	\$9,277,302		
Add: HST @13%	12,821	188,769	37,851	1,159,468		
Total Contract Price Including Taxes	111,441	1,640,842	329,013	10,436,770		
Less: HST Rebate	-12,821	-163,213	-32,727	-1,010,549		
Net Contract Price	\$98,620	\$1,477,629	\$296,286	\$9,426,221		
	Other Works (including utilities)					
Financial Note Total Award:	Total	Total	Total			
Contract Price	\$8,508,550	\$2,013,298	\$10,521,848			
Add: HST @13%	1,106,111	208,902	1,315,013			
Total Contract Price Including Taxes	9,614,661	2,222,200	11,836,861			
Less: HST Rebate	-956,361	-189,755	-1,146,116			
Net Contract Price	\$8,658,300	\$2,032,445	\$10,690,745			

Appendix "A"

#24013

January 30, 2024
(Award Contract)

Chair and Members
Civic Works Committee

RE: Contract Award: Tender No. RFT-2023-264
East London Link Phase 3A West - Dundas Street
(Subledger RD220005)

Note 1: Civic Service Areas, Agencies, Boards and Commissions are authorized to expend capital funds in accordance with the 2024 Capital Budget approved by Council as part of the 2023 Annual Budget Update, until the 2024-2027 Multi-Year Budget is approved.

Note 2: Development charges have been utilized in accordance with the underlying legislation and the approved 2019 Development Charges Background Study and the 2021 Development Charges Background Study Update.

Note 3: Telus has confirmed their contributions towards this project. The expenditures have increased to accommodate their contribution.

Note 4: Negotiations with London Hydro, Bell, and Rogers confirming their contributions towards this project are ongoing. The cost allocations among the projects will be adjusted accordingly when negotiations are complete. The expenditures have increased to accommodate their anticipated contributions.

Note 5: There will be annual operating costs of \$5,000 to Transportation Operations, \$6,500 to Parks Operations, \$32,000 to Traffic Operations, and \$144,000 to Station Operations.

Alan Dunbar
Manager of Financial Planning & Policy

lp

Report to Civic Works Committee

To: Chair and Members
Civic Works Committee

From: Kelly Scherr, P. Eng., MBA, FEC
Deputy City Manager, Environment & Infrastructure

Subject: Contract Award: Tender No. RFT-2023-241
East London Link and Municipal Infrastructure Improvements
Phase 3C – Highbury Avenue

Date: January 30, 2024

Recommendation

That on the recommendation of the Deputy City Manager, Environment & Infrastructure, the following actions **BE TAKEN** with respect to the award of contracts for the East London Link and Municipal Infrastructure Improvements Phase 3C project; it being noted that in accordance with Section 13.2 of the City of London's Procurement of Goods and Services Policy Request for Tender (RFT) contract awards greater than \$6,000,000 require approval of City Council:

- (a) the bid submitted by Bre-ex Construction Inc. at its tendered price of \$28,487,258.16 excluding HST, for the East London Link and Municipal Infrastructure Improvements Phase 3C project, **BE ACCEPTED**; it being noted that the bid submitted by Bre-ex Construction Inc. was the lowest of six bids received and meets the City's specifications and requirements in all areas;
- (b) Dillon Consulting Limited **BE AUTHORIZED** to carry out the resident inspection and contract administration for the said project in accordance with the estimate, on file, at an upset amount of \$2,253,446.80 excluding HST, in accordance with Section 15.2 (g) of the City of London's Procurement of Goods and Services Policy;
- (c) the financing for this project **BE APPROVED** as set out in the Sources of Financing Report attached, as Appendix A;
- (d) the Civic Administration **BE AUTHORIZED** to undertake all administrative acts that are necessary in connection with this project;
- (e) the Civic Administration **BE AUTHORIZED** to undertake all administrative acts that are necessary in connection with this project as it relates to interaction with Canadian Pacific and Kansas City Southern (CPCK) Railway;
- (f) the Civic Administration **BE AUTHORIZED** to approve Memorandums of Understanding between the Corporation of the City of London and public utilities and private service owners in relation to the cost-sharing of servicing works contained within the East London Link and Municipal Infrastructure Improvements Phase 3C project contract;
- (g) the approval given, herein, **BE CONDITIONAL** upon the Corporation entering into a formal contract, or issuing a purchase order for the material to be supplied and the work to be done, relating to this project (Tender RFT-2023-241); and
- (h) the Mayor and City Clerk **BE AUTHORIZED** to execute any contract or other documents, if required, to give effect to these recommendations.

Executive Summary

This report recommends award of a tender to a contractor and continuation of consulting services for construction inspection and contract administration for the East London Link Phase 3C project, which will reconstruct Highbury Avenue North from Oxford Street East to the Canadian Pacific Railway track, and Oxford Street East from Wistow Street to Highbury Avenue North. Figure 1 below depicts the East London Link corridor and the approximate limits of the Phase 3C assignment.

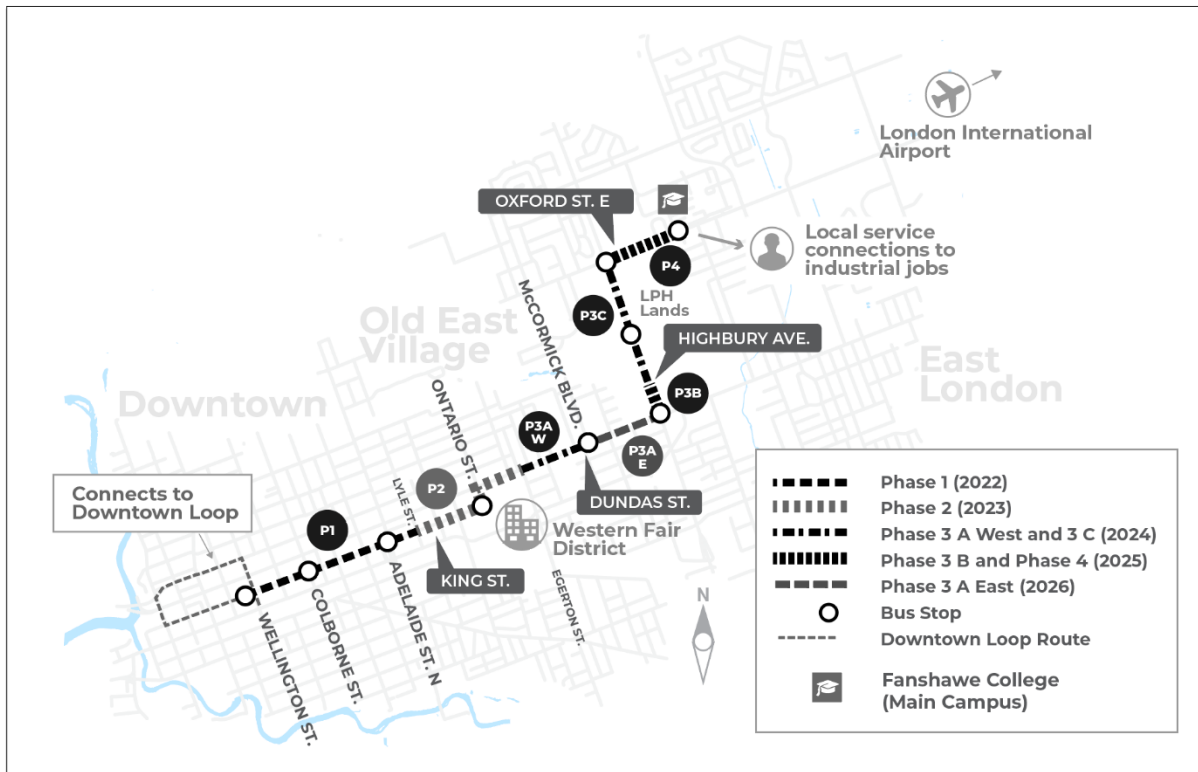


Figure 1: East London Link Phase 3C Construction Limits (Highbury Avenue North from Oxford Street East to the Canadian Pacific Railway track). Phase 3B to be tendered mid-2024 with majority of traffic impacts happening in 2025

Context

On March 26, 2019, Council approved the submission of funding applications for ten transit and transit supportive projects. All ten projects were approved under the Public Transit Infrastructure Stream (PTIS) program, including the East London Link.

On June 25, 2019, the Province pledged \$103.2 million through the PTIS program to the City of London for the ten projects. On August 23, 2019, the Federal government announced \$123.8 million for the same projects under the PTIS program. On October 10, 2019, the City of London received a letter from the Ontario Ministry of Transportation confirming financial commitment for the ten projects under the PTIS program.

The East London Link corridor covers approximately seven kilometers of roadway connecting to the Downtown Loop and through eastern London connecting to a proposed transit hub located on the Fanshawe College campus. The project will implement dedicated transit lanes with the goal of increasing transit frequency and reliability while improving capacity in general traffic lanes by removing buses from mixed traffic.

In addition to being a planned rapid transit corridor, the East London Link contains aging municipal infrastructure. There is a need to replace water, sanitary and storm infrastructure and update private utility services to support infrastructure renewal, population growth, re-development and revitalization along rapid transit corridors. These significant and challenging municipal infrastructure lifecycle replacements will be coordinated as part of this overall assignment.

Linkage to the Corporate Strategic Plan

This report supports the 2023-2027 Corporate Strategic Plan by contributing to the following outcomes:

- Mobility and Transportation:
 - Londoners of all identities, abilities and means can move throughout the city safely and efficiently
- Climate Action and Sustainable Growth
 - London's infrastructure and systems are built, maintained, and operated to meet the long-term needs of the community

Analysis

1.0 Background Information

1.1 Previous Reports Related to this Matter

- Civic Works Committee – June 19, 2012 – London 2030 Transportation Master Plan;
- Strategic Priorities and Policy Committee – July 24, 2017 – Rapid Transit Master Plan and Business Case;
- Strategic Priorities and Policy Committee – April 23, 2018 – Bus Rapid Transit Environmental Assessment Initiative;
- Civic Works Committee – March 14, 2019 – The History of London's Rapid Transit Initiative;
- Strategic Priorities and Policy Committee – March 25, 2019 – Investing in Canada Infrastructure Program, Public Transit Stream, Transportation Projects for Submission;
- Strategic Priorities and Policy Committee – October 28, 2019 – Investing in Canada Infrastructure Program, Public Transit Infrastructure Stream, Approved Projects;
- Civic Works Committee – January 7, 2020 – Downtown Loop and Municipal Infrastructure Improvements Appointment of Consulting Engineer;
- Civic Works Committee – August 11, 2020 – East London Link Transit and Municipal Infrastructure Improvements – Appointment of Consulting Engineer;
- Civic Works Committee – August 11, 2020 – Wellington Gateway Transit and Municipal Infrastructure Improvements – Appointment of Consulting Engineer;
- Civic Works Committee – February 1, 2022 – East London Link and Municipal Infrastructure Improvements Phase 1.
- Vendor of Record Contract Award – November 29, 2022 – Rapid Transit Shelter Infrastructure.
- Civic Works Committee – January 10, 2023 – East London Link and Municipal Infrastructure Improvements Phase 2

2.0 Discussion and Considerations

2.1 East London Link Rapid Transit Corridor

The East London Link corridor is a mixed-use corridor, with existing land uses including historic businesses, residential neighbourhoods, and heavy industrial uses. The corridor is anchored by Downtown London at the western end and Fanshawe College at the eastern end, serving the Western Fairgrounds, Old East Village, 100 Kellogg Lane, the Stackhouse District, future development at the former McCormick and London Psychiatric Hospital lands, and Fanshawe College's main campus.

Local bus routes are currently focused on Dundas Street east of Wellington Street. Constructing the East London Link will repurpose and/or widen existing traffic lanes to introduce rapid transit operations, support existing local transit routes and improve capacity in general traffic lanes by moving buses out of mixed traffic.

While rebuilding the roads, the project will address necessary underground work, including replacing aging sewers and watermains in addition to revitalizing approximately seven kilometers of roadway in the core and east London. The municipal underground works within this project have been identified as high priority due to the age, condition, and associated risk of failure of the infrastructure.

Phase 1 of the East London Link started in 2022 by reconstructing King Street from Wellington Street to Lyle Street. In 2023, Phase 2 of the East London Link reconstructed King Street from Lyle Street to Ontario Street, Ontario Street from King Street to Dundas Street, and Dundas Street from Ontario Street to Egerton Street. East London Link Phase 2 was reopened to traffic in December of 2023 with the exception of traffic signal work at the intersection of Ontario Street and King Street. There will be minor carryover works required in 2024.

Phase 3 of the East London Link encompasses Dundas Street from Egerton Street to Highbury Avenue North and Highbury Avenue North from Dundas Street to Oxford Street East. Given the scale and complexity of Phase 3, it has been broken up into four construction tenders:

- 3A West - Dundas Street from Egerton Street to McCormick Boulevard (2024)
- 3A East - McCormick Boulevard to Highbury Avenue North (2026)
- 3B Highbury Avenue North CPCK Bridge (2024/2025)
- 3C Highbury Avenue North from Oxford Street East to the CPCK Bridge (2024)

This contract award relates to the Phase 3C of the East London Link.

2.2 East London Link Phase 3C Contract

This is a large and complex project involving significant reconstruction of Highbury Avenue North from Oxford Street East to the Canadian Pacific and Kansas City Southern Railway (CPKC) crossing, and Oxford Street East from Wistow Street to Highbury Avenue North. The reconstruction will include the following improvements:

- Full road reconstruction to incorporate rapid transit dedicated lanes, including new asphalt, boulevard enhancements, curb, gutter and sidewalks;
- A major, multi-modal upgrade of the intersection at Highbury Avenue North and Oxford Street East;
- Centre running bus-only lanes with priority signals to improve traffic movement and safety;
- The addition of new rapid transit stops along Highbury Avenue North at the old London Psychiatric Hospital entry and Oxford Street East totalling four stations;
- New street lights and traffic signal upgrades;
- Repair and replacement of aging watermain, storm and sanitary sewers including private drain connections;
- Coordinated servicing works to support redevelopment of the London Psychiatric Hospital (LPH) Lands; and
- Hydro and other private utility improvements.

In preparation of the Highbury Avenue North CPKC bridge widening, advance utility works have been combined with this tender. By addressing this section first, critical elements of the project, notably the off-road utility works beneath the CPKC rail line, can be completed prior to the tendering of the CPKC bridge widening project anticipated in mid-2024.

2.3 East London Link Environmental Assessment Update

Value engineering refinements have been completed to this section of the environmental assessment design concept. The westbound median transit stop on Oxford Street East just east of the intersection was relocated to Highbury Avenue North just south of the intersection. This intersection optimization enabled the design to upgrade the cycling infrastructure by adding dedicated cycling facilities on both sides of Oxford Street East. These refinements also supported adding a westbound right turn lane on Oxford Street East and reduced overall property acquisition needs.

In accordance with provincial legislation, the design revisions were not deemed significant in relation to matters of provincial importance. As such, a note-to-file was sufficient to satisfy provincial environmental assessment addendum requirements.

2.4 Heritage Considerations

Construction of East London Link Phase 3 requires alterations along the frontage of the former London Psychiatric Hospital lands at 850 Highbury Avenue North. The full limits of the property are designated as having cultural heritage significance and includes three distinct cultural heritage landscape zones. The proposed works will impact manicured lawn open space area within the Horse Stable Zone requiring a Heritage Impact Assessment (HIA) to determine heritage impact mitigation measures.

An HIA was undertaken by AECOM requiring the establishment of a no-go zone (buffer zone) for the remainder of the Horse Stable Zone to be protected with temporary construction fencing installed prior to construction and removed only once construction is complete. This mitigation measure has been identified in the contract documents and a Heritage Alteration Permit application has been received from the Ontario Heritage Trust to support this work.

The HIA also recommended the inclusion of the Horse Stable Zone protection in the site control plan for the future development of these lands.

2.5 Construction Considerations

Mitigation of construction impacts is a priority for this project. The contract includes a Construction Staging Workshop pay item involving the City, London Transit Commission, the Contractor and the Contract Administrator to work collaboratively and review opportunities to streamline construction staging and overall project schedule in an effort to reduce resident, business, and social impacts. The workshop will review the Contractor's initial proposed construction staging plans and consider opportunities for scheduling efficiencies.

The contract work has been identified in multiple stages and substages. Due to the scale of the project, it is anticipated that two stages may need to be completed at the same time. Providing flexibility in the staging and scheduling of each stage or substage supports the project being completed as efficiently as possible.

The contractor will be permitted to work in multiple areas of the project at any time during construction. However, key restrictions and milestones have been identified in the contract special provisions, such as maintaining a minimum of two lanes of traffic during construction. The City will review and approve any periodic closures and the Contractor must maintain access throughout construction as per the standard contract documents.

It will be the contractor's responsibility to manage business access and traffic through these areas as documented in the contractor's traffic management plan. The City has committed to allowing flexibility in the staging of the work in the project in order to build efficiently and meet the completion date. To that end, the aforementioned staging workshop will provide an opportunity for the Contractor, City, and Consultant teams to strategize with the goal of maximizing efficiency and minimizing disruption to the public.

2.6 Public Engagement and Consultation

The project team shared near-final designs and information on project status and next steps, through virtual and in-person public engagement opportunities and a two-week consultation period between October 9, 2023 to October 20, 2023. Two “Transit Tuesday” drop-in sessions were hosted on both Tuesday, October 10, 2023 and Tuesday, October 17, 2023 for residents, businesses and property owners to discuss the project in-person with the project team at the City of London Major Project’s office.

This engagement period was an opportunity for property owners, businesses and residents within the project area to bring forward questions and concerns. It was also a chance for the general public to learn more about the project. The project team also consulted directly with individual property owners and businesses throughout 2023. Important sign information was shared, including road widening impacts, the introduction of centre-medians and changes to turning movements along rapid transit corridors as well as an overview of the future pavement markings for rapid transit lanes.

The project team also hand-delivered notices to tenants, residents and businesses along the project area. This in-person outreach was another opportunity to discuss the project directly with businesses and residents, answer questions, and highlight changes the project could bring to their operations through introducing transit-only lanes and new medians.

The City will continue to issue timely communications and traffic detour information to minimize potential impact to residents and businesses during construction. Some key ways to support this include:

- Devoting a dedicated business relations coordinator to the project, to act as a liaison between the City and individual businesses;
- Maintaining access to buildings and driveways throughout construction or providing alternative arrangements where needed; and
- Ensuring Londoners know the area is open for business during construction through targeted, strategic marketing.

The proposed staging of construction will be communicated to property and business owners at a pre-construction webinar in the spring. The webinar will identify access needs and alternative entry and exit points, and outline potential impacts during construction, including, but not limited to traffic, waste collection, and noise and vibrations.

Construction Coordination

None of the projects around the city happen in isolation. Rather, the City’s various project teams work closely together to ensure that construction projects are coordinated, and overall traffic impacts are mitigated and managed. We take a holistic approach to everything from communications to traffic calming, wayfinding, and coordination of early works.

Throughout the busy construction season, representatives from divisions across the City, London Transit Commission and private utilities meet weekly to discuss any works or events requiring lane restrictions or a full closure to protect parallel corridors and detour routes.

3.0 Financial Impact/Considerations

3.1 Procurement Process

Tenders for the East London Link and Infrastructure Improvements Phase 3C project were opened on December 12, 2023. Six contractors (6) submitted tender prices as listed below, excluding HST.

Contractor	Company Name	Tender Price Submitted
1	Bre-Ex Construction Inc	\$28,487,258.16
2	CH Excavating (2013)	\$28,546,072.53
3	L82 Construction Ltd	\$29,217,869.19
4	J-AAR Excavating Limited	\$31,495,306.26
5	614128 Ontario Ltd o/a Trisan Construction	\$38,378,313.80
6	Clearway Construction Inc.	\$47,312,999.30

All tenders have been checked by Dillon Consulting Limited, Construction and Infrastructure Services and Procurement and Supply. No mathematical errors were found and the results of the tendering process indicate a competitive process. The submission from Bre-Ex Construction Inc. was determined to meet all specifications and requirements of RFT-2023-241 and was determined to be the lowest compliant bid submission. The tender was advertised early and for an extended period of time to account for the larger scope of work, with an advanced tender posting notice completed. The tender estimate just prior to tender opening was \$31.58M excluding HST. This tender estimate also includes values for coordinated City and external utility works; see Source of Financing Appendix A for cost sharing details. All tenders include a contingency allowance of \$2,700,000.

The approved East London Link construction budget (RT1430-3A) has sufficient funds to award this contract. The construction project will be managed carefully to take advantage of cost efficiencies and potential surpluses from the contingency amounts included in the previously awarded construction phases of East London Link.

The construction industry in London and throughout Ontario has experienced unprecedented cost escalations and budget pressures across all projects. A business case has been included with the 2024-2027 Multi-Year Budget to request an additional budget. The Multi-Year Budget request reflects several factors that are impacting all construction projects, such as inflation, rising interest rates, supply chain issues, legislative changes, as well as a changing real estate market.

In an effort to offset these cost pressures, staff and the consultant design team continue to review value engineering design alternatives and seek budget efficiencies along all three of the Rapid Transit corridors. Each year, the rapid transit tenders have intentionally been posted before year end, as timely contract awards yield significant efficiencies and cost savings by creating a more competitive bidding environment. London is also fortunate to have strong local construction and engineering industries that are committed to efficiently delivering these infrastructure projects from both a cost and schedule perspective.

While the City and design team has been successful in limiting the budget over-run where possible, the factors impacting the cost of the overall project have been further detailed in the 2024-2027 Multi-Year Budget case.

3.2 Consulting Services

Dillon Consulting Limited and AECOM Canada were awarded the detailed design of the East London Link and Infrastructure Improvements project by Council on August 25, 2020, as a partnership with Archibald, Gray, and McKay Engineering Ltd as a sub-consultant. The East London Link was broken up into four design phases to be led by the various teams. Dillon Consulting Ltd is the lead design consultant for Phase 3 – Dundas Street from Egerton Street to Highbury Avenue North, Highbury Avenue North from Dundas Street to Oxford Street East. Due to the Consultant's knowledge of the detailed design, a proposal for contract administration and construction observation was requested and the scope of fees were negotiated.

Staff have reviewed the fee submission for construction administration and construction observation of this project, including the time allocated to each project task, along with hourly rates provided by each of the Consultant’s staff members. That review of assigned personnel, time per project task, and hourly rates was consistent with other rapid transit and infrastructure renewal program assignments of similar scope. Noting that this assignment is relatively greater in length and incorporates unique works such as trenchless utility installations under the CPKC Railway and transit infrastructure elements including four median transit station platforms and related shelter and amenities. It is also anticipated that greater consultant effort will be required to progress construction due to a number of site-specific issues, including property and parking access, multiple simultaneous construction work areas, extended working hours, utility reconstruction, etc. Fees also include a provision to support proper management of on-site and excess soils as required under the new Ontario Regulation 406/19.

The continued use of Dillon Consulting Limited on this project for resident inspection and contract administration and construction observation is of financial advantage to the City because the firm has specific knowledge of the project and has undertaken work for which duplication would be required if another firm were to be selected.

In accordance with Section 15.2 (g) of the City of London’s Procurement of Goods and Services Policy, civic administration is recommending that Dillon Consulting Limited be authorized to carry out the remainder of engineering services, as construction administrators, and complete this project for a fee estimate of \$2,253,446.80, excluding HST. These fees are associated with the construction contract administration and resident inspection services to ensure that the City receives the product specified and associated value. The approval of this work will bring the total engineering services to \$11,701,585.80 excluding HST, as of January 2024.

3.3 Operating Budget Impacts

Phase 3 of East London Link will revitalize Highbury Avenue North and Oxford Street East within the proposed right-of-way resulting in the potential for marginal annual operating budget impacts to Transportation and Parks Operations. No water operational cost increases are expected. The following table summarizes anticipated additional increases from this contract.

SERVICE AREA	RATIONALE	ANNUAL OPERATIONAL COST INCREASE
Transportation Operations	Additional 2.5km of lane summer and winter maintenance	\$25,000
Parks Operations	Additional planters and streetscape enhancements	\$36,000
Sewer Operations	Cleaning and flushing of additional sewers, manholes, and catchbasins	\$1,300
Traffic Operations	Maintaining new signal at Highbury Ave and Canada Post Entrance	\$17,000
Station Operations	Maintenance of four new RT median stations	\$192,000

The new bus shelters and related amenities for the rapid transit program is following a separate procurement process outside of the General Contract (GC) tenders to select the preferred Vendor of Records. To date in the Rapid Transit program only the platforms have been constructed as part of the GC tenders and this will be the first project where the coordination for implementation of above ground shelter and amenities is included directly in the GC tender. From an incremental budget impact perspective, the operational requirements related to the Rapid Transit station maintenance has been detailed in the 2024 Assessment Growth Rapid Transit Implementation Case.

Any property tax supported operational budget impacts will be addressed as part of the annual assessment growth process where appropriate, while the additional Sewer Operations costs will be addressed in future budget processes.

Conclusion

Civic Administration has reviewed the tender bids and recommends Bre-ex Construction Inc. be awarded the construction contract for East London Link and Municipal Infrastructure Improvements Phase 3C project at the submitted tender price of \$28,487,258.16.

Dillon Consulting Limited has demonstrated an understanding of the City's requirements for this project, and it is recommended that this firm continue as the consulting engineer for the purpose of contract administration and resident supervision services, as it is in the best financial and technical interest of the City. The contract administration assignment is valued at an upset amount of \$2,253,446.80, excluding HST.

