January 2025

City of Peterborough

Unit Price Contract Supplemental Information Package

City of Peterborough
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Peterborough, ON, K9H 3R9
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Department**: Infrastructure, Planning and Growth Management**

January 2025 Edition

The following information is provided by the City of Peterborough to be considered part of Contracts where identified in the tender documents.

Including:

City of Peterborough Standard Specifications

City of Peterborough Standard Drawings

City of Peterborough Standard Forms

Please notify the contact listed below of any omissions or errors in these documents.

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Index of Standard Specifications

CP200.00 Traffic Control 5
CP200.01 Quality Assurance 8
CP200.02 Paid Duty Police Officer 9
CP200.03 Supply/Install/Maintain Sidewalk Closed Signs complete with Stand 10
CP200.04 Supply/Install/Maintain/Relocate/Remove 1.8m High Protective Fencing 10
CP201.01 Clear and Grub 10
CP201.02 Removal / Disposal of Existing Boulders 11
CP206.01 Earth Excavation, Ditching, Grading and Excess Soil (Cut/Fill/Export) 11
CP206.02 Imported Select Subgrade 16
CP206.03 Topsoil Stripping 17
CP206.04 Select Tree Trimming 17
CP310.01 General Asphalt Requirements 18
CP310.02 Supply/Install Hot Mix Asphalt Heavy Duty Binder Course (Including A/C) 23
CP310.03 Supply/Install HL 8 Binder Course (Including A/C) 24
CP310.04 Supply/Install HL 1 Modified Hot Mix Asphalt (Including A/C) 24
CP310.05 Supply/Install HL 1 Hot Mix Asphalt (Including A/C) 24
CP310.06 Supply/Install HL-3 Hot Mix Asphalt (Including A/C) 24
CP310.07 Supply/Place SS1 Emulsified Asphalt Tack Coat 25
CP310.08 Supply/Install HL-2 Hot Mix Asphalt (Including A/C) 26
CP311.01 Supply/Install HL-3 Hot Mix Asphalt (Driveways, Walkways and Multi-Use Trails) (Including A/C) 26
CP314.01 Granular 'B' Type 1 Modified 27
CP314.02 Granular 'A' 28
CP314.03 Unshrinkable Backfill 30
CP351.01 General Concrete Requirements 30
CP351.02 Construct Concrete Sidewalks, Ramps, Driveways and Medians 32
CP351.03 Supply/Install of Tactile Walking Surface Indicators 33
CP351.04 Construct Concrete Structural Transit Pad 33
CP353.01 Construct Concrete Curb and Curb and Gutter 34
CP405.01 Supply and Install 150mm Diameter Perforated PVC Subdrains 34

CP407.01 Supply/Install 600mm X 600mm Concrete Catch Basins 35
CP407.02 Supply/Install 1450mm X 600mm Concrete Twin Inlet Catch Basins 36
CP407.03 Supply/Install Concrete Storm Structure 38
CP407.04 Supply/Install Concrete Sanitary Structure 39
CP408.01 Supply / Set Catch Basin, Catch Basin Manhole, Water Valve Chambers and Manhole Frames, Covers and Grates 41
CP408.02 Reset / Adjust / Existing Catch Basin, Catch Basin Manhole, Water Valve Chambers and Manhole Frames, Covers and Grates 44
CP408.03 Reset / Adjust Valve Boxes 44
CP408.04 Rebuilding of Existing Maintenance Holes, Catch Basins, and Ditch Inlets 45
CP408.05 Temporary / Adjust / New and Existing Catch Basin, Catch Basin Manhole, Water Valve Chamber and Manhole Frames, Covers and Grates 46
CP408.06 Reset/Adjust Existing or New Bell Chamber and Maintenance Hole Frame and Cover 46
CP408.07 Supply/Set Watertight Maintenance Hole 47
CP409.01 Closed Circuit Television (CCTV) Inspection of Sewers and Sewer Service Laterals 47
CP410.01 Supply/Install DR 35 PVC Storm Sewer 53
CP410.02 Supply/Install Concrete Storm Sewer 55
CP410.03 Supply/Install DR 28 PVC Sanitary Service 57
CP410.04 Supply/Install DR 35 PVC Sanitary Sewer 59
CP410.05 Supply/Install Concrete Sanitary Sewer 61
CP410.06 Supply/Place 19mm Clear Stone Bedding Foundation incl. Filter Fabric 63
CP410.07 Supply/Install Sewer Insulation 64
CP410.08 Supply/Install DR 28 PVC Storm Service 64
CP416.01 Supply/Install Sewer by Jacking and Boring 66
CP501.01 Compaction 67
CP506.01 Dust Suppressants 69
CP510.01 Saw Cut Existing Asphalt Surface 69
CP510.02 Removal/Disposal of Existing Asphalt Surface 70
CP510.03 Removal/Disposal of Asphalt Partial Depth 70
CP510.04 Removal/Disposal Concrete Road Base 71

CP510.05 Removal/Disposal of Existing Concrete Curb and Gutter 71
CP510.06 Removal/Disposal of Existing Concrete Sidewalks, Ramps, Driveways and Medians 71
CP510.07 Remove/Dispose of Existing Storm Sewer 72
CP510.08 Remove/Dispose of Existing Storm Structures 73
CP510.09 Remove/Dispose of Existing Sanitary Sewer 74
CP510.10 Remove/Dispose of Existing Sanitary Structures 75
CP510.11 Saw Cut Existing Concrete Curb 76
CP510.12 Abandonment of Existing Sewer 76
CP510.13 Removal/Disposal of Existing Frames, Covers and Grates 76
CP510.14 Removal/Disposal of Existing Asbestos Containing Pipe 78
CP510.15 Removal/Disposal of Existing Fence 78
CP510.16 Abandoning of Sewers/Structures by Pressure Grout (Mechanical Method) 78
P511.01 Supply/Install Rip Rap with Filter Fabric (2 layers) 78
CP802.01 Supply/Place Topsoil 78
CP803.01 Supply/Place Sod 79
CP804.01 Supply/Place Seed and Mulch 79
CP804.02 Supply/Install Erosion Control Blanket 81
CP805.01 Environmental Considerations 81
CP805.02 Heavy Duty Silt Fence 84
CP805.03 Water Taking Reporting 84
CP1101.01 Recovered Material Specification for Performance Graded Asphalt Cement 85
CP1541.01 Supply/Install Chain Linked Fence with Top Rail 90
CP1860.01 Supply/Install Woven Geotextile 91

CP200.00 Traffic Control

The lump sum price for this item shall be full compensation for the supply of all labour, equipment, and materials necessary to meet the traffic management restrictions and requirements set forth in the Contract and in accordance with Section 27, 28, 29 & 30 of the Supplemental General Conditions.

Any work within 30 meters of an intersection under traffic signal control requires the presence of a Paid Duty Police Officer to direct traffic. It should be noted by the Contractor that deactivation of signalized intersections will not be permitted; therefore, it is recommended by the City to provide three (3) weeks advanced notice to the City of Peterborough Police Department when coordinating works within 30m of signalized intersections.

The City shall not be held responsible for, including but not limited to; additional costs, timelines, delays, claims, coordination, where booking of Paid Duty Officers to perform the construction operations are unsuccessful to meet contractual requirements. If the issue with acquiring Paid Duty Officers persists, the Contractor may request alternate options to conduct the work as per the timing outlined within contractual requirements.

The City will entertain the request(s) and if/when possible, grant the alternate work method/traffic control scenario to the Contractor at no additional costs to the City. The City shall have an undefined period to review any request(s) made. The City shall not be held responsible for denying of such request(s).

Road Closures, One-way Traffic Reduced to a Single Lane and Detours

The Contractor is responsible to submit an Application for Temporary Road Occupancy for all road closures, one-way traffic reduced to a single lane and detours coinciding with the construction staging and contract requirements to the Contract Administrator for approval through the City of Peterborough's Traffic Department. Form 006 Traffic Control Application & Covering Letter for Engineering Projects shall be completed and appended to the front of the Application for Temporary Road Occupancy form.

The City reserves the right to replace the Application for Temporary Road Occupancy with a revised form at any point, at no additional costs to the City.

All costs associated with traffic control, lane/road closures and detours shall be the responsibility of the Contractor. In the event the Contractor requires a road closure, the Contractor shall submit a road closure application to the Contract Administrator a minimum of fifteen (15) working days in advance of the proposed road closure.

Traffic Control – General Road Occupancy Permission

Road occupancy will be permitted on all roadways identified in City Contract ITT-XX-23 (XX shall be interchangeable with the associated contract number of 0 – 99) for the duration of the contract, with the exception of road closures, reduction of traffic to a single shared lane overnight and detours, subject to the following conditions:

1. A Maximum allowable work zone of 250m to include all phases of operation at any time, unless otherwise approved in writing by the Contract Administrator.

2. Unless otherwise approved in writing by the Contract Administrator, the Contractor shall also be responsible for completing Form 007 – Traffic Control Log and submitting to the Contract Administrator on a weekly basis. Failure to submit a completed form 007 on a weekly basis will result in payment reductions to traffic control items.

3. The contractor shall permit other utility companies, contractors, and road occupancy applicants to occupy a roadway(s) at times when the contractor is not physically working within 500 meters of the requested location. The contractor is required to coordinate with all road occupancy applicants and provide email confirmation to these applicants that they may occupy the roadway on specified date, time, and duration. Failure to do so will result in payment reductions to traffic control items.

4. Arterial and collector road traffic is to be maintained to provide a minimum of one-lane in each direction on two-way streets and/or two-through-lanes on one-way streets at all times during peak hours. Peak hours are from 7:00 A.M. to 9:00 A.M. and 3:30 P.M. to 6:00 P.M. A summary of arterial and collector designated roadways is available on the City of Peterborough website. https://www.peterborough.ca/en/city-services/resources/Documents/TR-arterial-and-collector-roads-map.pdf

5. A minimum of one lane of traffic is to be maintained at all times, failure to meet this condition will result in the closure of the work site by the Contract Administrator. Detouring of traffic and road closures is not permitted through Road Occupancy Permission.

6. A Traffic Control Plan is to be prepared to reflect each stage of the operation in accordance with Ontario Traffic Manual - Book 7, to be kept at the project site and communicated to the workers. Traffic control plans kept at the project site must be location specific as per OTM Book 7. Site specific traffic plans must be readily available to show the Contract Administrator, when requested. Failure to make this available upon request will be subject to Condition 10 below.

7. All signing, delineators, and traffic control personnel are to be in accordance with Ontario Traffic Manual - Book 7 and maintained to the satisfaction of the City Engineer or Contract Administrator.

8. All work is to be conducted in accordance with O.Reg.213/91, Ontario Occupational Health and Safety Act and all associated regulations.

9. Access to all residences and businesses must be maintained at all times unless otherwise approved by the Contract Administrator.

10. Sufficient signs and barricades, in accordance with Ontario Traffic Manual – Book 7, are to be installed to ensure pedestrian/cyclist safety and maintain current accessibility standards for all users. Sidewalk Closed signs are to be placed at the nearest controlled crossings for any sidewalk closures, and pedestrian detours are to be provided as needed.

11. Occupancy of on-street metered parking and commercial vehicle loading zones is permitted provided: workers are present and actively engaged in work activities; and the City of Peterborough Parking Supervisor is notified a minimum of 24 hours in advance of the commencement of work (ltodd@peterborough.ca). Occupancy of Accessible parking stalls is not permitted under Road Occupancy Permission.

12. The Contract Administrator shall be permitted the authority to revoke road occupancy permission after two written notifications that the traffic control provided is being performed in an unsafe or inadequate manner as per OTM Book 7 and in accordance with all Road Occupancy Permission conditions. If the Contractor fails to address any traffic control concerns brought to their attention, the Contract Administrator may revoke the Road Occupancy Permission. If permission is revoked due to non-conformance with respect to the conditions, a construction meeting between both parties will be required to discuss and resolve any issues prior to resuming works, and the City shall not be held responsible for any such claims associated to such.

Other Important Key Requirements:

1) All traffic control requirements shall be followed unless otherwise permitted in writing by the Contract Administrator. Any and all work performed (i.e.: asphalt placement, tack coating, grinding, etc.) that does not conform to the requirements of CP200.00 and/or within the Contract Special Provision(s) – Traffic Control, will not be compensated for whatsoever by the City, unless the Contract Administrator has in writing otherwise approved a Contract deviation. The City shall not be held responsible for, including but not limited to; losses due to non-payment, damages incurred by the Contractor, costs, timelines, delays, claims, etc.

2) The time allowances for road or lane closures that are stipulated within the associated Traffic Control Contract Special Provision(s) shall be adhered to without exception, unless extended in writing by the Contract Administrator. If during the duration of the closure non-working day(s) result as per OPSS.MUNI 100 from inclement weather, the closure duration may be increased by the number of inclement non-working day(s) experienced during the original allotted time allowance. Extension(s) will be required to be requested by the Contractor in writing and will only be permitted once written approval is provided by the Contract Administrator. Additional working days required above the allotted contract time allowance and any extension due to non-working inclement days shall be subject to liquidated damages in the amount of $1,000.00 per calendar day.

3) Short term duration work and traffic control set-ups that may interrupt the operation of transit stop locations within the immediate vicinity of a work shall require the existing transit stop to be temporarily decommissioned (bagged), and a new temporary stop location erected outside of the immediate work zone accessible to the public. Long term duration operations that may regularly interrupt transit stop operation shall be coordinated through the Contract Administrator and/or the City Transportation and Transit divisions.

4) **Any work within 15.24m of the nearest Canadian Pacific (CP) Railway rail will require CP flagging which will be the Contractor's responsibility to obtain, pay and coordinate to obtain all approvals prior to the commencement of any work that is located within the distance specified herein. The Contractor shall be responsible for all timelines, coordination, filling out the application (including but not limited to; CP Utility Corridor Access Application and CP Flagging Application Form), paying the application fees while providing the Contract Administrator with a copy of the final approved CP flagging permit for project records. All associated cost for flagging operations will be recoverable by the Contractor from the City, unless the Contractor has incurred unnecessary charges by not providing cancellation notices to CP when operational scheduling requires such. Recoverable flagging cost will be issued through a change order once the City has received paid invoice statements, and the Contractor will not be permitted to charge/recover overhead or additional administration cost of any kind above and beyond the paid invoice value(s) for flagging. Application and permitting costs will not be recoverable.**

CP200.01 Quality Assurance

Quality assurance test results will be provided to the General Contractor immediately through email distribution by the City's retained Geotechnical Laboratory, and all quality assurance results shall govern as acceptance testing with regards to contract requirements. The Contractor shall provide an email address for receipt of test results at the pre-construction meeting prior to commencement of project works. For projects where a 3rd party (Consultant and/or Developer) performs the duties of the Contract Administrator, all test results and reports shall be distributed to both Contract Administrator and the designated City staff that is present during the pre-construction meeting.

The Contractor shall be officially in receipt of the test results upon distribution from the City's Geotechnical Laboratory and deemed notified of any test result failures at such time, without the requirement for the Contract Administrator to provide notice of said failures. It is understood that the City's retained Geotechnical Laboratory will make a best effort in the turn-over of test results within a reasonable time frame; however, the Contractor shall not hold the City responsible by discounting test results or contract obligations in the event that a delay in distribution occurs.

It shall be the Contractors responsibility to follow-up with failed test results to the Contract Administrator as they are received. If the Contractor does not take immediate action to address deficiencies and elect to continue project operations, all subsequent work shall be rendered as rejectable and require removal and replacement in order to address preceding failures. If the Contractor elects to continue project operations without being in receipt of test results, they will be deemed to be proceeding subsequent work at their own risk. The General Contractor shall be entirely responsible for providing test results to their supplier(s), and under no circumstances shall the retained Geotechnical Laboratory forward any test results to suppliers.

As per CP 310.01 and CP 351.01, the Contractor shall coordinate Quality Assurance testing/inspections through the City's Geotechnical representative a minimum of 24 hours prior to undertaking the work.

All trench backfill, road subgrade and road base sections shall be prepared, compacted and fine graded for the City's grade review and Quality Assurance testing while ensuring a minimum of 48 hours written notice to the Contract Administrator once each lift has been completed for the City's review.

Current and historical ambient air temperatures shall be established by the following links:

Historic (Station A):

https://climate.weather.gc.ca/historical_data/search_historic_data_stations_e.html?StationID=29906&Month=9&Day=23&Year=2010&timeframe=2&StartYear=1840&EndYear=2019&searchType=stnProx&txtRadius=25&optProxType=navLink&txtLatDecDeg=44.233333333333&txtLongDecDeg=78.366666666667&optLimit=specDate&selRowPerPage=25&station=PETERBOROUGH+AWOS

Current:

https://www.theweathernetwork.com/ca/weather/ontario/peterborough

These links shall only provide ambient air temperatures. The Contract Administrator's record of on-site conditions (ie. precipitation, snow, wet/dirty road surface, etc.) shall govern.

* Where a discrepancy exists between the Historic and Current temperatures and/or weather, the Historic (Station A) information and data shall take precedent.

CP200.02 Paid Duty Police Officer

Note: This item shall not relieve the Contractor from including cost allowances for paid duty officer(s) when bidding on a contract in order to perform construction operations in compliance with, but not limited to, an act, contract specifications, standard contractor operations, energizing of traffic signals and/or OTM book 7. This item is intended to be utilized for when the Contract Administrator deems an officer required to supplement safety/traffic control operations during construction or for performing additional work to the contract.

The unit price bid identified in the schedule of unit prices shall satisfy the requirements for the organization of a provisional paid duty police officer to control and manage traffic when requested by the Contract Administrator. All bidders are to include in the Tender Form the cash allowance for provision of the above noted.

Payment for this item shall be made in the amount of the actual invoices received by the Contract Administrator. No compensation or mark-up will be permitted to the Contractor for this item.

CP200.03 Supply/Install/Maintain Sidewalk Closed Signs complete with Stand

The unit price shall include full compensation for all labour, equipment, and materials necessary to supply, install and maintain temporary 600 mm x 1200 mm sidewalk closed signs and stands.

CP200.04 Supply/Install/Maintain/Relocate/Remove 1.8m High Protective Fencing

The unit bid price shall be all labour, materials and equipment necessary to supply, install, maintain, relocate, and remove (post construction) a 1.8m galvanized steel mesh and tubing speed or fast fencing including clamps, ground stands, and all other associated costs as shown on the contract drawings or as directed by the Contract Administrator. The Contractor shall be responsible for all associated costs of relocating the fencing as per the Contract Administrator's discretion.

CP201.01 Clear and Grub

OPSS.MUNI 201, April 2019, shall apply except as amended and extended herein.

This item refers to all cut and fill areas within the limits of construction.

The unit price bid identified in the schedule of unit prices shall be full compensation for the supply of all equipment, labour, and materials necessary to clear and grub as identified within the limits identified on the contract drawings including, but not limited to clearing and disposing of all standing trees, brush, bushes, stumps, roots, embedded logs, and debris required to facilitate construction. Clearing outside the limits identified on the drawings shall be completed only with the approval of the Contract Administrator.

Disposal locations are to be arranged by and at the expense of the Contractor, with approval from the Contract Administrator. Disposal shall be completed in accordance with OPSS.MUNI 180, November 2021, including providing the Contract Administrator the necessary release documentation and shall be compensated for under this item. Burning of debris will not be permitted on City of Peterborough Contracts unless provided for in the Special Provisions.

All trees are to be removed from the site the same day they are felled. With the Contract Administrator's approval, they can be left on site for two (2) working days. All trees left onsite must be fenced off with construction fence fixed to steel T-bars.

Trees identified in the contract documents for removal that are not fell and removed from site prior to April 1st and proceeding through to August 31st will require the organization of a recognized ornithologist to conduct a site review of the trees prior to their removal to ensure the natural ecology of various nesting animals is not disturbed. All costs and delays associated to this requirement shall be borne by the Contractor.

All Ash trees with a diameter of 250mm (10") or greater shall be cut to minimum lengths of 2.6m (8'6") and taken to the City of Peterborough Ash Tree Compound located at 1501 Crawford Drive. Access arrangements to the City's Tree Compound are to be made with the Contract Administrator. The Contractor shall make alternative

arrangements to dispose of Ash trees that are less than 250mm diameter, stumps, and brush elsewhere from the City's Tree Compound, however, brush and smaller trees shall be chipped prior to leaving the site.

The Contractor is required to provide the Contract Administrator with a minimum of two (2) working days notice prior to the commencement of this work. Property bars that are removed as a result of clearing and grubbing for construction purposes shall be replaced at the expense of the Contractor, unless otherwise approved by the Contract Administrator.

