

CITY OF WINDSOR

SUPPLEMENTARY SPECIFICATIONS

AND

MANDATORY PROCEDURES AND PRACTICES

JANUARY 2022

BOOK OF SUPPLEMENTARY SPECIFICATIONS AND MANDATORY PROCEDURES AND PRACTICES

The specifications, procedures, and practices contained in this document shall be used on all City contracts and take precedent over City of Windsor General Specifications and Ontario Provincial Standard Specifications.

These specifications, procedures, and practices shall not be revised or altered without the expressed consent of the City Engineer.

Where these specifications, procedures, and practices do not meet a site-specific condition, in whole or in part, that portion or portions of the specification, procedure, or practice shall be altered and placed in the Special Provisions for that contract only.

To avoid future ambiguity, these supplementary specifications shall be referred to as Supplementary Specifications I, (SS 1, SS 2, SS 3, etc.) These specifications shall be reviewed periodically.

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BOOK OF SUPPLEMENTARY SPECIFICATIONS AND MANDATORY PROCEDURES AND PRACTICES

1. **REVISED STANDARD SPECIFICATIONS AND GENERAL CONDITIONS (January 2022)**

As of January 2022, the City of Windsor Standard Specifications and AS-drawings are all released through the following website, with the revision dates.

<http://www.citywindsor.ca/business/buildersanddevelopers/Pages/Standard-Specifications.aspx>

<http://www.citywindsor.ca/business/buildersanddevelopers/Pages/Standard-Engineering-Drawings.aspx>

The latest revisions shall apply to all City of Windsor Contracts that are signed after the Specification and AS-drawing revision dates.

2. **MANAGEMENT OF EXCAVATED SOIL AND ROCK ON-SITE AND OFF-SITE (January 2022)**

General

All materials that are not Excess Soil, but are no longer required at the Project Area by the City Engineer, shall be removed from the Project Area and lawfully disposed of by the Contractor at its own expense.

The Contractor shall make its own arrangement as to transportation and disposal, but in doing so must comply with all federal, provincial, or municipal statutes, regulations, codes, or by-laws, and any orders, permits, approvals, or other regulatory instruments issued under such statutes, regulations, codes or by-laws (together, “Applicable Laws”).

The Contractor shall as necessary, excavate, manage, reuse, process, segregate, store, transport, track and dispose of offsite, and complete any other handling required for proper management, reuse and/or disposal of Soil, Crushed Rock and Excess Soil each as defined in Ontario Regulation 406/19 and in accordance with the requirements of all Applicable Laws including, but not limited to:

- The *Environmental Protection Act*, R.S.O. 1990, c.E.19 (“EPA”);
- Ontario Regulation 406/19: On-Site and Excess Soil Management (the “Regulation”);
- Regulation 347 (General – Waste Management);
- Ontario Regulation 351/12 (Registrations under Part II.2 of the Act – Waste Management Systems);

- Ontario Regulation 153/04 (Records of Site Condition – Part XV.1 of the Act);
- Any additional regulations under the EPA as may be applicable to the above work, including but not limited to additional regulations pertaining to waste and/or source separation of waste (including Ontario Regulation 103/94);
- The Rules for Soil Management, dated December 8, 2020 (the “Rules”) and Excess Soil Quality Standards, dated December 8, 2020 (the “Standards”); and,
- The Beneficial Reuse Assessment Tool (“BRAT”), where applicable; and,
- All as amended (collectively, “Ontario’s Excess Soil and Waste Laws”).

Capitalized terms used in this section shall have the meanings assigned to them in the Regulation and the Rules and the Standards, unless expressly amended herein.

For clarity, capitalized terms: Owner, Contractor, Work and Working Day shall have the meanings assigned in the General Conditions and the Mandatory Contract Terms of this RFT.

References to Soil in this section shall include Soil, Crushed Rock and/or Soil mixed with Crushed Rock, each as defined by the Regulation.

The Contractor represents and warrants that it is familiar with and knowledgeable of Ontario’s Excess Soil and Waste Laws.

To the extent the Contractor is required by the terms herein to send a notice to or seek approval or consent from the Owner and the Contractor shall include or copy the Owner’s Qualified Person (QP) on any such correspondence. Approval or consent from the Owner shall mean approval or consent that is provided in writing.

Material Management

The Contractor shall prepare an excavation contingency plan in accordance with section 23 of the Regulation and submit the plan to the Owner for review and approval prior to the Contractor starting excavation in the Project Area.