Prepared by: Ardian Spahiu, Acting Division Manager, Major Projects

Submitted by: Jennie Dann, P.Eng., Director, Construction & Infrastructure Services

Recommended by: Kelly Scherr, P.Eng., MBA, FEC Deputy City Manager, Environment & Infrastructure

Appendix A – Sources of Financing report

Appendix "A"

#24001

January 30, 2024
(Award Contract)

Chair and Members
Civic Works Committee

RE: Contract Award: Tender No. RFT-2023-241
East London Link and Municipal Infrastructure Improvements Phase 3C
(Subledger RD230012)
Capital Project ES543619 - Stormwater Servicing Built Area Works (2019-2023)
Capital Project ES241422 - Infrastructure Renewal Program - Sanitary Sewer
Capital Project EW376523 - Infrastructure Renewal Program - Watermains
Capital Project RT1430-3A - East London Link - Construction Rapid Transit
Capital Project RT1430-3D - East London Link - Stops Rapid Transit
Capital Project RT1430-3C - East London Link - TIMMS Rapid Transit
Bre-Ex Construction Inc. - \$28,487,258.16 (excluding HST)
Dillon Consulting Limited - \$2,253,446.80 (excluding HST)

Finance Supports Report on the Sources of Financing:

Finance Supports confirms that the cost of this purchase can be accommodated within the financing available for it in the Capital Budget and that, subject to the approval of the Deputy City Manager, Environment and Infrastructure, the detailed source of financing is:

Estimated Expenditures	Approved Budget	Approved Forecasted 2024 Budget (note 1)	Revised Budget	Committed To Date	This Submission	Balance for Future Work
ES543619 - Stormwater Servicing Built Area Works (2019-2023)						
Engineering	941,050	0	941,050	659,109	261,186	20,755
Construction	25,819,042	0	25,819,042	7,619,420	3,302,456	14,897,166
ES543619 Total	26,760,092	0	26,760,092	8,278,529	3,563,642	14,917,921
ES241422 - Infrastructure Renewal Program - Sanitary Sewer						
Engineering	2,000,000	0	2,000,000	1,667,839	64,098	268,063
Engineering (Utilities Share)	12,859	0	12,859	12,859	0	0
Construction	10,727,223	0	10,727,223	9,717,118	810,299	199,806
City Related Expenses	25,000	0	25,000	7,546	0	17,454
ES241422 Total	12,765,082	0	12,765,082	11,405,362	874,397	485,323
EW376523 - Infrastructure Renewal Program - Watermains						
Engineering	2,500,000	0	2,500,000	1,332,629	91,265	1,076,106
Construction	15,786,488	0	15,786,488	12,119,980	1,152,660	2,513,848
City Related Expenses	887	0	887	887	0	0
EW376523 Total	18,287,375	0	18,287,375	13,453,496	1,243,925	3,589,954
RT1430-3A - East London Link - Construction Rapid Transit						
Engineering	6,929,606	0	6,929,606	5,623,372	1,210,069	96,165
Engineering (Utilities Share)	167,321	0	287,717	167,321	120,396	0
Construction	44,102,000	0	44,102,000	20,052,363	15,297,581	8,752,056
Construction (Utilities Share)	3,297,974	0	4,820,277	3,297,974	1,522,303	0
Utilities	18,704,000	0	18,704,000	4,833,928	1,268,619	12,601,453
City Related Expenses	3,960,123	1,309,000	5,269,123	673,684	0	4,595,439
RT1430-3A Total	77,161,024	1,309,000	80,112,723	34,648,642	19,418,968	26,045,113
RT1430-3D - East London Link - Stops Rapid Transit						
Engineering	761,713	0	761,713	298,819	428,811	34,083
Construction	8,112,131	0	8,112,131	730,781	5,422,103	1,959,247
ICIP Ineligible Expenses	47,156	0	47,156	47,156	0	0
RT1430-3D Total	8,921,000	0	8,921,000	1,076,756	5,850,914	1,993,330
RT1430-3C - East London Link - TIMMS Rapid Transit						
Engineering	156,747	0	156,747	132,930	22,064	1,753
Construction	3,442,331	0	3,442,331	416,491	278,921	2,746,919
Traffic Signals	150,922	0	150,922	150,922	0	0
RT1430-3C Total	3,750,000	0	3,750,000	700,343	300,985	2,748,672
Total Expenditures	\$147,644,573	\$1,309,000	\$150,596,272	\$69,563,128	\$31,252,831	\$49,780,313

Appendix "A"

#24001

January 30, 2024
(Award Contract)

Chair and Members
Civic Works Committee

RE: Contract Award: Tender No. RFT-2023-241
East London Link and Municipal Infrastructure Improvements Phase 3C
(Subledger RD230012)

Sources of Financing	Approved Budget	Approved Forecasted 2024 Budget (note 1)	Revised Budget	Committed To Date	This Submission	Balance for Future Work
ES543619 - Stormwater Servicing Built Area Works (2019-2023)						
Drawdown from Sewage Works Renewal Reserve Fund	11,908,241	0	11,908,241	4,700,270	573,746	6,634,225
Drawdown from City Services - Stormwater Reserve Fund (Development Charges) (note 2)	14,851,851	0	14,851,851	3,578,259	2,989,896	8,283,696
ES543619 Total	26,760,092	0	26,760,092	8,278,529	3,563,642	14,917,921
ES241422 - Infrastructure Renewal Program - Sanitary Sewer						
Capital Sewer Rates	7,934,529	0	7,934,529	7,934,529	0	0
Drawdown from Sewage Works Renewal Reserve Fund	2,567,694	0	2,567,694	1,207,974	874,397	485,323
Canada Community-Building Fund	2,250,000	0	2,250,000	2,250,000	0	0
Other Contributions	12,859	0	12,859	12,859	0	0
ES241422 Total	12,765,082	0	12,765,082	11,405,362	874,397	485,323
EW376523 - Infrastructure Renewal Program - Watermains						
Capital Water Rates	12,193,444	0	12,193,444	12,193,444	0	0
Drawdown from Water Works Renewal Reserve Fund	4,668,931	0	4,668,931	0	1,078,977	3,589,954
Canada Community-Building Fund	1,425,000	0	1,425,000	1,260,052	164,948	0
EW376523 Total	18,287,375	0	18,287,375	13,453,496	1,243,925	3,589,954
RT1430-3A - East London Link - Construction Rapid Transit						
Capital Levy	1,283,152	0	1,283,152	542,948	309,511	430,692
Debtenture By-law No. W.-5683-100 (note 3)	0	22,692	22,692	0	0	22,692
Public Transit Infrastructure Stream (PTIS) - Federal Funding	29,478,292	523,600	30,001,892	12,473,339	7,110,508	10,418,045
Public Transit Infrastructure Stream (PTIS) - Provincial Funding	24,562,786	436,290	24,999,076	10,393,409	5,924,830	8,680,836
Drawdown from City Services - Roads Reserve Fund (Development Charges) (note 2)	9,371,499	326,418	9,697,917	7,773,650	1,924,267	0
Debtenture By-law No. W.-5683-100 (Serviced through City Services - Roads Reserve Fund (Development Charges)) (note 2)	9,000,000	0	9,000,000	0	2,507,153	6,492,847
Other Contributions (note 4 and 5)	3,465,295	0	5,107,994	3,465,295	1,642,699	0
RT1430-3A Total	77,161,024	1,309,000	80,112,723	34,648,642	19,418,968	26,045,113
RT1430-3D - East London Link - Stops Rapid Transit						
Capital Levy	1,356,162	0	1,356,162	163,687	889,450	303,024
Public Transit Infrastructure Stream (PTIS) - Federal Funding	3,568,400	0	3,568,400	430,702	2,340,366	797,332
Public Transit Infrastructure Stream (PTIS) - Provincial Funding	2,973,369	0	2,973,369	358,883	1,950,109	664,377
Drawdown from City Services - Transit Reserve Fund (Development Charges) (note 2)	1,023,069	0	1,023,069	123,483	670,989	228,597
RT1430-3D Total	8,921,000	0	8,921,000	1,076,756	5,850,914	1,993,330
RT1430-3C - East London Link - TIMMS Rapid Transit						
Capital Levy	65,008	0	65,008	12,141	5,218	47,650
Public Transit Infrastructure Stream (PTIS) - Federal Funding	1,500,000	0	1,500,000	280,137	120,394	1,099,469
Public Transit Infrastructure Stream (PTIS) - Provincial Funding	1,249,875	0	1,249,875	233,424	100,318	916,132
Drawdown from City Services - Roads Reserve Fund (Development Charges) (note 2)	935,117	0	935,117	174,641	75,055	685,421
RT1430-3C Total	3,750,000	0	3,750,000	700,343	300,985	2,748,672
Total Financing	\$147,644,573	\$1,309,000	\$150,596,272	\$69,563,128	\$31,252,831	\$49,780,313

Appendix "A"

#24001

January 30, 2024
(Award Contract)

Chair and Members
Civic Works Committee

RE: Contract Award: Tender No. RFT-2023-241
East London Link and Municipal Infrastructure Improvements Phase 3C
(Subledger RD230012)

Financial Note (Engineering)	ES543619F	ES241422	EW376523	RT1430-3A	RT1430-3A (Utilities)	London Hydro
Contract Price	\$256,668	\$62,989	\$89,687	\$1,189,140	\$91,490	\$19,830
Add: HST @13%	33,367	8,189	11,659	154,588	11,894	2,578
Total Contract Price Including Taxes	290,035	71,178	101,346	1,343,728	103,384	22,408
Less: HST Rebate	-28,849	-7,080	-10,081	-133,659	-10,283	-2,578
Net Contract Price	<u>\$261,186</u>	<u>\$64,098</u>	<u>\$91,265</u>	<u>\$1,210,069</u>	<u>\$93,101</u>	<u>\$19,830</u>

	Start	Bell	Rogers	Old Oak	RT1430-3D	RT1430-3C
Contract Price	\$5,093	\$27,944	\$14,348	\$53,181	\$421,395	\$21,682
Add: HST @13%	662	3,633	1,865	6,914	54,781	2,819
Total Contract Price Including Taxes	5,755	31,577	16,213	60,095	476,176	24,501
Less: HST Rebate	-662	-3,633	-1,865	-6,914	-47,365	-2,437
Net Contract Price	<u>\$5,093</u>	<u>\$27,944</u>	<u>\$14,348</u>	<u>\$53,181</u>	<u>\$428,811</u>	<u>\$22,064</u>

Total Engineering	
Contract Price	\$2,253,447
Add: HST @13%	292,949
Total Contract Price Including Taxes	2,546,396
Less: HST Rebate	-255,406
Net Contract Price	<u>\$2,290,990</u>

Financial Note (Construction):	ES543619F	ES241422	EW376523	RT1430-3A	RT1430-3A (Utilities)	London Hydro
Contract Price	\$3,245,338	\$796,284	\$1,132,724	\$15,033,000	\$1,155,187	\$250,532
Add: HST @13%	421,894	103,517	147,254	1,954,290	150,174	32,569
Total Contract Price Including Taxes	3,667,232	899,801	1,279,978	16,987,290	1,305,361	283,101
Less: HST Rebate	-364,776	-89,502	-127,318	-1,689,709	-129,843	-32,569
Net Contract Price	<u>\$3,302,456</u>	<u>\$810,299</u>	<u>\$1,152,660</u>	<u>\$15,297,581</u>	<u>\$1,175,518</u>	<u>\$250,532</u>

	Start	Bell	Rogers	Old Oak	RT1430-3D	RT1430-3C
Contract Price	\$64,380	\$353,252	\$181,385	\$672,754	\$5,328,325	\$274,097
Add: HST @13%	8,369	45,923	23,580	87,458	692,682	35,633
Total Contract Price Including Taxes	72,749	399,175	204,965	760,212	6,021,007	309,730
Less: HST Rebate	-8,369	-45,923	-23,580	-87,458	-598,904	-30,809
Net Contract Price	<u>\$64,380</u>	<u>\$353,252</u>	<u>\$181,385</u>	<u>\$672,754</u>	<u>\$5,422,103</u>	<u>\$278,921</u>

Total Construction	
Contract Price	\$28,487,258
Add: HST @13%	3,703,343
Total Contract Price Including Taxes	32,190,601
Less: HST Rebate	-3,228,760
Net Contract Price	<u>\$28,961,841</u>

Financial Note Total Award:	Rapid Transit Total	Other Works (including utilities) Total	Total
Contract Price	\$22,267,639	\$8,473,066	\$30,740,705
Add: HST @13%	2,894,793	1,101,499	3,996,292
Total Contract Price Including Taxes	25,162,432	9,574,565	34,736,997
Less: HST Rebate	-2,502,883	-981,283	-3,484,166
Net Contract Price	<u>\$22,659,549</u>	<u>\$8,593,282</u>	<u>\$31,252,831</u>

Note 1: Civic Service Areas, Agencies, Boards and Commissions are authorized to expend capital funds in accordance with the 2024 Capital Budget approved by Council as part of the 2023 Annual Budget Update, until the 2024-2027 Multi-Year Budget is approved.

Note 2: Development charges have been utilized in accordance with the underlying legislation and the approved 2019 Development Charges Background Study and the 2021 Development Charges Background Study Update.

Note 3: Note to City Clerk: The City Clerk be authorized to increase No. W.-5683-100 by \$22,692 from \$9,000,000 to \$9,022,692.

Note 4: London Hydro and Start Communications have confirmed their contributions towards this project. The expenditures have increased to accommodate their contributions.

Note 5: Negotiations with Bell, Rogers and Old Oak confirming their contributions towards this project are ongoing. The cost allocations among the projects will be adjusted accordingly when negotiations are complete. The expenditures have increased to accommodate their anticipated contributions.

Note 6: There will be annual operating costs of \$25,000 to Transportation Operations, \$36,000 to Parks Operations, \$1,300 to Sewer Operations, \$17,000 to Traffic Operations and \$192,000 to Station Operations.

Alan Dunbar
Manager of Financial Planning & Policy

lp

Report to Civic Works Committee

To: Chair and Members
Civic Works Committee

From: Kelly Scherr, P. Eng., MBA, FEC
Deputy City Manager, Environment & Infrastructure

Subject: Contract Award: Tender No. RFT-2022-314
Rapid Transit Implementation – Clarks Bridge and Wellington Road from Thames River to Watson Street

Date: January 30, 2023

Recommendation

That on the recommendation of the Deputy City Manager, Environment & Infrastructure, the following actions **BE TAKEN** with respect to the award of contracts for Rapid Transit Implementation – Clarks Bridge and Wellington Road from Thames River to Watson Street project; it being noted that in accordance with Section 13.2 of the City of London's Procurement of Goods and Services Policy Request for Tender (RFT) contract awards greater than \$6,000,000 require approval of City Council:

- (a) the bid submitted by Bre-Ex Construction Inc at its tendered price of \$18,297,251.48 excluding HST, for the Rapid Transit Implementation – Clarks Bridge and Wellington Road from Thames River to Watson Street project, **BE ACCEPTED**; it being noted that the bid submitted by Bre-Ex Construction Inc was the lowest of three (3) bids received and meets the City's specifications and requirements in all areas;
- (b) AECOM Canada Ltd. **BE AUTHORIZED** to carry out the resident inspection and contract administration for the said project in accordance with the estimate, on file, at an upset amount of \$1,899,245 excluding HST, in accordance with Section 15.2 (g) of the City of London's Procurement of Goods and Services Policy;
- (c) the financing for this project **BE APPROVED** as set out in the "Sources of Financing Report" attached, as Appendix A;
- (d) the Civic Administration **BE AUTHORIZED** to undertake all administrative acts that are necessary in connection with this project;
- (e) the Civic Administration **BE AUTHORIZED** to approve Memorandums of Understanding between the Corporation of the City of London and public utilities and private service owners in relation to the cost-sharing of servicing works contained within the Rapid Transit Implementation – Clarks Bridge and Wellington Road from Thames River to Watson Street project contract;
- (f) the approval given, herein, **BE CONDITIONAL** upon the Corporation entering into a formal contract, or issuing a purchase order for the material to be supplied and the work to be done, relating to this project (Tender RFT-2022-314); and,
- (g) the Mayor and City Clerk **BE AUTHORIZED** to execute any contract or other documents, if required, to give effect to these recommendations.

Executive Summary

This report recommends award of a tender to a contractor and continuation of consulting services for construction inspection and contract administration for the Rapid Transit Implementation – Clarks Bridge and Wellington Road from Thames River to Watson Street project. This will reconstruct Wellington Street from just north of the Clarks Bridge Thames River crossing to just north of the Watson Street intersection. Figure 1 below depicts the approximate limits of the works for the project.



Figure 1: Clarks Bridge and Wellington Road from Thames River to Watson Street Project

Context

On March 26, 2019, Council approved the submission of funding applications for ten transit and transit supportive projects. All ten projects were approved under the Public Transit Infrastructure Stream (PTIS) program, including the Wellington Gateway.

On June 25, 2019, the Province pledged \$103.2 million through the PTIS program to the City of London for the ten projects. On August 23, 2019, the Federal government announced \$123.8 million for the same projects under the PTIS program. On October 10, 2019, the City of London received a letter from the Ontario Ministry of Transportation confirming financial commitment for the ten projects under the PTIS program.

The Wellington Gateway corridor is a mixed-use corridor with existing land uses including historic businesses, residential neighbourhoods, medical facilities and heavy industrial and commercial uses. The corridor is anchored by Downtown London at the northern end and McDonald-Cartier Freeway (Highway 401) at the southern end and provides service to London Health Sciences Foundation's Wellington campus and White Oaks Mall. The project will widen and revitalize approximately seven kilometers of

Wellington Street/Road from Horton Street East to just north of Exeter Road, adding continuous transit-only centre running and curbside lanes with the goal of increasing transit efficiency and improving traffic capacity.

In addition to being a planned rapid transit corridor, Wellington Gateway contains aging municipal infrastructure. There is a need to replace water, sanitary and storm infrastructure in select areas, and update private utility services to support infrastructure renewal, population growth, re-development and revitalization along rapid transit corridors. These significant and challenging municipal infrastructure lifecycle replacements will be coordinated as part of this overall assignment.

Linkage to the Corporate Strategic Plan

This report supports the 2023-2027 Corporate Strategic Plan by contributing to the following outcomes:

- Mobility and Transportation:
 - Londoners of all identities, abilities and means can move throughout the city safely and efficiently
- Climate Action and Sustainable Growth
 - London's infrastructure and systems are built, maintained, and operated to meet the long-term needs of the community

Analysis

1.0 Background Information

1.1 Previous Reports Related to this Matter

- Civic Works Committee – June 19, 2012 – London 2030 Transportation Master Plan;
- Strategic Priorities and Policy Committee – July 24, 2017 – Rapid Transit Master Plan and Business Case;
- Strategic Priorities and Policy Committee – April 23, 2018 – Bus Rapid Transit Environmental Assessment Initiative;
- Civic Works Committee – March 14, 2019 – The History of London's Rapid Transit Initiative;
- Strategic Priorities and Policy Committee – March 25, 2019 – Investing in Canada Infrastructure Program, Public Transit Stream, Transportation Projects for Submission;
- Strategic Priorities and Policy Committee – October 28, 2019 – Investing in Canada Infrastructure Program, Public Transit Infrastructure Stream, Approved Projects;
- Civic Works Committee – January 7, 2020 – Downtown Loop and Municipal Infrastructure Improvements Appointment of Consulting Engineer;
- Civic Works Committee – August 11, 2020 – East London Link Transit and Municipal Infrastructure Improvements – Appointment of Consulting Engineer;
- Civic Works Committee – August 11, 2020 – Wellington Gateway Transit and Municipal Infrastructure Improvements – Appointment of Consulting Engineer;
- Vendor of Record Contract Award – November 29, 2022 – Rapid Transit Shelter Infrastructure.
- Civic Works Committee – January 31, 2023 – Rapid Transit Implementation – Wellington Street from Queens Avenue to the Thames River (South Branch)

2.0 Discussion and Considerations

2.1 Wellington Gateway Corridor

Constructing the Wellington Gateway will widen the existing corridor to introduce centre running rapid transit operations along Wellington Street/Road. The realignment of corridor sections, most notably the “S-Curve” between Weston Street and Moore Street, will be undertaken to enhance both the safety and capacity of the roadway. While rebuilding the roadway, the project will address necessary underground work, including replacing aging sewers and watermains in addition to revitalizing approximately seven kilometers of roadway from Downtown through south London. The municipal underground works within this project have been identified as high priority due to the age, condition, and associated risk of failure of the infrastructure.

Wellington Gateway Phase 1 started construction in 2023 by reconstructing Wellington Street from Horton Street to just north of Clarks Bridge. Phase 1 reopened to traffic in December of 2023 with minor carryover works to be completed in 2024. The Contractor shall ensure that all traffic control provisions are coordinated between the two adjacent, concurrent construction projects.

2.2 Rapid Transit Implementation – Clarks Bridge and Wellington Road from Thames River to Watson Street Contract

This is a large and complex project that involves significant reconstruction of Clarks Bridge and Wellington Road from Thames River to Watson Street.

The reconstruction will include the following improvements:

- Full road reconstruction to incorporate rapid transit dedicated lanes, including new asphalt, boulevard enhancements, curb and gutter, and sidewalks;
- Centre running bus-only lanes on Wellington Road with priority signals to improve traffic and safety;
- Widening and rehabilitating Clarks Bridge;
- New street lights and traffic signal upgrades;
- Repair and replacement of aging watermain, storm and sanitary sewers including private drain connections;
- Removal and/or relocation of all signs located on public or private property in accordance with the sign By-Law S.-5868-183; and
- Hydro and other private utility improvements

2.3 Environmental Assessment Update

Minor refinements have been completed to this segment from the environmental assessment design concept where a southbound left/u-turn lane has been added on Wellington Road at the Grand Avenue intersection. This intersection improvement provides a more direct access for those traveling from the north to Grand Avenue but also improves access to Kennon Place, Front Street and other businesses on the east side of this stretch from South Street to Grand Avenue.

The nature of the minor refinement does not require an environmental assessment addendum update and therefore no documentation is need for this change.

2.4 Heritage Considerations

During the design phase of this project, two Heritage Impact Assessments (HIA) were completed for properties determined to be directly adversely impacted requiring demolition of the buildings located at;

- 16 Wellington Road
- 26, 28 & 30 Wellington Road

Based on the impact assessments recommendations, the City retained a qualified person to document a detailed and accurate record of each building for the purpose of commemoration of heritage features as part of the construction project. 3D scans have been completed at both 16 Wellington Road and 28 Wellington Road. 26, 28 & 30 Wellington Road brick patterns will be commemorated on the noise wall to be built near the properties. A commemoration plaque will be installed for 16 Wellington Road at an adjacent location to be determined.

2.5 Construction Considerations

Mitigation of construction impacts is a priority for this project. The contract includes a Construction Staging Workshop pay item involving the City, London Transit Commission, the Contractor and the Contract Administrator to work collaboratively and review opportunities to streamline construction staging and overall project schedule in an effort to reduce resident, business, and social impacts. The workshop will review the Contractor's initial proposed construction staging plans and consider opportunities for scheduling efficiencies.

The contract work has been identified in multiple stages/substages. Due to the scale of the project, it is anticipated that two stages may need to be completed at the same time. Providing flexibility in the staging and scheduling of each stage or substage supports the project being completed as efficiently as possible.

The contractor will be permitted to work in multiple areas of the project at any time during construction. However, key restrictions and milestones have been identified in the contract special provisions, such as maintaining a minimum of two lanes of traffic during construction. The City will review and approve any periodic closures and the Contractor must maintain access throughout construction as per the standard contract documents.

It will be the contractor's responsibility to manage business access and traffic through these areas as documented in the contractor's traffic management plan. The City has committed to allowing flexibility in the staging of the work in the project so as to build efficiently and meet the completion date. To that end, the aforementioned staging workshop will provide an opportunity for the Contractor, City, and Consultant teams to strategize with the goal of maximizing efficiency and minimizing disruption to the public.

2.6 Public Engagement and Consultation

The project team shared near-final designs and information on project status and next steps, through virtual and in-person public engagement opportunities and a two-week consultation period between October 9, 2023 to October 20, 2023. Two "Transit Tuesday" drop-in sessions were hosted on both Tuesday, October 10, 2023 and Tuesday, October 17, 2023 for residents, businesses and property owners to discuss the project in-person with the project team at the City of London Major Project's office.

This engagement period was an opportunity for property owners, businesses and residents within the project area to bring forward questions and concerns. It was also a chance for the general public to learn more about the project. The project team also consulted directly with individual property owners and businesses throughout 2023. Important design information was shared, including road widening impacts, the introduction of centre-medians and changes to turning movements along rapid transit corridors as well as an overview of the future pavement markings for rapid transit lanes.

The project team also hand-delivered notices to tenants, residents and businesses along the project area. This in-person outreach was another opportunity to discuss the project directly with businesses and residents, answer questions, and highlight changes the project could bring to their operations through introducing transit-only lanes and new medians.

The City will continue to issue timely communications and traffic detour information to minimize potential impact to residents and businesses during construction. Some key ways to support this include:

- Devoting a dedicated business relations coordinator to the project, to act as a liaison between the City and individual businesses;
- Maintaining access to buildings and driveways throughout construction or providing alternative arrangements where needed; and
- Ensuring Londoners know the area is open for business during construction through targeted, strategic marketing.

The proposed staging of construction will be communicated to property and business owners at a pre-construction webinar in the spring. The webinar will identify access needs and alternative entry and exit points, and outline potential impacts during construction, including, but not limited to traffic, waste collection, and noise and vibrations.

Construction Coordination

None of the projects around the city happen in isolation. Rather, the City’s various project teams work closely together to ensure that construction projects are coordinated, and overall traffic impacts are mitigated and managed. We take a holistic approach to everything from communications to traffic calming, wayfinding, and coordination of early works.

Throughout the busy construction season, representatives from divisions across the City, London Transit Commission and private utilities meet weekly to discuss any works or events requiring lane restrictions or a full closure to protect parallel corridors and detour routes.

3.0 Financial Impact/Considerations

3.1 Procurement Process

Tenders for the Clarks Bridge and Wellington Road from Thames River to Watson Street project were opened on January 16, 2024. Three (3) contractors submitted tender prices as listed below, excluding HST.