CP201.02 Removal / Disposal of Existing Boulders

OPSS.MUNI 201, April 2019, shall apply except as amended and extended herein:

The unit price bid identified in the schedule of unit prices shall be full compensation for all labour, equipment and materials required for the removal and disposal of all existing large boulders with a volume in excess of 1.0 m^3 in size, located above or below ground within the limits of construction.

This item shall be paid for in cubic metres (m^3) when encountered and shall be deemed as a provisional item. No measurement shall be made for boulders less than 1.0 m^3.

CP206.01 Earth Excavation, Ditching, Grading and Excess Soil (Cut/Fill/Export)

OPSS.MUNI 206, April 2019, shall apply except as amended and extended herein.

The unit price bid identified in the schedule of unit prices shall be full compensation for the supply of all equipment, labour and materials necessary for excavating and filling (where required) to the grades and cross sections indicated on the contract drawings and for the disposal of all surplus and/or unsuitable materials. The unit price bid shall also be full compensation for any stockpiling and/or double handling of excavated material to be used as backfill. The Contractor is required to obtain acceptance from the Contract Administrator for their completed grades prior to placing granular material for the road structure.

Disposal shall be completed in accordance with OPSS.MUNI 180, November 2021 and the Excess Soil Requirements below, including providing the Contract Administrator with the necessary release documentation and shall be compensated for under this item.

The earth excavation and grading quantities represents the amount of material required for excavation (cut) and placement (fill) to meet the cross sections and required elevations. All excavation of topsoil is included in this item unless a separate topsoil stripping item is included in the contract.

All fill shall be placed and compacted in accordance with CP501.01. If constructing an embankment, then the bank shall be constructed as per OPSD 208.010.

Limits and requirements for earth excavation and grading are identified on the contract drawings. Any over excavation not previously approved or requested by the Contract

Administrator may result in the deduction of payment for the associated theoretical granular quantity at the discretion of the Contract Administrator.

Subject to the approval from the Contract Administrator, the material removed from the existing subbase shall be used as trench backfill, if required.

The Contractor shall be responsible for establishing Quality Control Procedures and produce a Quality Control Plan as per CP501.01.

The Contractor is advised that this is an estimated quantity. Due to the nature of this item, payment will be based plan quantity.

Where the Contract Administrator deems the existing subgrade material is not suitable (i.e., organic materials are encountered), the Contractor may be required to over excavate the subgrade at the direction of the Contract Administrator. Compensation over and above the plan quantity will be made based on calculation completed by the Contract Administrator.

Property bars that are removed as a result of earth excavation and grading for the purpose of construction shall be replaced at the expense of the Contractor, unless otherwise approved by the Contract Administrator.

Excess Soil Requirements And Registering of Excess Soil Materials (for projects not exempt under Schedule 2 of O.Reg. 406/19):

Definitions as it relates to the O.Reg.:

Owner: is the Ministry of Labour (MOL) notice of project Holder.

Operator: is the General Contractor in Contract with the City.

O. Reg 406/19 and the Rules for Soil Management and Excess Soil Quality Standards (the Excess Soil Rules), shall apply except as amended and extended herein.

The unit price bid identified in the schedule of unit prices shall be full compensation for the supply of all equipment, coordination. labour and materials necessary to satisfy the requirements below:

The City will be responsible for all associated costs and coordination of a Qualified Person (QP) when required on the project site/area. Testing and Sampling requirements will be determined by the City, City's retained QP and in conjunction with the determined reuse site, when applicable. The Contractor shall have no entitlement for claims associated to testing regime changes (i.e.: more or less frequent testing, testing methods, etc.), waiting for results (expected time frame 5-7 business days), the double handling of materials (i.e.: dumping to stockpile and reloading for further transportation) and test pits to expedite sampling. The Contractor may request sampling and testing through the Contract Administrator only if unsuitable soils are encountered, or soil conditions are believed to have changed that were otherwise assumed to be re-used on the project site. When waiting for sampling results, the Contractor will be responsible for stockpiling of the material in a safe manner on the project site/area or in a location of their choice as approved by the City and City's retained QP.

The Contractor will be responsible for all associated costs, coordination and deliverables of a Qualified Person (QP) when required at the receiving site. Receiving site(s) requiring additional information beyond regulation requirements performed by the City's Consultant or where an alternate site is being requested by the Contractor where approvals were already provided by the City's QP for an initial site, will be at Contractor's expense and delays.

Under no circumstances shall the Contractor commence excavation operations until a list of all anticipated materials for excavation is assembled with associated estimated quantities provided and accepted by the Contract Administrator. The list provided shall be in Excel format as shown in Form 008 – Earth Excavation, Grading and Excess Soil (Cut/Fill/Export).

In the case of a vac truck taking liquid soil off site that the contractor must provide the location of the destination for the liquid soil and confirmation that the facility has a site-specific instrument (i.e. permit, Environmental Compliance Approval (ECA), license, Certificate of Authorization, etc.) to receive the waste (liquid soil is a waste now). If the use of a vac truck occurs unexpectedly throughout construction, this will be required prior to any excavation being performed by use of vac truck.

Form 008 – Earth Excavation, Grading and Excess Soil (Cut/Fill/Export) shall be provided to the Contract Administrator within ten (10) business days of Award of the Contract. The City will not be responsible for delays to the commencement of excavation operations if the Contractor fails to meet this timeline in an acceptable manner. All projects will require submission of Form 008 – Earth Excavation, Grading and Excess Soil (Cut/Fill/Export). For contracts where advance testing and reporting is not provided by the City at the time of bidding the Contractor shall be made aware that testing may be conducted by the City's QP firm upon the commencement of excavation operations to determine the quality of the soil for reconfirmation by the Contractor QP for the proposed receiving site. The City shall not entertain claims for changes from assumptions made by the Contractor in Form 008 – Earth Excavation, Grading and Excess Soil (Cut/Fill/Export) because of soil quality results. Form 008 – Earth Excavation, Grading and Excess Soil (Cut/Fill/Export) shall be accompanied with documentation for each disposal and re-use site and again when any revisions are made following quality testing results.

If carried out during the design/planning phase, the City shall provide the site evaluation for the testing through any pre-planning documents (i.e. Assessment of Past Uses, Sampling and Analysis Plan, and Soil Characterization Report) prepared by a third party Environmental/Geotechnical firm.

If not already determined through the pre-planning documents, the Contractor shall inform the City at the pre-construction meeting when it is expected that the excess soil export materials are proposed to exceed 2,000 cubic meters for a given project site so that the City is given sufficient time to coordinate the Registering of such materials. If/when the Contractor does not anticipate to export more than 2,000 cubic meters of materials from a given project site, the Contractor shall provide immediate notice to the Contractor Administrator who shall be given reasonable time to coordinate for the registering of such materials, as required.

Excess Soil Hauling:

The tracking system is to be developed by the Contractor and approved by the City and the City's QP prior to removing any excess soil from the project area.

Digital (Software Application Based) Hauling records must be submitted to the Contractor Administrator by the Contractor prior to Final Completion. Any digital hauling records should be made available to the City upon request. Digital hauling records are to be submitted to the Contractor Administrator by the Contractor on a regular schedule of every 2 weeks or otherwise agreed upon at the pre-construction meeting to verify the accuracy of the records. The tracking system must include procedures or other methods to verify the accuracy of the information required to be tracked in respect of each load of excess soil that is to be removed from the project area.

If digital hauling records are not available to the Contractor, an alternative method of tracking the excess soils must be approved by the City and the City's QP. At a minimum, the tracking system shall provide all requirements outlined in the Excess Soil Rules document, mainly:

1. The locations of the project area where the soil was excavated and/or stockpiled and the quality of the soil associated with these locations and stockpiles
2. The quality of the load of excess soil being removed from the project area
3. The location of the site at which the excess soil is to be finally placed or reused
4. The date and time the excess soil left the project area
5. The person responsible from the project area for overseeing the loading of the excess soil
6. The name of the entity transporting the excess soil, the name of the driver of the vehicle and the number plates of the transport vehicle
7. The date and time the excess soil was received at the site where excess soil has been deposited
8. The contact information of the person who acknowledged receipt of the load of excess soil on behalf of the site where excess soil was deposited
9. Confirmation that the vehicle that deposited the excess soil and the volume of soil received at the site is the same as that which left the project area.

Temporary Excess Soil Stockpiling Alternatives:

The Contractor and City may enter into a mutual written (email only) agreement, if the 'yard' is not classified as a soil bank storage site, to have materials stockpiled at the Contractor's yard. At the end of each construction season and/or when appropriate the stockpile shall be sampled and tested at the City's expense. The testing results shall determine when the material can be dispositioned at the Contractor's expense in standing with the requirement for potential double handling within CP206.01. Contaminated materials will require to be disposed in standing with the appropriate

contract item(s) for disposal of contaminated soils, where the Contractor shall only be permitted to request payment of tipping fees at the receiving facility as CP206.01 account for the transportation (double handling) of the soils.

The Contract Administrator shall be notified where a potential for contaminated soil is anticipated or encountered, the Contractor shall segregate the excess soil from other soil stockpiles which may be on site. Any potentially contaminated excess soil should be stored in a manner that prevents any contaminants from the soil from leaching into the groundwater at the site from the stockpile.

Disposal at a site:

A Government Instrument must be provided where applicable, if the disposal site is not owned by the General Contractor, they shall also provide a statement indicating that they have confirmed that the soil material will be delivered to a site that holds a Government Instrument.

Alternatively, where a Government Instrument is not available for the subject disposal site, the Contractor will be required to provide a named QP and associated number with their respected association along with a statement from the receiving owner and QP that the site is adequate for receiving such type, quality and quantity of material.

Where an ECA is not required by the O.Reg., proof through the Contractor's QP shall be provided to the City to demonstrate the site falls into the exemption.

Excess Soil Destination Assessment Report shall be received by the Contractor prior to disposing of any material from the project site.

Re-use site:

For re-use site, the Contractor will be required to provide a named QP and credential number along with a signed statement from the receiving owner and QP that the site is adequate for receiving such type, quality and quantity of material.

Destination sites (i.e.: Alternate Re-use Site and Disposal Site) shall be reviewed by the City and the City's retained QP for approval. If a site is determined to be rejected, the Contractor will be notified as to the reason and the Contractor will be required to choose a different site until one is successfully approved at no extra cost to the City.

Final Documentation:

If surplus soils are transported to a site in excess of the estimate quantity plus its contingent amount, the additional soil shall be specifically approved by the receiving QP, where a QP is required.

Once the Contractor determines that a receiving site will no longer have excess soil transported to it, the receiving QP shall provide all documentation to fulfill quantities received in standing with owner/QP statements previously submitted and that the quality of the soil is acceptable in standing with the O. Reg.

Final documentation shall be provided prior to Final Completion of the Contract whether through request of CP206.01 or O.Reg. 406/19 and shall be signed by the Contractor's Professional Qualified Person, unless otherwise approved by the Contractor Administrator. Form 009 – CP206.01 Excess Soil Final Documentation Checklist shall accompany all documentation and must be submitted as a final package with all project documentation that took place, regardless of whether it was previously provided in part. Failure to provide the Final Package Documentation records prior to Final Completion will see working days continue to accrue in addition to set-offs being applied to any related payment items CP206.01.

CP206.02 Imported Select Subgrade

OPSS.MUNI 206, April 2019, shall apply except as amended and extended herein.

The unit price bid identified in the schedule of unit prices shall be full compensation for the supply of all equipment, labour, and materials necessary for importing subgrade for filling to the grades and cross sections indicated on the contract drawings. The Contractor is required to obtain acceptance from the Contract Administrator for their completed grades prior to placing additional materials.

All Contractor supplied select subgrade required to meet the required cross sections shall meet OPSS.MUNI 1010 select subgrade material requirements.

Imported select subgrade shall be placed and compacted in accordance with CP501.01. If constructing an embankment, then the bank shall be constructed as per OPSD 208.010.

The Contractor shall be responsible for establishing Quality Control Procedures as per CP501.01.

The Contractor is advised that this is an estimated quantity. The Contractor shall be paid for actual quantities imported.

Payment for this item will be based on approved weigh tickets when paid for by the tonne as defined in the Schedule of Unit Prices.

Weigh tickets are to be provided in digital format (handwritten receipts will not be accepted) and must indicate the following minimum information to be accepted for payment. Tickets not meeting these requirements will be returned to the Contractor without payment:

- Supplier name
- Material type being supplied
- Hauler name
- Truck number
- Pit location
- Truck tare weight

- Gross weight
- Net material weight
- Date and time of delivery
- Total for the day
- Running total (for entire project)

CP206.03 Topsoil Stripping

OPSS.MUNI 206, April 2019, shall apply except as amended and extended herein.

The unit price bid identified in the schedule of unit prices shall be full compensation for the supply of all equipment, labour, and materials necessary for stripping the existing topsoil layer to full depth and stockpile the topsoil for future use. The Contractor is required to obtain acceptance from the Contract Administrator for their completed grades prior to placing or removing additional materials. Care should be taken to ensure topsoil does not mix with the native subsoil. If excessive mixing of topsoil and subsoil occurs the Contract Administrator may reduce the payment quantity by the amount of spoiled material.

Topsoil shall be stripped in all cut and fill areas within the limit of construction as shown on contract drawings. This material shall be stored and used in the restoration of this site where deemed acceptable by the Contract Administrator. Payment for the restoration shall be compensated under the associated item for topsoil placement.

The Contractor is advised that this is an estimated quantity. Payment will be based on field measurements performed by the Contract Administrator. As such, no additional compensation will be made to the Contractor for reduction of this item.

Property bars that are removed as a result of earth excavation and grading for the purpose of construction shall be replaced at the expense of the Contractor, unless otherwise approved by the Contract Administrator.

CP206.04 Select Tree Trimming

The unit price bid shall be full compensation for the supply of all labour, equipment, and materials necessary to trim and dispose, by a qualified arborist, of limbs and branches of select trees as directed by the Contract Administrator.

Measurement for payment shall by hours (HRS) for which the work was conducted on-site. No measurement shall be made for traveling and associated off-site tasks.

CP310.01 General Asphalt Requirements

OPSS.MUNI 310, November 2017, shall apply except as amended and extended herein.

The following table illustrates the acceptable tolerance for asphalt cement content required in HL-1, HL-2, HL-3 and HDBC Hot Mix Asphalt products: Tolerances for Asphalt Cement Content (*)

Mix	Attribute	Job-Mix Formula	OPSS 310 Acceptable	OPSS 310 Borderline	OPSS 310 Rejectable
HL1 & HL3	AC Content	5.2% Min.	< 0.30	**0.30** to 0.50	> 0.50
HDBC	AC Content	5.0% Min.	< 0.30	0.30 to 0.50	> 0.50
HL-2	AC Content	6.2% Min.	< 0.30	0.30 to 0.50	> 0.50

Mix Designs

Mix designs shall be the responsibility of the Contractor and shall be submitted to the Contract Administrator for testing, analysis, and approval of the mix by the City retained quality assurance consultant a minimum of Thirty (30) days prior to placement of asphalt. Job-mix formula adjustments submitted may not be reviewed ahead of paving, or given approval by the City, and shall be at the Contractor's risk.

Prospective asphalt suppliers may wish to pre-qualify their mix designs at the start of the construction season (late April to early May) to avoid potential delays or complications in acceptance of mix designs. Arrangements for this can be made with the City's Engineering Services Coordinator.

Only mix designs approved by the City shall be used. Mix designs are valid for the calendar year in which they are prepared.

The acceptability of the mix design shall be reviewed on an ongoing basis and the use of the mix design may be suspended in situations where borderline or rejectable assessments have been made. Where in the opinion of the Contract Administrator the mix is unsuitable for further placement, the Contractor shall be responsible for submitting a new mix design for review. After the Contractor has been notified of the suspension of a particular mix, the mix will no longer be accepted and placement of the mix after suspension shall be subject to removal and replacement at the Contractors cost. Any delays associated with the suspension of a previously reviewed mix design and the approval of new submissions shall be the responsibility of the Contractor.

Contractor requests for substituting asphalt mixes from the contract documents with alternative mixes will not be entertained or permitted by the City.

Asphalt mix designs shall not be permitted to exceed 15% natural sand, with the exception of asphalt being placed in conformance with CP310.08 and CP311.01 (when applicable).

Sampling & Testing

As per OPSS.MUNI 310, the 'Average Plant Produced HMA Maximum Relative Density (MRD)' shall be determined by averaging all of the respective HMA mix design specific MRDs with respect to the HMA placed for an individual Contract only. (i.e.: HMA placement of the same mix design on alternate projects shall not be considered when calculating the 'Average Plant Produced HMA Maximum Relative Density (MRD)').

Testing quantities and frequency will be in accordance with OPSS 310.08.01.

The Contractor is responsible to arrange and coordinate the collection of three (3) field samples by a testing laboratory designated by the City, within a distance of 25km from the job site. One (1) working day notice must be given to the testing laboratory prior to asphalt placement to assure testing availability. If the Contractor has not given one (1) working day notice and testing staff is not available, then operations will not be allowed to proceed. The testing laboratory representative shall return to the laboratory with two of the samples (test sample and referee sample). Delivery to the lab is to occur within one (1) working day of sampling.

All samples are to be collected on-site in the presence of the Contract Administrator in accordance with the procedures outlined by CCIL and placed in a container approved by the Contract Administrator. Prior to delivery, all samples are to be certified by the Contract Administrator by affixing a seal to the sample. Where the Contract Administrator initiates testing in accordance with OPSS requirements, the City will pay the laboratory-testing costs incurred. Any other testing over and above what is required by the City will be at the Contractors expense, including referee testing.

All costs associated with referee testing shall be the responsibility of the Contractor. Should referee testing be required, results shall conform to full suite compliance testing, including solvent extraction, gradation & marshall properties testing. Where the Contract Administrator and the Contractor agree that specific mix attributes do not require referee testing, those attributes will be considered acceptable. The Contractor shall be reimbursed for the cost of referee testing provided the referee sample is acceptable as per the requirements of OPSS.MUNI 310.

Only in instances where the Contractor has conducted QC testing indicating full compliance to a minimum frequency of one (1) sample per 500 tonnes of asphalt applied using the mix design. Where the Contractor QC results have been requested by the City and have not been received within 5 days of request, the QC results will not be considered.

Where compaction requirements are not achieved to meet contractual requirements and where negotiations are proven unsuccessful, the Contractor shall elect to undertake coring as per OPSS.MUNI 310 for the purpose of referee testing. The City shall provide the Contractor and referee testing laboratory with

the 'average plant produced MRD for the project' (i.e.: average plant produced MRD for HL-1 PGAC 64-34 Mix Design Number XXXXX is [(2.616 + 2.601) / 2] = 2.609 as per the attached QA mix results. To ensure representative referee compaction confirmation of the HMA at the time of placement, core samples shall be taken from outside of wheel paths (i.e.; Center of lanes) as determined and chosen by the Contract Administrator. The Contractor shall provide a proposal for the City's review and approval of how the core locations will be repaired immediately after cores are removed. The results of the core compaction verification shall be binding. The Contractor shall be responsible for traffic control and associated costs regardless of the results. Referee lab for the BRD values on the extracted cores shall be as mutually agreed upon and as per the RAQs system. Failed cores shall have the representative lane of asphalt removed and replaced from E/P to centerline as per OPSS.MUNI 310.08.06.01 without exception.

Where referee testing indicated rejectable asphalt, the Contractor shall remove and replace the asphalt at the Contractor's sole expense.

Example:

For locations where nuclear gauge readings failed to meet contract compaction requirements, six (6) cores shall be obtained in total (three (3) from each lane) at approximately even distances apart.

Each core location will be representative of a third of the asphalt that was placed within each lane. For the west and east end core locations, these cores will represent the asphalt from the paving limit to the midway point towards the middle of where the center core location is located. The middle core location will be representative of the asphalt placed from the midway point from each of the end cores.

Note - The number of cores may change at the discretion of the Contract Administrator. However, the above intent shall apply.

Segregation (Minor to Severe) Deficiencies

The below shall not relieve the Contractor from their responsibilities in meeting Contractual requirements if the Contract Administrator does not issue verbal and/or written notification, for any reason, to the Contractor upon witnessing or not witnessing minor, medium and/or severe segregation. The Contract Administrator shall have full authority on deciding the limits of segregation (minor, medium and/or severe) asphalt removals at no additional costs to the City.

Consistent Medium and/or Severe Segregation:

The below statement for Minor and/or Intermittent Medium Segregation shall apply, with the exception that the Contractor shall cease paving operations immediately upon the Contract Administrator providing verbal and/or in written notice of witnessing this type of segregation severity.