On-site storage of excavated Soil at the Project Area will not be permitted unless the Owner has provided its prior approval in writing. If Owner approval has been obtained, the Contractor shall conduct on-site storage of excavated Soil at the Project Area in compliance with Ontario’s Excess Soil and Waste Laws.

If the Contractor intends to process excavated Soil at the Project Area, the Contractor shall notify the Owner and shall obtain approval prior to conducting any processing activities. If Owner approval has been obtained, the Contractor shall conduct all excavated Soil processing at the Project Area in accordance with section 6 of the Regulation and the Rules and shall ensure processing activities are conducted in a manner that would not result in the Soil at the Project Area being designated as waste due to processing.

If special excavated Soil processing activities occur on-site involving mixing with a natural or synthetic polymer for the purpose of dewatering and solidifying the excavated Soil, the Contractor shall retain a QP to meet the requirements of subsection 6(4) of the Regulation. The Contractor shall provide the Owner with a copy of any documentation or the Contractor's QP prepares as required by section 6 of the Regulation. The Contractor shall provide the owner of any Reuse Sites that have agreed to receive the Soil a copy of the document prepared by the Contractor's QP as required by paragraph 6(4).3 of the Regulation prior to transporting the Soil from the Project Area.

The costs associated with this special work done by the QP will be subject to the approval of the City Engineer.

The Contractor shall employ appropriate Soil segregation practices during handling, temporary storage and transportation to ensure mixing of Soils of different qualities does not occur.

Import of Excess Soil

All Excess Soil being brought to the Project Area shall meet the requirements set out in Ontario's Excess Soil and Waste Laws and shall be approved by the Owner prior to Excess Soil being imported for reuse to the Project Area.

The Contractor shall provide the Owner with the following information, for review and approval no later than ten (10) Working Days prior to the start of importation of Excess Soil to the Project Area:

- Information identifying the location, owner, operator of the proposed source site, and the associated contact information;
- Quantity of Excess Soil required for the Work;
- Soil quality standard applicable under the Standards (or, if applicable and approved by the Owner, site-specific standard generated by a QP through the BRAT) for Excess Soil with sampling and analysis results satisfactory to the Owner's QP;
- A copy of any permits, approvals, and/or licences applicable to the source site Excess Soil;
- Procedures the Contractor will employ for load management and inspection of incoming loads in accordance with section 19 of the Regulation, including those pertaining to segregation and record management; and,
- Any other information about the proposed Excess Soil the Owner may reasonably require.

The Contractor shall ensure the Excess Soil and its management and handling meets the requirements of Ontario's Excess Soil and Waste Laws and shall in no circumstances deposit a material designated as waste, other than Excess Soil at the Owner's property or Project Area. In identifying source sites to meet clean fill needs, the Contractor shall give

priority consideration to other projects the Owner is carrying out, that based on the foregoing meet the applicable Standard for quality.

Salt-impacted Excess Soil may be used at the Project Area as fill material in accordance with the recommendations provided in the Excess Soil Reuse Planning reports and geotechnical investigation reports prepared for this project and as approved by the Owner. The Contractor shall comply with the documentation and management requirements of the Regulation and Rules for salt-impacted Soil.

The Contractor acknowledges the Owner must provide written consent to the source site owner via the Contractor in a form acceptable to the Owner and no other commitments or agreements shall be made with the owner or operator of the source site of the Excess Soil without the Owner's prior written approval. Any Excess Soil brought onsite without the Owner approval in writing shall be rejected; any costs associated with removal and remediation of the Project Area, where such Excess Soil exceeds the soil quality standard or quantity as approved by the Owner under this section, shall be borne by the Contractor.

The Contractor shall make best efforts to seek that reliance is extended to the Owner by the QP for the source site on any reports, data and recommendations they have prepared, used to identify suitability of Excess Soil from a source site to be reused at the Project Area. Reliance under this section means reliance on terms acceptable to the Owner.

Chemical Analysis and Results of Excess Soil

The Excess Soil Reuse Planning reports and geotechnical investigation reports prepared for this project have been provided for information purposes to assist identification of appropriate Reuse Sites and Soil management activities on this project. It is the Contractor's responsibility to review and ensure its understanding of the Excess Soil Reuse Planning reports and geotechnical investigation reports prepared for the project. The Contractor shall not claim any misunderstanding with regard to subsurface physical or chemical conditions provided in the reports for this Contract.