Contractor	Company Name	Tender Price Submitted
1	Bre-Ex Construction Inc	\$18,297,251.48
2	McLean Taylor Construction Limited	\$19,073,088.33
3	J-AAR Excavating Limited	\$19,501,035.14

All tenders have been checked by AECOM Canada Ltd., Construction and Infrastructure Services and Procurement and Supply. No mathematical errors were found, and the results of the tendering process indicate a competitive process. The submission from Bre-Ex Construction Inc was determined to meet all specifications and requirements of RFT-2022-314 and was determined to be the lowest compliant bid submission. The tender was advertised early and for an extended period of time to account for the larger scope of work, with an advanced tender posting notice completed. The tender estimate just prior to tender publication was \$22.1M excluding HST. This tender estimate also includes values for coordinated City and external utility works; see Source of Financing Appendix A for cost sharing details. This tender includes a total contingency allowance of \$2M.

The approved Wellington Gateway construction budget (RT1430-1A) has sufficient funds to award this contract. The construction project will be managed carefully to take

advantage of cost efficiencies and potential surpluses from the contingency amounts included in the previously awarded construction phases of Wellington Gateway.

The construction industry in London and throughout Ontario has experienced unprecedented cost escalations and budget pressures across all projects. A business case has been included with the 2024-2027 Multi-Year Budget to request an additional budget. The Multi-Year Budget request reflects several factors that are impacting all construction projects, such as inflation, rising interest rates, supply chain issues, legislative changes, as well as a changing real estate market.

In an effort to offset these cost pressures, staff and the consultant design team continue to review value engineering design alternatives and seek budget efficiencies along all three of the Rapid Transit corridors. Each year, the rapid transit tenders have intentionally been posted before year end, as timely contract awards yield significant efficiencies and cost savings by creating a more competitive bidding environment. London is also fortunate to have strong local construction and engineering industries that are committed to efficiently delivering these infrastructure projects from both a cost and schedule perspective.

While the City and design team has been successful in limiting the budget over-run where possible, the factors impacting the cost of the overall project have been further detailed in the 2024-2027 Multi-Year Budget case.

3.2 Consulting Services

AECOM Canada Ltd and Dillon Consulting Limited were awarded the detailed design of the Wellington Gateway and Infrastructure Improvements project by Council on January 14, 2020, as a partnership with Archibald, Gray, and McKay Engineering Ltd as a sub-consultant. The Wellington Gateway was broken up into four design phases to be led by the various teams. AECOM Canada Ltd is the lead design consultant for the Clarks Bridge construction phase. Due to the Consultant's knowledge of the detailed design, a proposal for contract administration and construction observation was requested and the scope of fees were negotiated.

Staff have reviewed the fee submission for contract administration and construction observation of these projects, including the time allocated to each project task, along with hourly rates provided by each of the Consultant's staff members. That review of assigned personnel, time per project task, and hourly rates was consistent with other rapid transit and infrastructure renewal program assignments of similar scope. It is also anticipated that greater consultant effort will be required to progress construction due to a number of site-specific issues, including property and parking access, multiple simultaneous construction work areas, extended working hours, etc. Fees also include a provision to support proper management of on-site and excess soils as required under the new Ontario Regulation 406/19.

The continued use of AECOM Canada Ltd on this project for resident inspection and contract administration and construction observation is of financial advantage to the City because the firm has specific knowledge of the project and has undertaken work for which duplication would be required if another firm were to be selected.

In accordance with Section 15.2 (g) of the City of London's Procurement of Goods and Services Policy, civic administration is recommending that AECOM Canada Ltd be authorized to carry out the remainder of engineering services, as construction administrators, and complete this project for a fee estimate of \$1,899,245, excluding HST. These fees are associated with the construction contract administration and resident inspection services to ensure that the City receives the product specified and associated value. The approval of this work will bring the total engineering services to \$9,655,480 excluding HST, as of January 2024.

3.3 Operating Budget Impacts

This phase of the project will revitalize Wellington Road within the proposed right-of-way from Clarks Bridge to Watson Street resulting in marginal annual operating budget impacts to transportation, and sewer operations. No water operational cost increases are expected. The following table summarizes anticipated additional increases from this Rapid Transit contract.

SERVICE AREA	RATIONALE	ANNUAL OPERATIONAL COST INCREASE
Sewer Operations	Cleaning and flushing of additional sewers, manholes, and catchbasins	\$400
Transportation Operations	Additional lane km summer and winter maintenance	\$15,292
Parks Operations	Maintaining planters, grass and turf	\$12,000
Traffic Engineering	New ladder crosswalks at Grand Avenue	\$1,300

This phase does not include any new shelters for the rapid transit program. Shelters will follow a separate procurement process which is currently underway. More detailed information on the operational budget impact of the shelters will come through that process.

Any property tax supported operational budget impacts will be addressed as part of the annual assessment growth process where appropriate, while the additional Sewer Operations costs will be addressed in future budget processes.

Conclusion

Civic Administration has reviewed the tender bids and recommends Bre-Ex Construction Inc be awarded the construction contract for the Rapid Transit Implementation, Wellington Street from Clarks Bridge to Watson Street at the submitted tender price of \$18,297,251.48.

AECOM has demonstrated an understanding of the City’s requirements for this project, and it is recommended that this firm continue as the consulting engineer for the purpose of contract administration and construction observation services, as it is in the best financial and technical interests of the City. The contract administration assignment is valued at an upset amount of \$1,899,245 excluding HST.

Prepared by: Ardian Spahiu, Acting Division Manager, Major Projects

Submitted by: Jennie Dann, P.Eng., Director, Construction & Infrastructure Services

Recommended by: Kelly Scherr, P.Eng., MBA, FEC Deputy City Manager, Environment & Infrastructure

Appendix A – Sources of Financing report

Appendix "A"

#24015

January 30, 2024
(Award Contract)

Chair and Members
Civic Works Committee

RE: Contract Award: Tender No. RFT-2022-314
Rapid Transit Implementation - Clarks Bridge and Wellington Road from Thames River to Watson Street
(Subledger RD230003)

Capital Project ES241423 - Infrastructure Renewal Program - Sanitary Sewer
Capital Project ES254023 - Infrastructure Renewal Program - Stormwater Sewers and Treatment
Capital Project EW376523 - Infrastructure Renewal Program - Watermains
Capital Project EW382319 - Watermain Built Area Works (2019-2023)
Capital Project TS176322 - Bridges Major Repairs
Capital Project RT1430-1A - Wellington Gateway - Construction Rapid Transit
Capital Project RT1430-1C - Wellington Gateway - TIMMS Rapid Transit
Bre-Ex Construction Inc. - \$18,297,251.48 (excluding HST)
AECOM Canada Ltd. - \$1,899,245.00 (excluding HST)

Finance Supports Report on the Sources of Financing:

Finance Supports confirms that the cost of this purchase can be accommodated within the financing available for it in the Capital Budget and that, subject to the approval of the Deputy City Manager, Environment and Infrastructure, the detailed source of financing is:

Estimated Expenditures	Approved Budget	Approved Forecasted 2024 Budget (note 1)	Revised Budget	Committed To Date	This Submission	Balance for Future Work
ES241423 - Infrastructure Renewal Program - Sanitary Sewer						
Engineering	1,995,000	0	1,995,000	567,233	164,858	1,262,909
Land Acquisition	5,000	0	5,000	5,000	0	0
Construction	11,287,878	0	11,287,878	3,836,118	1,587,840	5,863,920
City Related Expenses	25,000	0	25,000	0	0	25,000
ES241423 Total	13,312,878	0	13,312,878	4,408,351	1,752,698	7,151,829
ES254023 - Infrastructure Renewal Program - Stormwater Sewers and Treatment						
Engineering	2,000,000	0	2,000,000	724,993	88,710	1,186,297
Construction	11,212,878	0	11,212,878	8,305,091	854,777	2,053,010
City Related Expenses	100,000	0	100,000	1,068	0	98,932
ES254023 Total	13,312,878	0	13,312,878	9,031,152	943,487	3,338,239
EW376523 - Infrastructure Renewal Program - Watermains						
Engineering	2,500,000	0	2,500,000	1,461,254	130,262	908,484
Construction	15,786,488	0	15,786,488	13,551,027	993,653	1,241,808
City Related Expenses	887	0	887	887	0	0
EW376523 Total	18,287,375	0	18,287,375	15,013,168	1,123,915	2,150,292
EW382319 - Watermain - Built Area Works (2019-2023)						
Engineering	35,000	0	35,000	0	0	35,000
Construction	565,689	0	565,689	0	260,814	304,875
EW382319 Total	600,689	0	600,689	0	260,814	339,875
TS176322 - Bridges Major Repairs						
Engineering	550,307	0	550,307	195,386	328,941	25,980
Construction	4,771,394	0	4,771,394	641,509	3,169,020	960,865
City Related Expenses	20,000	0	20,000	10,120	0	9,880
TS176322 Total	5,341,701	0	5,341,701	847,015	3,497,961	996,725
RT1430-1A - Wellington Gateway - Construction Rapid Transit						
Engineering	8,437,640	0	8,437,640	5,146,011	1,134,478	2,157,151
Engineering (Utilities Share)	54,782	0	80,991	54,782	26,209	0
Construction	49,825,701	0	49,825,701	13,399,641	10,932,220	25,493,840
Construction (Utilities Share)	839,721	0	1,091,509	839,721	251,788	0
Utilities	7,066,000	0	7,066,000	1,618,171	388,902	5,058,927
City Related Expenses	3,763,904	1,254,000	5,017,904	129,861	0	4,888,043
RT1430-1A Total	69,987,748	1,254,000	71,519,745	21,188,187	12,733,597	37,597,961
RT1430-1C - Wellington Gateway - TIMMS Rapid Transit						
Engineering	113,302	0	113,302	89,530	22,032	1,740
Construction	2,735,776	0	2,735,776	551,136	212,559	1,972,081
Traffic Signals	150,922	0	150,922	150,922	0	0
RT1430-1C Total	3,000,000	0	3,000,000	791,588	234,591	1,973,821
Total Expenditures	\$123,843,269	\$1,254,000	\$125,375,266	\$51,279,461	\$20,547,063	\$53,548,742

Appendix "A"

#24015

January 30, 2024
(Award Contract)

Chair and Members
Civic Works Committee

RE: Contract Award: Tender No. RFT-2022-314
Rapid Transit Implementation - Clarks Bridge and Wellington Road from Thames River to Watson Street
(Subledger RD230003)

Sources of Financing	Approved Budget	Approved Forecasted 2024 Budget (note 1)	Revised Budget	Committed To Date	This Submission	Balance for Future Work
ES241423 - Infrastructure Renewal Program - Sanitary Sewer						
Capital Sewer Rates	8,812,878	0	8,812,878	4,408,351	1,752,698	2,651,829
Drawdown from Sewage Works Renewal Reserve Fund	2,250,000	0	2,250,000	0	0	2,250,000
Canada Community-Building Fund	2,250,000	0	2,250,000	0	0	2,250,000
ES241423 Total	13,312,878	0	13,312,878	4,408,351	1,752,698	7,151,829
ES254023 - Infrastructure Renewal Program - Stormwater Sewers and Treatment						
Capital Sewer Rates	1,242,500	0	1,242,500	1,242,500	0	0
Drawdown from Sewage Works Renewal Reserve Fund	9,820,378	0	9,820,378	5,538,652	943,487	3,338,239
Canada Community-Building Fund	2,250,000	0	2,250,000	2,250,000	0	0
ES254023 Total	13,312,878	0	13,312,878	9,031,152	943,487	3,338,239
EW376523 - Infrastructure Renewal Program - Watermains						
Capital Water Rates	12,193,444	0	12,193,444	12,193,444	0	0
Drawdown from Water Works Renewal Reserve Fund	4,668,931	0	4,668,931	1,394,724	1,123,915	2,150,292
Canada Community-Building Fund	1,425,000	0	1,425,000	1,425,000	0	0
EW376523 Total	18,287,375	0	18,287,375	15,013,168	1,123,915	2,150,292
EW382319 - Watermain - Built Area Works (2019-2023)						
Drawdown from Water Works Renewal Reserve Fund	264,303	0	264,303	0	49,555	214,748
Drawdown from City Services - Water Reserve Fund (Development Charges) (note 2)	336,386	0	336,386	0	211,259	125,127
EW382319 Total	600,689	0	600,689	0	260,814	339,875
TS176322 - Bridges Major Repairs						
Drawdown from Transportation Renewal Reserve Fund	2,341,701	0	2,341,701	0	1,344,976	996,725
Canada Community-Building Fund	3,000,000	0	3,000,000	847,015	2,152,985	0
TS176322 Total	5,341,701	0	5,341,701	847,015	3,497,961	996,725
RT1430-1A - Wellington Gateway - Construction Rapid Transit						
Capital Levy	1,950,756	0	1,950,756	572,965	351,675	1,026,115
Debenture Quota (note 3)	0	35,451	35,451	0	0	35,451
Public Transit Infrastructure Stream (PTIS) - Federal Funding	27,637,298	501,600	28,138,898	8,117,474	4,982,240	15,039,184
Public Transit Infrastructure Stream (PTIS) - Provincial Funding	23,028,811	417,958	23,446,769	6,763,894	4,151,457	12,531,417
Drawdown from City Services - Roads Reserve Fund (Development Charges) (note 2)	16,476,380	298,991	16,775,371	4,839,351	2,970,227	8,965,793
Other Contributions (note 4)	894,503	0	1,172,500	894,503	277,997	0
RT1430-1A Total	69,987,748	1,254,000	71,519,745	21,188,187	12,733,597	37,597,961
RT1430-1C - Wellington Gateway - TIMMS Rapid Transit						
Capital Levy	84,811	0	84,811	22,378	6,632	55,801
Public Transit Infrastructure Stream (PTIS) - Federal Funding	1,200,000	0	1,200,000	316,635	93,836	789,528
Public Transit Infrastructure Stream (PTIS) - Provincial Funding	999,900	0	999,900	263,836	78,189	657,875
Drawdown from City Services - Roads Reserve Fund (Development Charges) (note 2)	715,289	0	715,289	188,738	55,933	470,617
RT1430-1C Total	3,000,000	0	3,000,000	791,588	234,591	1,973,821
Total Financing	\$123,843,269	\$1,254,000	\$125,375,266	\$51,279,461	\$20,547,063	\$53,548,742

Appendix "A"

#24015

January 30, 2024
(Award Contract)

Chair and Members
Civic Works Committee

RE: Contract Award: Tender No. RFT-2022-314
Rapid Transit Implementation - Clarks Bridge and Wellington Road from Thames River to Watson Street
(Subledger RD230003)

Financial Note (Engineering)	ES241423	ES254023	EW376523	TS176322	RT1430-1A	RT1430-1A (Utilities)
Contract Price	\$162,006	\$87,175	\$128,009	\$323,252	\$1,114,857	\$36,086
Add: HST @13%	21,061	11,333	16,641	42,023	144,931	4,691
Total Contract Price Including Taxes	183,067	98,508	144,650	365,275	1,259,788	40,777
Less: HST Rebate	-18,209	-9,798	-14,388	-36,334	-125,310	-4,056
Net Contract Price	<u>\$164,858</u>	<u>\$88,710</u>	<u>\$130,262</u>	<u>\$328,941</u>	<u>\$1,134,478</u>	<u>\$36,721</u>
	London Hydro	Bell	Rogers	Telus	RT1430-1C	Total Engineering
Contract Price	\$10,066	\$5,128	\$7,027	\$3,988	\$21,651	\$1,899,245
Add: HST @13%	1,309	667	914	518	2,815	246,903
Total Contract Price Including Taxes	11,375	5,795	7,941	4,506	24,466	2,146,148
Less: HST Rebate	-1,309	-667	-914	-518	-2,434	-213,937
Net Contract Price	<u>\$10,066</u>	<u>\$5,128</u>	<u>\$7,027</u>	<u>\$3,988</u>	<u>\$22,032</u>	<u>\$1,932,211</u>
Financial Note (Construction):	ES241423	ES254023	EW376523	EW382319A	TS176322	RT1430-1A
Contract Price	\$1,560,377	\$839,993	\$976,467	\$256,303	\$3,114,210	\$10,743,141
Add: HST @13%	202,849	109,199	126,941	33,319	404,847	1,396,608
Total Contract Price Including Taxes	1,763,226	949,192	1,103,408	289,622	3,519,057	12,139,749
Less: HST Rebate	-175,386	-94,415	-109,755	-28,808	-350,037	-1,207,529
Net Contract Price	<u>\$1,587,840</u>	<u>\$854,777</u>	<u>\$993,653</u>	<u>\$260,814</u>	<u>\$3,169,020</u>	<u>\$10,932,220</u>
	RT1430-1A (Utilities)	London Hydro	Bell	Rogers	Telus	RT1430-1C
Contract Price	\$346,090	\$97,439	\$49,570	\$67,015	\$37,764	\$208,882
Add: HST @13%	44,992	12,667	6,444	8,712	4,909	27,155
Total Contract Price Including Taxes	391,082	110,106	56,014	75,727	42,673	236,037
Less: HST Rebate	-38,901	-12,667	-6,444	-8,712	-4,909	-23,478
Net Contract Price	<u>\$352,181</u>	<u>\$97,439</u>	<u>\$49,570</u>	<u>\$67,015</u>	<u>\$37,764</u>	<u>\$212,559</u>
	Total Construction					
Contract Price	\$18,297,251					
Add: HST @13%	2,378,642					
Total Contract Price Including Taxes	20,675,893					
Less: HST Rebate	-2,061,041					
Net Contract Price	<u>\$18,614,852</u>					
	Other Works (including utilities)					
	Rapid Transit Total	Total	Total			
Contract Price	\$12,088,531	\$8,107,965	\$20,196,496			
Add: HST @13%	1,571,509	1,054,036	2,625,545			
Total Contract Price Including Taxes	13,660,040	9,162,001	22,822,041			
Less: HST Rebate	-1,358,751	-916,227	-2,274,978			
Net Contract Price	<u>\$12,301,289</u>	<u>\$8,245,774</u>	<u>\$20,547,063</u>			

Note 1: Civic Service Areas, Agencies, Boards and Commissions are authorized to expend capital funds in accordance with the 2024 Capital Budget approved by Council as part of the 2023 Annual Budget Update, until the 2024-2027 Multi-Year Budget is approved.

Note 2: Development charges have been utilized in accordance with the underlying legislation and the approved 2019 Development Charges Background Study and the 2021 Development Charges Background Study Update.

Note 3: Note to City Clerk: Administration hereby certifies that the estimated amounts payable in respect of this project does not exceed the annual financial debt and obligation limit for the Municipality from the Ministry of Municipal Affairs in accordance with the provisions of Ontario Regulation 403/02 made under the Municipal Act, and accordingly the City Clerk is hereby requested to prepare and introduce the necessary by-laws.

An authorizing by-law should be drafted to secure debenture financing for project RT1430-1A - Wellington Gateway (South) Construction Rapid Transit for the net amount to be debentured of \$35,451.

Note 4: Negotiations with London Hydro, Bell, Rogers and Telus confirming their contributions towards this project are ongoing. The cost allocations among the projects will be adjusted accordingly when negotiations are complete. The expenditures have increased to accommodate their anticipated contributions.

Note 5: There will be annual operating costs of \$15,292 to Transportation Operations, \$12,000 to Parks Operations, \$400 to Sewer Operations, \$1,300 to Traffic Engineering.

Alan Dunbar
Manager of Financial Planning & Policy

lp

Report to Civic Works Committee

To: Chair and Members
Civic Works Committee

From: Kelly Scherr, P. Eng., MBA, FEC, Deputy City Manager,
Environment & Infrastructure

Subject: Professional Consulting over \$100K: Highway 401 and
Wellington Road/Highbury Avenue Area Traffic Study

Date: January 30, 2024

Recommendation

That, on the recommendation of the Deputy City Manager, Environment & Infrastructure, the following actions **BE TAKEN** with respect to additional engineering consulting fees for the Highway 401 and Wellington Road/Highbury Avenue area traffic study:

- (a) The contract with WSP E&I Canada Limited **BE INCREASED** by \$31,948 to a total amended value of \$122,438 (excluding HST) to allow for completion of additional traffic study activities, in accordance with Section 15.1 c) of the Procurement of Goods and Services Policy;
- (b) The financing for this contract amendment **BE APPROVED** as set out in the Sources of Financing Report attached hereto as Appendix A;
- (c) The Civic Administration **BE AUTHORIZED** to undertake all the administrative acts that are necessary in connection with this contract amendment; and,
- (d) The Mayor and City Clerk **BE AUTHORIZED** to execute any contract or other documents, if required, to give effect to these recommendations.

Executive Summary

Significant growth and redevelopment is occurring in the area of Highway 401 and Wellington Road. At the request of the Ontario Ministry of Transportation (MTO), the City has been undertaking a comprehensive traffic study in accordance with Provincial and City requirements to review future traffic conditions and transportation infrastructure needs in this area. This study is being undertaken by WSP E&I Canada Limited (WSP). MTO has recently requested that additional traffic data collection and traffic forecast modelling be completed as part of this ongoing study.

This report seeks the approval of Council to increase the existing consultant contract with WSP E&I Canada Limited by \$31,948 resulting in a total amended value of \$122,438 (excluding HST) to complete additional traffic study activities as required by MTO.

In accordance with the City's Procurement of Goods and Services Policy, Council approval of this contract amendment is required.

Linkage to the Corporate Strategic Plan

Municipal Council's new Strategic Plan identifies "Mobility and Transportation" as a strategic area of focus. This report supports the Strategic Plan by identifying the building of infrastructure that provides safe, integrated, connected, reliable and efficient transportation choices.

Analysis

1.0 Background Information

1.1 Previous Reports Related to this Matter

- Civic Works Committee – June 19, 2012 – London 2030 Transportation Master Plan
- Strategic Priorities and Policy Committee – May 6, 2019 - Approval of 2019 Development Charges By-Law and DC Background Study
- November 2, 2021 – Civic Works Committee – November 2, 2021, Initiation of the Mobility Master Plan Development

2.0 Discussion and Considerations

2.1 Background

MTO is responsible for the Highway 401 corridor and the associated interchanges. MTO's primary concern relates to the traffic movement and safe operation of the freeway network, interchange ramps and intersections. Under provincial legislation, MTO exercises control of their corridor and issue permits and approvals for developments that are adjacent to provincial highways. There are several ongoing development applications that are within MTO's permit control area in the Wellington Road area and require MTO approval to allow construction to proceed. These provincial requirements are in addition to City of London planning approvals.

MTO has previously requested that the city undertake a comprehensive study of the general area along Highway 401 between Wellington Road and Highbury Avenue with a specific focus on the nearby intersections. This study has been ongoing with the work being undertaken by WSP E&I Canada Limited (WSP) who has expertise and experience in completing similar traffic studies. WSP was procured to complete this consulting assignment in accordance with the City's Procurement of Goods and Services Policy.

This study includes a review of planned developments around Wellington Road/Highbury Avenue and Highway 401 in the City of London to identify traffic conditions and to develop mitigation measures, if necessary to address any areas of concern. The study involves a review of planned land use, traffic generation, forecasting and modelling as well as an operational review. While traffic studies are typically completed for individual developments, this comprehensive study is reviewing the traffic conditions and transportation network associated with the planned growth in the area. MTO has recently requested that additional traffic data collection and traffic forecast modelling be completed as part of the study. The outcome of this study will also be considered as part of the ongoing Mobility Master Plan.

2.2 Procurement Process

The City engaged WSP to conduct a comprehensive traffic study in the area of Highway 401 and Wellington Road in accordance with Provincial and City requirements to review future traffic conditions and transportation infrastructure needs in this area. The initial consulting award was valued at \$90,490 and was approved administratively as per section 15.2 c) of the Procurement of Goods & Services Policy:

Assignments for projects which have estimated fees of less than \$100,000 shall be awarded by the Deputy City Manager or delegate, as per 8.5 c, to listed candidate firms based on an evaluation of the firm's competency, expertise, costs, past performance on City projects, available capacity, and the size of their operation and the particulars of the work to be done.

WSP is included on the City's current Approved Consultants List and were selected to execute this work based on their expertise and experience in completing similar traffic studies and positive past experiences working with WSP.

The MTO has recently requested that additional traffic data collection and traffic forecast modelling be completed as part of this ongoing study. Adding the additional work to the current contract will cause the value of the total consulting award to exceed \$100,000. As per section 15.1 c) of the Policy:

If a consulting engagement that has been awarded administratively exceeds the approval threshold of \$100,000, the Deputy City Manager shall immediately prepare a report to City Council providing a status update and requesting approval to proceed (if applicable).

As per 8.5 a) vi), Committee and City Council must approve appointment of Professional Consulting Services greater than \$100,000.

3.0 Financial and Schedule Considerations

An additional \$31,948 (excluding HST) is requested for the contract with WSP E&I Canada Limited to complete additional traffic study requirements. Funds are available in the capital budget for this additional traffic study work as per the attached Source of Financing Report provided in Appendix A. The amended contract value includes a contingency in the event of unforeseen requirements.

Conclusion

This traffic study is being conducted for MTO approval of developments in the area of Highway 401. MTO has requested additional traffic data collection and traffic forecast modelling. It is recommended WSP E&I Canada Limited's original contract be increased by \$31,948 resulting in an amended total contract value of \$122,438 to allow the consultant to complete the additional work as required by MTO. In accordance with the City's Procurement of Goods and Services Policy, Council approval of this contract amendment is required.

This approach will result in cost and schedule efficiencies and facilitate MTO's review of ongoing development applications in the area near Highway 401.