Minor and/or Intermittent Medium Segregation:

Segregation deficiencies that are identified by the Contract Administrator shall be brought forward to the Contractor's attention and if the Contractor is unable to rectify minor to intermittent medium segregation deficiencies within the same day. The City shall put the Contractor on notice in writing at the end of the paving day. The Contractor shall request to schedule a pre-pave meeting with the Contract Administrator prior to conducting the next paving operation. Paving will not be permitted until the pre-pave meeting has been held. The Contractor will be required to provide modifications to at least one of the following, including but not limited to; asphalt material, operations of asphalt paver and rollers, equipment type, material transportation, equipment maintenance, etc. The provided modification must be approved by the Contract Administrator. The Contractor shall be permitted to recommence paving operations with the exception that they will need to demonstrate to the City that they have rectified the issue immediately upon paving operations commencing. In the event that the issue(s) have not been rectified the Contractor shall be required to cease operations immediately, assess the issues and request a pre-pave meeting once again on a continual basis until this type of segregation severity has been resolved. The City shall not be held responsible for the associated costs, timelines, delays, claims, pre-pave meeting requirements, etc.

Material Specifications

The Contractor is required to provide written notification to the Contract Administrator using City of Peterborough Form 003 to place asphalt a minimum of three (3) working days prior to placement. Any asphalt placed without providing written notification to the Contract Administrator shall be rejected and the Contractor will be required to remove and replace the asphalt at the Contractors own expense.

The use of diesel fuel for the lubrication of truck beds and other equipment surfaces used for the transport/placement of asphalt is prohibited. The Vendor shall use a suitable release agent such as Enviroslide, Rhoma-Sol, or Agency approved equivalent to maintain equipment cleanliness.

Placement of SS1 emulsified asphalt tack coat shall be applied on all vertical faces and at longitudinal joints, prior to the asphalt placement of subsequent passes, where the unsupported asphalt edge drops below 95°Celcius. The cost of tack coat applications on vertical faces shall be included in this item.

No placement of surface course asphalt shall occur until base course asphalt to be surfaced has been tested and accepted in writing by the Contract Administrator.

Requirements for **Recovered** Performance Graded Asphalt Cement (PGAC) shall be in accordance with CP1101.01 **whereas requirements for Asphalt Cement Tank Sampling shall be as per OPSS.MUNI 1101**. **All PGAC tank samples shall be obtained during the production of the asphalt mix inside the asphalt mix plant from the storage tank which is directly feeding the production of the asphalt mix.**

Grade 58-34 shall be the standard asphalt cement grade unless otherwise specified in the contract documents. CP 310.02 and CP 310.05 mixes for arterial and collector

roads shall receive upgraded performance graded asphalt cement content of 64-34 (PGAC 64-34), rather than standard 58-34, unless otherwise specified in the contract documents and/or unit price contract supplemental information package.

A summary of arterial and collector designated roadways is available on the City of Peterborough website:

https://www.peterborough.ca/en/city-services/resources/Documents/TR-arterial-and-collector-roads-map.pdf

Weigh tickets are to be provided in digital format (handwritten receipts will not be accepted) and must indicate the following minimum information to be accepted for payment. Tickets not meeting these requirements will be returned to the Contractor without payment:

- Supplier name
- Material type being supplied
- Hauler name
- Truck number
- Pit location
- Truck tare weight
- Gross weight
- Net material weight
- Date and time of delivery
- Total for the day
- Running total (for entire project)
- PGAC Grade
- Mix Design Number

Payment for this item may be paid for by the square metre (measured or plan quantity) or based on approved weigh tickets when paid for by the tonne as defined in the Schedule of Unit Prices.

Longitudinal Joint Performance Requirements

Failure to achieve acceptable longitudinal joint performance will require the Contractor to schedule and attend a pre-pave meeting with the Contract Administrator prior to conducting the next paving operation. Paving will not be permitted until the pre-pave meeting has been held. The Contractor will be required to provide modifications to at least one of the following: placement operations, supply transportation, existing

construction equipment, additional construction equipment, etc. The provided modification must be approved by the Contract Administrator and the Contractor will be required to conduct future operations with such modifications. If failure occurs again, pre-pave meetings will be required on a continuous basis until acceptable longitudinal joint performance has been achieved.

Longitudinal joint testing shall be performed at intervals of +/- 50 metres located within 300mm of each side of the joint, in a staggered pattern and commencing at approximately 1 metre into the paving limits. Longitudinal joint performance shall apply to full width road paving only, unless otherwise noted in the contract documents.

A longitudinal joint compaction result shall under no circumstance be less than 90% for base asphalt and 91% for surface asphalt. In addition to this requirement, the average of the compaction results for a longitudinal joint shall meet OPSS.MUNI 310 – Table 10 (91% and 92% for base and surface asphalt, respectively). Longitudinal joint compaction averages shall be determined for individual joints only, when more than one is present. The above longitudinal joint performance specifications may be excluded within intersections and turning tapers when live traffic is required to be maintained.

Quality Assurance

Quality assurance testing protocols as referred to in CP200.01 shall apply.

Performance graded asphalt cement 64-34 (PGAC 64-34) arterial and collector roads which require work to be performed during the night hours (9PM to 7AM) as per contractual requirements shall not be paved after September 30th, unless weather conditions permit temperatures of 10°C and rising.

Operational Constraints

Prior to paving base asphalt, all catchbasin structures, manhole structures, valves, etc. shall be covered by plating the opening and placing granular road base on top of the structures**. All lifts of base asphalt shall be paved over top of the granular road base, followed by temporary and/or final adjustments, as required. Base asphalt, CCTV and leakage testing must be approved by the Contract Administrator prior to paving surface asphalt.**

Water shall not be permitted to be placed on HMA for the purpose of accelerating cooling.

CP310.02 Supply/Install Hot Mix Asphalt Heavy Duty Binder Course (Including A/C)

OPSS.MUNI 310, November 2017, shall apply except as amended and extended herein.

This item shall include the general requirements set forth in specification CP310.01. The hot mix asphalt heavy-duty binder course depth shall be as illustrated on the contract drawings, and when the specified thickness is 100mm, it shall be understood and assumed that the asphalt installation must be performed in two separate and equal lifts.

The asphaltic concrete for this item shall conform to OPSS.MUNI 1150, November 2020.

CP310.03 Supply/Install HL 8 Binder Course (Including A/C)

OPSS.MUNI 310, November 2017, shall apply except as amended and extended herein.

The asphaltic concrete for this item shall conform to OPSS.MUNI 1150, November 2020. The HL-8 hot mix binder course asphalt depth is as illustrated on the contract drawings. This item shall include the general requirements set forth in specification CP310.01.

CP310.04 Supply/Install HL 1 Modified Hot Mix Asphalt (Including A/C)

Not Applicable.

CP310.05 Supply/Install HL 1 Hot Mix Asphalt (Including A/C)

OPSS.MUNI 310, November 2017, shall apply except as amended and extended herein.

The HL-1 hot mix surface asphalt depth is as illustrated on the contract drawings.

The unit price bid identified in the schedule of unit prices shall be full compensation for all labor, materials, and equipment necessary to supply and place HL 1 hot mix asphalt as specified on the contract drawings.

No placement of surface course HL 1 shall occur until base course asphalt has been tested and accepted in writing by the Contract Administrator, all video submissions of pipe work and structures are submitted and approved, and leak testing is complete, and a summary submitted to the Contract Administrator.

This item shall include the general requirements set forth in specification CP310.01.

Payment of this item will be as follows:

a) 90% upon installation of acceptable asphalt as per all applicable specifications.

b) **5% upon successful completion of all pavement marking applications.**

c) **5% upon successful completion of all pavement marking applications along the entire site in standing with timelines as per CP 710.01 and CP 710.02. The intent of this 5% holdback in payment when not complying with pavement marking application timelines, is to ensure site safety for the Contractor and all general public users.**

CP310.06 Supply/Install HL-3 Hot Mix Asphalt (Including A/C)

OPSS.MUNI 310, November 2017, shall apply except as amended and extended herein.

The unit price bid identified in the schedule of unit prices shall be full compensation for all labor, materials, and equipment necessary to supply and place HL 3 hot mix asphalt as specified on the contract drawings.

No placement of surface course HL 3 shall occur until base course asphalt has been tested and accepted in writing by the Contract Administrator, all video submissions of pipe work and structures are submitted and approved, and leak testing is complete, and summary submitted to the Contract Administrator.

This item shall include the general requirements set forth in specification CP310.01.

Payment of this item will be as follows:

a) 90% upon installation of acceptable asphalt as per all applicable specifications.

b) **5% upon successful completion of all pavement marking applications.**

c) **5% upon successful completion of all pavement marking applications along the entire site in standing with timelines as per CP 710.01 and CP 710.02. The intent of this 5% holdback in payment when not complying with pavement marking application timelines, is to ensure site safety for the Contractor and all general public users.**

CP310.07 Supply/Place SS1 Emulsified Asphalt Tack Coat

OPSS.MUNI 310, November 2017, shall apply except as amended and extended herein.

The unit price bid identified in the schedule of unit prices shall be full compensation for the supply of all labor, materials, and equipment necessary to supply and place tack coat on all horizontal surfaces as specified in the contract drawings and at lap joints in accordance with City standard CPD510.01.

This item may be eliminated if deemed necessary by the Contract Administrator and no extra compensation shall be issued to the Contractor due to the deletion of part or the entire item.

The Contractor is obligated to notify the Contract Administrator a minimum of two (2) working days (and a maximum of four (4) working days) prior to subsequent lifts of asphalt being placed on top of the initial lift of base asphalt in order to determine if the use of tack coat is required. The Contract Administrator will provide clarification no later than one (1) working day prior to the commencement of paving.

Payment of this item will be as follows:

a) 90% upon installation of acceptable asphalt as per all applicable specifications.

b) 10% upon successful completion of all pavement marking applications.

CP310.08 Supply/Install HL-2 Hot Mix Asphalt (Including A/C)

OPSS.MUNI 310, November 2017, shall apply except as amended and extended herein.

The unit price bid identified in the schedule of unit prices shall be full compensation for all labor, materials, and equipment necessary to supply and place HL-2 hot mix asphalt as specified on the contract drawings.

This item shall include the general requirements set forth in specification CP310.01, with the exception that PGAC grade 58-28 shall be utilized.

Payment of this item will be as follows:

a) 90% upon installation of acceptable asphalt as per all applicable specifications.

b) **5% upon successful completion of all pavement marking applications.**

c) **5% upon successful completion of all pavement marking applications along the entire site in standing with timelines as per CP 710.01 and CP 710.02. The intent of this 5% holdback in payment when not complying with pavement marking application timelines, is to ensure site safety for the Contractor and all general public users.**

CP311.01 Supply/Install HL-3 Hot Mix Asphalt (Driveways, Walkways and Multi-Use Trails) (Including A/C)

OPSS.MUNI 311, November 2018, shall apply except as amended and extended herein.

The unit price bid identified in the schedule of unit prices shall be full compensation for all labor, materials, and equipment necessary to supply and place HL-3 hot mix asphalt as specified on the contract drawings.

This item shall include the general requirements set forth in specification CP310.01, with the exception that PGAC grade 58-28 shall be utilized.

No asphalt testing is required by the contractor for asphalt supplied under this item. The City reserves the right to test at the City's expense if deemed necessary.

The HL-3 hot mix asphalt shall be placed at a depth of 50mm (placed in 1 – 50 mm lift) for all walkways and driveways with a width less than 3.0m. The HL-3 surface course asphalt shall meet OPSS.MUNI 1150, November 2020. Driveways and driveway aprons whose smallest dimension exceeds one (1) linear metre, shall require the use of a mechanical self-propelled paver.

Where driveways intersect with a multi-use trail 3.0m wide or larger, the multi-use trail shall be considered the controlling operation. Surface asphalt paved on driveways in advance of the multi-use trail will be rejected and require removal and replacement at the Contractor's expense. The Contractor may elect to pave the driveways in conformance with a superior PGAC grade at their discretion to prevent coordination and

logistical issues. If the Contractor elects to upgrade the PGAC grade provided for driveways it shall be at no additional cost to the City.

Compensation for the Granular ‘A’ and ‘B’ material beneath asphalt shall be made from the associated item in the Schedule of Unit Prices under CP314.02 and CP314.01 either by the tonne or square metre.

CP314.01 Granular 'B' Type 1 Modified

OPSS.MUNI 314, November 2023, shall apply except as amended and extended herein.

The unit price bid identified in the schedule of unit prices shall be full compensation for all labor, materials, and equipment necessary to supply and place Granular ‘B’, Type 1 Modified as illustrated on the contract drawings and as described herein.

The depth of Granular ‘B’, Type 1, (modified) shall be as specified on the contract drawings.

The Granular ‘B’, Type 1, Modified referred to shall conform to the gradation requirements for Granular ‘B’ shown in Table 2 of OPSS.MUNI 1010 modified as follows:

MTO Sieve Designation	**% Passing**
4.75 mm	25-50
1.18 mm	10-35
300 um	5-20
75 um	3-8

Granular ‘B’, Type 1, Modified shall be produced by crushing with the maximum particle size not to exceed 57 mm. OPSS.MUNI 1010 is herein amended in that Granular ‘B’ Type 1, Modified shall not contain any reclaimed Portland cement and/or reclaimed asphalt pavement.

The finished Granular ‘B’ surface, on which the Granular ‘A’ is to be placed under this contract shall not deviate more than 10 mm from the specified grade and cross section and the surface shall not deviate more than 10 mm on a 3 m template.

Compaction and quality assurance testing of the Granular ‘B’ Type 1 Modified shall be in accordance with CP501.01 and CP200.01. The Contractor shall be responsible for establishing Quality Control Procedures and produce a Quality Control Plan as per CP501.01.

The Contractor is advised that if the Contract Administrator deems the existing road base to be adequate, this item's quantity may be reduced. No extra compensation will be due to the Contractor for reduction of this item.

Payment for this item will be based on plan quantity when paid for by the square metre as defined in the Schedule of Unit Prices. Alternatively, payment for this item will be based on approved weigh tickets when paid for by the tonne as defined in the Schedule of Unit Prices.

Weigh tickets are to be provided in digital format (handwritten receipts will not be accepted) and must indicate the following minimum information to be accepted for payment. Tickets not meeting these requirements will be returned to the Contractor without payment:

- Supplier name
- Material type being supplied
- Hauler name
- Truck number
- Pit location
- Truck tare weight
- Gross weight
- Net material weight
- Date and time of delivery
- Total for the day
- Running total (for entire project)

CP314.02 Granular 'A'

OPSS.MUNI 314, November 2023, shall apply except as amended and extended herein.

The unit price bid identified in the schedule of unit prices shall be full compensation for all labor, materials, and equipment necessary to supply and place Granular 'A' as illustrated on the contract drawings and as described herein.

The depth of Granular 'A' required for street restoration is 150 mm unless specified otherwise on the contract drawings and as required for placement of subdrains per drawing CPD405.01. Granular 'A' used as base for the reinstatement of driveways, traffic islands, sidewalks and asphalt boulevards will also be paid for at the unit price bid for this item. Granular 'A' shall conform to the gradation requirements of OPSS.MUNI 1010.

The finished Granular ‘A’ surface, on which the hot mix asphalt is to be placed under this contract shall not deviate more than 10 mm from the specified grade and cross section and the surface shall not deviate more than 10 mm on a 3 m template.

OPSS.MUNI 1010 is herein amended in that Granular 'A' shall not contain any reclaimed Portland cement concrete and/or reclaimed asphalt pavement.

Compaction and quality assurance testing of the Granular ‘A’ shall be in accordance with CP501.01 and CP200.01. The Contractor shall be responsible for establishing Quality Control Procedures and produce a Quality Control Plan as per CP501.01.

The Contractor is advised that if the Contract Administrator deems the existing road base to be adequate, this item‘s quantity may be reduced. No extra compensation will be due to the Contractor for reduction of this item.

Payment for this item will be based on plan quantity when paid for by the square metre as defined in the Schedule of Unit Prices. Alternatively, payment for this item will be based on approved weigh tickets when paid for by the tonne as defined in the Schedule of Unit Prices.

Weigh tickets are to be provided in digital format (handwritten receipts will not be accepted) and must indicate the following minimum information to be accepted for payment. Tickets not meeting these requirements will be returned to the Contractor without payment:

- Supplier name
- Material type being supplied
- Hauler name
- Truck number
- Pit location
- Truck tare weight
- Gross weight
- Net material weight
- Date and time of delivery
- Total for the day
- Running total (for entire project)

CP314.03 Unshrinkable Backfill

OPSS.MUNI 401, November 2024, shall apply except as amended and extended herein.

The unit price bid identified in the schedule of unit prices shall be full compensation for all labour, equipment, and materials necessary to supply and install unshrinkable backfill (OPSS.MUNI 1359, November 2016), if required within the contract documents and as directed by the Contract Administrator.

All unshrinkable backfill shall be standard 28-day with maximum strength of 0.4 MPa.

CP351.01 General Concrete Requirements

OPSS.MUNI 351, November 2021, shall apply except as amended and extended herein.

OPSS.MUNI 351.05 is amended by the addition of the following:

The materials for the production of concrete sidewalks, medians, bus pads, curb, curb and gutter, **and concrete collars** shall meet the requirements of OPSS.MUNI 1350 and the following:

1) Cement type: Normal Portland GU

2) Minimum 28-day compressive strength: 32 MPa

3) Class of exposure: C-2

OPSS.MUNI 351.08 is amended by the addition of the following:

Field sampling and testing of concrete shall be in accordance with OPSS.MUNI 904.08. All materials, equipment and work associated with the sampling, field-testing, quality control compliance and preparation of the test cylinders shall be the responsibility of the City. All samples are to be collected using personnel tested and certified by CSA A283, Category O. The Contractor is responsible for scheduling and ensuring a tester is present on site for the entire duration of the pour unless otherwise approved by the Contract Administrator. A minimum notice of one (1) working day must be given by the Contractor to the testing laboratory designated by the City prior to concrete placement to assure testing staff availability. If the Contractor has not given one (1) working days notice and testing staff is not available, then operations will not be allowed to proceed, any concrete poured may be deemed deficient and require removal/replacement.

Where deficiencies have been identified, the Contractor shall provide additional testing of the hardened concrete without the use of destructive testing methods (i.e., Coring will not be permitted) to verify that the concrete meets the contract requirements. Acceptance of concrete shall be in accordance with OPSS.MUNI 1350.08 and the quality assurance testing as referred to in CP200.01 shall apply. All concrete placed that does not meet the contract requirements will require removal and replacement at the discretion of the Contract Administrator**.**

Unless otherwise specified in the contract, the concrete supplied shall be sampled for acceptance tests in accordance with the following schedule:

Concrete Acceptance Testing Schedule

Concrete for	Quantity (m3)	28-Day Cylinders	Field Tests (Air, Slump, Temperature)
Abutments, Catch basin and Manholes, Columns, Culverts, Slabs, Footings, Foundations, Piers, Walls, Curb and Gutter, Sidewalk, and Fixed Forms.	<100 100-500 >500	2 Sets/day 2 Sets/100m3 1 Set/100m3	One Test for each load of Concrete
Non-Structural Volume Batching	n/a	1 Set/Load	One Test for each load of Concrete

The Contractor is required to provide written notification to the Contract Administrator using City of Peterborough Form 003 to pour concrete a minimum of three (3) working days prior to placement of concrete. Concrete placed without providing written notification to the Contract Administrator shall be rejected and the Contractor will be required to remove and replace the concrete at the Contractors own expense.

Concrete samples taken shall meet or exceed a minimum specified compressive strength of 32 MPa at 28 days curing time, unless otherwise noted in the contract documents. When a 28-day failure occurs, it shall be deemed rejectable until such time that the Contractor provides substantial evidence, in a form acceptable by the Contract Administrator that the average of all groups of three consecutive strength tests are equal to or greater than the specified strength (MPa) in standing with OPSS.MUNI 1350.08.02.04.01 a). Note that OPSS.MUNI 1350.08.02.04.01 b) will also continue to apply.

It is the responsibility of the Contractor and their suppliers to ensure that all concrete material supplied and installed conforms to contract requirements.

The Contractor shall be responsible to schedule and coordinate concrete works as to conform to CSA A23.1-14/A23.2-14 Table 19. In the event that scheduling cannot be accommodated for the installation of concrete with regards to Table 19, the Contractor shall be required to alter the coordination or staging of the work to accommodate such. In the event that the Contractor cannot schedule or coordinate for concrete works in conformance with Table 19, delays shall not be entertained by the City and working days shall continue.

CP351.02 Construct Concrete Sidewalks, Ramps, Driveways and Medians

OPSS.MUNI 351, November 2021, shall apply except as amended and extended herein.

The unit price bid identified in the schedule of unit prices shall be full compensation for all labor, materials, and equipment necessary to construct concrete sidewalks and sidewalk ramps as illustrated on the contract drawings and as described herein.