Excess Soil/Excess Material

Soil excavated in carrying out the Work of this Contract, that is not being reused at the Project Area, shall be removed from the Project Area and deposited at a Reuse Site or other suitable waste disposal site operating under an approval from Ontario's Ministry of the Environment, Conservation and Parks (MECP), as approved by the Owner, at the Contractor's expense in accordance with Ontario's Excess Soil and Waste Laws and Ontario Provincial Standard Specifications 180 ("OPSS 180"). To the extent that there is

any conflict or inconsistency between Ontario's Excess Soil and Waste Laws and OPSS 180, Ontario's Excess Soil and Waste Laws shall govern.

The Contractor shall not commence construction until the Owner's prior written approval of the Contractor's choice of all proposed receiving facilities (whether for storage, processing, reuse, and/or disposal) has been provided. The Contractor shall be responsible for identifying and making deposit arrangements acceptable to the Owner at appropriate off-project Reuse Sites based on the quality, geotechnical suitability and quantity of Excess Soil from the Project Area and in accordance with Ontario's Excess Soil and Waste Laws.

No claims related to delays while sourcing a lawful Reuse Site (or other MECP-approved receiving site) or delays related to acceptance of Excess Soil/excess material by the Reuse Site (or other MECP-approved receiving site) will be paid to the Contractor.

Ten (10) Working Days prior to the start of construction the Contractor shall provide the Owner with the following information for review, approval and where applicable, incorporation into an Excess Soil Destination Assessment Report by the Owner's QP:

- Identification of the location of the Contractor's proposed Reuse Site(s) (or other MECP-approved receiving sites) and the name and contact information for their owner, operator and QP, as applicable;
- Where Reuse Sites are governed by an instrument listed in section 3(2)4 of the Regulation ("Reuse Site Instrument"):
 - A copy of the Reuse Site Instrument; and,
 - The Soil quality standard under the Standards (or, if applicable and approved by the Owner, site-specific standard generated by a QP through the BRAT) applicable to the Reuse Site under the Rules and Standards or as established by the Reuse Site's Qualified Person.
- Where Reuse Sites are not governed by a Reuse Site Instrument:
 - A description of the beneficial purpose for which the Excess Soil from the Project Area will be used at the Reuse Site, as contemplated in section 5(1)3 of the Regulation; and,
 - Written confirmation that the Excess Soil, including its quantity and quality, will meet the timing and all other requirements for Excess Soil placement at the Reuse Site in accordance with section 5 of the Regulation.
- Contingency measures the Contractor will implement, including but not limited to, location of an alternate site in the event Excess Soil cannot be deposited at the locations listed;

- Identification and location of any interim sites permitted by Ontario’s Excess Soil and Waste Laws, including Class 1 Soil Management Sites, Class 2 Soil Management Sites, Local Waste Transfer Facilities, Retail Landscaping Soil Depots, and/or Residential Development Soil Depots (collectively, “Temporary Sites”) proposed to be used to temporarily store and/or process Excess Soil, as well as the name and contact information for the owner and operator for each site, or waste disposal sites approved by MECP to accept Excess Soil for final disposal, as well as the name and contact information for the owner and operator for each site; and,
- A description of the proposed Reuse Site’s (or other MECP-approved receiving site) capacity and requirements for the deposit of Excess Soil and confirmation that those requirements can and will be complied with by the Contractor;
- A copy of the Environmental Compliance Approval issued by the MECP for each Class 1 Soil Management Site the Contractor will be using to temporarily store and/or process the Excess Soil and/or waste disposal site the Contractor will be using to dispose of the Excess Soil, if applicable;
- A copy of Ontario Provincial Standard Form 180-2 (OPSS 180-2), “SITE SELECTION NOTIFICATION FOR MATERIAL MANAGED AS DISPOSABLE FILL” or another form of consent acceptable to the Owner. The Contractor is not permitted to start any excavation work until this signed consent has been approved by the Owner; and,
- Any other information about the proposed Reuse Site (or other MECP-approved receiving site) the Owner may reasonably require.

To the extent that excess material is neither excavated Soil nor Excess Soil but otherwise constitutes “waste” pursuant to the EPA and Reg. 347 (“Non-Soil Waste”), the Contractor shall manage, transport, and dispose of the Non-Soil Waste and ensure that the Non-Soil Waste is managed, transported, and disposed of in accordance with the EPA, Regulation 347, Ontario Regulation 351/12 and other regulations under the EPA, as may be applicable, including but not limited to ensuring that the Non-Soil Waste is transported by a hauler approved by the MECP to transport the Non-Soil Waste and is disposed of at a waste disposal site approved by the MECP to receive the Non-Soil Waste for final disposal. All Non-Soil Waste must be finally disposed of promptly at the time of excavation, except where analytical testing is required to determine the appropriate MECP-approved waste disposal site, in which case required sampling must be carried out immediately and Non-Soil Waste must be finally disposed of within seven (7) calendar days following receipt of analytical results.