Prepared by: Garfield Dales, P. Eng. Division Manager
Transportation Planning & Design

Submitted by: Doug MacRae, P. Eng., MPA, Director Transportation &
Mobility

Recommended by: Kelly Scherr, P. Eng., MBA, FEC Deputy City Manager,
Environment & Infrastructure

Appendix A: Source of Financing Report

c: Steve Mollon, Senior Manager, Procurement & Supply
Sarah Grady, Traffic and Transportation Engineer
Kari Fellows, WSP E&I Canada Limited

Appendix "A"

#24016

January 30, 2024

(Increase Contract)

Chair and Members
Civic Works Committee

RE: Professional Consulting over \$100K: Highway 401 and Wellington Road/Highbury Avenue Traffic Study
(Subledger NT23RD05)
Capital Project TS1041 - Transportation Impact Studies
WSP E&I Canada Limited - \$122,438.00 (excluding HST)

Finance Supports Report on the Sources of Financing:

Finance Supports confirms that the cost of this project can be accommodated within the financing available for it in the Capital Budget and that, subject to the approval of the recommendation of the Deputy City Manager, Environment and Infrastructure, the detailed source of financing for this purchase is:

Estimated Expenditures	Approved Budget	Committed To Date	This Submission	Balance for Future Work
Engineering	300,000	239,934	32,510	27,556
Total Expenditures	\$300,000	\$239,934	\$32,510	\$27,556

Sources of Financing

Drawdown from City Services - Corporate Growth Studies Reserve Fund (Development Charges) (Note 1)	300,000	239,934	32,510	27,556
Total Financing	\$300,000	\$239,934	\$32,510	\$27,556

Financial Note:

Contract Price	\$122,438
Less amount previously approved	90,490
Contract Price	31,948
Add: HST @13%	4,153
Less: HST Rebate	-3,591
Net Contract Price	<u>\$32,510</u>

Note 1: Development charges have been utilized in accordance with the underlying legislation and the approved 2019 Development Charges Background Study and the 2021 Development Charges Background Study Update.

Jason Davies
Manager of Financial Planning & Business Support

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Report to Civic Works Committee

To: Chair and Members
Civic Works Committee
From: Kelly Scherr, P.Eng., MBA, FEC
Deputy City Manager, Environment, and Infrastructure
Subject: Jenkens Municipal Drain Improvements
Date: January 30, 2024

Recommendation

That on the recommendation of Deputy City Manager, Environment and Infrastructure, the following actions **BE TAKEN** with respect to the Jenkens Municipal Drain Improvements:

- (a) The drainage report, attached as Appendix A, prepared by Spriet Associates London Ltd, Consulting Engineers for the for the construction of the Jenkens Municipal Drain (2023) **BE ADOPTED**; and it being noted the notice of the public meeting was provided in accordance with the provisions of Section 41 of the Drainage Act; and,
- (b) the proposed by-law, attached as Appendix B **BE INTRODUCED** at this meeting, and **BE GIVEN** two readings at the February 13, 2024 Council Meeting to authorize the construction of the Jenkens Municipal Drain 2023 project, it being noted that the third reading of the by-law for enactment would occur at the Council meeting after holding of the Court of Revision in connection with the project.

Linkage to the Corporate Strategic Plan

This recommendation supports the following 2023-2027 Strategic Plan areas of focus:

- Waterways, wetlands, watersheds, and natural areas are protected and enhanced.
 - Protect the natural environment and avoid natural hazards when building new infrastructure or development.
 - Improve the natural environment and build resiliency when replacing aging infrastructure.

Executive Summary

In response to the request for maintenance under Section 78 of the Drainage Act, Council motioned for Spriet Associates London Ltd. to review the request and begin the process of creating a new Drainage Report. Existing site conditions were assessed with the affected property owners. The Jenkens Municipal Drain Report details the recommendations, design criteria, cost estimate, and assessment schedule for the cost of construction and future maintenance to the Jenkens Municipal Drain. Accepting the By-law to adopt the drainage report will allow the design to be tendered for construction.

Analysis

1.0 Background Information

1.1 Previous Reports Related to this Matter

- Council – August 15, 1996 – A by-law to levy costs for the maintenance and repair of the Jenkens Municipal Drain.

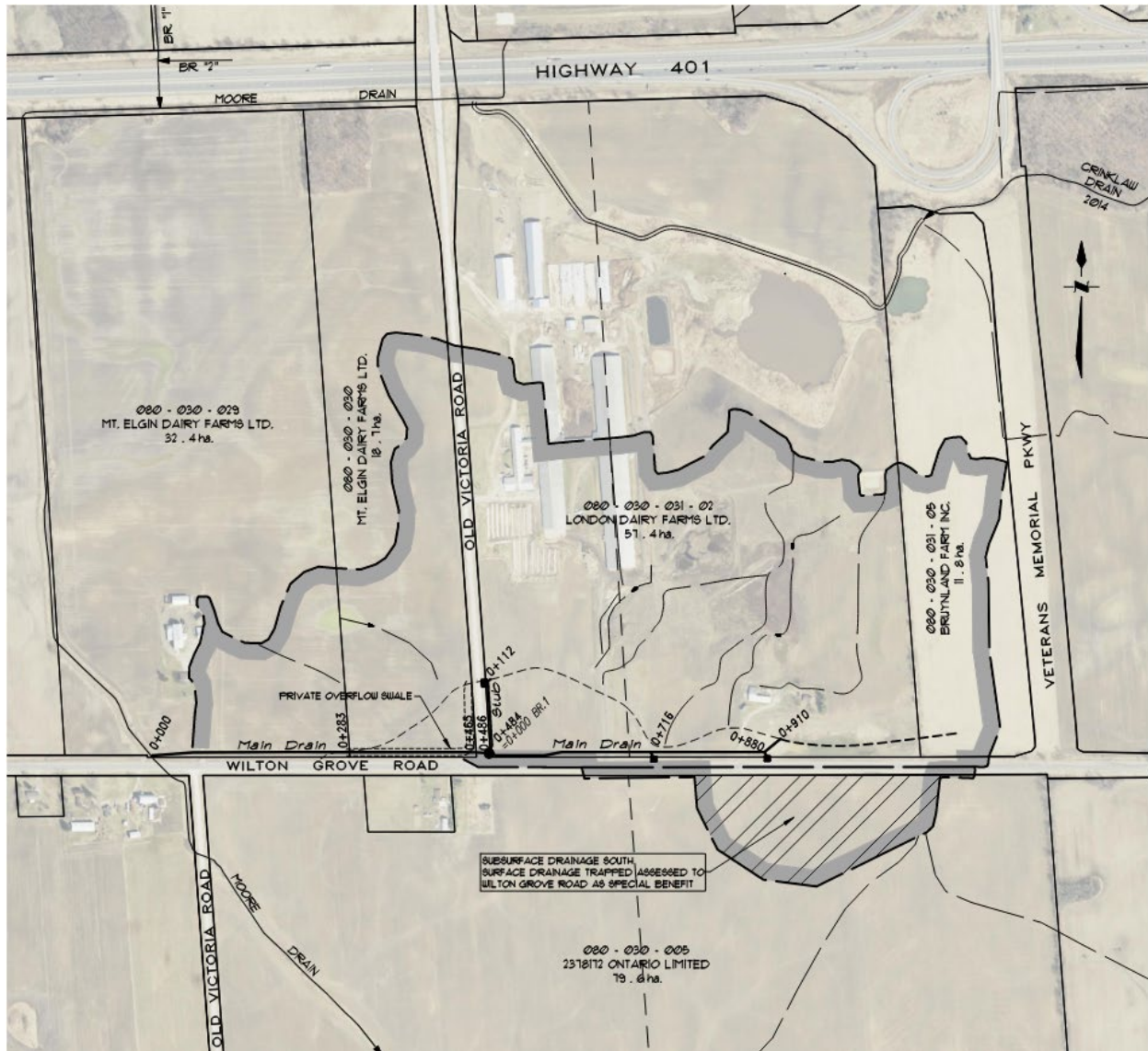
2.0 Discussion and Considerations

2.1 Purpose

To undertake the improvements to the Jenkens Municipal Drain, the Provincial Drainage Act requires a Council resolution to adopt the drainage report and enact the related by-law. An assessment was undertaken to review drainage conditions in the area due to concerns with surface flooding. Based on this assessment remedial works to the drain were designed.

2.2 Context

The general location of the Jenkens Municipal Drain is shown in the map below:



The proposed work to reconstruct the drain was initiated by a petition from the affected property owners. The submitted petition represents a sufficient number of property owners within the watershed to trigger the construction of drainage works as outlined in the Drainage Act.

2.3 Additional Background

The Drainage Report for the Jenkens Municipal Drain was prepared pursuant to Section 4 of the Drainage Act. The requests for drainage improvements were studied by Spriet Associates Ltd. and are documented in the Engineers report (Appendix A). The report includes technical specification for construction, cost estimates, and an assessment schedule indicating how the construction costs are to be divided amongst the benefitting landowners.

The Drainage Act requires a public meeting prior to the adoption of the Engineer's Report. This Civic Works Committee meeting will serve that purpose. All assessed

property owners have been notified of this meeting and may be present to ask questions. There is a further opportunity for property owners to appeal the assessment schedule prior to construction through the Court of Revision. As per section 97, at the Court of Revision meeting, property owners may appeal the assessments in the assessment schedule that is part of the drainage report, however they are not able to appeal the project itself. Representatives from Spriet Associates Ltd will also attend the meeting to answer any questions regarding the Assessment Schedule in the Drainage Report.

The adoption of the Municipal Drain report and the passing of the associated by-law will allow for the assessment schedule to be applied, dividing the construction and future maintenance costs amongst the benefitting landowners. This also is an important step towards ensuring access to provincial grants from the Ontario Ministry of Agriculture, Food and Rural Affairs which presently contributes one-third of the total gross costs assessed to agricultural land.

Conclusion

The drain, when reconstructed, will be of great benefit to the lands and roads through which it runs and will provide an improved outlet to the land within the watershed. Once City Council approves the reconstruction of the Jenkins Municipal Drain 2023 project as set out in the Drainage Report governed by the Drainage Act, a public tender for these works will be issued and construction undertaken.

Prepared by: **Shawna Chambers, DPA, P.Eng.**
Division Manager, Stormwater Engineering

Submitted by: **Ashley M. Rammeloo, MMSc., P.Eng.**
Director, Water, Wastewater, and Stormwater

Recommended by: **Kelly Scherr, P.Eng., MBA, FEC**
Deputy City Manager, Environment, and Infrastructure

Appendix 'A' – Engineer's Report

Appendix 'B' – By-law

cc: Paul Titus, Program Manager, Stormwater Engineering
Jessica Trela, Drainage Superintendent, Stormwater Engineering
M. DeVos – Spriet Associates London Ltd.
A. Kruspel – Spriet Associates London Ltd.

APPENDIX 'A'

London, Ontario
October 12, 2023

JENKENS DRAIN 2023

City of London

To the Mayor and Council of
The City of London

Mayor and Council:

We are pleased to present our report on the reconstruction of the Jenkins Municipal Drain serving parts of Lots 4 to 8, Concessions 2 and 3 (geographic Westminster) in the City of London. The total watershed area contains approximately 49 hectares.

AUTHORIZATION

This report was prepared pursuant to Section 78 of the Drainage Act. Instructions were received from your Municipality with respect to a motion of Council. The work was initiated by a request signed by some of the affected landowners.

HISTORY

The Jenkins Drain was originally constructed pursuant to a report submitted by C. P. Corbett, P. Eng. dated November 30, 1954 and consisted of a tile drain approximately 1,000 meters in length. The drain extends from an outlet in the north road ditch along the north side of Wilton Grove Road near the east limit of Lot 8, upstream easterly through Lots 7 and 6, to its head just inside Lot 5, a small distance north of said road.

EXISTING DRAINAGE CONDITIONS

At a site meeting held with respect to the project and through later discussions, the owners reported the following:

- that the existing drain is old, undersized, in poor condition, shallow, and is no longer providing an adequate drainage outlet for the watershed
- that there is a portion of the London Dairy Farms Ltd. property along Wilton Grove Road property which does not have direct access to the drain or an overland flow route which causes water to pond on the east part of Lot 6 for long durations
- that the Wilton Grove Road ditch does not provide a sufficient outlet



EXISTING DRAINAGE CONDITIONS (cont'd)

- that the drain should be replaced and extended westerly, directly to the Moore Drain
- that portions of the drain on the west half of Lot 7 be relocated adjacent to Wilton Grove Road with the provisions for overflow in the form of a swale

A field investigation and survey were completed. Upon reviewing our findings, we note the following:

- that the existing Wilton Grove Road ditch is too shallow to provide a proper drainage outlet
- that there are hydro poles and limited space in the above ditch to allow the deepening and widening required
- that the existing Jenkins Drain is considerably undersized by today's standards, in poor working condition, and shallow in places
- that fill has been placed over the drain in the east part of Lot 6, and the owners in this area indicated that this portion of the drain could remain 'as is' and not be improved at this time
- that there is a natural tributary watershed area on the south side of Wilton Grove Road, both on the road allowance and private lands, however there is no surface culvert to allow flows from this area to access the drain

Preliminary design, cost estimates and assessments were prepared, and an informal public meeting was held to review the findings and preliminary proposals. Further input and requests were provided by the affected owners at that time and at later dates. This included providing an updated cost to relocate the remaining part being reconstructed across the east half of Lot 7, and west half of Lot 6 to also be adjacent to the north side of Wilton Grove Road. However surface water will continue to flow along its natural courses.

DESIGN CRITERIA AND CONSIDERATIONS

The Drainage Coefficient method contained in the "DRAINAGE GUIDE FOR ONTARIO", Publication 29 by the Ontario Ministry of Agriculture, Food, and Rural Affairs (OMAFRA) is typically used to design municipal drains. The Drainage Coefficient defines a depth of water that can be removed in a 24-hour period and is expressed in millimetres per 24 hours. The coefficient used to design this drain with respect to capacity was 38mm per 24 hrs.

We would like to point out that there have been no indications of any adverse soil conditions, however, unstable soil conditions are known to be present.

The proposed design and report have been generally completed using the "GUIDE FOR ENGINEERS WORKING UNDER THE DRAINAGE ACT IN ONTARIO" OMAFRA Publication 852.



DESIGN CRITERIA AND CONSIDERATIONS (cont'd)

The capacity of the overland flow route on the west side of Old Victoria Road has been designed in accordance with the rational method to a design frequency of a 1 in 250-year storm. Design frequency is the frequency with which a given storm event is equalled on the average, once in a period of years. Thus a 2-year frequency event would be expected to be equalled or exceeded 50 times in 100 years.

RECOMMENDATIONS

We are therefore recommending the following:

- that the existing drain, up to the midpoint of Lot 6, be replaced with a new 300mm to 600mm concrete tile and sewer pipe including related appurtenances.
- that the remaining existing portions of the drain being replaced be officially abandoned as municipal drains under Section 19 of the Drainage Act. The owners may maintain the intact portions as private header tiles if they so wish
- that the new drain be relocated to be parallel to Wilton Grove Road, a short distance north of the north property line
- that a new 450mm concrete tile stub be constructed adjacent to the east limit of the Old Victoria Road allowance from the new drain up to the original drain's location to capture flow from upstream
- that an overflow swale be constructed along Wilton Grove Road and the west side of Old Victoria Road to accommodate excess surface water, by the owner with the minimum elevations and cross-sectional area provided on the drawing
- that catchbasins be installed at various locations on the proposed drains to allow direct surface water entry into the tiles and thereby reduce surface flow and erosion including a lead southerly to Wilton Grove Road
- that the existing upstream portion of the drain should be included as part of this report for future maintenance purposes

Due to the indications of poor soil conditions our design includes the wrapping of tile joints with geotextile and a contingency allowance for crushed stone bedding wrapped with geotextile where and if necessary. These areas are typically identified at the time of construction but may only become apparent after construction is completed. In this case, the extra costs for removal and reinstallation on stone bedding would be an extra to the project and if already billed become a supplementary billing.

It is recommended that basement, cellar, or crawlspace drains be directed to a sump and then discharged onto the ground surface well away from foundations and septic systems or should owners desire to connect these drains to the new outlet drain, then it is suggested that they not be directly connected to the drains. Rather it is suggested that such a connection be made by an indirect method such as by sump pump with an open-air connection such as a mini-catchbasin, crushed stone filled excavation connected to a storm P.D.C. and should include a check valve and be piped above foundation level. It is noted that there is still a risk of flooding even with indirect



RECOMMENDATIONS (cont'd)

methods of connection and any/all responsibility shall be borne by the owner. Downspouts from eavestroughs should be directed onto the ground surface well away from foundations and septic systems and are **not** permitted to be connected to the Municipal Drain.

ENVIRONMENTAL CONSIDERATIONS AND MITIGATION MEASURES

Based on the information available, there are no significant wetlands, sensitive areas, endangered species along the route of the drain. The proposed construction includes quarry stone outlet protection and surface inlets which help reduce the overland surface flows and any subsequent erosion. A temporary flow check of silt fencing is to be installed in the ditch downstream of the tile outlet for the duration of the construction.

SUMMARY OF PROPOSED WORK

The proposed work consists of approximately 1,048 lineal meters of 250mm to 600mm concrete tile, sewer pipe and 762mm steel pipe, including related appurtenances.

SCHEDULES

Four schedules are attached hereto and form part of this report, being Schedule 'A' - Allowances, Schedule 'B' - Cost Estimate, Schedule 'C' - Assessment for Construction, and Schedule 'D' - Assessment for Maintenance.

Schedule 'A' - Allowances. In accordance with Sections 29 and 30 of the Drainage Act, allowances are provided for right-of-way and damages to lands and crops along the route of the drain as defined below.

Schedule 'B' - Cost Estimate. This schedule provides for a detailed cost estimate of the proposed work which is in the amount of \$ 312,900.00. This estimate includes engineering and administrative costs associated with this project.

Schedule 'C' - Assessment for Construction. This schedule outlines the distribution of the total estimated cost of construction over the roads and lands which are involved.

Schedule 'D' - Assessment for Maintenance. In accordance with Section 38 of the Drainage Act, this schedule outlines the distribution of future repair and/or maintenance costs for portions of, or the entire drainage works.

Drawing No. 1, Job No. 222125 and specifications form part of this report. They show and describe in detail the location and extent of the work to be done and the lands which are affected.

ALLOWANCES

RIGHT-OF-WAY: Section 29 of the Drainage Act provides for an allowance to the owners whose land must be used for the construction, repair, or future maintenance of a drainage works.

ALLOWANCES (cont'd)

For tile drains where the owners will be able to continue to use the land, the allowance provides for the right to enter upon such lands, and at various times for the purpose of inspecting such drain, removing obstructions, and making repairs. Also, the allowance provides for the restrictions imposed on those lands to protect the right-of-way from obstruction or derogation. The amounts granted for right-of-way on tile drains is based on a percentage of the value of the land designated for future maintenance. Therefore, the amount granted is based on \$9,000.00/ha. through cropped lands. This value is multiplied by the hectares derived from the width granted for future maintenance and the applicable lengths. No right-of-way was previously provided for any of the existing drains being replaced.

DAMAGES: Section 30 of the Drainage Act provides for the compensation to landowners along the drain for damages to lands and crops caused by the construction of the drain. The amount granted is based on \$5,500.00/ha for closed drains. This base rate is multiplied by the hectares derived from the working widths shown on the plans and the applicable lengths.

ASSESSMENT DEFINITIONS

In accordance with the Drainage Act, lands that make use of a drainage works are liable for assessment for part of the cost of constructing and maintaining the system. These assessments are known as benefit, outlet liability and special benefit as set out under Sections 22 and 23 of the Act.

SECTION 22

Benefit as defined in the Drainage Act means the advantages to any lands, roads, buildings or other structures from the construction, improvement, repair, or maintenance of a drainage works such as will result in a higher market value or increased crop production or improved appearance or better control of surface water, or any other advantages relating to the betterment of lands, roads, buildings, or other structures.

Special Benefit is assessed to lands for which some additional work or feature has been included in the construction repair or improvement of a drainage works. The costs of such work are separated and assessed independently from the regular work.

SECTION 23

Outlet liability is assessed to lands or roads that may make use of a drainage works as an outlet either directly or indirectly through the medium of any other drainage works or of a swale, ravine, creek, or watercourse.

In addition, a Public Utility or Road Authority shall be assessed for and pay all the increased cost to a drainage works due to the construction and operation of the Public Utility or Road Authority. This may be shown as either benefit or special assessment.



ASSESSMENT

A modified "Todgham Method" is typically used to calculate the assessments shown on Schedule 'C'- Assessment for Construction. This entails breaking down the costs of the drain into sections along its route where warranted and then extracting Special Assessments and Special Benefit Assessments from each section.

The remainder is then separated into Benefit and Outlet Assessments. The Benefit is distributed to those properties receiving benefit as defined under "Assessment Definitions", with such properties usually being located along or close to the route of the drain. The Outlet is distributed to all properties within the watershed area of that section on an adjusted basis. The areas are adjusted for location along that section and relative run-off rates. Due to their different relative run-off rates forested lands are assessed for outlet at lower rates than cleared lands. Also, roads and residential properties are assessed for outlet at higher rates than cleared farmlands.

The actual cost of the work involving this report, with the exception of Special Assessments, is to be assessed on a pro-rata basis against the lands and roads liable for assessment for benefit and outlet as shown in detail on Schedule 'C' - Assessment for Construction. The Special Assessments shall be levied as noted in the Section "Special Assessment".

The cost to restore water supply for any well determined to be impacted by any construction covered under this report shall become part of this report and be pro-rated with the costs provided for in this report.

SPECIAL ASSESSMENT

In accordance with Section 26 of the Drainage Act, Special Assessments have been made against the City of London being the increased cost to the drainage work for boring under the northerly portion of Old Victoria Road across their road allowance due to the construction and operation of their road. The Special Assessments shall be made up of the actual cost of this work and both the final and estimated values of the Special Assessment are to be calculated as follows:

Drain	Cost of Work	Less Equivalent Drain Cost (Fixed)	Plus Administration Cost	Plus Interest, Contract Security, & Net H.S.T.	Special Assessment
762mm pipe	\$38,750.00	\$1,410.00	\$3,700.00	\$1,340.00	\$42,380.00

In accordance with Section 26 of the Drainage Act, Special Assessments have been made against Wilton Grove Road and Old Victoria Road South for a portion of the theoretical the cost of constructing the drain across these roads in the natural route that the water/tile would go without their existence, being the increased cost to the drainage works due to the construction and operation of their road. The Special Assessment shall be as shown on Schedule 'C' and shall be prorated as part of the final costs.

In accordance with Section 26 of the Drainage Act, Special Assessments have been made against Enbridge and Bell Canada for the cost of locating and determining the elevation of their telephone cables and gas mains, being the increased cost to the drainage works due to the construction and operation of their utilities. The Special Assessment shall be as shown on Schedule 'C'.

SPECIAL ASSESSMENT (cont'd)

If any additional work is required to the drainage works due to the existence of buried utilities such as gas/water/oil pipelines, communications cables, etc. or if any of the utilities require relocation or repair, then, the extra costs incurred shall be borne by the utility involved in accordance with the provisions of Section 26 of the Drainage Act.

GRANTS

In accordance with the provisions of Section 85 of the Drainage Act, a grant **may** be available for assessments against privately owned parcels of land which are used for agricultural purposes and eligible for the Farm Property Class Tax rate. Section 88 of the Drainage Act directs the Municipality to make application for this grant upon certification of completion of this drain. The Municipality will then deduct the grant from the assessments prior to collecting the final assessments. It should be noted that any costs to increase the design standard on above the 38mm per 24 hours would be assessed separately and shown not to receive the grant.

MAINTENANCE

Upon completion of construction, all owners are hereby made aware of Sections 80 and 82 of the Drainage Act which forbid the obstruction of or damage or injury to a municipal drain.

After completion, both the new and existing portions of tile shall be maintained by the City of London at the expense of all upstream lands and roads assessed in Schedule 'D' - Assessment for Maintenance and in the same relative proportions.

After completion, the overland flow swale along Wilton Grove Road and Old Victoria Road shall be considered private and maintained by the landowner, Mt. Elgin Dairy Farms Ltd. (Roll No. 080-030-030), entirely at their cost.

Special Assessments shall **not** be pro-rated for future maintenance purposes but shall be applied as an actual cost special if part of the maintenance.

The above existing portions of the drain shall be maintained in accordance with the grades and dimensions set out in the plans and specifications contained in the 1954 report.

Repairs or improvements to any road culvert shall be the responsibility of the applicable Road Authority, entirely at their cost.

If a new surface culvert is installed under Wilton Grove Road in the area of Sta. 0+780, the Special Benefit assessment to Wilton Grove Road should be adjusted through Section 65 of the Drainage Act.

Respectfully submitted,

SPRIET ASSOCIATES LONDON LIMITED

M.P. DeVos, P. Eng.