This item refers to construction of all proposed sidewalks and sidewalk ramps within the limits of construction.

The Contractor is required to use water at all times when saw cutting.

Sidewalk accessibility ramps shall be constructed in accordance with OPSD 310.030, 310.031, 310.033 and 310.039, complete with tactile walking surface indicators incorporated at every location with a pedestrian crossing or as specified in the contract documents. Concrete ramps shall be a minimum of 2.1 metres wide, up to a maximum of 3 metres in width when perpendicular to a multi-use trail or as stipulated in the contract drawings. Concrete ramps shall not be permitted to be constructed less than 2.1 metres in length, unless otherwise approved by the Contract Administrator. Should field conditions not correspond to these standards, the Contractor is to consult with the Contract Administrator prior to placement of the sidewalk.

Sidewalk ramps are to be constructed to allow for a smooth transition from existing sidewalks.

Field adjustments are to be approved by the Contract Administrator.

This item shall include the general requirements set forth in specification CP351.01

The Contractor is advised that the concrete sidewalk to be placed shall normally be 125 mm thick except through driveways where it shall be 175 mm thick for residential driveways and 200mm thick at commercial driveways. The depth of Granular ‘A‘ used under sidewalks shall be 150mm unless otherwise noted. All subgrade fill sections under sidewalk shall be compacted native soil or Granular ‘B’ as directed by the Contract Administrator. Driveways are to be constructed in accordance with OPSD 310.050 unless otherwise indicated on the Contract drawings or amended by the Contract Administrator where field conditions necessitate.

This item shall be used to compensate for the restoration of private concrete walkways, and residential/commercial concrete driveways where required.

Concrete thickness is to match that of the sidewalk as mentioned above. Sidewalk and driveways are to be separated by an expansion joint comprised of asphalt-impregnated fiberboard having a nominal thickness of 12 mm and shall be according to OPSS.MUNI 1308, Type A. Fiberboard shall be placed at a maximum of 4m to 5m of sidewalk and will be full thickness of Sidewalk slab. After pouring of concrete sidewalk and/or crosswalk bays, equally spaced joints may be saw cut into the surface using sufficient

dust control measures as an acceptable crack-preventing concrete finishing method, in lieu of troweled dummy joints.

Granular ‘A’ placed under the sidewalk shall be paid for under the associated pay Item in the Schedule of Unit Prices.

CP351.03 Supply/Install of Tactile Walking Surface Indicators

OPSS.MUNI 351, November 2021, shall apply except as amended and extended herein.

Tactile walking surface indicators shall be set and pressed into wet concrete to final elevation according to manufacturer's recommendations. Remove any wet concrete that may spill onto the surface of the tactile walking surface indicators.

Tactile plates shall be: “Neenah Foundry ASTM A 48M-03 Class 35B Grey Cast Iron Tactile Walking Surface Indicator Plates (Detectable Warning Plates) and shall be bare and not coated with paint or other coatings or substances. Castings shall be sound, free from pouring faults, blowholes, and other defects. The initials or trademark of the manufacturer, year of manufacture, and country of manufacture shall be distinctly cast and legible in raised letters on the top of each plate” As Distributed by Crozier Enterprises Ltd., 1 Yonge Street, Suite #1801, Toronto, Ontario 416-214-7727, 1-866-624-9722 or approved equivalent.

Payment at the Contract Price for the above item shall be full compensation for all labour, equipment, and material to do the work. Payment shall include supplying and placing formwork, consolidating and finishing of the concrete and the supply/place of tactile walking surface indicators.

Sidewalk placed under the Tactile Walking Surface Indicator shall be paid for under the associated pay Item in the Schedule of Unit Prices.

CP351.04 Construct Concrete Structural Transit Pad

CP351.02, shall apply except as amended and extended herein:

The unit price bid identified in the schedule of unit prices shall be full compensation for all labour, equipment and materials required to supply and install the concrete structural transit pads as shown on the contract drawings. This item shall include all required reinforcing steel.

Structural transit pad to be constructed in compliance with CPD 351.02 - Structural transit Pad Detail.

Measurement for payment shall be by the square metre (m^2).

CP353.01 Construct Concrete Curb and Curb and Gutter

OPSS.MUNI 353, November 2021, shall apply except as amended and extended herein.

The unit price bid identified in the schedule of unit prices shall be full compensation for all labor, materials, and equipment necessary to construct concrete curb and curb and gutter as illustrated on the contract drawings and as described herein, including constructing terminations and transitions from proposed curb and gutter to the existing curb and gutter (including two-stage curb and gutter) where necessary. All curb and curb & gutter is to be installed in accordance with the OPSD identified on the contract drawings. Where not illustrated the City of Peterborough recognizes OPSD 600.010 as the standard curb and gutter system.

This item shall include the general requirements set forth in specification CP351.01, General Concrete Requirements.

Compensation for granular material required for the base shall be covered under the associated items in the Schedule of Unit Prices.

All curb or curb and gutter installations adjacent to curb face sidewalks, concrete islands, concrete driveways, and wheelchair ramps shall include additional 50 mm width of concrete along the back of curbs and curb and gutters in accordance to applicable Ontario Provincial Standard Drawings.

Unless otherwise indicated on the contract drawings, all terminations are to be completed in the same format as OPSD 608.010, with the exception that the transition is to be made over a distance of 2.0 meters. Transitions from one form of curb to another are to be constructed to the satisfaction of the Contract Administrator over a distance of 2.0 meters.

The Contractor is required to use water at all times when saw cutting.

CP405.01 Supply and Install 150mm Diameter Perforated PVC Subdrains

OPSS.MUNI 405, November 2017, shall apply except as amended and extended herein.

The unit price bid identified in the schedule of unit prices shall include full compensation for all labour, equipment and materials required to complete the work.

The subdrains are to run between and connect to storm sewer catch basins and/or storm sewer manholes where available. The pipe is to be pre-wrapped with Geotextile filter cloth before installation. If repairs to the filter cloth are required, the pipe is to be fully wrapped with equivalent quality filter cloth overlapping a minimum of 0.5 meters either side of the defect. During construction, the filter cloth is to continue on the subdrain into the catch basin and shall be neatly trimmed inside the structure after the subdrain has been properly set with a suitable mortar on the outside of the structure and as required inside.

Installation of the subdrain shall be in accordance with CPD405.01 unless otherwise specified on the contract drawings. The subdrain shall not enter the structure at an elevation lower than 0.5m below subgrade elevation without the approval of the Contract Administrator. Payment under this item shall also include the supply and placement of foundation materials for the subdrain, placement of the subdrain, and coring into the existing and proposed structures and making the connection complete with mortar, and suitable termination at upper end, non-structural locations. Granular material required shall be paid for under the associated contract item, either by the tonne or included in the square meter of the road as identified in the Schedule of Unit Prices.

Subsection 405.10.01 is amended by the deletion of paragraph 3.

The subdrains may be eliminated if the Contract Administrator deems them unnecessary due to soil conditions affording adequate subsurface drainage without them. No extra compensation will be due to the contractor for deletion of part or this entire item.

CP407.01 Supply/Install 600mm X 600mm Concrete Catch Basins

OPSS.MUNI 407, November 2021, shall apply except as amended and extended herein.

The unit price bid identified in the schedule of unit prices shall include full compensation for all labour, equipment and materials required to install a 600 mm by 600 mm concrete catch basin per OPSS.MUNI 407 and as described herein. In addition, this item shall include but not necessarily be limited to all sheathing, shoring, bracing, and dewatering as per OPSS.MUNI 517 and 518 that may be required to perform the work.

All 600mm x 600mm catch basins shall be manufactured and installed in accordance with OPSD 705.010 unless otherwise specified on the Contract Drawings. Catch basin leads shall be as indicated on the contract drawings and connected to the main in accordance with OPSD 708.010 or OPSD 708.030 as required**.** Connection to Catch basins shall be in accordance with CPD 708.020.

Where dewatering is required, if discharge flow cannot be reasonably directed into the nearest body of water due to the distance from site to disposal site, the City may be acceptable to disposal of dewatered flow into City owned storm/sanitary sewers. Sampling and testing of the discharge flow shall be conducted by and at the expense of the Contractor, to the approval of the City for disposal into the City's storm/sanitary sewers, with storm sewer being the preferred option. All flows discharged into City infrastructure shall comply with the City's Sewer By-Law. See link below for access to the Sewer By-Law:

https://bylaws.peterborough.ca/bylaws/getFNDoc.do?class_id=20&document_id=13617

The Contractor shall maintain the flow; where required, of all sewers, drains and/or inlet connections encountered during the progress of the work and if necessary, provide by-pass pumping.

Final placement of the catch basin must be in a position such that the frame does not overhang the edges of the catch basin. If so, the catch basin shall be reset at the discretion of the Contract Administrator at no additional expense to the City of Peterborough.

Adjustment of the frame and grate to final elevations is to occur after the placement of base asphalt. This adjustment is paid for under the appropriate adjustment item in accordance with CP408.01.

Temporary Adjustments of frames and grates to final base asphalt elevation will be in accordance with CPD 408.06.

Connections to structures with PVC and all flexible pipes shall have factory installed rubber gaskets (boots). Use of sanded adapters and parging of these connections is not accepted unless otherwise approved by the City of Peterborough.

A leakage test shall be completed on all new storm structures in accordance with OPSS.MUNI 407. Contractor is required to submit in document form a table stating the structure ID and the calculated allowable leakage per structure to the Contract Administrator two (2) working days prior to testing. Actual leakage shall be recorded by the contractor and submitted once testing is complete. Contractor is to use City of Peterborough Form 001 for report.

Payment of this item will be as follows:

a) 90% upon installation of the sewer structure as per specifications

b) 10% upon successful completion of leak testing, submittal of leak testing documents, completion of CCTV works and submission and acceptance of CCTV submissions as per CP409.01

CP407.02 Supply/Install 1450mm X 600mm Concrete Twin Inlet Catch Basins

OPSS.MUNI 407, November 2021, shall apply except as amended and extended herein.

The unit price bid identified in the schedule of unit prices shall include full compensation for all labour, equipment and materials required to install a 1450 mm by 600 mm concrete twin inlet catch basin per OPSS.MUNI 407 and as described herein. In addition, this item shall include but not necessarily be limited to all sheathing, shoring, bracing, and dewatering as per OPSS.MUNI 517 and 518 that may be required to perform the work.

All 1450mm x 600mm twin inlet catch basins shall be manufactured and installed in accordance with OPSD 705.020. Catch basin leads shall be as indicated on the contract drawings and connected to the main in accordance with OPSD 708.010 or OPSD 708.030 as required. Connection to catch basins shall be in accordance with CPD 708.020.

Where dewatering is required, if discharge flow cannot be reasonably directed into the nearest body of water due to the distance from site to disposal site, the City may be acceptable to disposal of dewatered flow into City owned storm/sanitary sewers. Sampling and testing of the discharge flow shall be conducted by and at the expense of the Contractor, to the approval of the City for disposal into the City's storm/sanitary sewers, with storm sewer being the preferred option. All flows discharged into City infrastructure shall comply with the City's Sewer By-Law. See link below for access to the Sewer By-Law:

https://bylaws.peterborough.ca/bylaws/getFNDoc.do?class_id=20&document_id=13617

The Contractor shall maintain the flow; where required, of all sewers, drains and/or inlet connections encountered during the progress of the work and if necessary, provide by-pass pumping.

Final placement of the catch basin must be in a position such that the frame does not overhang the edges of the catch basin. If so, the catch basin structure shall be reset at the discretion of the Contract Administrator at no additional expense to the City of Peterborough. In new subdivisions, grates may be set temporarily to top of base asphalt elevation for interim acceptance requirements. Ramping to grates set too high will not be accepted.

Adjustment of the frame and grate to final elevations is to occur after the placement of base asphalt. This adjustment is paid for under the appropriate adjustment item in accordance with CP408.01.

Temporary Adjustments of frames and grates to final base asphalt elevation will be in accordance with CPD 408.06.

Connections to structures with PVC and all flexible pipes shall have factory installed rubber gaskets (boots). Use of sanded adapters and parging of these connections is not accepted unless otherwise approved by the City of Peterborough.

A Leakage Test shall be completed on all new storm structures in accordance with OPSS.MUNI 407. Contractor is required to submit in document form a table stating the structure ID and the calculated allowable leakage per structure to the Contract Administrator two (2) working days prior to testing. Actual leakage shall be recorded by the contractor and submitted once testing is complete. Contractor is to use City of Peterborough Form 001 for report.

Payment of this item will be as follows:

c) 90% upon installation of the sewer structure as per specifications

d) 10% upon successful completion of leak testing, submittal of leak testing documents, completion of CCTV works and submission and acceptance of CCTV submissions as per CP409.01

CP407.03 Supply/Install Concrete Storm Structure

OPSS.MUNI 407, November 2021, shall apply except as amended and extended herein.

The unit price bid identified in the schedule of unit prices shall include full compensation for all labor, equipment, and materials to do all earth excavation, to remove asphalt pavement, except where this is a separate item, for providing openings and breaking into the storm sewers, to carry out all pipe installations, connections, benching and grouting, to place and compact all **embedment**, bypass pumping to keep system operational at all times, backfill and cover materials, to dispose surplus excavated materials to carry out all sheathing, shoring and dewatering as per OPSS.MUNI 517 and 518 as may be required and for all other items incidental to this operation.

All concrete storm structures shall be manufactured and installed in accordance with the OPSD identified below provided a manufacturer on the MTO's designated sources list supplies them. All concrete storm structures shall utilize strength capacity class 65-D as a minimum unless otherwise specified in the contract documentation and/or contract drawings.

Structure Diameter	**OPSD**
1200 mmø	701.010; 701.030; 701.031; 701.032
1500 mmø	701.011; 701.040; 701.041
1800 mmø	701.012; 701.050; 701.051
2400 mmø	701.013; 701.060; 701.061
3000 mmø	701.014; 701.070; 701.071
3600 mmø	701.015; 701.080; 701.081

Connections to structures with PVC and all Flexible pipes shall have factory installed rubber gaskets (boots). Use of sanded adapters and parging of these connections is not accepted unless otherwise approved by the City of Peterborough. Connection to concrete storm structures shall be in accordance with CPD 708.020.

Where dewatering is required, if discharge flow cannot be reasonably directed into the nearest body of water due to the distance from site to disposal site, the City may be acceptable to disposal of dewatered flow into City owned storm/sanitary sewers. Sampling and testing of the discharge flow shall be conducted by and at the expense of the Contractor, to the approval of the City for disposal into the City's storm/sanitary

sewers, with storm sewer being the preferred option. All flows discharged into City infrastructure shall comply with the City's Sewer By-Law. See link below for access to the Sewer By-Law:

https://bylaws.peterborough.ca/bylaws/getFNDoc.do?class_id=20&document_id=13617

The Contractor shall maintain the flow; where required, of all sewers, drains and/or inlet connections encountered during the progress of the work and if necessary, provide by-pass pumping.

Pre-cast manholes shall be constructed using monolithic bases and taper cones. Where there is insufficient vertical dimension for the installation of a taper cone section, a pre-cast flat cap may be used.

The elevation of the top of the concrete structure shall allow for adjustment in accordance with CPD408.01, CPD408.02, CPD408.03 or CPD 408.04 as required. Adjustment of the frame and cover to final elevations is to occur after the placement of base asphalt. This adjustment is paid for under the appropriate adjustment item in accordance with CP408.01.

Temporary Adjustments of frames and grates to final base asphalt elevation will be in accordance with CPD 408.07. Adjustment of the frame and cover to final base elevations is to occur after the placement of base asphalt.

Catch basin Manholes with inlet or outlet pipes greater than 450mm in Diameter shall be benched unless otherwise indicated on the contract drawings. All Storm Manholes shall be benched.

A leakage test shall be completed on all new storm structures in accordance with OPSS.MUNI 407. Contractor is required to submit in document form a table stating the structure ID, diameter of MH and the calculated allowable leakage per structure to the Contract Administrator two (2) working days prior to testing. Actual leakage shall be recorded by the contractor and submitted once testing is complete. Contractor is to use City of Peterborough Form 001 for report.

Payment of this item will be as follows:

a) 90% upon installation of the sewer structure as per specifications

b) 10% upon successful completion of leak testing, submittal of leak testing documents, completion of CCTV works and submission and acceptance of CCTV submissions as per CP409.01

CP407.04 Supply/Install Concrete Sanitary Structure

OPSS.MUNI 407, November 2021, shall apply except as amended and extended herein.

The unit price bid identified in the schedule of unit prices shall include full compensation for all labour, equipment and materials to do all earth excavation, to remove the asphalt

pavement, except where such pavement removal is a separate item for providing openings and breaking into the sewers to carry out all pipe installations, connections, benching and grouting, to place and compact all **embedment**, backfill and cover materials, to dispose of surplus excavated materials, to carry out all sheathing, shoring and dewatering as per OPSS.MUNI 517 and 518 as may be required and for all other items incidental to this operation.

All sanitary sewer manholes shall be manufactured and installed in accordance with the OPSD identified below and be constructed using monolithic base and taper cones. The elevation of the top of the concrete structure shall allow for a minimum of one adjustment unit and a maximum of 300 mm of adjustment units plus the frame. All manholes are to be pre-benched unless otherwise indicated on the contract drawings.

Structure Diameter	**OPSD**
1200 mmø	701.010; 701.030; 701.031; 701.032
1500 mmø	701.011; 701.040; 701.041
1800 mmø	701.012; 701.050; 701.051
2400 mmø	701.013; 701.060; 701.061
3000 mmø	701.014; 701.070; 701.071
3600 mmø	701.015; 701.080; 701.081

Connections to sanitary structures with PVC and all Flexible pipes shall have factory installed rubber gaskets (boots). Use of sanded adapters and parging of these connections is not accepted unless otherwise approved by the City of Peterborough. Connection to concrete sanitary structures shall be in accordance with CPD 708.020.

Where dewatering is required, if discharge flow cannot be reasonably directed into the nearest body of water due to the distance from site to disposal site, the City may be acceptable to disposal of dewatered flow into City owned storm/sanitary sewers. Sampling and testing of the discharge flow shall be conducted by and at the expense of the Contractor, to the approval of the City for disposal into the City's storm/sanitary sewers, with storm sewer being the preferred option. All flows discharged into City infrastructure shall comply with the City's Sewer By-Law. See link below for access to the Sewer By-Law:

https://bylaws.peterborough.ca/bylaws/getFNDoc.do?class_id=20&document_id=13617

The Contractor shall maintain the flow; where required, of all sewers, drains and/or inlet connections encountered during the progress of the work and if necessary, provide by-pass pumping.

The elevation of the top of the concrete structure shall allow for adjustment in accordance with CPD408.01, CPD408.02, CPD408.03 and CPD408.04 as required. Adjustment of the frame and cover to final elevations is to occur after the placement of base asphalt. This adjustment is paid for under the appropriate adjustment item in accordance with CP408.01.

Temporary Adjustments of frames and grates to final base asphalt elevation will be in accordance with CPD 408.07. Adjustment of the frame and cover to final base elevations is to occur after the placement of base asphalt.

A leakage test shall be completed on all new sanitary structures in accordance with OPSS.MUNI 407. Contractor is required to submit in document form a table stating the structure ID, diameter of MH and the calculated allowable leakage per structure to the Contract Administrator two (2) working days prior to testing. Actual leakage shall be recorded by the contractor and submitted once testing is complete. Contractor is to use City of Peterborough Form 001 for report.

Payment of this item will be as follows:

a) 90% upon installation of the sewer structure as per specifications

b) 10% upon successful completion of leak testing, submittal of leak testing documents, completion of CCTV works and submission and acceptance of CCTV submissions as per CP409.01.

CP408.01 Supply / Set Catch Basin, Catch Basin Manhole, Water Valve Chambers and Manhole Frames, Covers and Grates

OPSS.MUNI 408, November 2021, shall apply except as amended and extended herein.

The unit price bid identified in the schedule of unit prices shall be full compensation for all labour, equipment and materials required for setting of new frames, covers and grates to proper finished grade within the limits of construction in accordance with standard drawings CPD408.01, CPD408.02, CPD408.03.and CPD408.04.

The unit price for this item shall include lowering new covers and grates within the limits of construction to allow for placement of base asphalt and restoration after placement of base asphalt.

All/any existing brickwork on the manhole, water valve chamber and catch basin shall be removed and disposed of by the Contactor. A smooth level surface will be constructed with concrete to allow for the resetting of frames and grates; and adjusting units. This item shall include the general requirements set forth in specification CP351.01, General Concrete Requirements. The top of the existing structure shall be thoroughly cleaned, roughened and brushed with pure cement paste prior to pouring concrete to ensure a satisfactory bond.