Any additional chemical or geotechnical testing required by a Reuse Site shall be at the Contractor’s expense without an entitlement to an extension of the Contract time. Where additional testing is required by a Reuse Site, the Contractor shall retain a QP to oversee and carry out the testing, where applicable. All resulting recommendations and analysis results shall be provided to the Owner. The Contractor shall ensure its QP extends reliance

on all reports and recommendations prepared for the management of Excess Soil in the Project Area to the Owner and on request of the Owner or operator extends reliance to the owner or operator of a Reuse Site. Reliance under this section means reliance on commercially reasonable terms acceptable to the Owner.

Where the use of Temporary Sites is approved by the Owner for storage of Excess Soil, all Excess Soil must be placed at the final Reuse Site (or other MECP-approved receiving site) within sixty (60) days after the substantial completion date.

The Contractor shall submit to the Owner a notice of final placement of all Excess Soils and excavated Soils including date the last load of Soil was removed from the Project Area, and final disposal of all Non-Soil Waste, related to or arising from the project. The Contractor shall submit to the Owner a signed copy of Ontario Provincial Standard Form 180-3 (OPSF 180-3) "PROPERTY OWNER'S RELEASE within sixty (60) days after the substantial completion date.

The OPSF 180-2 and OPSF 180-3 are included in the appendix of this RFT and apply to any item that includes excavation, removal and reuse of Excess Soil.

All costs associated with the requirements of this section are to be included within the unit prices for those items.

Hauling and Transportation

The Contractor is responsible for retaining haulers for transportation of Excess Soil and for ensuring that any vehicle hauling Excess Soil from the Project Area meets all criteria outlined in Section 17 of the Regulation.

Prior to commencement of excavation, the Owner will provide the Contractor with an excel file to be used to track the information required by section 18 of the Regulation and a Hauling Record template to be used for each load of Excess Soil - Please refer to the Appendices of this RFT for the excel tracking file and the template of Hauling Record. The Contractor shall ensure the Hauling Record is used to record the required information for every load of Excess Soil leaving the Project Area. The Contractor shall submit the excel tracking form and copies of all completed Hauling Records on a weekly basis to the Owner and keep the Hauling Record available upon request for two (2) years from the date the form is filled, including all backup documentation.

The Contractor shall cause any person who is operating a vehicle for the purpose of transporting Excess Soil to have available at all times during the transportation a completed Hauling Record for every load either in hard copy or electronic version.

The Contractor shall cause any person who is operating a vehicle for the purpose of transporting Excess Soil to, upon arriving at a Temporary Site, or Reuse Site (or other MECP-approved receiving site) complete the receiver information on the Hauling Record and ensure the receiving site representative signs the declaration on the Hauling Record.

Tracking

The Contractor shall develop and apply a tracking system, where required by and in accordance with section 16 of the Regulation and Section B of the Rules, to be used to track information about each load of Excess Soil during its excavation, on-site stockpiling (where permitted), transportation and deposit at a Reuse Site (or other MECP-approved receiving site) and any transportation to and from a Temporary Site and all other information required by the Regulation and the Rules.

The Contractor shall:

- Ensure the Owner and the Owner's QP have unrestricted access to the tracking system and information collected; and,
- Ensure all Subcontractors that are involved or engaged in any way in the excavation, management, testing, sampling, analysis, transportation or disposal of Excess Soil from the Project Area use and are integrated into, familiar with and trained on the Excess Soil tracking system.

Municipal By-laws and Instruments

The Contractor shall comply with all requirements of Municipal by-laws, instruments, ordinances, regulations, directions, orders, rules and guidelines that are applicable to excavated Soil generated at the Project Area, Excess Soil leaving the Project Area and the work, services and obligations described herein (regardless of whether such requirements exceed or are more stringent or onerous than the requirements of Ontario's Excess Soil and Waste Laws).

Records

The Contractor shall retain a copy of the Contract (including all Contract Documents) for seven (7) years from the date the Contract was entered into. The Contractor shall retain copies of all subcontracts and supply agreements it enters into with Subcontractors or suppliers relating to the management of Excess Soil, including the transportation or importation (if permitted) of Excess Soil, for seven (7) years after the date such subcontracts or supply agreements were entered into.