MPD:ms



SCHEDULE 'A' - ALLOWANCES

JENKENS DRAIN 2023

City of London

In accordance with Sections 29 and 30 of the Drainage Act, we determine the allowances payable to owners entitled thereto as follows:

CON.	LOT	ROLL NUMBER (Owner)	Section 29 Right-of-Way	Section 30 Damages	TOTALS
<i>Geographic Westminster</i>					
2	8	080-030-029 (Mt. Elgin Dairy Farms Ltd.)	\$ 2,550.00	\$ 3,110.00	\$ 5,660.00
2	W½ 7	080-030-030 (Mt. Elgin Dairy Farms Ltd.)	1,640.00	2,000.00	3,640.00
2	E½ 7 & 6	080-030-031-02 (London Dairy Farms Ltd.)	4,790.00	5,850.00	10,640.00
Total Allowances			\$ 8,980.00	\$ 10,960.00	\$ 19,940.00
TOTAL ALLOWANCES ON THE JENKENS DRAIN 2023			\$ <u>19,940.00</u>		

SCHEDULE 'B' - COST ESTIMATE

JENKENS DRAIN 2023

City of London

We have made an estimate of the cost of the proposed work which is outlined in detail as follows:

CONSTRUCTION

Mobilization of equipment	\$	1,500.00
Supply & install 6 meters of 600mm dia., H.D.P.E. plastic sewer pipe including rodent gate and quarry stone rip-rap protection around pipe and end of ditch (Approximately 3m ³ quarry stone req'd)	\$	2,680.00
Installation of the following concrete field tile including supply & installation of geotextile around tile joints		
20 meters of 250mm dia. concrete tile (catchbasin leads)	\$	520.00
30 meters of 300mm dia. concrete tile	\$	810.00
32 meters of 350mm dia. concrete tile 2000D	\$	1,310.00
174 meters of 400mm dia. concrete tile 2000D	\$	6,290.00
150 meters of 400mm dia. concrete tile 2400D	\$	5,420.00
6 meters of 450mm dia. concrete tile (catchbasin lead)	\$	190.00
112 meters of 450mm dia. concrete tile (2000D)	\$	4,210.00
19 meters of 600mm dia. concrete tile (2400D)	\$	1,010.00
432 meters of 600mm dia. concrete tile	\$	18,630.00
Supply of the above listed tile	\$	57,120.00
Sta. 0+500 to Sta. 0+640		
Construct working platform at lower elevation for wheel machine to install concrete tile and backfill upon completion (approx. 620 m ³ excavation)	\$	9,600.00
Supply & Installation of the following HDPE sewer pipe (with rubber gaskets) including supply, installation and compaction of bedding and backfill materials		
6 meters of 450mm dia. sewer pipe and two 11 degree elbows	\$	1,320.00
Supply of the above listed sewer pipe	\$	1,560.00
Contingency amount for increased cost due to poor soil conditions:		
Installation of tile on crushed stone bedding with excavator (300 meters)	\$	10,500.00
Supply & delivery of 19mm crushed (Approx. 120 tonnes req'd)	\$	4,200.00
Strip, stockpile and relevel topsoil from tile trench where required (277m)		
Relevel existing stockpiled topsoil over working space (583m) (4m wide) specified on drawings	\$	6,330.00
8.0 meters of 600mm sewer pipe		
Supply	\$	1,280.00
Installation under laneway by open cut	\$	2,560.00

SCHEDULE 'B' - COST ESTIMATE (Cont.)

JENKENS DRAIN 2023
City of London**CONSTRUCTION (Cont.)**

19.0 meters of 762mm dia., 9.5mm thickness smooth wall steel pipe		
Supply		\$ 9,000.00
Installation under Old Victoria Road by boring		\$ 25,950.00
Disconnect exist. 250mm± subsurface road crossing and fill with cement grout		\$ 3,800.00
26.0 meters of 450mm sewer pipe		
Supply		\$ 2,600.00
Installation under laneway by open cut		\$ 8,060.00
8.0 meters of 375mm sewer pipe		
Supply		\$ 600.00
Installation under laneway by open cut		\$ 2,560.00
Supply and install one 900mm x 1200mm and two 600mm x 600mm standard catchbasins, including grates, removal and disposal of existing catchbasin		\$ 10,300.00
Supply and install 1500mm dia. manhole with benching at Sta 0+484		\$ 13,100.00
Exposing and locating existing tile drains	(construction)	\$ 940.00
Exposing and locating existing utilities	(report)	\$ 2,200.00
	(construction)	\$ 2,500.00
Tile connections as noted on plan including fittings		\$ 2,000.00
Contract security financing		\$ 3,320.00
Tile connections and contingencies		\$ 12,000.00
Allowances under Sections 29 & 30 of the Drainage Act		\$ 19,940.00
ADMINISTRATION		
Conservation Authority Review Fee		\$ 900.00
Interest and Net Harmonized Sales Tax		\$ 5,045.00
Survey, Plan and Final Report		\$ 38,775.00
Expenses		\$ 270.00
Supervision and Final Inspection		\$ <u>12,000.00</u>
TOTAL ESTIMATED COST		\$ <u><u>312,900.00</u></u>

SCHEDULE ' C ' - ASSESSMENT FOR CONSTRUCTION

JENKENS DRAIN 2023

City of London

Job No. 222125

October 12, 2023

* = Non-agricultural

CON.	LOT	HECTARES AFFECTED	ROLL No. (OWNER)	SPECIAL BENEI	BENEFIT	OUTLET	TOTAL		
<i>Geographic Westminster</i>									
2	8	4.1	080-030-029 (Mt. Elgin Dairy Farms Ltd.)	\$	3,470.00	\$ 1,165.00	\$ 4,635.00		
2	W½ 7	8.9	080-030-030 (Mt. Elgin Dairy Farms Ltd.)		51,520.00	4,439.00	55,959.00		
2	E½ 7 & 6	28.6	080-030-031-02 (London Dairy Farms Ltd.)		56,250.00	52,087.00	108,337.00		
2	W½ 5	4.8	080-030-031-05 (Bruynland Farm Inc.)			12,751.00	12,751.00		
TOTAL ASSESSMENT ON LANDS				\$	\$ 111,240.00	\$ 70,442.00	\$ 181,682.00		
Old Victoria Road				1.2	City of London	\$	\$ 5,650.00	\$ 2,929.00	\$ 8,579.00
Wilton Grove Road				1.7	City of London	5,343.00	14,760.00	12,626.00	32,729.00
TOTAL ASSESSMENT ON ROADS				\$	5,343.00	\$ 20,410.00	\$ 15,555.00	\$ 41,308.00	

SPECIAL ASSESSMENT against the City of London for the increased cost of boring a 762mm smooth wall pipe under Old Victoria Road \$ 42,380.00

SPECIAL ASSESSMENT against the Bell for the increased of locating and exposing their fibre optic cables on Old Victoria Road \$ 1,755.00

SPECIAL ASSESSMENT against Enbridge Gas for the increased of locating and exposing their 50mm plastic gasmain on Old Victoria Road \$ 1,755.00

SPECIAL ASSESSMENT against the City of London for a portion of the theoretical cost of boring under Old Victoria Road south in the natural route of the Jenkens Drain \$ 19,200.00

SPECIAL ASSESSMENT against the City of London for a portion of the theoretical cost of boring under Wilton Grove Road in the natural route of the Jenkens Drain \$ 22,200.00

SPECIAL ASSESSMENT against 080-030-031-02 (London Dairy Farms Ltd.) for the increased of locating and exposing their gas & water services \$ 2,620.00

TOTAL ASSESSMENT ON THE JENKENS DRAIN 2023 **\$ 312,900.00**

SCHEDULE 'D' - ASSESSMENT FOR MAINTENANCE

JENKENS DRAIN 2023

City of London

Job No. 222125

October 12, 2023

* = Non-agricultural

CON.	LOT	HECTARES AFFECTED	ROLL No. (OWNER)		BENEFIT	OUTLET	TOTAL	
<i>Geographic Westminster</i>								
2	8	4.1	080-030-029 (Mt. Elgin Dairy Farms Ltd.)	0.00	3.50 %	0.50 %	4.00 %	
2	W½ 7	8.9	080-030-030 (Mt. Elgin Dairy Farms Ltd.)		22.00	1.80	23.80	
2	E½ 7 & 6	28.6	080-030-031-02 (London Dairy Farms Ltd.)	0.00	25.50	19.25	44.75	
2	W½ 5	4.8	080-030-031-05 (Bruynland Farm Inc.)	0.00	2.50	4.65	7.15	
3	Pt.5-8	4.4	City of London	0.00	0.00	0.00	0.00	
TOTAL ASSESSMENT ON LANDS				0.00	53.50 %	26.20 %	79.70 %	
Old Victoria Road				1.2	City of London	1.50 %	1.25 %	2.75
Wilton Grove Roac				1.1	City of London	13.50	4.05	17.55
TOTAL ASSESSMENT ON ROADS				0.00	15.00 %	5.30 %	20.30 %	
TOTAL ASSESSMENT FOR MAINTENANCE ON THE JENKENS DRAIN 2023						\$	<u>100.00 %</u>	

SCHEDULE OF NET ASSESSMENT

JENKENS DRAIN 2023

City of London

Job No. 222125

October 12, 2023

* = *Non-agricultural*

ROLL NUMBER (OWNER)	TOTAL ASSESSMENT	GRANT	NON-GRANT SPECIAL BENEFIT	ALLOWANCES	NET
080-030-029 (Mt. Elgin Dairy Farms Ltd)	\$ 4,635.00	\$ 1,545.00		\$ 5,660.00	\$ -2,570.00
080-030-030 (Mt. Elgin Dairy Farms Ltd.)	55,959.00	18,653.00		3,640.00	33,666.00
080-030-031-02 (London Dairy Farms Ltd)	108,337.00	36,112.00		10,640.00	61,585.00
080-030-031-05 (Bruynland Farm Inc.)	12,751.00	4,250.00			8,501.00
* Old Victoria Road	\$ 8,579.00	\$		\$	\$ 8,579.00
* Wilton Grove Road	32,729.00				32,729.00
<u>Non-Prorated Special Assessments</u>					
* COL - Old Victoria Road - Boring	42,380.00				42,380.00
* COL - Old Victoria Road S - Theoretical	19,200.00				19,200.00
* COL - Wilton Grove Rd - Theoretical	22,200.00				22,200.00
* Bell - Fibre Optic on Old Victoria Road	1,755.00				1,755.00
* Enbridge - Gasmain on Old Victoria Rd	1,755.00				1,755.00
* 080-030-031-02 - Gas & Water Services	2,620.00				2,620.00
	\$ 312,900.00	\$ 60,560.00	\$	\$ 19,940.00	\$ 232,400.00

SPECIFICATIONS FOR CONSTRUCTION OF MUNICIPAL DRAINAGE WORKS

GENERAL INDEX

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STANDARD DETAILED DRAWINGS		SDD-01 to SDD-05



SECTION A - GENERAL WORK

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SECTION A

GENERAL WORK

A.1 COMMENCEMENT AND COMPLETION OF WORK

The work must commence immediately after the Contractor is notified of the acceptance of his tender or at a later date, if set out as a condition of the tender. If weather creates poor ground or working conditions the Contractor may be required, at the discretion of the Engineer, to postpone or halt work until conditions become acceptable.

As noted on the drawing, the contractor must first arrange for a preconstruction meeting to be held on the site with the Contractor and affected owners attending to review in detail the construction scheduling, access and other pertinent details. The Contractor's costs for attending this meeting shall be included in his lump sum tender price. If the Contractor leaves the job site for a period of time after initiation of work, he shall give the Engineer and the Superintendent a minimum of twenty-four (24) hours' notice prior to returning to the project.

The work must be proceeded with in such a manner as to ensure its completion at the earliest possible date and within the time limit set out in the tender or in the contract documents.

A.2 WORKING AREA AND ACCESS

The working area available to the Contractor to construct the drain and related works including an access route to the drain shall be as specified on the drawings.

Should the specified widths become inadequate due to unusual conditions, the Contractor shall notify the Engineer immediately in order that negotiations with the affected owners can take place.

Where a Contractor exceeds the specified widths due to the nature of his operations and without authorization, he shall be held responsible for the costs of all additional damages and the amount shall be deducted from his contract price and paid to the affected owners by the Municipality.

A.3 ROAD CROSSINGS

.1 General

- .1 **Scope**: These specifications apply to all road crossings - Municipal, County, Regional, or Highway Roads. Where the word "Authority" is used, it shall be deemed to apply to the appropriate owning authority. These specifications in no way limit the Authority's Specifications and Regulations governing the construction of drains on their Road Allowance. The Authority will supply no labour, equipment or materials for the construction of the road crossing unless otherwise noted on the drawings.
- .2 **Road Occupancy Permit**: Where applicable the Contractor must submit an Application for a Road Occupancy Permit to the Authority and allow a minimum of 5 working days (exclusive of holidays) for its review and issuance.
- .3 **Road Closure Request and Construction Notification**: The Contractor shall submit written notification of construction and request for road closure (if applicable) to the Road Authority/Public Works Manager and the Drainage Engineer or Superintendent for review and approval a minimum of five (5) working days (exclusive of holidays) prior to proceeding with any work on road allowance. It shall be the Road Authority's responsibility to notify all the applicable emergency services, schools, etc. of the road closure or construction taking place.
- .4 **Traffic Control**: Where the Contractor is permitted to close the road to through traffic, the Contractor shall provide for and adequately sign the detour route to the satisfaction of the Road Authority. Otherwise, the Contractor shall keep the road open to traffic at all times. The Contractor shall provide, for the supply, erection and maintenance, suitable warning signs and/or flagmen in accordance with the Manual of Uniform Traffic Control Devices and to the satisfaction of the Road Authority to notify the motorists of work on the road ahead.

A.3 **ROAD CROSSINGS** (cont'd)

- .5 **Site Meeting/Inspection**: A site meeting shall be held with the affected parties to review in detail the crossing and/or its related works. The Authority's Inspector and/or the Drainage Engineer will inspect the work while in progress to ensure that the work is done in strict accordance with the specifications.
- .6 **Weather**: No construction shall take place during inclement weather or periods of poor visibility.
- .7 **Equipment**: No construction material and/or equipment is to be left within 3 meters of the edge of pavement overnight or during periods of inclement weather.

.2 **Jacking and Boring**

- .1 **Material**: The bore pipe shall consist of new, smooth wall steel pipe, meeting the requirements of H20 loading for road crossings and E80 loading for railway crossings. The minimum size, wall thickness and length shall be as shown on the drawings. Where welding is required, the entire circumference of any joint shall be welded using currently accepted welding practices.
- .2 **Site Preparation and Excavation**: Where necessary, fences shall be carefully taken down as specified in the General Conditions. Prior to any excavation taking place, all areas which will be disturbed shall be stripped of topsoil. The topsoil is to be stockpiled in locations away from the bore operation, off the line of future tile placement and out of existing water runs or ditches. The bore pit shall be located at the upstream end of the bore unless otherwise specified or approved. Bore pits shall be kept back at least 1 meter from the edge of pavement and where bore pits are made in any portion of the shoulder, the excavated material shall be disposed of off the road allowance and the pit backfilled with thoroughly compacted Granular "A" for its entire depth.
- .3 **Installation**: The pipe shall be installed in specified line and grade by a combination of jacking and boring. Upon completion of the operations, both ends of the bore pipe shall be left uncovered until the elevation has been confirmed by the Engineer or Superintendent. The ends of the bore pipe shall be securely blocked off and the location marked by means of a stake extending from the pipe invert to 300mm above the surrounding ground surface.
- .4 **Unstable Soil or Rock**: The Contractor shall contact the Engineer immediately should unstable soil be encountered or if boulders of sufficient size and number to warrant concern are encountered. Any bore pipe partially installed shall be left in place until alternative methods or techniques are determined by the Engineer after consultation with the Contractor, the Superintendent and the owning authority.
- .5 **Tile Connections**: Prior to commencement of backfilling, all tile encountered in excavations shall be reconnected using material of a size comparable to the existing material. Where the excavation is below the tile grade, a compacted granular base is to be placed prior to laying the tile. Payment for each connection will be made at the rate outlined in the Form of Tender and Agreement.
- .6 **Backfill**: Unless otherwise specified, the area below the proposed grade shall be backfilled with a crushed stone bedding. Bore pits and excavations outside of the shoulder area may be backfilled with native material compacted to a density of 95% Standard Proctor. All disturbed areas shall be neatly shaped, have the topsoil replaced and hand seeded. Surplus material from the boring operation shall be removed from the site at the Contractor's expense.
- .7 **Restoration**: The entire affected area shall be shaped and graded to original lines and grades, the topsoil replaced, and the area seeded down at the rate of 85 kg/per ha. unless otherwise specified or in accordance with the M.T.O. Encroachment Permit. Fences shall be restored to their original condition in accordance with the General Conditions.
- .8 **Acceptance**: All work undertaken by the Contractor shall be to the satisfaction of the Engineer.

A.3 **ROAD CROSSINGS** (cont'd)

.3 **Open Cut**

- .1 **Material**: The culvert or sub-drain crossing pipe material shall be specified on the drawings.
- .2 **Site Preparation and Excavation**: Where necessary, fences shall be carefully taken down as specified in the general conditions. Prior to any excavation taking place, the areas which will be disturbed shall be stripped of topsoil. The topsoil is to be stockpiled in locations away from the construction area.
- .3 **Installation**: The pipe shall be installed using bedding and cover material in accordance with Standard Detailed Drawing No. 2 or detail provided on drawings.
- .4 **Unstable Soil or Rock**: The Contractor shall contact the Engineer immediately should unstable soil be encountered or if boulders of sufficient size and number to warrant concern are encountered.
- .5 **Tile Connections**: Prior to commencement of backfilling, all tiles encountered in excavations shall be reconnected using material of a size comparable to the existing material. Where the excavation is below the tile grade, a compacted granular base is to be placed prior to laying the tile. Payment for connections not shown on the drawings shall be an extra to the contract.
- .6 **Backfill**: Backfill from the top of the cover material up to the underside of road base shall meet the requirements for M.T.O. Granular "B". The backfill shall be placed in lifts not exceeding 300mm in thickness and each lift shall be thoroughly compacted to produce a density of 98% Standard Proctor. Granular "B" road base for County Roads and Highways shall be placed to a 450mm thickness and Granular "A" shall be placed to a thickness of 200mm, both meeting M.T.O. requirements. Granular road base materials shall be thoroughly compacted to produce a density of 100% Standard Proctor.

Where the road surface is paved, the Contractor shall be responsible for placing an HL-4 Hot Mix Asphalt patch of the same thickness as the existing pavement. The asphalt patch shall be flush with the existing roadway on each side and not overlap. If specified, the asphalt patch shall not be placed immediately over the road base and the Granular "A" shall be brought up flush with the existing asphalt and a liberal amount of calcium chloride shall be spread on the gravel surface. The asphalt patch must be completed within the time period set out on the drawing.

The excavated material from the trench beyond a point 2.5 meters from the travelled portion or beyond the outside edge of the gravel shoulder, may be used as backfill in the trench in the case of covered drains. This material should be compacted in layers not exceeding 600mm.

A.4 **SURPLUS EXCAVATED MATERIAL AND GRAVEL**

Excess excavated material from open cut installation through roads, railways, laneways and lawn/grass areas, shall be removed and disposed of off-site by the Contractor as part of their lump sum installation price. If as a result of any work, gravel or crushed stone is required and not all the gravel or crushed stone is used in the construction of the works, the Contractor shall haul away such surplus gravel or stone unless otherwise approved.

A.5 **FENCES**

No earth shall be placed against fences and all fences removed by the Contractor are to be replaced by him in as good condition as found. In general, the Contractor will not be allowed to cut existing fences but shall disconnect existing fences at the nearest anchor post or other such fixed joint and shall carefully roll it back out of the way. Where the distance to the closest anchor post or fixed joint exceeds 50 meters, the Contractor will be allowed to cut and splice in accordance with accepted methods and to the satisfaction of the owner and the Engineer or Superintendent. Where existing fences are deteriorated to the extent that existing materials are not salvageable for replacement, the Contractor shall notify the Engineer or the Superintendent prior to dismantling. Fences damaged beyond salvaging by the Contractor's negligence shall be replaced with new materials, similar to those existing, at the Contractor's expense. The replacement of the fences shall be done to the satisfaction of the owner and the Engineer or Superintendent. The site examination should indicate to the Contractor such work, if any, and an allowance should be made in the tendered price.

The Contractor shall not leave any fence open when he is not at work in the immediate vicinity.

A.6 **LIVESTOCK**

The Contractor shall provide each property owner with 48 hours' notice prior to removing any fences along fields which could possibly contain livestock. Thereafter, the property owner shall be responsible to keep all livestock clear of the construction areas until further notified. Where necessary, the Contractor will be directed to erect temporary fences. The Contractor shall be held responsible for loss or injury to livestock or damage caused by livestock, where the injury or damage is caused by his failure to notify the property owner or through negligence or carelessness on the part of the Contractor.

The Contractor constructing a tile drain shall not be held responsible for damages or injury to livestock occasioned by leaving trenches open for inspection by the Engineer if he notifies the owner at least 48 hours prior to commencement of the work on that portion. The Contractor will be held liable for such damages or injury if the backfilling of such trenches is delayed more than 1 day after acceptance by the Engineer.

A.7 **STANDING CROPS**

The Contractor shall not be held responsible for damages to standing crops within the working area available and the access route provided if he notifies the owner thereof at least 48 hours prior to commencement of the work on that portion.

A.8 **RAILWAYS, HIGHWAYS, UTILITIES**

A minimum of forty-eight (48) hours' notice to Railways, Highways and Utilities, exclusive of Saturdays, Sundays and Holidays, shall be required by the Contractor prior to any work being performed and in the case of a pipe being installed by open cutting or boring under a Highway or Railway, a minimum of 72 hours' notice is required.

A.9 **UTILITIES**

The attention of the Contractor is drawn to the presence of utilities along the course of the drain. The Contractor will be responsible for determining the location of all utilities and will be held liable for any damage to all utilities caused by his operations. The Contractor shall co-operate with all authorities to ensure that all utilities are protected from damage during the performance of the work. The cost of any necessary relocation work shall be borne by the utility. No allowance or claims of any nature will be allowed on account for delays or inconveniences due to utilities relocation, or for inconveniences and delays caused by working around or with existing utilities not relocated.

A.10 **IRON BARS**

The Contractor shall be held liable for the cost of an Ontario Land Surveyor to replace any iron bars destroyed during the course of construction.

A.11 **STAKES**

At the time of the survey, stakes are set along the course of the drain at intervals of 50 meters. The Contractor shall ensure that the stakes are not disturbed unless approval is obtained from the Engineer. Any stakes removed by the Contractor without the authority of the Engineer, shall be replaced at the expense of the Contractor. At the request of the Contractor, any stakes which are removed or disturbed by others or by livestock, shall be replaced at the expense of the drain.

A.12 **RIP-RAP**

Rip-rap shall be specified on the drawings and shall conform to the following:

- .1 **Quarry Stone**: shall range in size from 150mm to 300mm evenly distributed and shall be placed to a 300mm thickness on a filter blanket at a 1.5 to 1 slope unless otherwise noted. Filter blanket to be Mirafi 160N or approved equal.
- .2 **Broken Concrete**: may be used in areas outside of regular flows if first broken in maximum 450mm sized pieces and mixed to blend with quarry stone as above. No exposed reinforcing steel shall be permitted.
- .3 **Shot Rock**: shall range in size from 150mm to 600mm placed to a depth of 450mm thickness on a filter blanket at a 1.5:1 slope unless otherwise noted. Filter blanket to be Mirafi 160N or approved equal.

A.13 **GABION BASKETS**

Supply and install gabion basket rip-rap protection as shown on the drawings.

Gabion baskets shall be as manufactured by Maccaferri Gabions of Canada Ltd. or approved equal and shall be assembled and installed in strict accordance with the manufacturer's recommendations.

The gabion fill material shall consist solely of fractured field stone or gabion stone graded in size from 100mm to 200mm (4" to 8") and shall be free of undersized fragments and unsuitable material.

A.14 **RESTORATION OF LAWNS**

- .1 **General**: Areas noted on the drawings to be restored with seeding or sodding shall conform to this specification, and the Contractor shall allow for all costs in his lump sum bid for the following works.
- .2 **Topsoil**: Prior to excavation, the working area shall be stripped of existing topsoil. The topsoil stockpile shall be located so as to prevent contamination with material excavated from the trench. Upon completion of backfilling operations, topsoil shall be spread over the working area to a depth equal to that which previously existed but not less than the following:
 - Seeding and sodding - minimum depth of 100mm
 - Gardens - minimum depth of 300mm

In all cases where a shortfall of topsoil occurs, whether due to lack of sufficient original depth or rejection of stockpiled material due to Contractor's operations, imported topsoil from acceptable sources shall be imported at the Contractor's expense to provide the specified depths. Topsoil shall be uniformly spread, graded, and cultivated prior to seeding or sodding. All clods or lumps shall be pulverized, and any roots or foreign matter shall be raked up and removed as directed.

.3 **Sodding**

- .1 **Materials**: Nursery sod to be supplied by the Contractor shall meet the current requirements of the Ontario Sod Growers Association for No. 1 Bluegrass Fescue Sod.
- .2 **Fertilizer**: Prior to sod placement, approved fertilizer shall be spread at the rate of 5kg/100m² of surface area and shall be incorporated into such surfaces by raking, discing or harrowing. All surfaces on which sod is to be placed shall be loose at the time of placing sod to a depth of 25mm.
- .3 **Placing Sod**: Sod shall be laid lengthwise across the face of slopes with ends close together. Sod shall be counter sunk along the joints between the existing grade and the new sodding to allow for the free flow of water across the joint. Joints in adjacent rows shall be staggered and all joints shall be pounded and rolled to a uniform surface.

On slopes steeper than 3 to 1, and in unstable areas, the Engineer may direct the Contractor to stake sod and/or provide an approved mesh to prevent slippages. In all cases where such additional work is required, it will be deemed an extra to the contract and shall be paid for in accordance with the General Conditions. No sod shall be laid when frozen nor upon frozen ground nor under any other condition not favourable to the growth of the sod. Upon completion of sod laying the Contractor shall thoroughly soak the area with water to a depth of 50mm. Thereafter it will be the responsibility of the property owner to maintain the area in a manner so as to promote growth.

A.14 **RESTORATION OF LAWNS (cont'd)**

- .4 **Seeding:** Seed to be supplied by the Contractor shall be “high quality grass seed” harvested during the previous year, and shall be supplied to the project in the supplier’s original bags on which a tag setting out the following information is affixed:

- Year or Harvest - recommended rate of application
- Type of Mixture - fertilizer requirements

Placement of seed shall be by means of an approved mechanical spreader. All areas on which seed is to be placed shall be loose at the time of placing seed, to a depth of 25mm. Seed and fertilizer shall be spread in accordance with the supplier’s recommendations unless otherwise directed by the Engineer. Thereafter it will be the responsibility of the property owner to maintain the area in a manner so as to promote growth.