Cast iron frames shall be set using:

a) Pre-cast concrete adjustment units (maximum of 3 adjusting units), High Density Polyethylene grade shall be used with permission from the Contract Administrator (maximum of 4 adjusting units) installed as per manufacturers specifications.

b) Poured in Place concrete extension as per CPD 408.03/CPD408.04; or

c) An alternate approved by the Contract Administrator.

This item includes supplying new frames, covers and grates for structures where adjustments are 300mm or less (excluding 0.15m frame and grate thickness).

Where new frames, covers and grates are supplied and the required adjustment of existing structure is over 300 mm, payment shall be made for 1 item under CP408.01 plus 1 item under CP408.04 for each additional 300 mm adjustment. No payment will be made under CP408.04 when newly installed structures have been placed as part of the same contract.

Poured in Place

A concrete extension, as specified herein, shall be constructed between the final grade of the underside of the frame and the top of the concrete of the structure. Formwork shall be used on all sides of the extension. The top of the concrete on the existing structure shall be thoroughly cleaned, roughened and brushed with pure cement paste prior to pouring concrete to ensure a satisfactory bond. The top of the concrete extension shall be set such that the frame will be adjusted to the final grade.

For catch basin and catch basin manholes, lateral adjustments may be made by sloping the concrete extension to conform to the curb alignment with permission from the Contract Administrator. The slope shall be limited to 100 mm horizontal to 300 mm vertical, and the resulting opening shall be not less than 500 mm measured at right angles to the curb.

Pre-cast Concrete Adjustment Units

Pre-cast concrete adjustment units shall conform to OPSD 704.010. For final adjustments and leveling of castings on all manhole and catch basins adjustments made, the Contractor will be required to supply and install High Density Polyethylene structure shims to support the castings while the mortar sets as supplied by Ken Taylor Industries or approved equal. The use of stones, bricks, wood etc. to support castings will not be permitted.

High density polyethylene (HDPE) adjustment units shall conform to OPSS.MUNI 1854 November 2019.

For final adjustments and leveling of castings on all manhole and catch basins, the Contractor will be required to supply and install High Density Polyethylene structure grade rings as supplied by Lad Tech Inc. or approved equal. The contractor must follow the manufactures specifications for installation.

Unless otherwise stated on the contract drawings frames, covers and grates shall adhere to the following chart:

Structure	**OPSD**
Catch basin	400.020
Storm Manhole	401.010, Type A
Sanitary Manhole	401.010, Type A or 401.030 (Watertight)

All final adjustments must be complete after the base asphalt layer has been placed, unless otherwise approved by the Contract Administrator when dealing with minor asphalt infill works. Adjustments to final elevation shall not proceed prior to base asphalt acceptance.

When placement of the proposed surface asphalt layer on a project is being deferred to the next year, all covers and grates shall be installed at base asphalt grade and temporarily protected with a hand formed asphalt curb and gutter or curb, where applicable.

Tolerances

All frames and appurtenances shall be adjusted to final grade so that, when tested with a 3 m straight edge in any direction of the surface, shall meet the following grade variance requirements between the bottom of the straight edge and the surface of the asphalt or the frame and appurtenance.

Gap, mm	**Action**
Up to 10.0	Acceptable
Greater than 10.0	Unacceptable

Any frame or appurtenance deemed unacceptable will be rectified to the satisfaction of the Contract Administrator at the Contractor’s cost.

Adjustments to final elevation must be complete subsequent to base asphalt installation and shall not proceed prior to its acceptance, unless otherwise approved at the discretion of the City’s designate when dealing with minor asphalt infill works.

When placement of the proposed surface asphalt layer on a project is being deferred to the next year, all covers and grates shall be installed at base asphalt grade and

temporarily protected with a hand formed asphalt curb and gutter or curb, where applicable.

For surface asphalt layer installation:

April to September

The Contractor will be required to complete all adjustments in the roadway a minimum of three (3) working days and a maximum of ten (10) working days prior to commencing the placement of the final surface asphalt. If final surface asphalt is delayed past ten (10) working days, the contractor will be required to ramp all covers and grates in the roadway. No exceptions.

The placement and removal/disposal of any temporary asphalt ramping shall be included in the unit price bid per adjustment. No exceptions

October 1 to October 15

The Contractor will be required to complete all adjustments in the roadway a minimum of three (3) working days and a maximum of seven (7) working days prior to commencing the placement of the final surface asphalt. No exceptions

If final surface asphalt is delayed past seven (7) working days, the contractor will be required to ramp all covers and grates in the roadway. The placement and removal/disposal of any temporary asphalt ramping shall be included in the unit price bid per adjustment. No exceptions.

October 15 to March

Provisions must be made for all covers and grates to be installed at base asphalt grade and temporarily protected with a hand formed asphalt curb and gutter or curb in accordance with CPD 408.06 and CPD 406.07 where applicable. No exceptions.

The placement and removal/disposal of any temporary asphalt curb and gutter or curb shall be included in the unit price bid per adjustment. No exceptions.

CP408.02 Reset / Adjust / Existing Catch Basin, Catch Basin Manhole, Water Valve Chambers and Manhole Frames, Covers and Grates

Not applicable.

CP408.03 Reset / Adjust Valve Boxes

OPSS.MUNI 408, November 2021, shall apply except as amended and extended herein.

The unit price bid identified in the schedule of unit prices bid shall be full compensation for all labour, equipment, and materials necessary for raising or lowering all existing valve boxes to accommodate base asphalt paving and resetting the boxes to the final grade. All final adjustments are to be completed after the base asphalt layer has been placed. Adjustments to final elevation shall not proceed prior to base asphalt

acceptance. The use of lift rings is to be avoided wherever possible. Use of lift rings must be pre-approved by the Contract Administrator on a case-by-case decision.

In new subdivisions, valve boxes may be set temporarily to top of base asphalt elevation for interim acceptance requirements. Ramping to valve boxes set too high will not be accepted.

Tolerances

All valve boxes shall be adjusted to final grade so that, when tested with a 3 m straight edge in any direction of the surface, shall meet the following grade variance requirements between the bottom of the straight edge and the surface of the asphalt or valve box.

Gap, mm	**Action**
Up to 6.0	Acceptable
Greater than 6.0	Unacceptable

Any valve box deemed unacceptable will be rectified to the satisfaction of the Contract Administrator at the Contractor's cost.

CP408.04 Rebuilding of Existing Maintenance Holes, Catch Basins, and Ditch Inlets

OPSS.MUNI 408, November 2021, shall apply except as amended and extended herein.

The unit price bid identified in the schedule of unit prices shall be full compensation for all labor, materials, and equipment necessary to rebuild the existing maintenance holes, catch basins and ditch inlets to 0.45 meters below the finished grade (including 0.15m frame and grate thickness) as shown on the contract drawings.

For catch basin and catch basin manholes, lateral adjustments may be made by slopping the concrete extension to conform to the curb alignment with permission from the Contract Administrator. The slope shall be limited to 50 mm horizontal to 300 mm vertical, and the resulting opening shall be not less than 500 mm measured at right angles to the curb. If lateral adjustment is required a Poured in Place adjustment: CPD 408.03, CPD 408.04 must be used.

When a Poured in Place adjustment is required: a concrete extension, as specified herein, shall be constructed between the final grade of the underside of the frame and the top of the concrete of the structure. Formwork shall be used on all sides of the extension. The top of the concrete on the existing structure shall be thoroughly cleaned, roughened and brushed with pure cement paste prior to pouring concrete to ensure a satisfactory bond. The top of the concrete extension shall be set such that the frame will be adjusted to the final grade.

If no lateral adjustment is required a 300mm prefabricated riser shall be required in order to limit the number of pre-cast concrete adjustment units to a maximum of four (4).

This will be considered a contract provisional item. When required this item shall include the supply and installation of a 0.3m prefabricated riser.

CP408.05 Temporary / Adjust / New and Existing Catch Basin, Catch Basin Manhole, Water Valve Chamber and Manhole Frames, Covers and Grates

The unit price bid identified in the schedule of unit prices shall be full compensation for all labor, materials, and equipment necessary to handle, temporary set existing or new frames, covers and grates to finished base asphalt grade within the limits of construction in accordance with standard drawings CPD408.06, CPD408.07, and contract carry over requirements.

This item shall only apply when contract requirements for surface asphalt are to be installed in a subsequent year from base asphalt placement.

All costs associated with the removal of a temporary adjustment prior to final adjustment shall be deemed to be part of the item.

The Contract Administrator shall be responsible for determining which structures are to receive temporary adjustments which may differ between projects.

The Contractor is made aware that CCTV's and leakage testing may not be able to be carried out when temporary adjustments are in place as it is not necessarily required for all structures to be adjusted. It is suggested that CCTV's and leakage testing are to be carried out prior to base asphalt placement for full payment of sewer related items.

CP408.06 Reset/Adjust Existing or New Bell Chamber and Maintenance Hole Frame and Cover

CP 408.01, shall apply except as amended and extended herein.

The unit price bid identified in the schedule of unit prices shall be full compensation for all labour, equipment and materials required for setting of new or existing (i.e.: used) Bell chamber and maintenance hole frame and cover to the proper finished grade within the limits of construction in accordance with CPD 408.04. The installation shall follow CPD 408.04, whereas it must be a poured in place collar. Please note that Bell will furnish new frame and covers, when needed as determined by a Bell representative, at no cost to the Contractor.

The Contractor shall hire a 'Bell Approved Contractor' (i.e.: currently Telecon, Ledcor, Aecon, etc., however, this is subject to change without notice as determined by the City and/or Bell) to perform Bell chamber and maintenance hole adjustments on-site.

The Contractor may be required to obtain the frame and cover from Bell's Peterborough yard at no extra cost to the City. Obtaining these materials may

require machinery such as but not limited to a backhoe due to frame and cover's weight which cannot be lifted manually by workers.

The City shall not be held responsible for, including but not limited to; additional costs, timelines, delays, claims, coordination, where coordination of 'Bell's approved Contractor' fails to meet construction operations and/or scheduling timelines even where it leads to unsuccessfully meeting the contractual requirements. If the issue with coordinating 'Bell's approved Contractor' persists, the Contractor may request alternate options to conduct the work. These alternative options will require review and formal written approval from the Contract Administrator and are not guaranteed to be approved by the City and/or Bell.

CP408.07 Supply/Set Watertight Maintenance Hole

CP 408.01, shall apply except as amended and extended herein.

The unit price bid identified in the schedule of unit prices shall be full compensation for all labour, equipment and materials required for setting new frames, covers and grates to proper finished grade within the limits of construction in accordance with standard drawings OPSD 401.030.

CP409.01 Closed Circuit Television (CCTV) Inspection of Sewers and Sewer Service Laterals

CSA PLUS 4012-10 and OPSS.MUNI 409, November 2023, shall apply except as amended and extended herein.

Operator Certification

All operators performing inspections shall be certified in NASSCO's PACP Version 7.0.0, November 2015. The operator's certification ID and name will be given to the Contract Administrator before the operator does inspections in the City of Peterborough.

Video Inspection, Format, and Deliverables

Prior to commencing video inspection, the Contractor must obtain unique identification (ID) information for each of the structures and pipe segments from the City of Peterborough GIS department. Coordination of this can be achieved through the Contract Administrator or designate. The Contractor must give the Contract Administrator a minimum of five (5) working days notice prior to the commencement of sewer inspections in order to produce the necessary unique ID information.

All inspection work shall proceed in the downstream direction unless a reversal is required and approved**.**

These ID's must be used in the identification of the sewer segment at the beginning of each sewer video. Video naming / labelling must strictly adhere to the following example:

Pipe segment ID_Structure Start_6 Digit Date_Contract Number/Phase Number

Example:

123456_98765_010108_ITT-XX-XX..mpeg

Where,

123456 is the ID for the pipe being inspected;

98765 is the ID for the starting structure (e.g., manhole, catch basin, etc.);

010108 is the date of the inspection in DD/MM/YY format; and

ITT-XX-XX is the contract Number or the phase number if in a new subdivision

All videos produced shall be in MPEG-1 format as defined by ISO capable of being played in Windows Media Player 9.0 or higher without additional software or conversions.

The equipment and cables utilized shall be capable of inspecting a minimum sewer length of 150 metres, without reversal.

The CCTV digital recordings (CD version) must be indexed to the textual data. The field survey must record the time index on the video that shows the image(s) corresponding to the text record. The indexing must include the start time of the entire survey and the exact time number for each pipe feature/defect recorded in the data. This indexing will permit the user to view a particular sewer pipe or a particular feature/defect in a pipe, after inserting the appropriate CD, and then advance to the stored time index in the associated MPEG file, and then display the image(s).

Each inspection unit shall be equipped with all fans and/or blowers necessary to remove any fog that may be present in the sewers during inspection.

Prior to commencing an inspection, the Contractor shall dewater the sewer section to ensure that the full diameter of the pipe is visible. Flow in the pipes will be controlled to a maximum depth of 10% of the pipe diameter to permit viewing of the pipe walls. The method of control shall be outlined to the City of Peterborough and accepted prior to the commencement of work. The Contractor shall maintain the flow; where required, of all sewers, drains, house, or inlet connections encountered during the progress of the work and if necessary, provide by-pass pumping.

The camera lens shall be kept clean at all times. No inspection of a sewer shall proceed while the camera lens is dirty (i.e., it impairs the operators' ability to accurately encode features).

Inspection Reports

A CCTV Inspection Report is to be completed for each leg of sewer inspected. Reports are to be submitted in PDF electronic format. Reports shall be provided in electronic format on CD-ROM or DVD-ROM. One Report is to be bound into book form. In addition, two copies of reports shall be provided in electronic format on CD-ROM or DVD-ROM.

All CCTV Inspections are to be provided in a PACP database.

Each report must include the following information:

a) Main Line Sewers/Culverts

- Date of inspection
- Contract number
- Street Name
- Report Number
- Video ID
- Pipe ID Number
- Pipe Size
- Type of Pipe
- Type of Sewer
- Depth of flow
- Tape Number
- Counter Start
- Counter End
- Starting Manhole ID Number
- Starting Manhole Location
- Ending Manhole ID Number
- Ending Manhole Location
- Direction of Inspection
- Direction of Flow
- Operator Name
- Condition of line
- Cleanliness
- Gases
- Condition of manhole

- Other Comments

b) Sewer Laterals/ Sewer Services

- Date of inspection
- Contract number
- Street Name
- Report Number
- Video ID
- Pipe ID Number
- Pipe Size
- Type of Pipe
- Type of Sewer
- Depth of flow
- Tape Number
- Counter Start
- Counter End
- Starting Sewer ID Number
- Ending civic address Number at property line
- Direction of Inspection
- Direction of Flow
- Operator Name
- Condition of line
- Cleanliness
- Gases
- Other Comments

An ordered description of all observations made during the inspection along with the respective running distance, location, and type of observation.

e.g.: 3.2 m Lateral at 10:00 o'clock 10.5 m Calcite at joint

Each book shall include the following:

a) An index listing all reports contained in that book.

b) List of comments of significant observations including a brief description of problems found. This list is to be placed at the beginning of each book.

c) A copy of the map or maintenance sheet, which was provided by the City, to indicate the sewer lines inspected. This map shall be placed in a bound sleeve at the back of each book.
Note: It is the responsibility of the Contractor to make reduced scale reproductions of each map or maintenance sheet provided.

d) The book cover shall contain the following information:

Inspection Report Overview	**Description**
Client:	City of Peterborough
Contract Number/Subdivision Name:	
Street Name:	
Location From:	
Location To:	
Sewer Type:	
Inspection Date:	
Associated Video Data:	

Acceptance

All CCTV inspection reports and video must be provided to the Contract Administrator a minimum of five (5) working days in advance of the application of surface asphalt. This will allow sufficient time for the Contract Administrator to review and accept the sewer as complete. In addition, any corrective actions required as a result of the video inspection are to be completed prior to the placement of surface asphalt.

Cleaning/Flushing of Sewers

Hydraulic flushing and cleaning of the sewers shall be carried out prior to the CCTV inspection. If in the opinion of the Contract Administrator re-inspection of the sewer is required as a result of inadequate cleaning, the Contractor shall re-flush and re-inspect the sewer at no extra cost to the City.

Precautions shall be taken to ensure that no flooding of public or private property occur during any phase of the cleaning. In the event that notification of flooding is given to the contractor by a resident or affected party, the contractor is required to stop work immediately and contact the Contract Administrator. Work may only resume once approval is given by the Contract Administrator. The City shall not be responsible for lost time due to work stopped for this reason.

Sewer sections shall be cleaned using hydraulic-propelled or high-velocity sewer cleaning equipment. Selection of the equipment used shall be based on the condition of the lines at the time the work commences. The equipment and methods selected shall be satisfactory to the Contract Administrator. Equipment shall carry its own water tank (minimum 3,000 litre) capable of holding corrosive or caustic cleaning or sanitizing chemicals if required by the City, auxiliary engine, pump, and hydraulic drive hose reel. All controls shall be located so that the equipment can be operated above ground.

The supply of water for the cleaning/flushing operation shall be the responsibility of and paid by the Contractor.

The contractor is responsible for obtaining the necessary hydrant use permit with the PUC prior to commencing work; this is not the responsibility of the City.

Satisfactory precautions shall be taken to protect the sewer lines from damage that might be inflicted by the improper use of cleaning equipment. Whenever hydraulic-propelled cleaning tools, which depend upon water pressure to provide their cleaning force, or any tools which retard the flow of water in the sewer line are used, precautions shall be taken to ensure that the water pressure created does not cause any damage or flooding to public or private property being served by the manholes or pipe section involved. At the request of the Contract Administrator, the Contractor shall reduce flushing pressure to minimum functional pressure to minimize the effect on sanitary services and the creation of adverse conditions.

All sludge, dirt, sand, rocks, grease and other solid or semi-solid material resulting from the cleaning operations shall be removed at the downstream manhole of the section being cleaned. Care is to be taken to ensure the debris from the section being cleaned does not pass to the downstream section. The Contractor shall be responsible for any costs associated with restoring the downstream sections to pre-construction conditions should adequate precautions not be taken. Passing material from manhole section to manhole section shall not be permitted. All structures such as manholes and catch basins shall be cleaned as necessary to fully expose all pipes. The decanting of liquid waste shall only be permitted into the sanitary sewer at locations previously approved by the City. Debris collected from the cleaning and flushing of sewers is to be disposed of at the City of Peterborough Landfill or approved alternate location, and the Transportation of this waste is the sole responsibility of the Contractor.

Tipping fees for this material will be charged to the Contractor. The contractor is responsible for the collection and submission of all weigh tickets to the Contract Administrator. The submission of weigh scale receipts, or at a minimum the provision of a debris weight estimates (as deemed acceptable by the Contract Administrator), are required for payment.

All work shall be completed to the satisfaction of the Contract Administrator.

Flow Control/Dewatering as per OPSS.MUNI 517 and 518/Plugging and Blocking

When interruption of sewer line flows is necessary to effectively conduct the inspection operations, the Contractor shall, subject to the approval of the Contract Administrator, control flows using plugging and blocking methods.

A sewer line plug shall be inserted into the line at a maintenance hole upstream from the section to be inspected. The plug shall be designed so that all or any portion of the sewage flows can be released. During the inspection, flows shall be limited to 10% of the pipe diameter to enable proper inspection of the pipe. Sewage levels upstream of the plugged section shall be monitored at all times. After the work is completed, flows shall be restored to normal.

All costs associated with the control of flows using plugging and blocking methods shall be included in the unit prices for the inspection of sewers.

Pumping or Bypassing

For the control of flow when necessary, within sewers where in the opinion of the Contract Administrator flow control cannot be reasonably achieved by the plugging methods, pumps or siphons shall be used to divert all or a portion of the flows as may be necessary to perform the specified work. Excess sewage flows shall be transported through a closed pipeline or by tank trucks to the nearest or most economical City approved disposal area. Pumping shall only be implemented if the sewer flows in off-peak times are so high as to prevent a clear inspection.

Payment for work associated with the control of flows using pumping and bypass methods shall be included in the Unit Prices for construction of sewers. The Contractor is to make all necessary arrangements with the owners of each building. The work may be carried out during a weekend, or a long weekend, provided all the necessary notifications and arrangements have been made and approval for the weekend work has been obtained from the Contract Administrator.

CP410.01 Supply/Install DR 35 PVC Storm Sewer

OPSS.MUNI 410, November 2018, shall apply except as amended and extended herein.