The Contractor hereby grants to, and agrees to obtain for the Owner a perpetual, irrevocable, fully paid-up, royalty-free, worldwide, right and licence to access, use, copy, support, maintain, modify, sublicense, assign and distribute all notices, analyses, data, results, reports, inspection certificates and other documentation related to Excess Soil that the Contractor (or its Subcontractors, suppliers or consultants) created or acquired during the course of the Contract, including all documentation and records created or acquired under the Regulation, all information and data tracked and stored on the Soil tracking system, any documentation received by the Contractor (or its Subcontractors, suppliers or consultants) from any sites from which Soil was imported to the Project Area (if permitted), and any documentation provided to the Contractor (or its Subcontractors,

suppliers or consultants) from Reuse Sites or other MECP-approved receiving sites where Soil was temporary or permanently deposited (collectively “**Excess Soil Records**”).

Excess Soil Records shall be provided to the Owner upon request or made available to the Owner and its representatives for audit upon request. The foregoing shall not be construed to limit, revoke or abridge any other rights, powers, or obligations relating to audit which the Owner may have at law or by contract.

This section shall survive termination or expiration of the Contract.

Filing Notice in the Registry

The Contractor acknowledges where filing a notice in the Registry is required by the Regulation:

1. The Owner will complete requirements for filing notices in the Registry for the Project;
2. No Excess Soil shall be removed from the Project Area until the Contractor obtains written confirmation the notice has been filed in the Registry, in accordance with and containing all information required by the Regulation or where the Owner has provided approval to remove Excess Soil from the Project Area in circumstances permitted by section 8(3) of the Regulation;
3. The Owner will ensure that the documentation requirements set out in sections 11 to 15 of the Regulation are fulfilled; and,
4. Where the requirements of section 19 of the Regulation apply to the Project Area, no Excess Soil from another Project shall be deposited at the Project Area until the notice has been filed in the Registry in accordance with and containing all information required by the Regulation.

Where removal is approved by the Owner in accordance with section 8(3) of the Regulation, the Contractor shall ensure that the required sampling is conducted promptly upon delivery of the Excess Soil to the Temporary Site. Before the Excess Soil is transported from the Temporary Site to a Reuse Site (or other MECP-approved receiving site) under this section, the Contractor shall obtain written confirmation the notice has been filed in the Registry.

The Contractor shall provide additional information as requested by the Owner or the Owner’s QP on reasonable notice to facilitate filing of the notices and updates to the Registry.

The Contractor shall be familiar with the contents of all notices filed and shall notify and provide updated information to the Owner forthwith of any errors, changes required or missing information in the notices (and updates to the notice).

The Contractor shall provide written notice to the Owner within five (5) Working Days of removal of the last load of Soil that will become Excess Soil for the Project from a Project Area or Temporary Site, with the final quantity of all Soil removed from the Project Area.

Where a notice is filed in the Registry for Excess Soil being imported to the Project Area, the Contractor shall provide written notice to the Owner within five (5) Working Days after the final load of Excess Soil has been deposited at the Project Area.

Subcontractors

The Contractor shall ensure it enters into written agreements with its subcontractors to require them to perform their work in accordance with, and subject to, the terms and conditions of this Contract, including but not limited to requirements outlined in Ontario's Excess Soil and Waste Laws. The Contractor acknowledges and agrees that it shall be as responsible to the Owner for acts and omissions of its Subcontractors, and persons employed by them, as for acts and omissions of persons directly employed by it.

Payment

There is no payment associated with these requirements. **The costs are to be included within the unit prices for the items that require excavated Soil, Excess Soil, excess material and Non-Soil Waste management, including but not limited to, excavation, transporting and disposal of Soil, excess material and/or Non-Soil Waste as part of sewer, watermain, and road construction.**

No payments will be made until all tracking documentation has been submitted and approved for the pay period in the progress certificate.

3. HARD SURFACE REMOVAL (Basis of Payment) (January 2022)

The removal of all hard surface features encountered in construction, such as pavements, alleys, driveways and sidewalks shall be measured by the square metre. When any curb and gutter are removed in conjunction with a hard surface, it shall be included in the square metre measurement and shall not be measured and paid separately. Saw cutting costs in conjunction with a hard surface removal shall be included in the hard surface removal unit price, with the exception of sewer & watermain trench work, unless otherwise identified in the tender.

For sewer construction, the trench must be sawcut and will be paid for under its own item or as per the description of the contract documents. Breaking the asphalt shall not be permitted.

All other curb and gutter removal that are not removed in conjunction with hard surface pavement removal shall be measured separately and paid by the linear metre.