- .5 **Settlement:** The Contractor shall be responsible during the one-year guarantee period for the necessary repair of restored areas due to trench settlement. Areas where settlement does not exceed 50mm may be repaired by top dressing with fine topsoil. In areas where settlement exceeds 50mm, the Contractor will be required to backfill the area with topsoil and restore with seeding and/or sodding as originally specified.

A.15 **RESTORATION OF ROADS AND LANEWAYS**

- .1 **Gravel:** Restoration shall be in accordance with the applicable standard detailed drawing or as shown on the drawings.
- .2 **Asphalt and Tar and Chip:** Prior to restoration all joints shall be neatly sawcut. Restoration shall be as a in gravel above with the addition of the following:
- .1 Roads shall have the finished grade of Granular ‘A’, allow two courses of hot-mix asphalt (M.T.O. 310), 80mm HL6 and 40mm HL3 or to such greater thickness as may be required to match the existing.
 - .2 Laneways shall have the finished grade of Granular ‘A’ allow one 50mm minimum course of hot-mix asphalt (HL3) or greater as may be required to match existing.

SECTION B - OPEN DRAIN

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SECTION B
OPEN DRAIN

B.1 PROFILE

The profile drawing shows the depth of cuts from the ground beside the stake to the final invert of the ditch in meters and decimals of a meter and also the approximate depth of cuts from the existing bottom of the ditch to the elevation of the ditch bottom. These cuts are established for the convenience of the Contractor; however, benchmarks will govern the final elevation of the drain. Benchmarks have been established along the course of the drain and their locations and elevations are noted on the profile drawing. A uniform grade shall be maintained between stakes in accordance with the profile drawing.

B.2 ALIGNMENT

The drain shall be constructed in a straight line and shall follow the course of the present drain or water run unless otherwise noted on the drawings. Where it is necessary to straighten any bends or irregularities in alignment not noted on the drawings, the Contractor shall contact the Engineer or Superintendent before commencing the work.

B.3 CLEARING AND GRUBBING

Prior to commencement of work, all trees, scrub, fallen timber and debris shall be removed from the side slopes of the ditch and for such a distance on the working side so as to eliminate any interference with the construction of the drain or the spreading of the spoil. The side slopes shall be neatly cut and cleared flush with slope whether or not they are affected directly by the excavation. With the exception of large stumps causing damage to the drain, the side slope shall not be grubbed. All other cleared areas shall be grubbed and the stumps put into piles for disposal by the owner.

All trees or limbs 150mm (6") or larger, that it is necessary to remove, shall be considered as logs and shall be cut and trimmed, and left in the working width separate from the brush, for use or disposal by the owner. Trees or limbs less than 150mm in diameter shall be cut in lengths not greater than 5 meters and placed in separate piles with stumps spaced not less than 75 meters apart in the working width, for the use or disposal of the owner. In all cases, these piles shall be placed clear of excavated materials, and not be piled against standing trees. No windrowing will be permitted. The clearing and grubbing and construction of the drain are to be carried out in two separate operations and not simultaneously at the same location.

B.4 EXCAVATION

The bottom width and the side slopes of the ditch shall be those shown on the profile drawing.

Unless otherwise specified on the drawings, only the existing ditch bottom is to be cleaned out and the side slopes are not to be disturbed. Where existing side slopes become unstable because of construction, the Contractor shall immediately contact the Engineer or Superintendent. Alternative methods of construction and/or methods of protection will then be determined, prior to continuing the work.

Where an existing drain is being relocated or where a new drain is being constructed, the Contractor shall, unless otherwise specified, strip the topsoil for the full width of the drain, including the location of the spoil pile. Upon completion of levelling, the topsoil shall be spread to an even depth across the full width of the spoil.

B.5 EXCAVATED MATERIAL

Excavated material shall be deposited on either or both sides of the drain as indicated on the drawings or as directed by the Engineer or Superintendent. A buffer strip of not less than 3 meters in width through farmed lands and 2 meters in width through bush areas shall be left along the top edges of the drain. The buffer strip shall be seeded and/or incorporated as specified on the drawings. The material shall be deposited beyond the specified buffer strip.

B.5 EXCAVATED MATERIAL (cont'd)

No excavated material shall be placed in tributary drains, depressions, or low areas which direct water into the ditch so that water will be trapped behind the spoil bank. The excavated material shall be placed and levelled to a minimum width to depth ratio of 50 to 1 unless instructed otherwise. The edge of the spoil bank away from the ditch shall be feathered down to the existing ground; the edge of the spoil bank nearest the ditch shall have a maximum slope of 2 to 1. The material shall be levelled such that it may be cultivated with ordinary farm equipment without causing undue hardship on machinery and personnel. No excavated material shall cover any logs, scrub, debris, etc. of any kind.

Where it is necessary to straighten any unnecessary bends or irregularities in the alignment of the ditch, the excavated material from the new cut shall be used for backfilling the original ditch. Regardless of the distance between the new ditch and the old ditch no extra compensation will be allowed for this work and must be included in the Contractor's lump sum price for the open work.

Any stones 150mm or larger left exposed on top of the levelled excavated material shall be removed and disposed of as an extra to the contract unless otherwise noted on plans.

B.6 EXCAVATION THROUGH BRIDGES AND CULVERTS

The Contractor shall excavate the drain to the full specified depth and width under all bridges. Where the bridge or culvert pipe is located within a road allowance, the excavated material shall be levelled within the road allowance. Care shall be taken not to adversely affect existing drainage patterns. Temporary bridges may be carefully removed and left on the bank of the drain but shall be replaced by the Contractor when the excavation is completed unless otherwise specified. Permanent bridges must be left intact. All necessary care and precautions shall be taken to protect the structure. The Contractor shall notify the Engineer or Superintendent if excavation may cause the structure to undermine or collapse.

B.7 PIPE CULVERTS

Where specified on the drawings, the existing culvert shall be carefully removed, salvaged and either left at the site for the owner or reinstalled at a new grade or location. The value of any damage caused to the culvert due to the Contractor's negligence in salvage operation will be determined and deducted from the contract price.

All pipe culverts shall be installed in accordance with the standard detail drawings as noted on the drawings. If couplers are required, 5 corrugation couplers shall be used for up to and including 1200mm dia. pipe and 10 corrugation couplers for greater than 1200mm dia.

B.8 MOVING DRAINS OFF ROADS

Where an open drain is being removed from a road allowance, it must be reconstructed wholly on the adjacent lands with a minimum distance of 2.0 meters between the property line and the top of the bank, unless otherwise noted on the drawings. The excavated material shall be used to fill the existing open ditch and any excess excavated material shall be placed and levelled on the adjacent lands beyond the buffer strip, unless otherwise noted. Any work done on the road allowance, with respect to excavation, disposal of materials, installation of culverts, cleaning under bridges, etc., shall be to the satisfaction of the Road Authority and the Engineer.

B.9 TRIBUTARY OUTLETS

The Contractor shall guard against damaging the outlets of tributary drains. Prior to commencement of excavation on each property the Contractor shall contact the owner and request that all known outlet pipes be marked by the owner. All outlets so marked or visible or as noted on the profile, and subsequently damaged by the Contractor's operations will be repaired by the Contractor at his cost. All outlet pipes repaired by the Contractor under direction of the Drainage Superintendent or Engineer which were not part of the Contract shall be considered an extra to the contract price.

B.10 SEDIMENT BASINS AND TRAPS

Sediment basins shall be excavated as specified on drawings prior to commencement of upstream work as shown on the Drawings. The basin shall be in a parabolic shape with a depth of 450mm below the proposed ditch bottom and extend along the drain for a minimum length of 15 meters.

Silt fences shall be placed across ditch bottom immediately downstream of the proposed work as specified on the drawings prior to construction and maintained during construction. The silt fence shall be removed and disposed of after construction.

B.11 SEEDING

.1 **Delivery:** The materials shall be delivered to the site in the original unopened containers which shall bear the vendor's guarantee of analysis and seed will have a tag showing the year of harvest.

.2 **Hydro Seeding:** Areas specified on drawings shall be hydro seeded and mulched upon completion of construction in accordance with O.P.S.S. 572 and with the following application rates:

Primary Seed (85 kg/ha.):	50% Creeping Red Fescue 40% Perennial Ryegrass 5% White Clover
Nurse Crop	Italian (Annual) Ryegrass at 25% of Total Weight
Fertilizer (300 kg/ha.)	8-32-16
Hydraulic Mulch (2000 kg/ha.)	Type "B"
Water (52,700 litres/ha.)	

Seeding shall not be completed after September 30.

.3 **Hand Seeding:** Hand seeding shall be completed daily with the seed mixture and fertilizer and application rate shown under "Hydro Seeding" above. Placement of the seed shall be by means of an approved mechanical spreader. Seeding shall not be completed after September 30.

SECTION C - TILE DRAIN

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SECTION C

TILE DRAIN

C.1 PIPE MATERIALS

- .1 **Concrete Tile:** All tile installed under these specifications shall be sound and of first quality and shall meet all A.S.T.M. Specifications current at the time of tendering. Concrete tile shall conform to Designation C412 "Extra Quality" except that the minimum compression strengths shall be increased by 25%. Heavy Duty tile shall conform to Designation C412 "Heavy Duty Extra Quality".
- .2 **Corrugated Steel Pipe:** Unless otherwise specified, all metal pipe shall be corrugated, riveted steel pipe or helical corrugated steel pipe with a minimum wall thickness of 1.6mm (16 gauge) and shall be fully galvanized.
- .3 **Plastic Tubing:** The plans will specify the type of tubing or pipe, such as non-perforated or perforated (with or without filter material).
 - i) Corrugated Plastic Drainage Tubing shall conform to the current O.F.D.A. Standards
 - ii) Heavy Duty Corrugated Plastic Pipe shall be "Boss 1000" manufactured by the Big 'O' Drain Tile Co. Ltd. or approved equal
- .4 **Concrete Sewer Pipe:** The Designations for concrete sewer pipe shall be C14 for concrete sewer pipe 450mm (18") diameter or less; and C76 for concrete sewer pipe greater than 450mm (18") diameter. Where closed joints are specified, joints shall conform to the A.S.T.M. Specification C443.

Where concrete sewer pipe "seconds" are permitted the pipe should exhibit no damages or cracks on the barrel section and shall be capable of satisfying the crushing strength requirements for No.1, Pipe Specifications (C14 or C76). The pipe may contain cracks or chips in the bell or spigot which could be serious enough to prevent the use of rubber gaskets, but which are not so severe that the joint could not be mortared conventionally.
- .5 **Plastic Sewer Pipe:** The plans will specify the type of sewer pipe, such as non-perforated or perforated (with or without filter material). All plastic sewer pipe and fittings shall be "Boss Poly-Tite", ULTRA-RIB", "Challenger 3000" or approved equal with a minimum stiffness of 320 kpa at 5% deflection.
- .6 **Plastic Fittings:** All plastic fittings shall be "Boss 2000" or "Challenger 2000" with split coupler joints or approved equal.

C.2 TESTING

The manufacturer shall provide specimens for testing if required. The random selection and testing procedures would follow the appropriate A.S.T.M. requirements for the material being supplied. The only variation is the number of tiles tested: 200mm to 525mm dia. - 5 tile tested, 600mm to 900mm dia. - 3 tile tested. The drain will be responsible for all testing costs for successful test results. Where specimens fail to meet the minimum test requirements, the manufacturer will be responsible for the costs of the unsuccessful tests. Alternately, the Engineer may accept materials on the basis of visual inspections and the receipt in writing from the Manufacturer of the results of daily production testing carried out by the Manufacturer for the types and sizes of the material being supplied.

C.3 LINE

Prior to stringing the tile, the Contractor shall contact the Superintendent or the Engineer in order to establish the course of the drain.

Where an existing drain is to be removed and replaced in the same trench by the new drain or where the new drain is to be installed parallel to an existing drain, the Contractor shall excavate test holes to locate the existing drain (including repairing drainage tile) at intervals along the course of the drain as directed by the Engineer and/or the Superintendent. The costs for this work shall be included in the tender price.

Where an existing drain is to be removed and replaced in the same trench by the new drain, all existing tiles shall be destroyed, and all broken tile shall be disposed of offsite.

C.3 **LINE** (cont'd)

The drain shall run in as straight a line as possible throughout its length, except that at intersections of other water courses or at sharp corners, it shall run on a curve of at least a 15-meter radius. The new tile drain shall be constructed at an offset from and generally parallel with any ditch or defined watercourse in order that fresh backfill in the trench will not be eroded by the flow of surface water. The Contractor shall exercise care not to disturb any existing tile drain or drains which parallel the course of the new drain, particularly where the new and the existing tile act together to provide the necessary capacity.

C.4 **CLEARING AND GRUBBING**

Prior to commencement of drain construction, all trees, scrub, fallen timber and debris shall be cleared and grubbed from the working area. Unless otherwise specified, the minimum width to be cleared and grubbed shall be 20 meters in all hardwood areas and 30 meters in all softwood areas (willow, poplar, etc.), the width being centred on the line of the drain.

All trees or limbs 150mm (6") or larger, that it is necessary to remove, shall be considered as logs and shall be cut and trimmed, and left in the working width separate from the brush, for use or disposal by the owner. Trees or limbs less than 150mm in diameter shall be cut in lengths not greater than 5 meters and placed in separate piles with stumps spaced not less than 75 meters apart in the working width, for the use or disposal of the owner. In all cases, these piles shall be placed clear of excavated materials, and not be piled against standing trees. No windrowing will be permitted. The clearing and grubbing and construction of the drain are to be carried out in two separate operations and not simultaneously at the same location.

C.5 **PROFILE**

The profile drawing shows the depth of cuts from the ground beside the stake to the final invert of the drain in meters and decimals of a meter. These cuts are established for the convenience of the Contractor; however, benchmarks will govern the final elevation of the drain. Benchmarks have been established along the course of the drain and their locations and elevations are noted on the profile drawing.

C.6 **GRADE**

The Contractor shall provide and maintain in good working condition, an approved system of establishing a grade sight line to ensure the completed works conform to the profile drawing. In order to confirm the condition of his system and to eliminate the possibility of minor errors on the drawings, he shall ensure his grade sight line has been confirmed to be correct between a minimum of two control points (bench marks) and shall spot check the actual cuts and compare with the plan cuts prior to commencement of tile installation. He shall continue this procedure from control point to control point as construction of the drain progresses. When installing a drain towards a fixed point such as a bore pipe, the Contractor shall uncover the pipe and confirm the elevation, using the sight line, a sufficient distance away from the pipe in order to allow for any necessary minor grade adjustments to be made in order to conform to the as built elevation of the bore pipe. All tile improperly installed due to the Contractor not following these procedures shall be removed and replaced entirely at the Contractor's cost.

When following the procedures and a significant variation is found, the Contractor shall immediately cease operations and advise the Engineer.

C.7 **EXCAVATION**

- .1 **Trench:** Unless otherwise specified, all trenching shall be done with a recognized farm tiling machine approved by the Engineer or Superintendent. The machine shall shape the bottom of the trench to conform to the outside diameter of the pipe for a minimum width of one-half of the outside diameter. The minimum trench width shall be equal to the outside diameter of the tile to be installed plus 100mm (4") on each side unless otherwise approved. The maximum trench width shall be equal to the outside diameter of the tile to be installed plus 250mm (10") on each side unless otherwise approved.

C.7 **EXCAVATION** (cont'd)

- .2 **Scalping**: Where the depths of cuts in isolated areas along the course of the drain as shown on the profile exceed the capacity of the Contractor's tiling machine, he shall lower the surface grade in order that the tiling machine may trench to the correct depth. Topsoil is to be stripped over a sufficient width that no subsoil will be deposited on top of topsoil. Subsoil will then be removed to the required depth and piled separately. Upon completion of backfilling, the topsoil will then be replaced to an even depth over the disturbed area. The cost for this work shall be included in his tender price.
- .3 **Excavator**: Where the Contractor's tiling machine consistently does not have the capacity to dig to the depths required or to excavate the minimum trench width required, he shall indicate in the appropriate place provided on the tender form his proposed methods of excavation.
Where the use of an excavator is either specified on the drawings or approved as evidenced by the acceptance of his tender on which he has indicated the proposed use of a backhoe he shall conform to the following requirements:
- a) the topsoil shall be stripped and replaced in accordance with Section .2 "Scalping".
 - b) all tile shall be installed on a bed of 19mm crushed stone with a minimum depth of 150mm which has been shaped to conform to the lower segment of the tile.
 - c) the Contractor shall allow for the cost of the preceding requirements (including the supply of the crushed stone) in his lump sum tender price unless it is otherwise provided for in the contract documents.
- .4 **Backfilling Ditch**: Where the contract includes for a closed drain to replace an open drain and the ditch is to be backfilled, the Contractor shall install the tile and backfill the trench prior to backfilling the ditch unless otherwise noted. The distance the trench shall be located away from the ditch shall be as noted on the drawings, (beyond area required for stockpiling topsoil and backfilling). After tile installation is complete topsoil (if present) shall be stripped and stockpiled within the above limits prior to backfilling of ditch. Only tracked equipment shall be permitted to cross backfilled tile trench and must be at 90 degrees to line of tile.

C.8 **INSTALLATION**

The tile is to be laid with close fitting joints and in regular grade and alignment in accordance with the plan and profile drawings. The tiles are to be bevelled, if necessary, to ensure close joints (in particular around curves). Where, in heavy clay soils, the width of a joint exceeds 10mm the joint shall be wrapped with filter cloth as below. Where the width of a joint exceeds 12mm the tile shall first be removed and the joint bevelled to reduce the gap. The maximum deflection of one tile joint shall be 15 degrees. Where a drain connects to standard or ditch inlet catchbasins or junction box structures, the Contractor shall include in his tender price for the supply and installation of compacted Granular 'A' bedding under areas backfilled from the underside of the pipe to undisturbed soil. The connections will then be grouted.

Where a tile drain passes through a bore pit, the Tile Contractor shall include in his tender price for the supply and placement of compacted Granular "A" bedding from the underside of the pipe down to undisturbed soil within the limits of the bore pit.

As above and where soil conditions warrant, the Engineer may require (or as specified on the drawings) that each tile joint be wrapped with synthetic filter cloth. The width of the filter cloth shall be 300mm wide for tile sizes of 150mm to 300mm and 400mm wide for sizes of 350mm to 750mm. The filter cloth shall cover the full perimeter of the tile and overlap a minimum of 100mm or as specified on the drawings. The type of cloth shall be Mirafi 140NL for loam soils and 150N for sandy soil. Any such work not shown on the drawings shall be considered as an addition to the contract price unless specified on the drawings.

C.9 **ROAD AND LANEWAY SUB-SURFACE CROSSINGS**

All road and laneway crossings may be made with an open cut in accordance with standard detailed drawings in the specifications or on the drawings. The exact location of the crossing shall be verified and approved by the Road Authority and the Engineer and/or Superintendent.

C.10 **BACKFILLING**

As the laying of the tile progresses, blinding up to the springline including compaction by tamping (by hand) is to be made on both sides of the tile. No tile shall be backfilled until inspected by the Engineer or Drainage Superintendent unless otherwise approved by the Engineer.

The remainder of the trench shall be backfilled with special care being taken in backfilling up to a height approximately 150mm above the top of the tile to ensure that no tile breakage occurs. During the backfilling operation no equipment shall be operated in a way that would transfer loads onto the tile trench. Surplus material is to be mounded over the tile trench so that when settlement takes place the natural surface of the ground will be restored. Upon completion, a minimum cover of 600mm is required over all tile. Where stones larger than 150mm are present in the backfill material, they shall be separated from the material and disposed of by the Contractor.

Where a drain crosses a lawn area, the backfilling shall be carried out as above except that, unless otherwise specified, the backfill material shall be mechanically compacted to eliminate settlement.

C.11 **UNSTABLE SOIL**

The Contractor shall immediately contact the Engineer or Superintendent if quicksand is encountered, such that installation with a tiling machine is not possible. The Engineer shall, after consultation with the Superintendent and Contractor, determine the action necessary and a price for additions or deletions shall be agreed upon prior to further drain installation. Where directed by the Engineer, test holes are to be dug to determine the extent of the affected area. Cost of test holes shall be considered an addition to the contract price.

C.12 **ROCKS**

The Contractor shall immediately contact the Engineer or Superintendent if boulders of sufficient size and number are encountered such that the Contractor cannot continue trenching with a tiling machine. The Engineer or Superintendent may direct the Contractor to use some other method of excavating to install the drain. The basis of payment for this work shall be determined by the Engineer and Drainage Superintendent.

If only scattered large stones or boulders are removed on any project, the Contractor shall haul same to a nearby bush or fence line, or such other convenient location as approved by the Landowners(s).

C.13 **BROKEN, DAMAGED TILE OR EXCESS TILE**

The Contractor shall remove and dispose of off-site all broken (existing or new), damaged or excess tile or tiles. If the tile is supplied by the Municipality, the Contractor shall stockpile all excess tile in readily accessible locations for pickup by the Municipality upon the completion of the job.

C.14 **TRIBUTARY DRAINS**

Any tributary tile encountered in the course of the drain shall be carefully taken up by the Contractor and placed clear of the excavated earth. If the tributary tile drains encountered are clean or reasonably clean, they shall be connected into the new drain. Where existing drains are full of sediment, or contain pollutants, the decision to connect those drains to the new drain shall be left to the Engineer or Superintendent. Each tributary tile connection made by the Contractor shall be located and marked with a stake and no backfilling shall take place until the connection has been approved by the Engineer or Superintendent.

For tributary drains 150mm dia. or smaller connected to new tiles 250mm dia. or larger, and for 200mm dia. connected to 350mm dia. or larger, the Contractor shall neatly cut a hole in the middle of a tile length. The connections shall be made using a prefabricated adaptor. All other connections shall be made with prefabricated wyes or tees conforming to Boss 2000 split coupler or approved equal.

Where an open drain is being replaced by a new tile drain, existing tile outlets entering the ditch from the side opposite the new drain shall be extended to the new drain. All existing metal outlet pipes shall be carefully removed, salvaged, and left for the owner. Where the grade of the connection passes through the newly placed backfill in the ditch, the backfill material below the connection shall be thoroughly compacted and metal pipe of a size compatible with the tile outlet shall be installed so that a minimum length of 2 meters at each end is extending into undisturbed soil.

C.14 **TRIBUTARY DRAINS** (cont'd)

Where locations of tiles are shown on the drawings the Contractor shall include in his tender price, all costs for connecting those tiles to the new drain regardless of length.

Where tiles not shown on the drawings are encountered in the course of the drain, and are to be connected to the new drain, the Contractor shall be paid for each connection at the rate outlined in the Form of Tender and Agreement.

C.15 **OUTLET PIPES**

Corrugated steel pipe shall be used to protect the tile at its outlet. It shall have a hinged metal grate with a maximum spacing between bars of 40mm. The corrugated steel pipe shall be bevelled at the end to generally conform to the slope of the ditch bank and shall be of sufficient size that the tile can be inserted into it to provide a solid connection. The connection will then be grouted immediately.

The installation of the outlet pipe and the required rip-rap protection shall conform to the standard detailed drawing as noted on the drawing.

C.16 **CATCHBASINS AND JUNCTION BOXES**

1. **Catchbasins**: Unless otherwise noted or approved, catchbasins shall be in accordance with O.P.S.D. 705.010, 705.030. All catchbasins shall include two - 150mm riser sections for future adjustments. All ditch inlet catchbasins shall include one 150mm riser section for future adjustments. The catchbasin top shall be a "Bird Cage" type substantial steel grate, removable for cleaning and shall be inset into a recess provided around the top of the structure. The grate shall be fastened to the catchbasin with bolts into the concrete. Spacing of bars on grates for use on 600mmx600mm structures shall be 65mm centre to centre. Spacing of bars on grates for use on structures larger than 600mmx600mm shall be 90mm with a steel angle frame.

The exact location and elevation of catchbasins shall be approved by the Road Authority or the Engineer/Superintendent. Catchbasins offset from the drain shall have "Boss 2000" 200mm diameter leads or approved equal unless otherwise noted and the leads shall have a minimum of 600mm of cover. The leads shall be securely grouted at the structures and the drain.

2. **Junction Boxes**: Junction boxes shall be the precast type unless otherwise approved. Dimensions for precast junction boxes shall conform to those for catchbasins. The inside dimensions of the box shall be a minimum of 100mm larger than the outside diameter of the largest pipe being connected. The minimum cover over the junction box shall be 600mm. Benching to spring line shall be supplied with all junction boxes.
3. **Connections**: Catchbasins and junction boxes shall not be ordered until elevations of existing pipes being connected have been verified in the field as indicated on the drawings. All connections shall be securely grouted at both the inside and outside walls of the structure.
4. **Installation**: Where the native material is clay, all catchbasins shall be backfilled with an approved granular material placed and compacted to a minimum width of 300mm on all sides with the following exception. Where the native material is sandy or granular in nature it may be used as backfill. Filter cloth shall be placed between the riser sections of all catchbasins.

Where the Contractor has over excavated or where ground conditions warrant, the structure shall be installed on a compacted granular base.

The Contractor shall include in his tender price for the construction of a berm behind all ditch inlet structures. The berm shall be constructed of compacted clay keyed 300mm into undisturbed soil. Topsoil shall be distributed to a 65mm thickness and seeded unless otherwise specified. The Contractor shall also include for regrading, shaping and seeding of road ditches for a maximum of 15 meters each way from all catchbasins.

C.17 **BLIND INLETS**

Where specified, blind inlets shall be installed along the course of the drain in accordance with details on the drawings.

C.18 **GRASSED WATERWAY**

Topsoil to be stripped from construction area and stockpiled prior to construction of waterway. Waterway to be graded into a parabolic shape to the width shown on the drawings. Topsoil to be relevelled over the waterway and other areas disturbed by construction.