The unit price bid identified in the schedule of unit prices (including both cross drains and mains) to supply and install DR 35 PVC storm sewer in accordance with the size indicated on the contract drawings shall include but not necessarily be limited to the following:

a) Excavation and disposal of all surplus or unsuitable material as per CP 206.01.

b) All sheathing, shoring, bracing, and dewatering as per OPSS.MUNI 517 and 518 that may be required.

c) Supply, place and install the size and class of pipe indicated on the contract drawings.

d) Supply, place and compact (Granular A) **embedment** in accordance with OPSD 802.010 and CP501.01.

e) Temporary support of surrounding utilities located within the excavation, if required.

f) Supply, place in 300 mm lifts, and compact to CP501.01, suitable native backfill to the subgrade elevation below the proposed road as dictated by the road cross sections for the given street.

g) All transitions and adaptors necessary to connect newly installed pipes to existing pipes. Blind tee connections must be constructed with factory made tees, Inserta Tees (or approved equivalent by the Contract Administrator), or by coring into the existing pipe. If coring is not feasible as approved in writing by the Contract Administrator, alternative methods may be used at no additional cost to the City, and approved by the Contract Administrator.

h) Connections to existing and new structures in accordance with CPD 708.020, including tapping of pipes into existing structures with the use of rubberized connectors (boots) and altering benching, if required.

i) Cleaning, flushing and CCTV camera inspection of the completed sewer in accordance with CP409.01.

j) All pumping, by passing, temporary pipes and sand bagging etc. to keep the system operational at all times and not adversely affect the installation of pipe **embedment** downstream.

k) Leakage testing of new sewers in accordance with OPSS.MUNI 410. Contractor is required to submit in document form a table stating the pipe run id, length of run, diameter of pipe in mm and the calculated allowable leakage per run to the Contract Administrator two (2) working days prior to testing, all actual leakage shall be recorded by the contractor and submitted once testing is complete. Contractor is to use City of Peterborough Form 001 or Form 002 for report.

Deflection testing as per OPSS.MUNI 410 and OPSS.MUNI 438 when requested based on CCTV inspection review. Digital image in MPEG format**.** Cross drain sizes shall be as follows:

- 250 mm from all 600x600 catch basins
- 300 mm from all 600x1450 catch basins

Should it be determined that the native soil is suitable for **embedment** then the contractor will be required to give the City a credit for **embedment** equivalent to the cost per tonne or cubic metre for Granular 'A' delivered to the job site times the theoretical **embedment** quantity per lineal metre of pipe as determined by OPSD 802.010.

It is the Contractor's responsibility to notify the appropriate utility company of all conflicting underground services and to remove and dispose of any abandoned underground service that conflicts with the proposed storm sewer work.

A Leakage Test shall be completed on all new storm structures in accordance with OPSS.MUNI 407. Contractor is required to submit in document form a table stating the structure ID, diameter of MH and the calculated allowable leakage per structure to the Contract Administrator two (2) working days prior to testing. Actual leakage shall be recorded by the contractor and submitted once testing is complete. Contractor is to use City of Peterborough Form 001 for report.

Where dewatering is required, if discharge flow cannot be reasonably directed into the nearest body of water due to the distance from site to disposal site, the City may be acceptable to disposal of dewatered flow into City owned storm/sanitary sewers. Sampling and testing of the discharge flow shall be conducted by and at the expense of the Contractor, to the approval of the City for disposal into the City's storm/sanitary sewers, with storm sewer being the preferred option. All flows discharged into City infrastructure shall comply with the City's Sewer By-Law. See link below:

https://bylaws.peterborough.ca/bylaws/getFNDoc.do?class_id=20&document_id=13617

The Contractor shall maintain the flow; where required, of all sewers, drains and/or inlet connections encountered during the progress of the work and if necessary, provide by-pass pumping.

Payment of this item will be as follows:

a) 90% upon installation of the sewer structure as per specifications

b) 10% upon successful completion of leak testing, submittal of leak testing documents, completion of CCTV works and submission and acceptance of CCTV submissions as per CP409.01.

CP410.02 Supply/Install Concrete Storm Sewer

OPSS.MUNI 410, November 2018, shall apply except as amended and extended herein.

The unit price bid identified in the schedule of unit prices to supply and install concrete storm sewer in accordance with the size and pipe grade indicated on the contract drawings shall include but not necessarily be limited to the following:

a) Excavation and disposal of all surplus or unsuitable material as per CP 206.01.

b) All sheathing, shoring, bracing, and dewatering as per OPSS.MUNI 517 and 518

that may be required.

c) Temporary support of surrounding utilities located within the excavation, if required. The temporary removal and relaying of existing storm cross drains.

d) Supply, place and install the size and class of pipe indicated in this item's description.

e) Supply, place, and compact **embedment** (Granular A) in accordance with OPSD 802.030 (Class B **Embedment**), 802.031 (Class B **Embedment**) or 802.032 (Class B **Embedment**) in conformance with CP501.01.

f) Supply, place in 300mm lifts, and compact to CP501.01, suitable native backfill to the subgrade elevation below the proposed road as dictated by the road cross sections for the given street.

g) All transitions and adaptors necessary to connect newly installed pipes to existing pipes. Blind tee connections must be constructed with factory made tees, Inserta Tees (or approved equivalent by the Contract Administrator), or by coring into the existing pipe. If coring is not feasible as approved in writing by the Contract Administrator, alternative methods may be used at no additional cost to the City, and approved by the Contract Administrator.

h) Connections to existing and new structures in accordance with CPD 708.020, including tapping of pipes into existing structures with the use of rubberized connectors (boots) and altering benching, if required.

i) Cleaning, flushing and CCTV camera inspection of the completed sewer in accordance with CP409.01.

j) All pumping, by passing, temporary pipes and sand bagging etc. to keep the system operational at all times and not adversely affect the installation of pipe **embedment** downstream.

k) Leakage testing of new sewers in accordance with OPSS.MUNI 410. Contractor is required to submit in document form a table stating the pipe run id, length of run, diameter of pipe in mm and the calculated allowable leakage per run to the Contract Administrator two (2) working days prior to testing, all actual leakage shall be recorded by the contractor and submitted once testing is complete. Contractor is to use City of Peterborough Form 001 or Form 002 for report..

Should it be determined that the native soil is suitable for **embedment**, the contractor will be required to give the City a credit for **embedment** equivalent to the cost per tonne or cubic metre for Granular 'A' delivered to the job site times the theoretical **embedment** quantity per linear metre of pipe as determined by the OPSD per item e).

Concrete sewer pipe and joints shall conform to MOEE Standard Specification No. II. Connections to the concrete storm sewer shall be made using pre-manufactured tees.

It is the Contractor's responsibility to notify the appropriate utility company of all conflicting underground services and to remove and dispose of any abandoned underground service that conflicts with the proposed sewer work.

All concrete sewer pipes shall be certified by the manufacturer and shall be stamped "Vacuum Tested" in green paint. All concrete storm sewer pipes shall utilize strength capacity class 65-D as a minimum unless otherwise specified in the contract documentation and/or contract drawings.

Where dewatering is required, if discharge flow cannot be reasonably directed into the nearest body of water due to the distance from site to disposal site, the City may be acceptable to disposal of dewatered flow into City owned storm/sanitary sewers. Sampling and testing of the discharge flow shall be conducted by and at the expense of the Contractor, to the approval of the City for disposal into the City's storm/sanitary sewers, with storm sewer being the preferred option. All flows discharged into City infrastructure shall comply with the City's Sewer By-Law. See link below for access to the Sewer By-Law:

https://bylaws.peterborough.ca/bylaws/getFNDoc.do?class_id=20&document_id=13617

The Contractor shall maintain the flow; where required, of all sewers, drains and/or inlet connections encountered during the progress of the work and if necessary, provide by-pass pumping.

Payment of this item will be as follows:

a) 90% upon installation of the sewer structure as per specifications

b) 10% upon successful completion of leak testing, submittal of leak testing documents, completion of CCTV works and submission and acceptance of CCTV submissions as per CP409.01

CP410.03 Supply/Install DR 28 PVC Sanitary Service

OPSS.MUNI 410, November 2018, shall apply except as amended and extended herein.

The unit price bid identified in the schedule of unit prices shall be full compensation for all labor, equipment and materials required for the supply and installation of sanitary service connections including all fittings, adaptors, etc., except where these fittings and adaptors are paid for under other items, necessary to connect to either existing sewers or replacement sewers in accordance with standard drawing OPSD 1006.010 as necessary and indicated on the contract drawings shall include but not necessarily be limited to the following:

a) Excavation and disposal of all surplus or unsuitable material as per CP 206.01.

b) All sheathing, shoring, bracing, and dewatering as per OPSS.MUNI 517 and 518 that may be required.

c) Supply, place and install the size and class of pipe indicated on the contract drawings.

d) Supply, place, and compact **embedment** (Granular A) in accordance with OPSD 802.010 and CP501.01.

e) Temporary support of surrounding utilities located within the excavation, if required.

f) Supply, place in 300 mm lifts, and compact to CP501.01, suitable native backfill to the subgrade elevation below the proposed road as dictated by the road cross sections for the given street.

g) All transitions and adaptors necessary to connect newly installed pipes to existing pipes. Blind tee connections must be constructed with factory made tees, Inserta Tees (or approved equivalent by the Contract Administrator), or by coring into the existing pipe. If coring is not feasible as approved in writing by the Contract Administrator, alternative methods may be used at no additional cost to the City, and approved by the Contract Administrator.

h) Connections to existing and new structures in accordance with CPD 708.020, including tapping of pipes into existing structures with the use of rubberized connectors (boots) and altering benching, if required.

i) Cleaning, flushing and CCTV camera inspection of the completed sewer in accordance with CP409.01.

j) All pumping, by passing, temporary pipes and sand bagging etc. to keep the system operational at all times and not adversely affect the installation of pipe **embedment** downstream.

k) Leakage testing of new sewers in accordance with OPSS.MUNI 410. Contractor is required to submit in document form a table stating the pipe run id, length of run, diameter of pipe in mm and the calculated allowable leakage per run to the Contract Administrator two (2) working days prior to testing, all actual leakage shall be recorded by the contractor and submitted once testing is complete. Contractor is to use City of Peterborough Form 001 or Form 002 for report.

Deflection testing as per OPSS.MUNI 410 and OPSS.MUNI 438 when requested based on CCTV inspection review. Digital image in MPEG format. Where services are placed to the property lines, leakage testing of services is required in accordance with OPSS.MUNI 410. The proposed services will extend from the proposed main to the property line, unless replacing an existing service.

The unit price shall also include excavation and removal/disposal of existing service, all **embedment** materials required for the new connection and management of the existing flow. Flows are to be maintained at all times.

The color of the PVC sanitary service pipe shall be green unless otherwise specified.

When terminating unconnected services, they shall be identified with a 2”x4” (38mm x 89mm) wood stakes placed from the service invert to 150mm below grade and painted green for the top 300mm of the stake. Plugged or capped service connections shall be marked on the top surface of the last 3m of the upstream end of the pipe with yellow PVC adhesive tape (50mm wide) labeled continuously in black lettering (40mm wide).

Where dewatering is required, if discharge flow cannot be reasonably directed into the nearest body of water due to the distance from site to disposal site, the City may be acceptable to disposal of dewatered flow into City owned storm/sanitary sewers. Sampling and testing of the discharge flow shall be conducted by and at the expense of the Contractor, to the approval of the City for disposal into the City’s storm/sanitary sewers, with storm sewer being the preferred option. All flows discharged into City infrastructure shall comply with the City’s Sewer By-Law. See link below for access to the Sewer By-Law:

https://bylaws.peterborough.ca/bylaws/getFNDoc.do?class_id=20&document_id=13617

The Contractor shall maintain the flow; where required, of all sewers, drains and/or inlet connections encountered during the progress of the work and if necessary, provide by-pass pumping.

CP410.04 Supply/Install DR 35 PVC Sanitary Sewer

OPSS.MUNI 410, November 2018, shall apply except as amended and extended herein.

The unit price bid identified in the schedule of unit prices to supply and install DR 35 PVC sanitary sewer in accordance with the size indicated on the contract drawings shall include but not necessarily be limited to the following:

a) Excavation and disposal of all surplus or unsuitable material as per CP 206.01.

b) All sheathing, shoring, bracing, and dewatering as per OPSS.MUNI 517 and 518 that may be required.

c) Temporary support of surrounding utilities located within the excavation, if required. The temporary removal and relaying of existing storm cross drains.

d) Supply, place and install the size and class of pipe indicated on the contract drawings.

e) Supply, place and compact (Granular A) **embedment** in accordance with OPSD 802.010. All granular **embedment** is to be compacted according to CP501.01.

f) Supply, place in 300 mm lifts, and compact to CP501.01, suitable native backfill to the subgrade elevation below the proposed road as dictated by the road cross sections for the given street.

g) All transitions and adaptors necessary to connect newly installed pipes to existing pipes. Blind tee connections must be constructed with factory made tees,

Inserta Tees (or approved equivalent by the Contract Administrator), or by coring into the existing pipe. If coring is not feasible as approved in writing by the Contract Administrator, alternative methods may be used at no additional cost to the City, and approved by the Contract Administrator.

h) Connections to existing and new structures in accordance with CPD 708.020, including tapping of pipes into existing structures with the use of rubberized connectors (boots) and altering benching, if required.

i) Cleaning, flushing and CCTV camera inspection of the completed sewer in accordance with CP409.01.

j) All pumping, by passing, temporary pipes and sand bagging etc. to keep the system operational at all times and not adversely affect the installation of pipe **embedment** downstream.

k) Leakage testing of new mains in accordance with OPSS.MUNI 410. Contractor is required to submit in document form a table stating the pipe run id, length of run, diameter of pipe in mm and the calculated allowable leakage per run to the Contract Administrator two (2) working days prior to testing, all actual leakage shall be recorded by the contractor and submitted once testing is complete. Contractor is to use City of Peterborough Form 001 or Form 002 for report.

Deflection testing as per OPSS.MUNI 410 and OPSS.MUNI 438 when requested based on CCTV inspection review. Digital image in MPEG format. Should it be determined that the native soil is suitable for **embedment** then the contractor will be required to give the City a credit for **embedment** equivalent to the cost per tonne or cubic metre for Granular ‘A‘ delivered to the job site times the theoretical **embedment** quantity per linear metre of pipe as determined by OPSD 802.010.

It is the Contractor’s responsibility to notify the appropriate utility company of all conflicting underground services and to remove and dispose of any abandoned underground service that conflicts with the proposed sewer work.

Where dewatering is required, if discharge flow cannot be reasonably directed into the nearest body of water due to the distance from site to disposal site, the City may be acceptable to disposal of dewatered flow into City owned storm/sanitary sewers. Sampling and testing of the discharge flow shall be conducted by and at the expense of the Contractor, to the approval of the City for disposal into the City’s storm/sanitary sewers, with storm sewer being the preferred option. All flows discharged into City infrastructure shall comply with the City’s Sewer By-Law. See link below for access to the Sewer By-Law:

https://bylaws.peterborough.ca/bylaws/getFNDoc.do?class_id=20&document_id=13617

The Contractor shall maintain the flow; where required, of all sewers, drains and/or inlet connections encountered during the progress of the work and if necessary, provide by-pass pumping.

Payment of this item will be as follows:

a) 90% upon installation of the sewer structure as per specifications

b) 10% upon successful completion of leak testing, submittal of leak testing documents, completion of CCTV works and submission and acceptance of CCTV submissions as per CP409.01.

CP410.05 Supply/Install Concrete Sanitary Sewer

OPSS.MUNI 410, November 2018, shall apply except as amended and extended herein.

The unit price bid identified in the schedule of unit prices to supply and install concrete sanitary sewer in accordance with the size and pipe grade indicated on the contract drawings shall include but not necessarily be limited to the following:

a) Excavation and disposal of all surplus or unsuitable material as per CP 206.01.

b) All sheathing, shoring, bracing, and dewatering as per OPSS.MUNI 517 and 518 that may be required.

c) Temporary support of surrounding utilities located within the excavation, if required. The temporary removal and relaying of existing storm cross drains.

d) Supply, place and install the size and class of pipe indicated in this item's description.

e) Supply, place, and compact **embedment** in accordance with OPSD 802.030 (Class B **Embedment**), 802.031 (Class B **Embedment**) or 802.032 (Class B **Embedment**) and in accordance with CP501.01.

f) Supply, place in 300 mm lifts, and compact to CP501.01, suitable backfill to the subgrade elevation below the proposed road as dictated by the road cross sections for the given street.

g) All transitions and adaptors necessary to connect newly installed pipes to existing pipes. Blind tee connections must be constructed with factory made tees, Inserta Tees (or approved equivalent by the Contract Administrator), or by coring into the existing pipe. If coring is not feasible as approved in writing by the Contract Administrator, alternative methods may be used at no additional cost to the City, and approved by the Contract Administrator.

h) Connections to existing and new structures in accordance with CPD 708.020, including tapping of pipes into existing structures with the use of rubberized connectors (boots) and altering benching, if required.

i) Cleaning, flushing and CCTV camera inspection of the completed sewer in accordance with CP409.01.

j) All pumping, by passing, temporary pipes and sand bagging etc. to keep the system operational at all times and not adversely affect the installation of pipe **embedment** downstream.

Leakage testing of new mains in accordance with OPSS.MUNI 410. Contractor is required to submit in document form a table stating the pipe run id, length of run, diameter of pipe in mm and the calculated allowable leakage per run to the Contract Administrator two (2) working days prior to testing, all actual leakage shall be recorded by the contractor and submitted once testing is complete. Contractor is to use City of Peterborough Form 001 or Form 002 for report.Should it be determined that the native soil is suitable for **embedment** then the contractor will be required to give the City a credit for **embedment** equivalent to the cost per tonne or cubic metre for Granular 'A' delivered to the job site times the theoretical **embedment** quantity per linear metre of pipe as determined by the OPSD per item e).

Concrete sewer pipe and joints shall conform to MOEE Standard Specification No.II.

It is the Contractor's responsibility to notify the appropriate utility company of all conflicting underground services and to remove and dispose of any abandoned underground service that conflicts with the proposed sewer work.

All concrete sewer pipes shall be certified by the manufacturer and shall be stamped "Vacuum Tested" in green paint. All concrete sanitary sewer pipes shall utilize strength capacity class 65-D as a minimum unless otherwise specified in the contract documentation and/or contract drawings.

Where dewatering is required, if discharge flow cannot be reasonably directed into the nearest body of water due to the distance from site to disposal site, the City may be acceptable to disposal of dewatered flow into City owned storm/sanitary sewers. Sampling and testing of the discharge flow shall be conducted by and at the expense of the Contractor, to the approval of the City for disposal into the City's storm/sanitary sewers, with storm sewer being the preferred option. All flows discharged into City infrastructure shall comply with the City's Sewer By-Law. See link below for access to the Sewer By-Law:

https://bylaws.peterborough.ca/bylaws/getFNDoc.do?class_id=20&document_id=13617

The Contractor shall maintain the flow; where required, of all sewers, drains and/or inlet connections encountered during the progress of the work and if necessary, provide by-pass pumping.

Payment of this item will be as follows:

a) 90**%** upon installation of the sewer structure as per specifications

b) 10% upon successful completion of leak testing, submittal of leak testing documents, completion of CCTV works and submission and acceptance of CCTV submissions as per CP409.01

CP410.06 Supply/Place 19mm Clear Stone Bedding Foundation incl. Filter Fabric

OPSS.MUNI 410, November 2018, shall apply except as amended and extended herein.

The unit price bid identified in the schedule of unit prices shall be full compensation for the excavation, supply and installation of the filter fabric wrapped clear stone pipe bedding foundation.

In case of wet trench conditions as determined by the Contract Administrator, the Contractor shall construct a clear stone/filter fabric pipe bedding foundation as per CPD410.02.

Bedding that may be required as part of this project is as follows:

Support for 40mm Diameter Pipe – 200mm x 800mm

Support for 50mm Diameter Pipe – 200mm x 800mm

Support for 65mm Diameter Pipe – 200mm x 800mm

Support for 75mm Diameter Pipe – 200mm x 850mm

Support for 100mm Diameter Pipe – 200mm x 850mm

Support for 135mm Diameter Pipe – 200mm x 900mm

Support for 150mm Diameter Pipe – 200mm x 900mm

Support for 200mm Diameter Pipe – 200mm x 950mm

Support for 250mm Diameter Pipe – 200mm x 1000mm

Support for 300mm Diameter Pipe – 200mm x 1050mm

Support for 375mm Diameter Pipe – 200mm x 1125mm

Support for 450mm Diameter Pipe – 200mm x 1200mm

Support for 525mm Diameter Pipe – 200mm x 1275mm

Support for 600mm Diameter Pipe – 200mm x 1350mm

Support for 675mm Diameter Pipe – 200mm x 1425mm

Support for 750mm Diameter Pipe – 200mm x 1500mm

Support for 825mm Diameter Pipe – 200mm x 1575mm

Support for 900mm Diameter Pipe – 200mm x 1650mm

Support for 975mm Diameter Pipe – 200mm x 1725mm

Support for 1050mm Diameter Pipe – 200mm x 1800mm

Support for 1200mm Diameter Pipe – 200mm x 1950mm

Support for 1350mm Diameter Pipe – 200mm x 2550mm

Support for 1500mm Diameter Pipe – 200mm x 2700mm

The bedding may be eliminated if the Contract Administrator deems it unnecessary due to dry soil conditions. No extra compensation will be due to the contractor for deletion of part or this entire item.