4. THE USE OF BULK WATER FILL STATIONS (BWFS) (January 2022)

The Contractor is reminded that the use of fire hydrants WILL NOT be permitted for any construction related activities. In lieu of fire hydrants, the Contractor is to use Bulk Water Fill Stations (BWFS) at EnWin's Rhodes Drive Operating Centre and other available locations.

Separate Payment will NOT be made for water required during sewer and road construction, including compaction of all backfill & base material, pavement, curbs & gutters, driveways, sidewalks or any other structures. The water usage for these items shall be included in the unit price for each individual item.

The water application for dust control will be paid by unit price. Please refer to City of Windsor Standard Specification S-14 & S-15 for the water application and payment in boulevard restoration.

5. BACKFILL PRACTICES (February 2015)

The Contractor shall follow the City of Windsor Standard Drawings AS-536, AS-310A, B & C and specific requirements shown in the tender documentation for the material use and backfilling method unless specified otherwise in the next paragraphs.

Sewer Trench Backfill

If full granular backfill is required at any section between two manholes of one sewer run, that entire run shall be backfilled with the same granular material, with the exception of the following case.

Full granular material backfill is required for any sewer trench crossing a road intersection even if the sewer trench is deep enough for native backfill as per AS-536. In this case, the granular backfill shall continue to the end of curving section of the intersection as shown on the tender drawings and then change back to required native backfill as per AS-536.

Maintenance Stone over Trench Area

All underground work shall be completed prior to the start of road cutting. This shall be applicable to all underground work including but not limited to sewer main, catchbasin leads, private drain connections, and watermain and water services.

The Contractor will be required to backfill all sewer trench excavations within the roadway and the sidewalk to an elevation of 100mm (4") below the existing surface elevation with granular trench backfill material as per AS-536. The Contractor shall complete the top 100mm (4") backfilling by placing, compacting, and maintaining Granular "A" material or other approved materials to match existing surface grade before the road cut.

The cost for these materials shall be included in the unit bid price for the sewer main, watermain, catchbasin leads, conduits, and/or connections installed and shall be

compensated in full for all labour, equipment and materials required to execute the work as specified herewith. There will be no payment for the maintenance of the materials above the sub-grade.

6. ASPHALT ESCALATION (December 2012)

The payment for liquid asphalt will be adjusted based on the Ministry of Transportation’s (MTO) performance graded asphalt cement price index. The price index will be published monthly on MTO Contract Bulletin and displayed on the Ontario Hot Mix Producers Association (OHMPA) website (www.ohmpa.org). The price index will be used to calculate the amount of the payment adjustment per tonne of new asphalt cement accepted into the Work.

The price index will be based on the price, excluding taxes, Freight on Board (FOB) the depots in the Toronto area, of asphalt cement grade PG 58-28 or equivalent. One index will be used to establish and calculate the payment adjustment for all grades.

A payment price adjustment per tonne of new asphalt cement (AC) will be established for each month in which paving occurs when the price index for the month differs by more than \$15 from the price index for the month prior to Tender Opening. When the price index differential is less than \$15, there will be no payment adjustment for that month. Payment adjustments due to changes in the price index are independent of any other payment adjustments made to the hot mix tender items.

The payment adjustment per tonne will apply to the quantity of new asphalt cement in the hot mix accepted into the Work during the month for which it is established.

The payment adjustment for the month will be calculated by the following formulae:

ASPHALT CEMENT PRICE ADJUSTMENT, PA	
I_P	Paving within Approved Contract Time
$I_P > I_{TO} + 15$	$PA = (I_P - I_{TO} - 15) \times T_{AC}$
$I_P < I_{TO} - 15$	$PA = (I_{TO} - I_P - 15) \times T_{AC}$

Where:

- PA** = Payment adjustment for new asphalt cement, in dollars
- I_{TO}** = Performance graded asphalt cement price index for the month prior to Tender Opening
- I_P** = Performance graded asphalt cement price index for the month in which paving occurs
- T_{AC}** = Quantity of new asphalt cement in tonnes

The quantity of asphalt cement includes all grades of **new** asphalt cement supplied by the Contractor with and without polymer modifiers. For each month in which a payment adjustment has been established, the quantity of the escalation/de-escalation will be calculated using the hot mix quantity accepted in the Work and its corresponding asphalt cement content as required by the job mix formula. The Recycled Asphalt Product (RAP) component of the job mix formula shall not be included.

Two calculation examples are listed below including the deduction of AC content in the RAP and the payment adjustment for either the Contractor or the Owner.