Waterway to be prepared for seeding by harrowing and then seeded by drilling followed by rolling. Seeding rate to be 85 Kg/Ha with the following mixture:

- 30% Canon Canada Bluegrass
- 25% Koket Chewings Fescue
- 30% Rebel Tall Fescue
- 15% Diplomat Perennial Rye
- Plus #125 Birdsfoot Trefoil (25% of Total Weight)

C.19 **BACKFILLING EXISTING DITCHES**

The Contractor shall backfill the ditch sufficiently for traversing by farm machinery. If sufficient material is not available from the old spoil banks to fill in the existing ditch, the topsoil shall be stripped and the subsoil shall be bulldozed into the ditch and the topsoil shall then be spread over the backfilled ditch unless otherwise specified on the contract drawings. The Contractor shall ensure sufficient compaction of the backfill and if required, repair excess settlement up to the end of the warranty period. The final grade of the backfilled ditch shall provide an outlet for surface water.

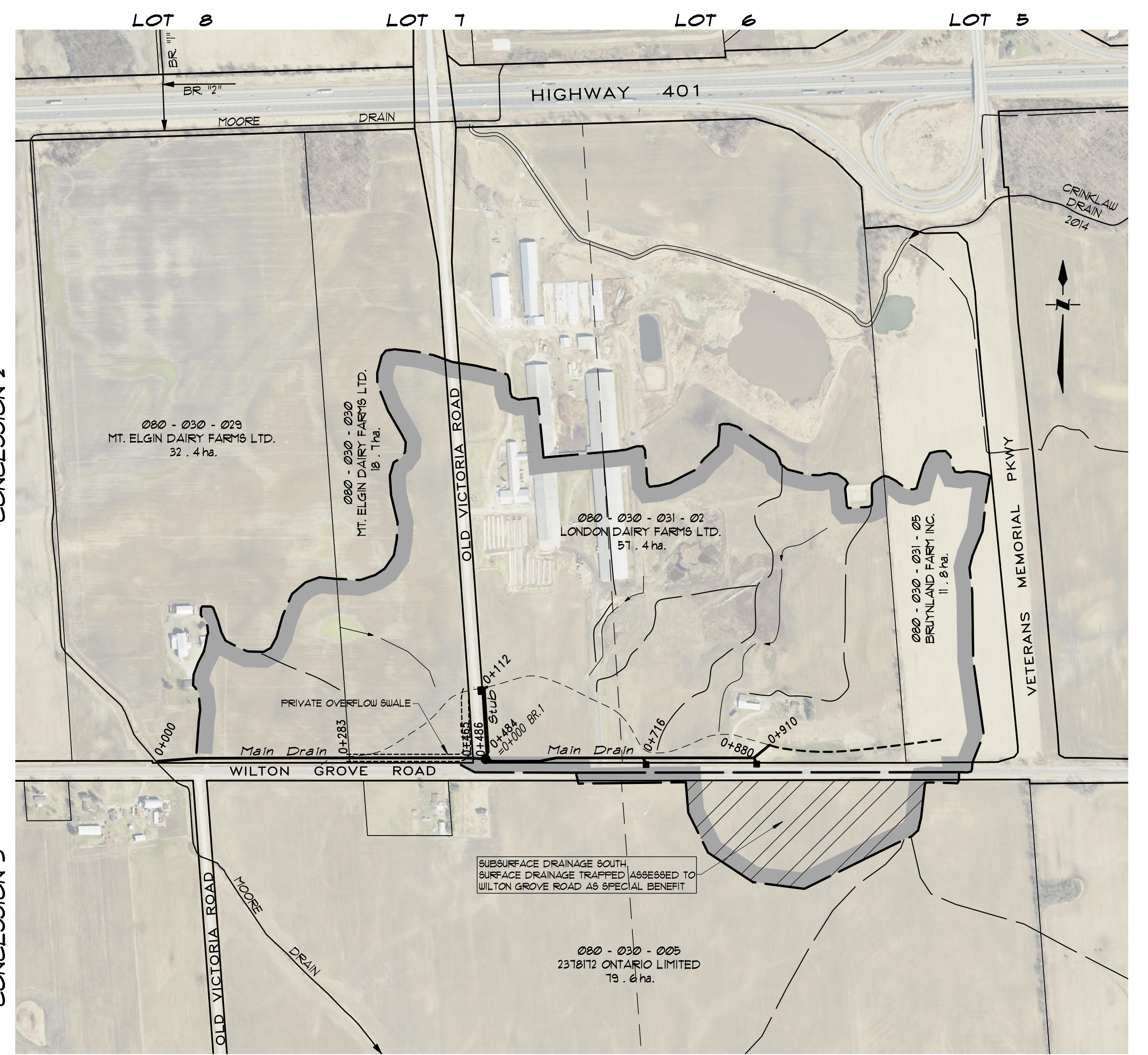
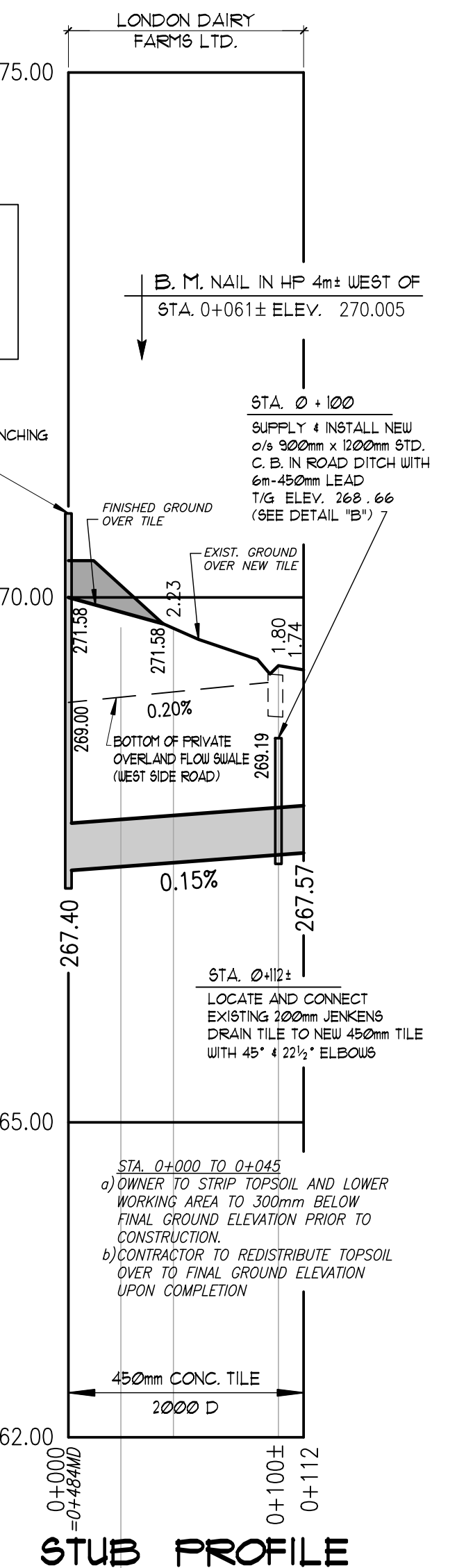
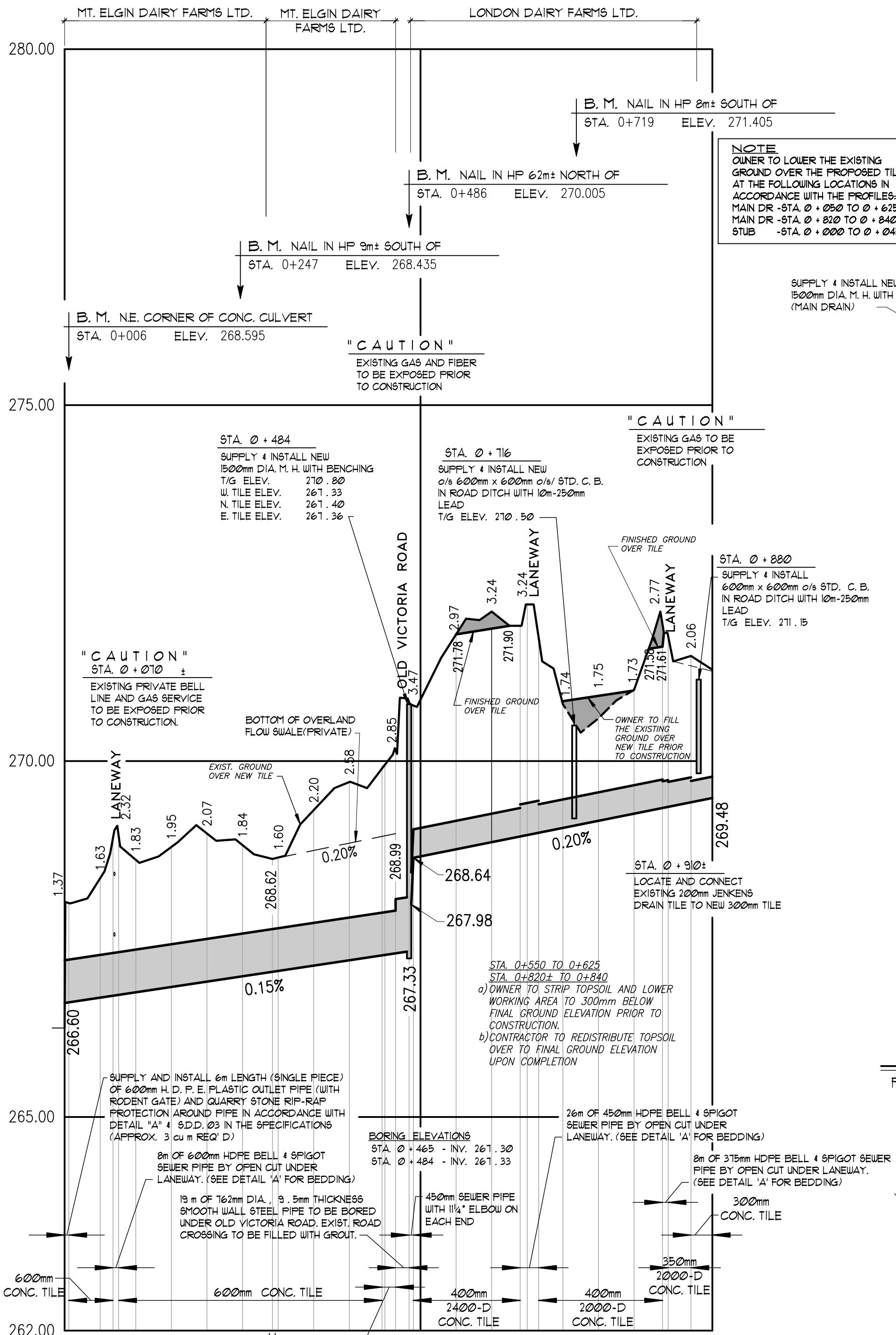
C.20 **RECOMMENDED PRACTICE FOR CONSTRUCTION OF SUBSURFACE DRAINAGE SYSTEM**

Drainage guide for Ontario, Ministry of Agriculture, Food and Rural Affairs Publication Number 29 and its amendments, dealing with the construction of Subsurface Drainage systems, shall be the guide to all methods and materials to be used in the construction of tile drains except where superseded by other specifications of this contract.

The requirements of licensing of operators, etc. which apply to the installation of closed drains under the Tile Drainage Act shall also be applicable to this contract in full unless approval otherwise is given in advance by the Engineer.

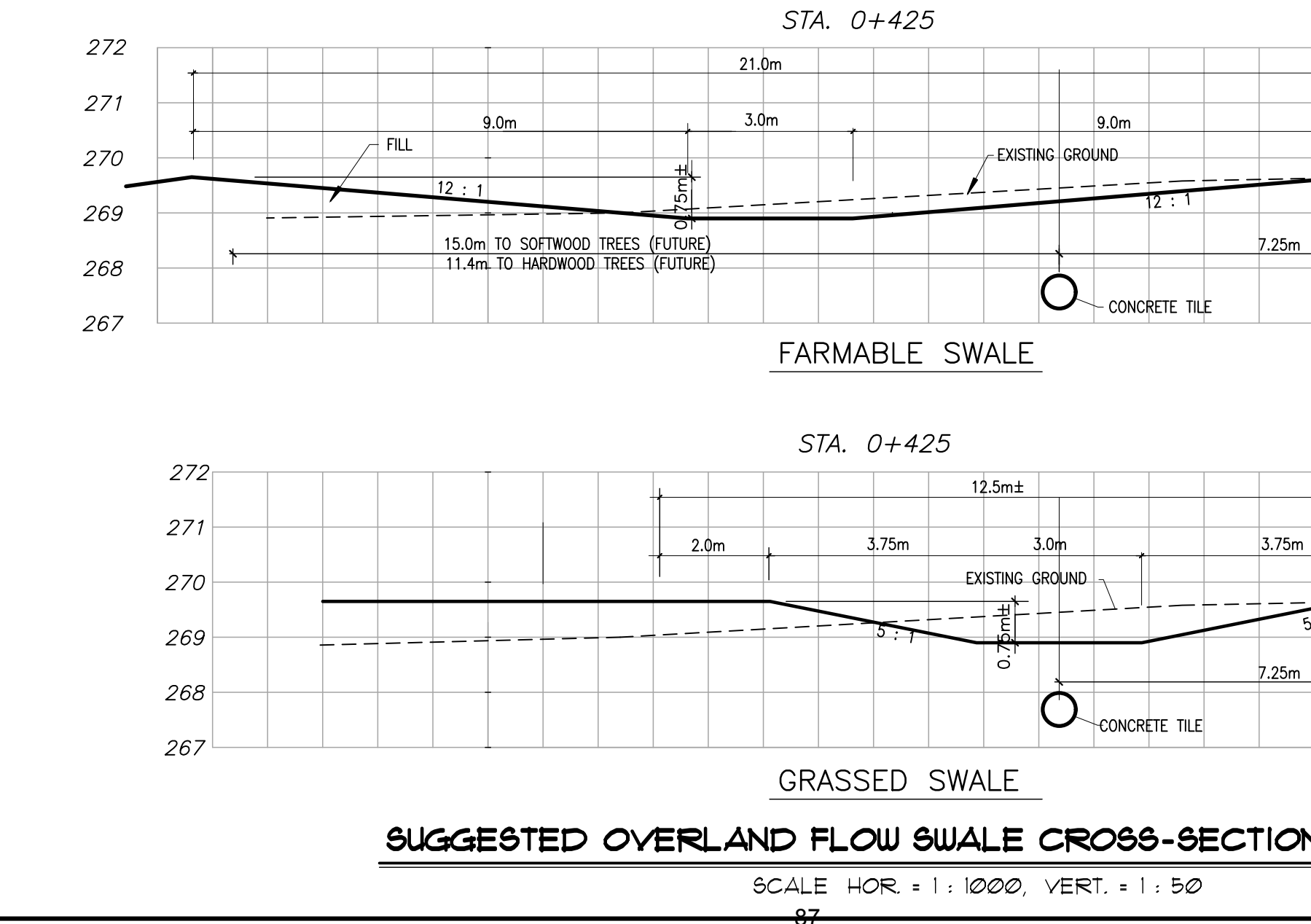
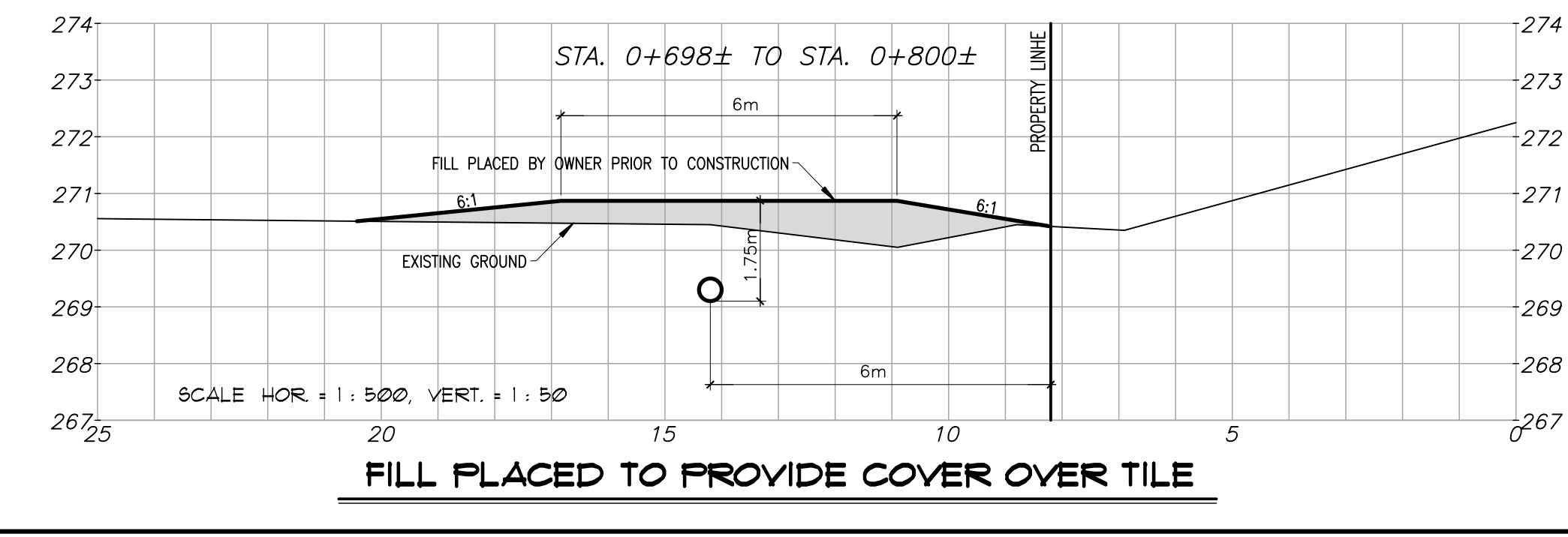
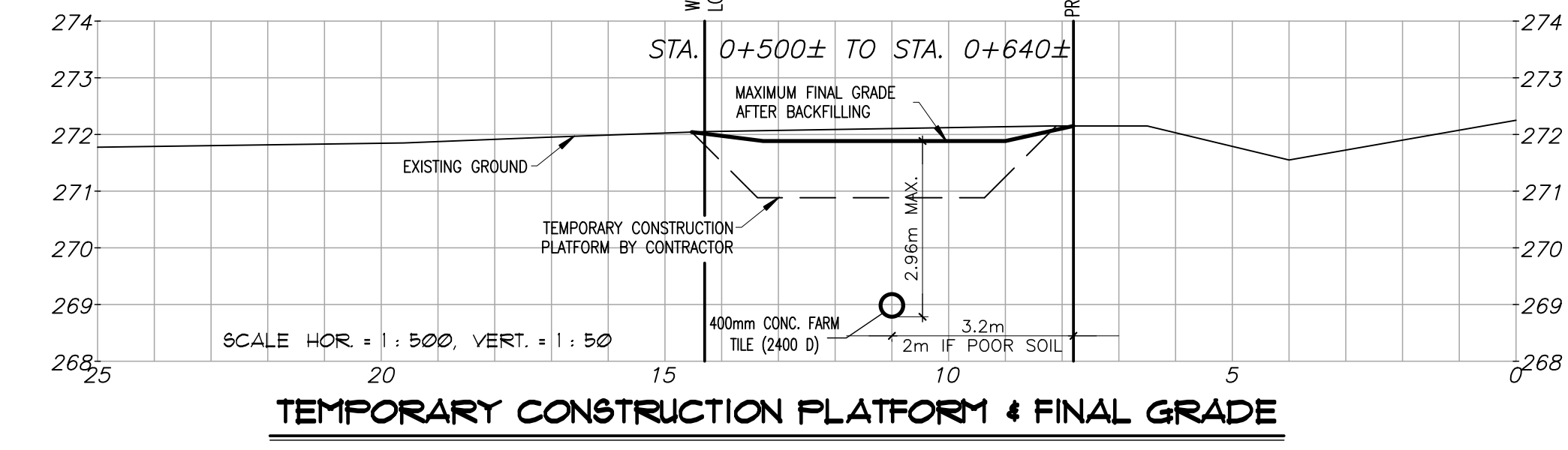
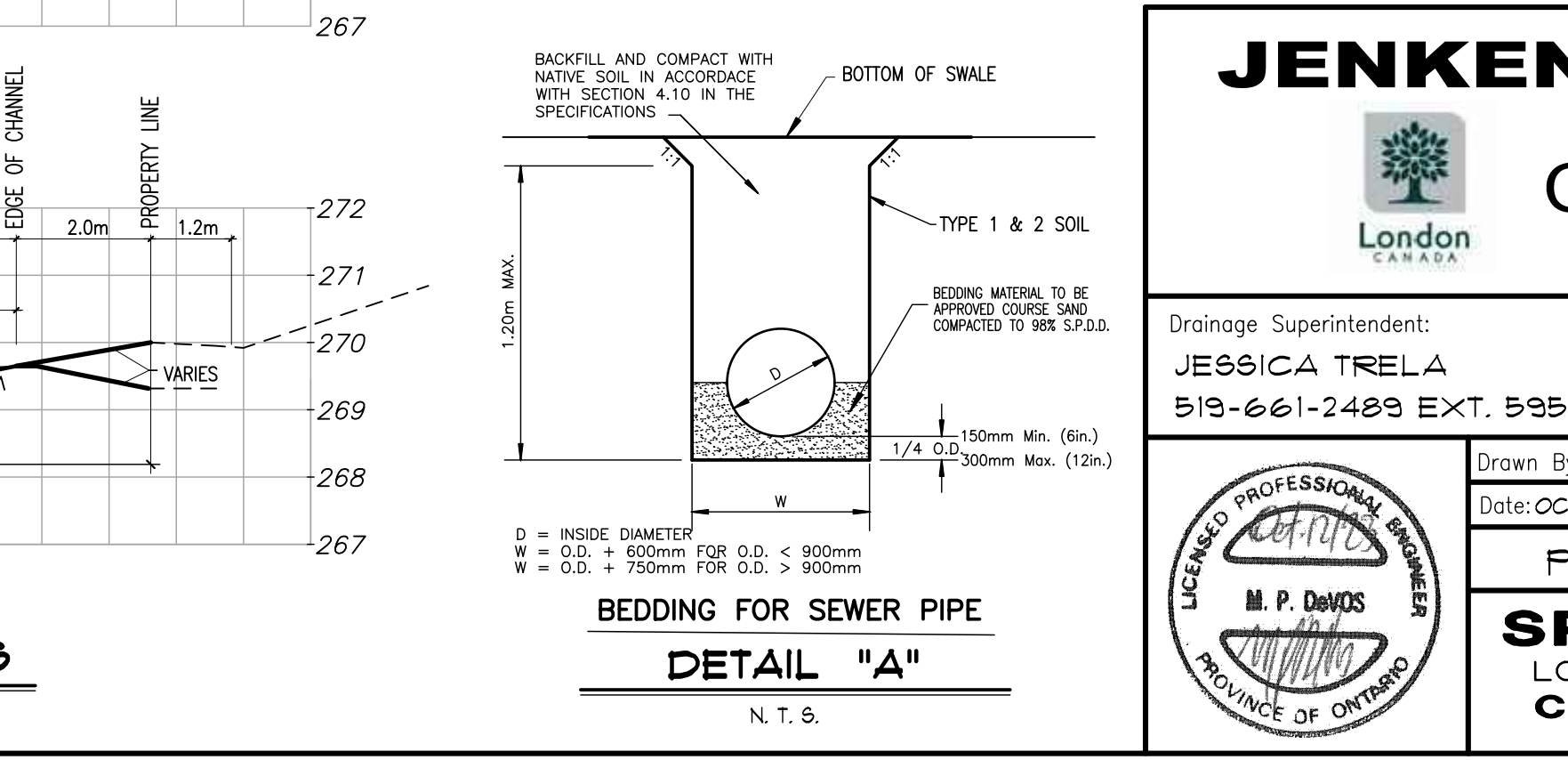
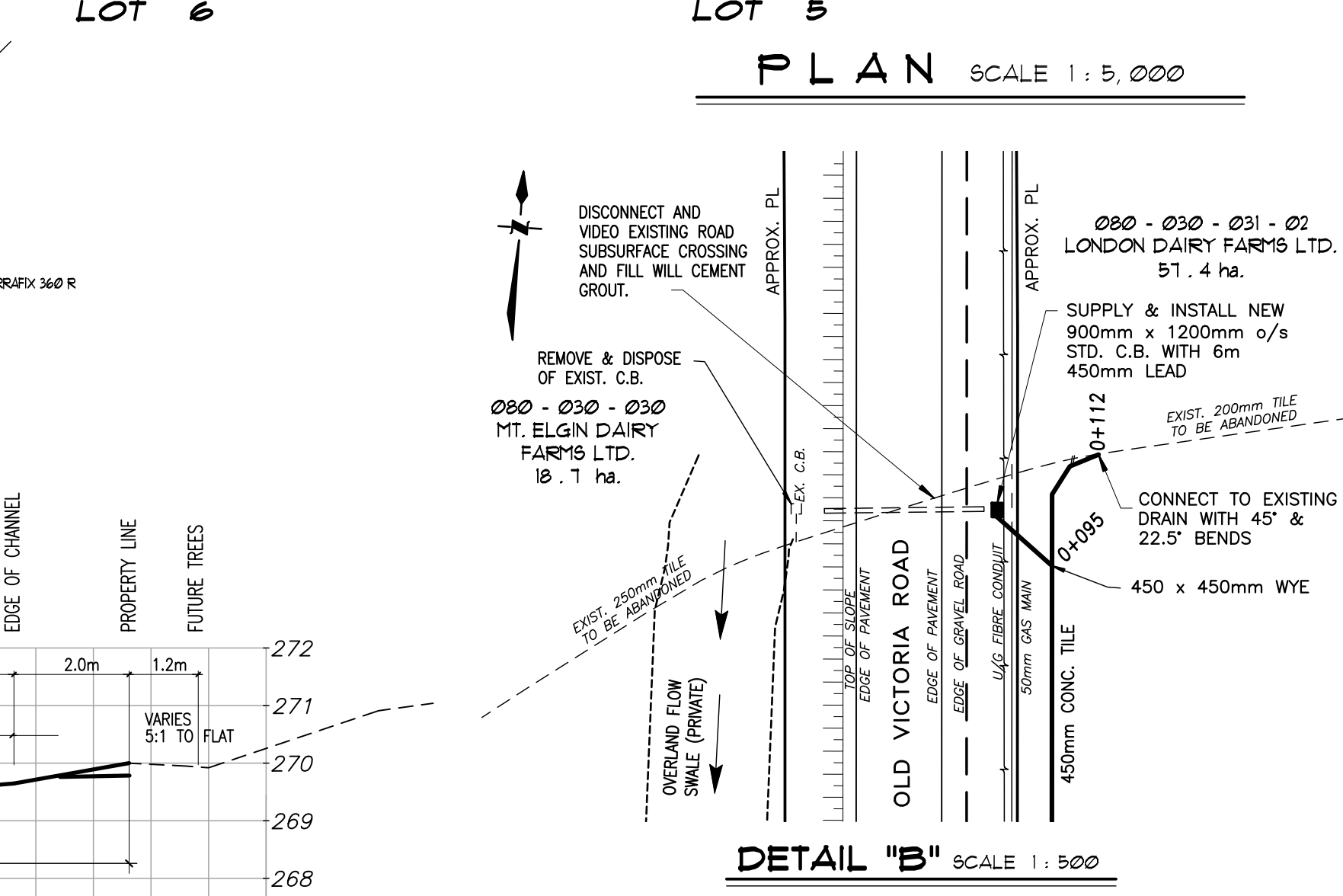
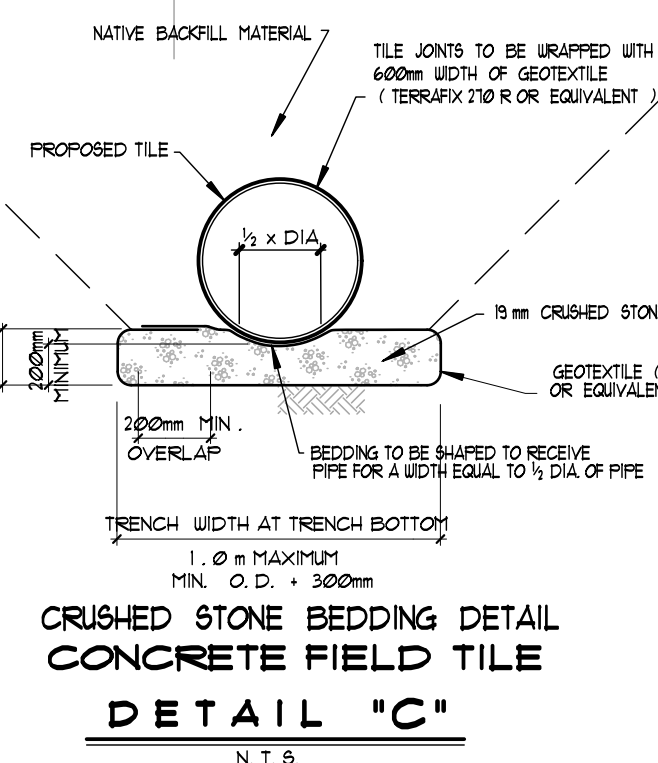
GENERAL NOTES