CP410.07 Supply/Install Sewer Insulation

OPSS.MUNI 410, November 2018, shall apply except as amended and extended herein.

The unit price bid identified in the schedule of unit prices shall include full compensation for all labor, equipment, and materials necessary to insulate the sewer in accordance with City of Peterborough standard drawing CPD410.01.

CP410.08 Supply/Install DR 28 PVC Storm Service

OPSS.MUNI 410, November 2018, shall apply except as amended and extended herein.

The unit price bid identified in the schedule of unit prices shall be full compensation for all labor, equipment and materials required for the supply and installation of storm service connections including all fittings, adaptors, etc., except where these fittings and adaptors are paid for under other items, necessary to connect to either existing sewers or replacement sewers in accordance with standard drawing OPSD 1006.010 as necessary as Indicated on the contract drawings shall include but not necessarily be limited to the following:

a) Excavation and disposal of all surplus or unsuitable material as per CP 206.01.

b) All sheathing, shoring, bracing, and dewatering as per OPSS.MUNI 517 and 518 that may be required.

c) Supply, place and install the size and class of pipe indicated on the contract drawings.

d) Supply, place, and compact **embedment** (Granular A) in accordance with OPSD 802.010. All granular **embedment** is to be compacted in conformance with CP501.01.

e) Temporary support of surrounding utilities located within the excavation, if required.

f) Supply, place in 300 mm lifts, and compact to CP501.01, suitable native backfill to the subgrade elevation below the proposed road as dictated by the road cross sections for the given street.

g) All transitions and adaptors necessary to connect newly installed pipes to existing pipes. Blind tee connections must be constructed with factory made tees, Inserta Tees (or approved equivalent by the Contract Administrator), or by coring into the existing pipe. If coring is not feasible as approved in writing by the Contract Administrator, alternative methods may be used at no additional cost to the City, as approved by the Contract Administrator.

h) Connections to existing and new structures shall be in accordance with CPD 708.020 including tapping of pipes into existing structures with the use of manufactured rubberized connectors and altering benching, if required.

i) Cleaning, flushing and CCTV camera inspection of the completed sewer in accordance with CP409.01.

j) All pumping, by passing, temporary pipes and sand bagging etc. to keep the system operational at all times and not adversely affect the installation of pipe **embedment** downstream.

k) Leakage testing of new sewers in accordance with OPSS.MUNI 410. Contractor is required to submit in document form a table stating the pipe run id, length of run, diameter of pipe in mm and the calculated allowable leakage per run to the Contract Administrator two (2) working days prior to testing, all actual leakage shall be recorded by the contractor and submitted once testing is complete. Contractor is to use City of Peterborough Form 001 or Form 002 for report.

Deflection testing as per OPSS.MUNI 410 and OPSS.MUNI 438 when requested based on CCTV inspection review. Digital image in MPEG format.Size shall be 150mm unless otherwise specified on contract drawings and/or documents.

Where services are placed to the property lines, leakage testing of services is required in accordance with OPSS.MUNI 410. The proposed services will extend from the proposed main to the property line, unless replacing an existing service.

The unit price shall also include excavation and removal/disposal of existing service, all **embedment** materials required for the new connection and management of the existing flow. Flows are to be maintained at all times.

The color of the PVC storm service pipe shall be white unless otherwise specified.

When terminating unconnected services, they shall be identified with a 2”x4” (38mm x 89mm) wood stakes placed from the service invert to 150mm below grade and painted red for the top 300mm of the stake. Plugged or capped service connections shall be marked on the top surface of the last 3m of the upstream end of the pipe with yellow PVC adhesive tape (50mm wide) labeled continuously in black lettering (40mm wide).

Where dewatering is required, if discharge flow cannot be reasonably directed into the nearest body of water due to the distance from site to disposal site, the City may be acceptable to disposal of dewatered flow into City owned storm/sanitary sewers. Sampling and testing of the discharge flow shall be conducted by and at the expense of the Contractor, to the approval of the City for disposal into the City’s storm/sanitary sewers, with storm sewer being the preferred option. All flows discharged into City

infrastructure shall comply with the City's Sewer By-Law. See link below for access to the Sewer By-Law:

https://bylaws.peterborough.ca/bylaws/getFNDoc.do?class_id=20&document_id=13617

The Contractor shall maintain the flow; where required, of all sewers, drains and/or inlet connections encountered during the progress of the work and if necessary, provide by-pass pumping.

CP416.01 Supply/Install Sewer by Jacking and Boring

OPSS.MUNI 416, November 2023, shall apply except as amended and extended herein.

The unit price bid identified in the schedule of unit prices shall be full compensation for the supply of all materials, labor, and equipment necessary to install the proposed sewer by jacking and boring.

Submission and Design Requirement

The Contractor shall include the following technical information as part of their submissions:

- the encasement pipe material type, dimensions and joining requirements;
- the spacer material type, dimensions and spacing interval;
- the installation procedures and length of time to carry out this operation.

The Contractor shall be responsible to determine the required inside diameter of the outer encasement pipe.

Construction

Jacking and Boring - Quality Control

Prior to undertaking the jacking and boring operation, the Contractor shall provide the Contract Administrator with sufficient information on the proposed strategy for providing the following:

- An accurate indication of where the leading edge of the casing is located with respect to line and grade. The intervals for checking line and grade shall be no greater than 5 meters.
- A means of controlling line and grade.
- A means for centering the cutting head inside the borehole.

Bore Path Grade and Alignment

The Contractor shall be responsible for obtaining measurements at regular intervals and for the calculations of the line and grade of the casing installed and shall be responsible

for projecting the alignment and grade to verify that the casing is heading on the specified alignment and grade and making any necessary corrections. The Contractor shall provide the information to the Contract Administrator within one (1) working day of obtaining the measurements and calculations.

The Contractor will be responsible for all costs related to a failed bore path, including the removal of any materials installed in a failed bore path and injection of unshrinkable backfill in the voids. The Contractor will be responsible for all costs as a result of damage to facilities and infrastructure and any costs resulting from encroachment on private property.

For this project, a failed bore path is defined as when one or both of the following occur:

- A difference of 51mm or greater between the constructed bore grade and the design vertical grade.
- A difference of 301mm or greater between the constructed bore line and the design horizontal line.

Disposal of Materials

The Contractor shall control, handle, and dispose of slurry and auger fluids by means of vacuum devices or pumping equipment throughout the boring operation.

CP501.01 Compaction

OPSS.MUNI 501, November 2017, shall apply except as amended and extended herein.

Quality Control Method A

The Contractor is Responsible for establishing Quality Control procedures. The following is required as part of the Contractor’s Quality Control procedure.

Table 1 - The frequency and locations of compaction testing for quality control

Construction	Number of tests
Sewer and water main (bedding, embedment, cover and backfill lifts)	4 tests minimum per week for each associated lift
150-200 mm of 19 mm filter fabric wrapped crushed clear stone (pipe bedding foundation and structure foundations)	Minimum of 1 Visual compaction inspection per week
Roadway, curbs, and multi-use trails (subgrade, granular subbase and granular base)	4 tests minimum per week for each associated lift
Sidewalks (subgrade and granular base)	4 tests minimum per week for each associated lift
Utility structure and culvert (subgrade, bedding, embedment, cover, and backfill lifts)	4 tests minimum per week for each associated lift

Note: The Contract Administrator can request additional quality control testing at the Contractors expense if the crew alters compaction procedures following acceptable Quality Control results from the prescribed testing above.

Alters: for the purpose of CP501.01 shall be defined as changing granular or soil material sources, compaction equipment (type and/or size), the reduction in the number of passes with compaction equipment or eliminating the use of water (when required) in order to achieve compaction.

The Contractor shall retain a Certified Testing Technician to perform the above Quality Control procedures in order to set compaction patterns and determine if the requirement of water is needed at the beginning of each construction operation with no exceptions. If the Certified Testing Technician is not present when beginning a new construction operation, the Contractor will not be permitted to continue with the operation until such time that a tester is present.

An Accurate Weekly Report (Form 004) from the Contractor summarizing the Quality Control results shall be submitted to the owner by the Contractor. Handwritten reports will not be accepted. Failure to submit accurate reports on a weekly basis will result in one or all of the following:

- Non-payment for item and/or items.

- Stop backfill and the placing of subsequent lifts including hot mix asphalt and concrete pending submission of report.

Table A - Minimum field Compaction Requirements Earth and Granular Materials

Material Type	**Minimum target density**
Earth backfill, Backfill Material, Subgrade	98% SPMDD
Granular A, Granular B Mod and SSM. Granular bedding, embedment and cover material, Granular Base and Subbase	100% SPMDD

CP506.01 Dust Suppressants

OPSS.MUNI 506, November 2017, shall apply except as amended and extended herein.

Once notification is given to Contractor, a maximum of one (1) working day will be allowed to commence dust suppression work or the Contract Administrator will seek out other forces to complete the work at the Contractors expense.

The unit price bid identified in the schedule of unit prices shall be full compensation for the supply of all labor, equipment, and materials necessary to apply dust suppressants where directed by the Contract Administrator. The Contract Administrator is required to approve of the application of suppressants to be deemed payable under this item.

Calcium Chloride flake shall be applied at a rate of 40 kilograms for every 500 square meters of road surface (0.08 kg/m^2). Water is to be applied as directed by the Contract Administrator.

Water shall be paid in cubic meters and calcium chloride flakes shall be paid in kilograms.

CP510.01 Saw Cut Existing Asphalt Surface

OPSS.MUNI 510, November 2018, shall apply except as amended and extended herein.

The unit price bid identified in the schedule of unit prices shall be full compensation for all labour, equipment and materials required for saw cutting all existing asphalt surfaces, whether on roadways, driveways, or paved boulevards.

Measurement of saw cutting existing asphalt is by plan quantity and may be revised by adjusted plan quantity, of the horizontal length in metres, as measured by the Contract Administrator in the field.

The Contractor is required to use water at all times when saw cutting.

CP510.02 Removal/Disposal of Existing Asphalt Surface

OPSS.MUNI 510, November 2018, shall apply except as amended and extended herein.

The unit price bid identified in the schedule of unit prices shall be full compensation for all labor, equipment and materials required for the removal and disposal of asphalt from all roadways, driveways, and boulevards to the limits identified on the contract drawings.

Pulverizing of asphalt shall only be completed with the permission of the Contract Administrator. Should the Contractor be permitted to pulverize the asphalt surface prior to removal versus remove it via excavation, it will be the responsibility of the Contractor to maintain the pulverized asphalt in a manner deemed reasonable by the Contract Administrator at the Contractor's expense. This may include, grading, patching and the application of dust suppressants.

All pulverized material shall be removed from the work zone prior to placement of road structure.

CP510.03 Removal/Disposal of Asphalt Partial Depth

OPSS.MUNI 510, November 2018, shall apply except as amended and extended herein.

The unit price bid identified in the schedule of unit prices shall be full compensation for all labour, equipment and materials required to cold plane the existing asphalt surface in the areas shown on the contract drawing(s). This includes removal and disposal of the planed material (at an approved location), cleaning and power sweeping, removal of the asphalt where it overlays the existing gutter, all handwork required for removing the asphalt around structures and valve boxes and hot mix asphalt required for ramping.

This item includes all areas to be ground as identified in the contract drawings including at lap joints (in accordance with City standard CPD510.01). Milling for lap joints shall be 1.0 m in width and 50 mm in depth.

If the Contractor has not scheduled the application of surface asphalt the same day that the cold planing is to take place, the Contractor shall be required to place two standard "Bump" signs (one in each direction) at every joint where traffic will cross the joint. In addition, all joints are to be ramped with a bond breaking material and hot mix asphalt to a minimum slope ratio of 50 horizontal to 1 vertical (H:50 to V:1). Work will not be permitted to commence until the "Bump" signs are properly installed**.** Also, as per OPSS 710.07.05 temporary pavement markings shall be placed on temporary road surfaces (planed/milled surfaces, base, and temporary asphalt, etc.) prior to the opening to the general public.

Unless otherwise approved by the Contract Administrator, the Contractor is required to place surface asphalt within five (5) working days of the initial cold planing procedure.

Operational Constraints

During resurfacing (i.e.: pavement preservation and/or road surface repair) contracts where milling and surface asphalt placement is required, structure adjustments and curb and gutter replacements shall be performed prior to milling operations. The Contractor Administrator shall have full authority to request specific locations throughout the contract that require milling in advance of adjusting structures at no extra cost to the City.

The Contractor shall mobilize to perform padding and/or asphalt base repair(s) within two business days of written notification from the Contract Administrator without exception. Failure to mobilize within two business days notification will result in any additional road base failures and/or extension of existing failures to become the Contractor's responsibility, liability and associated cost to repair. Payment items for base repair(s) and padding will be paid under the respective Contract items.

CP510.04 Removal/Disposal Concrete Road Base

OPSS.MUNI 510, November 2018, shall apply except as amended and extended herein.

The unit price bid identified in the schedule of unit prices shall be full compensation for the supply of all necessary labour and equipment to remove and dispose of the existing concrete road base.

CP510.05 Removal/Disposal of Existing Concrete Curb and Gutter

OPSS.MUNI 510, November 2018, shall apply except as amended and extended herein.

The unit price bid identified in the schedule of unit prices shall be full compensation for the supply of all necessary labor and equipment necessary to remove and dispose of all existing curb and gutter within the limits of construction as illustrated on the contract drawings, and/or as determined by the Contract Administrator. All removals are to be terminated using saw cut ends.

The Contractor is required to use water at all times when saw cutting.

Payment shall be as per plan quantity as may be revised by adjusted plan quantity or horizontal dimensions as measured by the Contract Administrator.

CP510.06 Removal/Disposal of Existing Concrete Sidewalks, Ramps, Driveways and Medians

OPSS.MUNI 510, November 2018, shall apply except as amended and extended herein.

The unit price bid identified in the schedule of unit prices shall be full compensation for the supply of all necessary labour and equipment necessary to remove and dispose of

sections of existing municipal and private sidewalks as shown on the contract drawings and/or as determined by the Contract Administrator.

This item includes the necessary removals of concrete within private walkways and residential and commercial driveways.

All removals are to be terminated using saw cut ends.

The Contractor is required to use water at all times when saw cutting.

Payment shall be as per plan quantity, measured in square metres and may be revised by adjusted plan quantity as measured by the Contract Administrator.

CP510.07 Remove/Dispose of Existing Storm Sewer

OPSS.MUNI 510, November 2018, shall apply except as amended and extended herein.

The unit price bid identified in the schedule of unit prices shall include the following:

a) The removal and disposal of existing storm sewers as indicated on the contract drawings.

b) All sheathing, shoring, and dewatering as per OPSS.MUNI 517 and 518 that may be required.

c) Excavation, removal, and disposal of all sizes of all existing pipe.

d) Temporary support of surrounding utilities located within the excavation, if required.

e) Disconnection of existing laterals and provisions for the control of water throughout the removal.

f) Backfill and compaction of the excavation, if not a replacement sewer, with suitable excavated material available from part c) above or alternatively any shortage of backfill material may be made up with suitable excess excavated earth material obtained from the earth works item (CP206.01). All earth backfill material shall be placed in 300 mm lifts, compacted to CP501.01, to the subgrade elevation below the proposed road as dictated by the road cross sections for the given street.

g) All pumping, bypassing, temporary pipes, and sand bagging etc. necessary to keep the system operational at all times.

Where dewatering is required, if discharge flow cannot be reasonably directed into the nearest body of water due to the distance from site to disposal site, the City may be acceptable to disposal of dewatered flow into City owned storm/sanitary sewers. Sampling and testing of the discharge flow shall be conducted by and at the expense of the Contractor, to the approval of the City for disposal into the City's storm/sanitary sewers, with storm sewer being the preferred option. All flows discharged into City

infrastructure shall comply with the City's Sewer By-Law. See link below for access to the Sewer By-Law:

https://bylaws.peterborough.ca/bylaws/getFNDoc.do?class_id=20&document_id=13617

The Contractor shall maintain the flow; where required, of all sewers, drains and/or inlet connections encountered during the progress of the work and if necessary, provide by-pass pumping.

CP510.08 Remove/Dispose of Existing Storm Structures

OPSS.MUNI 510, November 2018, shall apply except as amended and extended herein.

The unit price bid identified in the schedule of unit prices pertains to all storm (double) catch basins, (double) catch basin manholes and manholes and shall include the following:

a) Removal of existing frames and grates. All frames and covers recovered within the limits of construction shall be delivered to Public Works on Harper Road in the City of Peterborough, unless otherwise designated by the Contract Administrator. The Contractor is to obtain a receipt for the materials delivered to the Public Works Yard and provide that receipt to the Contract Administrator.

b) All sheathing, shoring, and dewatering as per OPSS.MUNI 517 and 518 that may be required.

c) Excavation, disconnecting of existing pipes, removal/disposal of the existing concrete structure and pipe.

d) All areas of excavation below top of subgrade shall be backfilled with suitable native earth material. Any shortage of backfill material may be made up from suitable excessive excavated earth material obtained from the earth works item (CP206.01). All earth backfill material shall be placed in 300 mm lifts, compacted to CP501.01, to the subgrade elevation below the proposed road as dictated by the road cross sections for the given street.

The Contractor is advised that the existing storm structure(s) may be cast in place concrete.

Where dewatering is required, if discharge flow cannot be reasonably directed into the nearest body of water due to the distance from site to disposal site, the City may be acceptable to disposal of dewatered flow into City owned storm/sanitary sewers. Sampling and testing of the discharge flow shall be conducted by and at the expense of the Contractor, to the approval of the City for disposal into the City's storm/sanitary sewers, with storm sewer being the preferred option. All flows discharged into City infrastructure shall comply with the City's Sewer By-Law. See link below for access to the Sewer By-Law:

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The Contractor shall maintain the flow; where required, of all sewers, drains and/or inlet connections encountered during the progress of the work and if necessary, provide by-pass pumping.

CP510.09 Remove/Dispose of Existing Sanitary Sewer

OPSS.MUNI 510, November 2018, shall apply except as amended and extended herein.

The unit price bid identified in the schedule of unit prices shall include the following:

a) The removal and disposal of existing sanitary sewers as indicated on the contract drawings.

b) All sheathing, shoring, and dewatering as per OPSS.MUNI 517 and 518 that may be required.

c) Excavation, removal, and disposal of all sizes of all existing pipe.

d) Temporary support of surrounding utilities located within the excavation, if required.

e) Disconnection of existing laterals and provisions for the control of water throughout the removal.

f) Backfill and compaction of the excavation, if not a replacement sewer, with suitable excavated material available from (c) or alternatively any shortage of backfill material may be made up with suitable excess excavated earth material obtained from the earth works item (CP206.01). All earth backfill material shall be placed in 300 mm lifts, compacted to CP501.01, to the subgrade elevation below the proposed road as dictated by the road cross sections for the given street.

g) All pumping, bypassing, temporary pipes, and sand bagging etc. necessary to keep the system operational at all times.

Where dewatering is required, if discharge flow cannot be reasonably directed into the nearest body of water due to the distance from site to disposal site, the City may be acceptable to disposal of dewatered flow into City owned storm/sanitary sewers. Sampling and testing of the discharge flow shall be conducted by and at the expense of the Contractor, to the approval of the City for disposal into the City's storm/sanitary sewers, with storm sewer being the preferred option. All flows discharged into City infrastructure shall comply with the City's Sewer By-Law. See link below for access to the Sewer By-Law:

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The Contractor shall maintain the flow; where required, of all sewers, drains and/or inlet connections encountered during the progress of the work and if necessary, provide by-pass pumping.

CP510.10 Remove/Dispose of Existing Sanitary Structures

OPSS.MUNI 510, November 2018, shall apply except as amended and extended herein.