	Example One ($I_P > I_{TO} + 15$)	Example Two ($I_P < I_{TO} - 15$)
Mix Type	HL4	HL4
Total Tonnes	100	100
% AC Total	5%	5%
%RAP used	15%	15%
%AC in RAP	4.0%	4.0%
Total Tonnes AC in Mix	$100 \times 5\% = 5$	$100 \times 5\% = 5$
Tonnes AC in RAP	$100 \times 15\% \times 4\% = 0.6$	$100 \times 15\% \times 4\% = 0.6$
Tonnes New AC (T_{AC})	Total AC – AC in RAP = $5 - 0.6 = 4.4$	Total AC – AC in RAP = $5 - 0.6 = 4.4$
Price Index I_{TO}	\$624.25 (Feb. 2011 Index)	\$679.25 (Jul. 2011 Index)
Price Index I_P	\$688.75 (Jun. 2011 Index)	\$641.50 (Sep. 2011 Index)
Payment Adjustment	$PA = (I_P - I_{TO} - 15) \times T_{AC} =$ $(688.75 - 624.25 - 15) \times 4.4 =$ \$217.80	$PA = (I_{TO} - I_P - 15) \times T_{AC} =$ $(679.25 - 641.50 - 15) \times 4.4 =$ \$100.10
Money to	Contractor ($I_P > I_{TO} - 15$)	Owner ($I_P < I_{TO} - 15$)

For mixes containing a liquid anti-stripping additive, the quantity of anti-stripping additive will be deducted from the quantity of new asphalt cement. No other deductions will be made for any other additives.

For progress payment purpose, payment adjustments will be made on the monthly progress payment certificate for the months in which hot mix paving occurs.

7. CONCRETE PIPE STRUCTURAL REPAIRS (December 2012)

Concrete pipe longitudinal crack widths in the range of 0.25 – 2.5 mm (0.01 – 0.1 inch) shall be repaired by a method approved by the City Engineer prior to the acceptance of the work.

Concrete pipe longitudinal cracks larger than 2.5mm (0.10 inch) in width shall require structural repairs. Concrete pipe longitudinal cracks larger than 5 mm (whether stable or not) OR larger than 2.5 mm and that are unstable shall be removed and replaced. Circumferential cracks that allow inflow but are not offset vertically shall be repaired to provide a water-tight seal. Circumferential cracks that are offset vertically shall be repaired structurally.

Before structural repairs are undertaken on an installed RCP/CP, the pipe shall be structurally evaluated to determine if the installed pipe system has reached equilibrium and the pipe has proven to have capability to support the load.

Acceptable repair actions for a crack that needs structural repairs could include the following:

- Link-pipe; or,
- Cured in place pipe (CIPP); or,
- Grout the cracks with sodium silicate based or epoxy based resin materials.

All above listed criteria and repair methods are subject to the review & approval of the City Engineer in each specific project.

8. PRIVATE DRAIN AND CATCHBASIN CONNECTIONS (May 2017)

Location of the Private Drain/Catchbasin Connections

The locations of existing private drain/catchbasin connections, as shown on the Contract Drawings, are in accordance with the most current information available and are NOT certified to be accurate. The Contractor shall expose an existing private drain/catchbasin connection before commencing sewer construction in order to determine its exact location if necessary. The cost of this work shall be included in the unit price bid per metre of sanitary or storm private drain connections.

In addition, the Contractor shall ensure that all buildings and catch basins on a construction project have been reconnected to the proper sewers. This shall be achieved by either dye or smoke testing, or by use of a mini-camera or C.C.T.V. inspection if necessary.

Number of Private Drain Connections

The number of sanitary and storm private drain connections listed in the Schedule of Unit Prices are estimated. The intent of this specification is to aid the Contractor in preparing the bid. No claim for an extra will be made by the Contractor on the basis of a variation in the number of connections unless under the approval of the City Engineer.

9. SALVAGE OF METAL MATERIALS (February 2013)

Where City of Windsor manhole and catchbasin frames and covers require replacement, the Contractor shall remove the old frames and covers and transport them to the City of Windsor Operations yard at 1531 Crawford Avenue.

Any miscellaneous metals encountered or removed during construction on this contract, shall remain the property of the City of Windsor and shall also be transported to the City of Windsor Operations Yard at 1531 Crawford Avenue. **Proof of delivery (signature of City of Windsor employee at Crawford Yard) shall be provided by the Contractor.**

The cost for the above salvage and transportation shall be included as part of the unit prices bid in the Schedule of Unit Prices, as no additional cost for this work will be paid.