- OUR SPECIFICATIONS DATED JANUARY 2020 APPLY TO THIS PROJECT.
- THE WORKING WIDTH AVAILABLE TO THE CONTRACTOR TO CONSTRUCT THE NEW DRAINS SHALL CONSIST OF THOSE LANDS IMMEDIATELY ADJACENT TO THE DRAIN AND CONNECTIONS AND SHALL NOT EXCEED THE FOLLOWING AVERAGE WIDTHS:
CLOSED PORTIONS: 20 METERS
THE WORKING WIDTH FOR PURPOSES OF FUTURE MAINTENANCE SHALL BE THE SAME AS ABOVE EXCEPT FOR CLOSED PORTIONS (NOT THROUGH BUSH) SHALL BE 10m.
- ALL OWNERS ALONG THE COURSE OF THE DRAIN SHALL MAKE AN ACCESS ROUTE FROM THE NEAREST ROAD TO THE DRAIN LOCATION AVAILABLE TO THE CONTRACTOR THE AVERAGE WIDTH OF THIS ROUTE SHALL NOT EXCEED 8 METERS. THE ACCESS ROUTE SHALL ALSO APPLY FOR FUTURE MAINTENANCE PURPOSES.
- a) ALL UTILITIES TO BE LOCATED AND EXPOSED PRIOR TO CONSTRUCTION SO THAT THE NEW TILE GRADES CAN BE CONFIRMED. IF THERE IS A CONFLICT IN ELEVATION BETWEEN THE PROPOSED DRAIN AND THE UTILITY, THE ENGINEER IS TO BE NOTIFIED IMMEDIATELY.
b) CONTRACTOR TO NOTIFY ALL UTILITIES 72 HOURS PRIOR TO HIS SCHEDULED TIME FOR STARTING THE ABOVE WORK.
c) THE COST FOR THIS WORK SHALL BE INCLUDED IN THE ITEM ON THE EXTENT OF WORK AND NO EXTRA PAYMENT SHALL BE MADE TO THE CONTRACTOR, EXCEPT IF ROAD RESTORATION IS REQUIRED.
- RIP-RAP TO BE SUPPLIED AND INSTALLED IN ACCORDANCE WITH "SECTION A.12" IN THE SPECIFICATIONS.
- TURF REINFORCEMENT MAT SHALL BE "NORTH AMERICAN GREEN C 350" OR APPROVED EQUAL. MAT SHALL BE INSTALLED ON SEEDED BANK IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS WITH THE FOLLOWING EXCEPTIONS:
a) STAPLES TO BE 200mm LONG AND SHALL BE INSTALLED TO MANUFACTURER'S "D" PATTERN
b) MAT TO BE KEPT 300mm BELOW DITCH BOTTOM, 200mm INTO BANK SLOPE AT UPSTREAM LIMIT AND SHALL BE STAPLED 200mm BELOW TOE OF BANK.
- CONTRACTOR TO ARRANGE A PRE-CONSTRUCTION MEETING WITH THE ENGINEER, DRAINAGE SUPERINTENDENT, AND THE AFFECTED OWNERS. ALL PARTIES MUST RECEIVE 48 HOURS NOTICE TO THE MEETING.
- ALL CONCRETE AND PLASTIC TILE AND PIPE TO CONFORM TO "SECTION C.1" IN THE SPECIFICATIONS.
a) SEWER PIPE TO BE CONCRETE, H. D. P. E. PLASTIC 320 MPA (BELL & SPIGOT WITH RUBBER GASKETS, CONFORMING TO CSA 1026-09), PVC ULTRA RIB OR PVC SDR 35
b) CONCRETE TILE SHALL BE HEAVY DUTY, UNLESS SPECIFIED AS 2000 D OR 2400 D ON PROFILE.
c) SMOOTH WALL PLASTIC PIPE (PERFORATED WITH SOCK) SHALL BE FLEXIBLE (COLLAPSE) DUAL WALL 250KPA OR STRONGER PIPE SUCH AS "GOLDFLEX", "AD9" OR APPROVED EQUAL. FILTER SOCK SHALL BE "TERRAFIX 1000-D", "TERRAFIX 2000-R" OR APPROVED EQUAL.
- ALL CATCHBASINS SHALL BE SUPPLIED AND INSTALLED IN ACCORDANCE WITH "SECTION C.16" IN THE SPECIFICATIONS. EXCEPT AS FOLLOWS:
a) ALL CATCH-BASIN LEADS TO BE CONNECTED TO NEW TILE DRAIN WITH PRE-FABRICATED "WYE" "
- NEW TILE DRAINS TO BE LOCATED AS FOLLOWS:
MAIN DRAIN
a) STA. 0+000 to STA. 0+465 - 6m NORTH OF ROAD PROPERTY LINE
b) STA. 0+466 to STA. 0+515 - 3.2m NORTH OF ROAD PROPERTY LINE (2m IF POOR SOIL)
c) STA. 0+516 to STA. 0+891 - 6m NORTH OF ROAD PROPERTY LINE BRANCH
d) STA. 0+000 to STA. 0+10 - 4m EAST OF ROAD PROPERTY LINE
EXISTING TILE DRAINS TO BE EXPOSED IN AS MANY LOCATIONS AS ARE NECESSARY TO CONFIRM THEIR EXACT LOCATION AND ELEVATION PRIOR TO CONSTRUCTION. EXACT LOCATION OF NEW TILE DRAINS THEN TO BE CONFIRMED BY DRAINAGE SUPERINTENDENT OR ENGINEER.
- INSTALLATION OF TILE AND TRENCH WIDTHS SHALL BE IN ACCORDANCE WITH "SECTION C - TILE DRAIN" IN THE SPECIFICATIONS.
a) SEWER PIPE TO BE INSTALLED IN ACCORDANCE WITH DETAIL "A"
b) ALL CONCRETE TILE AND TILE-PIPE JOINTS TO BE WRAPPED WITH GEOTEXTILE IN ACCORDANCE WITH "SECTION C.2" IN THE SPECIFICATIONS.
c) NO CONSTRUCTION EQUIPMENT OR FARM MACHINERY SHALL CROSS OVER THE MOUNDING BACKFILLED TRENCHES UNTIL SUFFICIENT SETTLEMENT HAS OCCURRED.
d) STRIP AND STOCKPILE TOPSOIL FROM CONSTRUCTION AREA (4 metre width) (STA. 0+511 to STA. 0+942) (C.B. LEAD) EXCEPT LANEWAYS & ROADS. EXCESS SPOIL TO BE LEVELLED AND TOPSOIL RELEVELLED OVER SPOIL, MOUNDING TRENCH AND REMAINING CONSTRUCTION AREA.
- IT SHALL BE NOTED THAT AREAS OF POOR SOIL CONDITION MAY BE ENCOUNTERED ALONG THE COURSE OF THE DRAIN. IF SUCH CONDITIONS ARE ENCOUNTERED AND IF THE TRENCH WALLS AND/OR TRENCH BOTTOM AND/OR TRENCH BOTTOM BECOME UNSTABLE, THEN THE CONTRACTOR SHALL IMMEDIATELY CONTACT THE DRAINAGE SUPERINTENDENT OR ENGINEER.
b) IF SO ORDERED BY THE DRAINAGE SUPERINTENDENT OR ENGINEER, THE CONTRACTOR SHALL INSTALL THE TILE OR PIPE ON A BEDDING OF 150mm (6") CRUSHED STONE THROUGH THE AREA OF UNSTABLE TRENCH. THE CRUSHED STONE SHALL BE COMPLETELY UNWRAPPED IN GEOTEXTILE SUCH AS "TERRAFIX 360 R" OR APPROVED EQUAL. (SEE DETAIL "C") THE LIMITS OF THIS WORK SHALL BE DETERMINED BY THE DRAINAGE SUPERINTENDENT OR ENGINEER.
c) PAYMENT FOR THIS WORK SHALL BE IN ACCORDANCE WITH THE CONTINGENCY AMOUNTS SHOWN IN THE "FORM OF TENDER".
- a) THE CONTRACTOR SHALL ENSURE THAT ALL TRIBUTARY DRAINS ARE CONNECTED DURING TIME OF CONSTRUCTION. ANY MISSED TILE CONNECTIONS THAT ARE FOUND DURING THE WARRANTY PERIOD OF THE CONTRACT SHALL BE COMPLETED BY THE CONTRACTOR AND SHALL BE PAID THE AMOUNT SET OUT ON PAGE 2 OF THE "FORM OF TENDER". NO ADDITIONAL PAYMENT FOR MOBILIZATION WILL BE ALLOWED. THE CONTRACTOR IS NOT RESPONSIBLE FOR COMPLETING MISSED TILE CONNECTIONS THAT ARE FOUND AFTER THE WARRANTY PERIOD FOR THE CONTRACT HAS EXPIRED.
b) ALL TILE CONNECTIONS TO BE MADE WITH CORING MACHINE AND PLASTIC ADAPTOR OR PREFABRICATED FITTINGS.
c) THE CONTRACTOR SHALL SUPPLY THE ENGINEER WITH A LIST SHOWING STATIONS OF ALL TILE CONNECTIONS UPON COMPLETION OF CONSTRUCTION.
- SILT FENCE TO BE PLACED ACROSS DITCH BOTTOM AT STA. 0+000 DURING CONSTRUCTION TO PREVENT SILT FROM FLUSHING DOWNSTREAM AND ARE TO BE MAINTAINED AS NECESSARY DURING CONSTRUCTION. SILT FENCE AND SILT TO BE REMOVED AND DISPOSED OF AFTER CONSTRUCTION.



PLAN LEGEND

[Symbol]	LIMIT OF WATER-SHED AREA
[Symbol]	PROPOSED DRAINAGE WORKS
[Symbol]	EXTERIOR OR INTERIOR WATER-SHED
[Symbol]	TO BE INCLUDED FOR FUTURE MAINTENANCE
[Symbol]	TO BE ABANDONED
[Symbol]	EXIST. MUNICIPAL DRAIN
[Symbol]	PRIVATE TILE OR SURFACE WATER RUN
[Symbol]	EXIST. WATERCOURSE OR PRIVATE DITCH



JENKENS DRAIN 2023

City of London

Drainage Superintendent: JESSICA TRELA
519-661-2489 EXT. 5953

No.	REVISIONS	DATE

Drawn By: Av/ML, Field Book: GFS, D-211, JOB No.: 222125, Drawing No.: 1 of 1

DATE: OCT. 12, 2023

SPRIET ASSOCIATES
LONDON CONSULTING ENGINEERS LIMITED
155 YORK STREET - LONDON (519) 672-4100 - NEA 1A8

APPENDIX 'B'

Bill No.
2024

By-law No. A.-

A by-law to provide for Drainage Works in the City of London (Construction of the Jenkens Municipal Drain)

WHEREAS the Municipal Council of The Corporation of the City of London appointed Spriet Associates Ltd, pursuant to section 4 of the *Drainage Act*, R.S.O. 1990, c. D.17, to prepare a report on the construction of the Jenkens Municipal Drain;

AND WHEREAS the Municipal Council of the Corporation of The City of London at it's meeting January 30, 2024 adopted the Consulting Engineers' report dated October 12, 2023.

NOW THEREFORE the Municipal Council of The Corporation of the City of London enacts as follows:

1. The report dated October 12, 2023 is hereby adopted and the undertaking and completion of the drainage works outlined in the report are hereby authorized.
2. The allowances in connection with this drainage works set out in Schedule "A" of this by-law are hereby approved.
3. The cost estimates for the drainage work set out in Schedule "B" of this by-law are hereby approved.
4. The assessments for construction for this drainage works set out in Schedule "C" of this by-law are hereby approved and shall be levied upon the lands, including roads, listed in Schedule "C" of this by law.
5. The assessments for maintenance for these drainage works are set out in Schedule "D" of this by-law are hereby approved and shall be levied up upon the lands, including roads, listed in Schedule "D" of this by-law.
6. This by-law comes into force and effect on the day it is passed.

PASSED in Open Council on [insert date]

Josh Morgan
Mayor

Michael Schulthess
City Clerk

First Reading – February 13, 2024
Second Reading – February 13, 2024
Third Reading –

SCHEDULE 'A' - ALLOWANCES

JENKENS DRAIN 2023

City of London

In accordance with Sections 29 and 30 of the Drainage Act, we determine the allowances payable to owners entitled thereto as follows:

CON.	LOT	ROLL NUMBER (Owner)	Section 29 Right-of-Way	Section 30 Damages	TOTALS
<i>Geographic Westminster</i>					
2	8	080-030-029 (Mt. Elgin Dairy Farms Ltd.)	\$ 2,550.00	\$ 3,110.00	\$ 5,660.00
2	W½ 7	080-030-030 (Mt. Elgin Dairy Farms Ltd.)	1,640.00	2,000.00	3,640.00
2	E½ 7 & 6	080-030-031-02 (London Dairy Farms Ltd.)	4,790.00	5,850.00	10,640.00
Total Allowances			\$ 8,980.00	\$ 10,960.00	\$ 19,940.00
TOTAL ALLOWANCES ON THE JENKENS DRAIN 2023			\$ <u>19,940.00</u>		

SCHEDULE 'B' - COST ESTIMATE

JENKENS DRAIN 2023

City of London

We have made an estimate of the cost of the proposed work which is outlined in detail as follows:

CONSTRUCTION

Mobilization of equipment	\$	1,500.00
Supply & install 6 meters of 600mm dia., H.D.P.E. plastic sewer pipe including rodent gate and quarry stone rip-rap protection around pipe and end of ditch (Approximately 3m ³ quarry stone req'd)	\$	2,680.00
Installation of the following concrete field tile including supply & installation of geotextile around tile joints		
20 meters of 250mm dia. concrete tile (catchbasin leads)	\$	520.00
30 meters of 300mm dia. concrete tile	\$	810.00
32 meters of 350mm dia. concrete tile 2000D	\$	1,310.00
174 meters of 400mm dia. concrete tile 2000D	\$	6,290.00
150 meters of 400mm dia. concrete tile 2400D	\$	5,420.00
6 meters of 450mm dia. concrete tile (catchbasin lead)	\$	190.00
112 meters of 450mm dia. concrete tile (2000D)	\$	4,210.00
19 meters of 600mm dia. concrete tile (2400D)	\$	1,010.00
432 meters of 600mm dia. concrete tile	\$	18,630.00
Supply of the above listed tile	\$	57,120.00
Sta. 0+500 to Sta. 0+640		
Construct working platform at lower elevation for wheel machine to install concrete tile and backfill upon completion (approx. 620 m ³ excavation)	\$	9,600.00
Supply & Installation of the following HDPE sewer pipe (with rubber gaskets) including supply, installation and compaction of bedding and backfill materials		
6 meters of 450mm dia. sewer pipe and two 11 degree elbows	\$	1,320.00
Supply of the above listed sewer pipe	\$	1,560.00
Contingency amount for increased cost due to poor soil conditions:		
Installation of tile on crushed stone bedding with excavator (300 meters)	\$	10,500.00
Supply & delivery of 19mm crushed (Approx. 120 tonnes req'd)	\$	4,200.00
Strip, stockpile and relevel topsoil from tile trench where required (277m)		
Relevel existing stockpiled topsoil over working space (583m) (4m wide) specified on drawings	\$	6,330.00
8.0 meters of 600mm sewer pipe		
Supply	\$	1,280.00
Installation under laneway by open cut	\$	2,560.00

SCHEDULE 'B' - COST ESTIMATE (Cont.)

JENKENS DRAIN 2023
City of London**CONSTRUCTION (Cont.)**

19.0 meters of 762mm dia., 9.5mm thickness smooth wall steel pipe		
Supply		\$ 9,000.00
Installation under Old Victoria Road by boring		\$ 25,950.00
Disconnect exist. 250mm± subsurface road crossing and fill with cement grout		\$ 3,800.00
26.0 meters of 450mm sewer pipe		
Supply		\$ 2,600.00
Installation under laneway by open cut		\$ 8,060.00
8.0 meters of 375mm sewer pipe		
Supply		\$ 600.00
Installation under laneway by open cut		\$ 2,560.00
Supply and install one 900mm x 1200mm and two 600mm x 600mm standard catchbasins, including grates, removal and disposal of existing catchbasin		\$ 10,300.00
Supply and install 1500mm dia. manhole with benching at Sta 0+484		\$ 13,100.00
Exposing and locating existing tile drains	(construction)	\$ 940.00
Exposing and locating existing utilities	(report)	\$ 2,200.00
	(construction)	\$ 2,500.00
Tile connections as noted on plan including fittings		\$ 2,000.00
Contract security financing		\$ 3,320.00
Tile connections and contingencies		\$ 12,000.00
Allowances under Sections 29 & 30 of the Drainage Act		\$ 19,940.00
ADMINISTRATION		
Conservation Authority Review Fee		\$ 900.00
Interest and Net Harmonized Sales Tax		\$ 5,045.00
Survey, Plan and Final Report		\$ 38,775.00
Expenses		\$ 270.00
Supervision and Final Inspection		\$ <u>12,000.00</u>
TOTAL ESTIMATED COST		\$ <u><u>312,900.00</u></u>

SCHEDULE 'C' - ASSESSMENT FOR CONSTRUCTION

JENKENS DRAIN 2023

City of London

Job No. 222125

October 12, 2023

* = Non-agricultural

CON.	LOT	HECTARES AFFECTED	ROLL No. (OWNER)	SPECIAL BENEI	BENEFIT	OUTLET	TOTAL		
<i>Geographic Westminster</i>									
2	8	4.1	080-030-029 (Mt. Elgin Dairy Farms Ltd.)	\$	3,470.00	\$ 1,165.00	\$ 4,635.00		
2	W½ 7	8.9	080-030-030 (Mt. Elgin Dairy Farms Ltd.)		51,520.00	4,439.00	55,959.00		
2	E½ 7 & 6	28.6	080-030-031-02 (London Dairy Farms Ltd.)		56,250.00	52,087.00	108,337.00		
2	W½ 5	4.8	080-030-031-05 (Bruynland Farm Inc.)			12,751.00	12,751.00		
TOTAL ASSESSMENT ON LANDS				\$	\$ 111,240.00	\$ 70,442.00	\$ 181,682.00		
Old Victoria Road				1.2	City of London	\$	\$ 5,650.00	\$ 2,929.00	\$ 8,579.00
Wilton Grove Road				1.7	City of London	5,343.00	14,760.00	12,626.00	32,729.00
TOTAL ASSESSMENT ON ROADS				\$	5,343.00	\$ 20,410.00	\$ 15,555.00	\$ 41,308.00	

SPECIAL ASSESSMENT against the City of London for the increased cost of boring a 762mm smooth wall pipe under Old Victoria Road \$ 42,380.00

SPECIAL ASSESSMENT against the Bell for the increased of locating and exposing their fibre optic cables on Old Victoria Road \$ 1,755.00

SPECIAL ASSESSMENT against Enbridge Gas for the increased of locating and exposing their 50mm plastic gasmain on Old Victoria Road \$ 1,755.00

SPECIAL ASSESSMENT against the City of London for a portion of the theoretical cost of boring under Old Victoria Road south in the natural route of the Jenkens Drain \$ 19,200.00

SPECIAL ASSESSMENT against the City of London for a portion of the theoretical cost of boring under Wilton Grove Road in the natural route of the Jenkens Drain \$ 22,200.00

SPECIAL ASSESSMENT against 080-030-031-02 (London Dairy Farms Ltd.) for the increased of locating and exposing their gas & water services \$ 2,620.00

TOTAL ASSESSMENT ON THE JENKENS DRAIN 2023 \$ 312,900.00

SCHEDULE 'D' - ASSESSMENT FOR MAINTENANCE

JENKENS DRAIN 2023

City of London

Job No. 222125

October 12, 2023

* = Non-agricultural

CON.	LOT	HECTARES AFFECTED	ROLL No. (OWNER)	BENEFIT	OUTLET	TOTAL		
<i>Geographic Westminster</i>								
2	8	4.1	080-030-029 (Mt. Elgin Dairy Farms Ltd.)	0.00	3.50 %	0.50 %	4.00 %	
2	W½ 7	8.9	080-030-030 (Mt. Elgin Dairy Farms Ltd.)	0.00	22.00	1.80	23.80	
2	E½ 7 & 6	28.6	080-030-031-02 (London Dairy Farms Ltd.)	0.00	25.50	19.25	44.75	
2	W½ 5	4.8	080-030-031-05 (Bruynland Farm Inc.)	0.00	2.50	4.65	7.15	
3	Pt.5-8	4.4	City of London	0.00	0.00	0.00	0.00	
TOTAL ASSESSMENT ON LANDS				0.00	53.50 %	26.20 %	79.70 %	
Old Victoria Road				1.2	City of London	1.50 %	1.25 %	2.75
Wilton Grove Roac				1.1	City of London	13.50	4.05	17.55
TOTAL ASSESSMENT ON ROADS				0.00	15.00 %	5.30 %	20.30 %	
TOTAL ASSESSMENT FOR MAINTENANCE ON THE JENKENS DRAIN 2023						\$	<u>100.00 %</u>	

SCHEDULE OF NET ASSESSMENT

JENKENS DRAIN 2023

City of London

Job No. 222125

October 12, 2023

* = *Non-agricultural*

ROLL NUMBER (OWNER)	TOTAL ASSESSMENT	GRANT	NON-GRANT SPECIAL BENEFIT	ALLOWANCES	NET
080-030-029 (Mt. Elgin Dairy Farms Ltd)	\$ 4,635.00	\$ 1,545.00		\$ 5,660.00	\$ -2,570.00
080-030-030 (Mt. Elgin Dairy Farms Ltd.)	55,959.00	18,653.00		3,640.00	33,666.00
080-030-031-02 (London Dairy Farms Ltd)	108,337.00	36,112.00		10,640.00	61,585.00
080-030-031-05 (Bruynland Farm Inc.)	12,751.00	4,250.00			8,501.00
* Old Victoria Road	\$ 8,579.00	\$		\$	\$ 8,579.00
* Wilton Grove Road	32,729.00				32,729.00
<u>Non-Prorated Special Assessments</u>					
* COL - Old Victoria Road - Boring	42,380.00				42,380.00
* COL - Old Victoria Road S - Theoretical	19,200.00				19,200.00
* COL - Wilton Grove Rd - Theoretical	22,200.00				22,200.00
* Bell - Fibre Optic on Old Victoria Road	1,755.00				1,755.00
* Enbridge - Gasmain on Old Victoria Rd	1,755.00				1,755.00
* 080-030-031-02 - Gas & Water Services	2,620.00				2,620.00
	\$ 312,900.00	\$ 60,560.00	\$	\$ 19,940.00	\$ 232,400.00