10. MAINTENANCE OF FLOW IN SEWERS (February 2015)

The Contractor shall maintain the flow from all sewers, private drain connections and catch basin leads during the construction of the works. The Contractor shall be prepared to pump, divert, or find other means of maintaining flows during construction. The Contractor shall submit to the Engineer for review, the proposed construction method, which shall include the equipment to be used to maintain the flow in the sewers and connections.

The unit price bid in the Schedule of Unit Prices for construction of sewers, manholes, private drain connections and catch basin leads shall include all costs to maintain flows in sewers and connections as no additional remuneration will be paid.

11. LAYOUT (January 2022)

The Contractor is responsible for the sewer & watermain layout and the City is responsible for the rest of construction layout work, including but not limited to roads, curbs & gutters, sidewalks & multiuse trails. Electronic construction drawings in AutoCAD file format will be made available at the Contractor's request. The Contractor shall sign the form of Terms and Conditions for use of Digital Electronic Files prior to the usage of AutoCAD file provided by the City. The benchmark and points of reference for setting out can be provided as well for the purpose of manual layout. The Contractor is responsible

for maintaining these points and using them for locating all structures and grade stakes required for the proper location and installation of the work.

12. EXCAVATIONS IN THE VICINITY OF GAS LINES (December 2008)

All excavations in the vicinity of gas lines shall be carried out in accordance with:

1. The Occupational Health and Safety Act and Regulations which apply under this Act, including regulations for construction projects; and,
2. The Technical Standards and Safety Act and Regulations that apply under this Act.

The Contractor is referred to the “Guidelines for Excavations in the Vicinity of Gas Lines”, prepared by the Technical Standards and Safety Authority. The procedures described herein are prepared in the interest of safety to the general public, the workers carrying out the excavation, and the prevention of damage to gas lines and property.

13. BACKFILL AROUND GAS MAINS (January 2022)

The Contractor shall be responsible to backfill around all gas mains exposed during the course of construction in accordance with City of Windsor Standard Specification S-39 Backfill Around Utilities, or any other superseding standard of Enbridge, unless otherwise directed by Enbridge in writing. The above specification shall govern work around gas lines.

14. STREETLIGHTING INFRASTRUCTURE (January 2022)

Any and all materials, labour, approvals, drawings, and equipment required for the purpose of removing and replacing existing street lighting poles are to be fully included in the lump sum tender price. The mast arms and luminaries on the existing poles are to be transferred to the new poles unless otherwise specified in the contract documents. The removed poles are to be disposed of or as directed by the City Engineer.

The Contractor is referred to the “Street Lighting Design and Installation Guidelines”, prepared by the City of Windsor – Traffic Operations for the installation and the approval of connections.

<https://www.citywindsor.ca/business/buildersanddevelopers/Pages/Municipal-Infrastructure-Requirements.aspx>

15. TREE PROTECTION AND FINES (January 2022)

In accordance with City of Windsor policy, the Contractor shall exercise the utmost caution to ensure the protection of trees (above and below ground) during construction activities. If trees are damaged or mistakenly removed due to the construction activities, the Contractor shall be assessed the appraised value of the trees, as determined by the City Forester. The appraised value of the trees shall be determined using the Guide for Plant Appraisal 10th Edition.

All City trees must be protected during the construction of the project. Tree protection fencing shall be installed around the perimeter of the tree's drip line to protect the critical root zone of the tree and the main stem (trunk) from mechanical damage. The installation and positioning of the tree protection fencing by the contractor shall be assessed and approved by the City Forester or his designate prior to the commencement of the project. It is prohibited to move or reposition the tree protection fencing during the construction of the project unless authorization by the City Forester or his designate is obtained.

All City owned trees along the public Right of Way or within City parks that present interference issues for construction machinery, shall be trimmed by the Contractor in advance of the construction project in an effort to reduce damages to City owned trees during construction. The Parks Department (Forestry Division) shall provide the Contractor, a list of approved professional Tree Care companies to retain for the project. The Contractor is responsible for coordinating an onsite meeting with the Manager of Forestry and Natural Areas or his designate along with the Contractor's chosen tree trimming sub-contractor (attained from the City's approved list of tree companies) to review the scope of the tree trimming requirements for the protection of trees during the project. The Contractor will be responsible for scheduling and monitoring the required tree trimming by an approved tree trimming sub contractor. The Contractor's attention is brought to Standard Drawing AS-507, Guidelines for Tunnelling Lengths Near or at Trees, and to the fact that should it be necessary to excavate closer to an existing tree than is acceptable to the City Forester, then the City Forester shall be notified and approval shall be granted by the City Forester prior to the work being performed.