The unit price bid identified in the schedule of unit prices shall include the following:

a) Removal of existing frames and covers. All frames and covers recovered within the limits of construction shall be delivered to Public Works on Harper Road in the City of Peterborough, unless otherwise designated by the Contract Administrator. The Contractor is to obtain a receipt for the materials delivered to the Public Works Yard and provide that receipt to the Contract Administrator.

b) All sheathing, shoring, and dewatering as per OPSS.MUNI 517 and 518 that may be required.

c) Excavation, disconnecting of existing pipes, removal/disposal of the existing concrete structure and pipe.

d) All areas of excavation below top of subgrade shall be backfilled with suitable native earth material. Any shortage of backfill material may be made up from suitable excessive excavated earth material obtained from the earth works item (CP206.01). All earth backfill material shall be placed in 300 mm lifts, compacted to CP501.01, to the subgrade elevation below the proposed road as dictated by the road cross sections for the given street.

Where dewatering is required, if discharge flow cannot be reasonably directed into the nearest body of water due to the distance from site to disposal site, the City may be acceptable to disposal of dewatered flow into City owned storm/sanitary sewers. Sampling and testing of the discharge flow shall be conducted by and at the expense of the Contractor, to the approval of the City for disposal into the City's storm/sanitary sewers, with storm sewer being the preferred option. All flows discharged into City infrastructure shall comply with the City's Sewer By-Law. See link below for access to the Sewer By-Law:

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The Contractor shall maintain the flow; where required, of all sewers, drains and/or inlet connections encountered during the progress of the work and if necessary, provide by-pass pumping.

CP510.11 Saw Cut Existing Concrete Curb

OPSS.MUNI 510, November 2018, shall apply except as amended and extended herein.

The unit price bid identified in the schedule of unit prices shall be full compensation for the supply of all labor, equipment, and materials necessary to saw cut the existing concrete curb in accordance with OPSD 310.030 and 310.050. The unit price bid shall also include grinding a 25mm radius bull nose at the gutter.

Sufficient water shall be used at all times to minimize the amount of dust created during this operation. This item shall also make allowance for the disposal of the removed concrete.

Payment shall be as per plan quantity as may be revised by adjusted plan quantity or horizontal dimensions as measured by the Contract Administrator.

The Contractor is required to use water at all times when saw cutting.

CP510.12 Abandonment of Existing Sewer

OPSS.MUNI 510, November 2018, shall apply except as amended and extended herein.

The unit price bid shall be full compensation for the supply of all labour, equipment, and materials necessary for abandoning storm and sanitary sewers and/or structures by way of pressure grouting (mechanical method).

CP510.13 Removal/Disposal of Existing Frames, Covers and Grates

OPSS.MUNI 510, November 2018, shall apply except as amended and extended herein.

The unit price bid identified in the schedule of unit prices shall be full compensation for the supply of all labor, materials, structure debris preventative measures and equipment necessary to remove and dispose of existing frames, covers and grates as shown on the contract drawings.

Prior to the commencement of removing existing frames, covers and grate the Contractor shall carry one (1) of the options below for each, structure with sumps and structures without sumps. Written notice of the option chosen for each structure scenario, and necessary documentation shall be provided by the Contractor to the Contract Administrator a minimum of three (3) working days prior to commencing removals. The following shall be known as a structure debris preventative measure:

Structures without Sumps:

1) The Contractor shall schedule and coordinate to take clear and concise digital photos for the bottom of each structure (sump or benching). For each structure the photo shall require having adequate lighting (i.e.: using a mirror or other device) to be able to identify the invert locations or whether the structure bottom is clear of debris or not. If debris is identified the photo clarity shall be such to

ensure that the debris can be identified, such as but not limited to; asphalt, concrete, bricks, sediment, etc. The Contractor shall compile all photos with structure ID file name/structure type (i.e.: XXXXXXMH, XXXXXXCB). Double catch basins shall have two photos taken for each, the first shall always be either the north side or the east side when configured in the north/south or the east/west direction, respectively. The photos for double catch basins shall be structure ID file name/structure type/1 or 2 (i.e.: XXXXXXDCB1 or XXXXXXDCB2) to depict the representing north than south or east than west. The Contractor shall have staff made available to open all structure and take clear and concise photos illustrating no additional debris has been left behind following completion of the structure adjustments. City staff may be present for post-inspection. For any and all structures with additional debris as a result of the structure adjustment works, the Contractor shall proceed with option 2) below in order to make correction.

2) The Contractor shall complete all the structure adjustment work (removals and re-installations) and subsequently remove all debris (pre-existing and new debris) from structures with the use of hydrovac and equipment or other approved method by the Contract Administrator. This method shall be carried out within two (2) weeks of structure adjustment completion. Failure to do so will render all structures removals and adjustments to bet set-off on the Contract Payment Certificate until the task is performed. The Contractor shall be responsible for any and all sewer blockage costs when the City responds even if the Contractor was not notified until structures are cleaned out. Subsequent to completing hydrovac work, the Contractor shall take photos illustrating that the debris has been removed which shall be provided to the Contract Administrator to full document post cleanout photos.

Structures with Sumps:

3) The Contractor shall erect a debris catchment system prior to any removals commencing. The Contractor shall provide the catchment system’s fact sheet. The Contractor shall demonstrate the catchment system’s ability to capture a minimum of 225 kg and that all particles with a single dimension larger than 75mm can be captured. The Contractor will also require demonstrating that the debris can be removed adequately prior to or with the catchment system’s removal. If the Contract Administrator witnesses failure and debris to become loss into the bottom of the structure, the Contractor shall adjust to the satisfaction of the Contract Administrator. If adjustments cannot be made adequately, then the Contractor shall proceed with option 1) above of 4) below.

4) Item 2 above.

The above shall be exempt when structures are to be replaced as part of the contract works. If the Contractor fails to identify the option to be utilized prior to commencing removals it shall be inferred that option 2) and 4) above have been chosen for structure without sumps and structure with sumps, respectively.

CP510.14 Removal/Disposal of Existing Asbestos Containing Pipe

CP510.07 and CP510.09 shall apply except as amended and extended herein.

The unit price bid for this item shall be full compensation for the supply of all labour, equipment, and materials necessary for the removal and disposal of asbestos containing pipe in accordance with the Occupational Health and Safety Act, Ministry of Labor, Ministry of the Environment, Ministry of Transportation and in compliance with all other regulations within the Province of Ontario.

All pipes must be removed from the construction site and disposed of as per the above specifications.

CP510.15 Removal/Disposal of Existing Fence

OPSS.MUNI 510, November 2018, shall apply except as amended and extended herein

The unit price bid shall be full compensation for the supply of all labour, equipment, and materials necessary for the removal and disposal of existing fence as indicated within the contract drawings.

Measurement for payment shall be by linear metre for all existing fencing removed and disposed of from site**.**

CP510.16 Abandoning of Sewers/Structures by Pressure Grout (Mechanical Method)

Not applicable.

P511.01 Supply/Install Rip Rap with Filter Fabric (2 layers)

OPSS.MUNI 511, November 2019, shall apply except as amended and extended herein.

The unit price bid shall be full compensation for the supply of all labour, equipment, and materials necessary for the supply and placement of Rip Rap with filter fabric (2 layers) to the limits as indicated within the contract drawings.

Filter fabric shall be type 270R manufactured by Terrafix Geosynthetics Inc. or an approved equivalent, in accordance with OPSS.MUNI 1860, November 2018.

Rip Rap stone size shall be as per the Contract Documents.

Measurement for payment will be based on the surface area in square metres (M^2) of rip rap installed on site.

CP802.01 Supply/Place Topsoil

OPSS.MUNI 802, November 2019, shall apply except as amended and extended herein.

The unit price bid identified in the schedule of unit prices shall be full compensation for the supply of all necessary labor and equipment necessary to supply and place topsoil

as described herein. OPSS.MUNI 802 is herein amended in that the unit price bid per square metre for this item shall be full compensation for supplying and placing a minimum of 150 mm of screened topsoil. Screened topsoil shall be compensated for upon proper installation of sod as per CP803.01.

CP803.01 Supply/Place Sod

OPSS.MUNI 803, April 2018, shall apply except as amended and extended herein.

The unit price bid identified in the schedule of unit prices shall be full compensation for supplying and placing sod and for watering the sod. The minimum frequency of watering shall be in accordance with OPSS.MUNI 803, April 2018. No additional compensation shall be made for watering of sod.

Reminder: Sod shall be countersunk to existing grade level at all edges.

Sod shall be properly installed within 5 working days following the placement of screened topsoil as per CP802.01.

The Contractor shall be responsible to maintain the sod, including cutting until completion of the contract. Upon completion of the contract, the Contractor shall hand deliver notices/letters to all residents within the project limits explaining proper care and maintenance procedures of the newly laid sod.

All noted deficiencies shall be addressed within 10 working days from the date the Contractor receives notification from the Contract Administrator. The maintenance period for this item shall be 24 months from completion of the contract.

The Contract Administrator will inspect the new turf areas and notify the contractor of any deficiencies at approximately the following intervals:

- 15 days following placement
- 30 days following placement
- October 31 of the year in which the sod was placed
- One year after placement of sod
- Two years after placement of sod

CP804.01 Supply/Place Seed and Mulch

OPSS.MUNI 804, November 2014, shall apply except as amended and extended herein.

The unit price bid identified in the schedule of unit prices shall be full compensation for the supply of all labour, equipment, and materials necessary to supply and place seed and mulch immediately to newly graded areas to provide erosion control. This item shall be paid based on field measurements performed by Contract Administrator.

Emphasis shall be placed on final grading of the site prior to application of the seed / mulch mixture. Residential properties and their boulevards, easements and right of ways must be free and clear of rocks or other debris that can cause damage to mowing equipment.

Seed shall comply with the provisions of the Canada Seeds Act and Regulations and the grade standards for that seed kind.

A legible, valid Seed Analysis Certificate from a Seed Testing Laboratory approved by the Canadian Food Inspection Agency (CFIA) for all single seed species and all seed mixtures shall be provided to the Contract Administrator, upon request. The Seed Analysis Report shall stipulate the seed supplier's lot designation numbers. Test results from the Seed Analysis Certificate shall specify germination and purity for each seed species of the mix as well as the seed mix composition expressed as a percentage of each seed species by mass for each seed mix specified in the contract.

All seed and seed mixes shall be in the original sealed package with the original legible label securely attached. Labelling shall conform to the requirements of the Canada Seeds Act and Regulations. Each package shall be labelled to show.

- The name and address of the seed supplier.
- The seed species, or the name of the seed mix and the various individual seed species that comprise the seed mix and the percentage by mass.
- The grade of the seed or seed mix.
- The supplier's lot designation number, corresponding to the Seed Analysis Certificate.
- Mass in kilograms.

Fertilizer shall comply with the provisions of the Canada Fertilizers Act and Fertilizer Regulations. Fertilizer shall be supplied in original bags bearing the manufacturer's original label indicating mass and analysis. All fertilizer shall be in granular form, dry, free flowing and free from lumps, and applied at rates specified on drawings.

Seed and Mulch shall be properly installed within 5 working days following the placement of screened topsoil as per CP802.01.

Seed shall be Pickseed, Type: Town and Country All Purpose Seed or equivalent approved by the Contract Administrator. Typical mixture to include:

- 30% Kentucky Bluegrass
- 40% Creeping Red Fescue
- 30% Turf-type Perennial Ryegrass

Mulch shall be Hydraulic Mulch Type 'C'.

The Contract Administrator will inspect the new turf areas and notify the contractor of any deficiencies at approximately the following intervals:

- 15 days following placement

- 30 days following placement
- October 31 of the year in which the seed and mulch was placed
- One year after placement of seeding and mulching
- Two years after placement of seeding and mulching

CP804.02 Supply/Install Erosion Control Blanket

OPSS.MUNI 804, November 2014, shall apply except as amended and extended herein.

The unit price bid identified in the schedule of unit prices shall be full compensation for all labour, equipment, and materials necessary to supply, install and maintain erosion control blanket S200 straw fibre double, unless an alternate material is specified in the contract documents. Erosion control blankets shall be installed at all locations indicated within the contract drawings.

All further requirements set fourth in CP805.01 shall apply.

CP805.01 Environmental Considerations

OPSS.MUNI 805, November 2021, shall apply except as amended and extended herein.

The unit price bid identified in the schedule of unit prices shall be full compensation for all labor, equipment and materials required to develop, implement and maintain the sediment and erosion control program to the satisfaction of the Contract Administrator and any other governing agency, including the scheduling and carrying out of construction operations in accordance with the requirements.

For certain construction projects that operate in or immediately adjacent to a watercourse/water body or in a floodplain, permitting with federal agencies and conservation authorities may be required. As part of these processes, the erosion and sedimentation control works are further governed by the respective agencies. While the City will complete the permit application (where the work is to be completed on City lands), it is ultimately the Contractor's responsibility to ensure that these permits are complete and in place prior to commencement of work. To ensure this, the contractor is encouraged to have the necessary and executed permit(s) for the works at all times. Once work commences, the contractor must have all the permits and approvals on site should they be requested.

Section 36(3) of the *Fisheries Act* states that, "no person shall deposit or permit the deposit of a deleterious substance of any type in water frequented by fish or in any place under any conditions where the deleterious substance or any other deleterious substance that results from the deposit of the deleterious substance may enter any such water." By law, silt is considered a deleterious substance. Compliance with the fish habitat protection and pollution prevention provisions of the *Fisheries Act* is mandatory.

Any additional works shall be required of the Contractor upon confirmation by the Contract Administrator. The additional works beyond the erosion and sediment controls set out in the contract documents shall not be included in the unit price bid identified in the schedule of unit prices and will be deemed contingency work at the discretion of the Contract Administrator.

In the event that agency requests are made for additional sediment and erosion controls, the Contractor must contact the Contract Administrator, so that he/she is aware of the situation and can assist in the most time effective response and communication with the agency.

The Contractor is advised that erosion and siltation controls, satisfactory to the City and in conformance with the “Erosion and Sediment Control Guide for Urban Construction - TRCA 2019”, will be required to prevent destruction of natural habitats in surrounding environment by runoff and protect the City’s adjacent storm and sanitary sewer infrastructure.

Prior to the commencement of any work on this project that might cause erosion and/or sedimentation; the Contractor must submit a work plan and receive approval from the Contract Administrator for an erosion and sedimentation control program. Working days shall commence as per the Estimated Start Date, as defined in the Supplemental General Conditions. No contract works are to commence prior to the complete and accepted installation of the prescribed sediment and erosion controls.

In all areas, the Contractor shall, as a means of controlling erosion and runoff, so schedule his operations as to limit the areas of slope and ditches exposed and the time that such areas are exposed prior to final treatment.

In areas where excavated materials are stored temporarily, the Contractor shall prevent erosion of any material into watercourses, sewer systems or onto private property.

The Contractor shall agree, during and after construction, to monitor the erosion and sedimentation controls on a weekly basis, or forthwith following rainfall events of 13 millimeters or greater, and immediately rectify any critical deficiencies identified by the Contract Administrator. Non-critical deficiencies shall be addressed within twelve (12) hours of notification by the Contract Administrator. All corrective measures implemented as a result of the identification of deficient environmental considerations shall be to the satisfaction of the Contract Administrator. Where overland drainage occurs to the construction site, the Contractor agrees that all erosion and sediment control works shall be inspected and maintained to ensure their structural integrity.

The Contractor shall provide the name and phone number of the sub-contractor responsible for sweeping and cleaning of municipal right-of-ways. Where in the sole opinion of the Contract Administrator, acting reasonably, an emergency exists with respect to erosion and sedimentation control or the twelve (12) hours allotted for correction of non-critical deficiencies has elapsed, the City may enter on the construction site without notice and, at the expense of the Contractor, do such work and provide such materials as are necessary to answer the emergency or provide an appropriate level of maintenance.

Prior to discharging any surface water or groundwater into a watercourse or a sewer, the Contractor shall contact the Environmental Protection Division at 705-741-4910. The Contractor shall immediately report any discharge of sediment, silt, or other deleterious substance into a watercourse to the above office and the MOE Spills Action Centre at 1-800-268-6060.

Intent of Specification

This item is to encompass all sediment, erosion, and environmental controls necessary. The Contractor shall be responsible to account for all measures necessary as site operations and associated conditions change throughout the progress of construction since the methods cannot be anticipated for within the design (by the designer). This item is to take account for ensuring environmental safety, addressing maintenance of existing measures, installing new measures where site conditions or construction processes are responsible for inadequate measures. Additionally, any measures suggested by MECP shall be inclusive to relieve related reported incidents.

Inspection Reports

It is a requirement for the contractor, under the Erosion and Sediment Control Guidelines for Urban Construction, to keep inspection records to ensure the long-term proper functioning of the sediment and erosion control program. These inspection records are to be made available to the City's Contract Administrator on a weekly basis and prior to forecasted rain events using the City of Peterborough Form 005.

Sediment Traps

Sediment traps shall be Terrafix siltsak or approved equivalent.

The Contractor shall be responsible for inspecting sediment traps immediately before and after each rainfall and promptly performing the necessary repairs and removing accumulated sediment deposits.

Silt Fence

Silt fence shall be installed and maintained in areas where there is a risk of run off affecting neighboring properties, watercourses, or other environmental features in accordance with OPSD 219.110 and OPSD 219.130. Heavy Duty silt fence shall be wire mesh type with steel posts as per OPSD 219.131. Any substitutions need to be approved by Contract Administrator prior to use.

Fibre Roll Flow Check Dams

Fibre roll flow check dams shall be installed in areas where there is a risk of run off affecting neighbouring properties, watercourses, or other environmental features in accordance with OPSD 219.191 Fibre Roll Flow Check Dams. Any substitutions need to be approved by the Contract Administrator prior to use.

Supply/Install/Remove Temporary Rock Flow Check Dam

The unit price bid identified in the schedule of unit prices shall be full compensation for all labour, equipment and materials required to supply, install, and remove temporary rock flow check dams including regular inspection and maintenance in accordance with the following:

OPSD 219.210 Temporary Rock Flow Check Dam, V-Ditch

OPSD 219.211 Temporary Rock Flow Check Dam Flat Bottom Ditch

Supply/Install/Remove Temporary Straw Bale Check Dam

The unit price bid identified in the schedule of unit prices shall be full compensation for all labour, equipment and materials required to supply, install, and remove straw bale flow check dams including regular inspection and maintenance.

All straw bale flow check dams installed shall be maintained in swales where there is a risk of erosion by excessive velocity and be constructed in accordance with OPSD 219.180.

Supply/Install/Remove Turbidity Curtain

The unit price bid identified in the schedule of unit prices shall be full compensation for all labour, equipment and materials required to supply, install, maintain, and remove the turbidity curtain.

OPSD 219.260 Turbidity Curtain

OPSD 219.261 Turbidity Curtain, Seam Detail

CP805.02 Heavy Duty Silt Fence

OPSD 219.131 shall apply except as amended or extended herein.

Heavy duty silt fence shall be installed and maintained in accordance with OPSD 219.131 in areas where there is a risk of run off affecting neighboring properties, watercourses, or other environmental features**.**

Heavy duty silt fence shall be 14-gauge wire mesh type and 100 grams/m sq. fabric weight. Any substitutions shall be approved by Contract Administrator prior to use.

CP805.03 Water Taking Reporting

The unit price bid identified in the schedule of unit prices shall be full compensation for all labor, equipment, and materials necessary to record by flow meter and report the daily volume of water taken to the Contract Administrator on a weekly basis.

If the Contractor fails to submit daily water taking volumes, the City shall retain a geotechnical consultant to collect and report the daily volume of water taken, and all costs associated shall be the responsibility of the Contractor. The costs accumulated by the City from the retained geotechnical consultant regarding water taking reporting shall be deducted from the Contractors monthly payment certificates.

CP1101.01 Recovered Material Specification for Performance Graded Asphalt Cement

OPSS.MUNI 1101, November 2016 shall apply.

The following herein is for the purpose of information only.

Developers shall be responsible for obtaining one (1) sample for each lift of asphalt within each stage/phase of the development and have it retained by the City material testing consultant until December 1st of each year. These samples shall be available for possible City testing at the City's expense. Cost of sampling and retention of the sample shall be the Developer's responsibility.

Requests for substituting PGAC grades will not be entertained or permitted**.**

References

Section 1101.02 of OPSS.MUNI 1101 is amended by the addition of the following:

Ontario Ministry of Transportation Publications MTO Laboratory Testing Manual

LS–284 Recovery of Asphalt from Solution by Abson or Rotavapor

ASTM International

D 7906-14 Recovery of Asphalt from Solution Using Toluene and the Rotary Evaporator

American Association of State Highway and Transportation Officials (AASHTO)

R 28-12 UL Standard Practice for Accelerated Aging of Asphalt Binder Using a Pressurized Aging Vessel (PAV)

Definitions

Section 1101.03 of OPSS.MUNI 1101, the existing definitions for the low temperature performance graded and PGAC are deleted in its entirety and replaced with the following:

Low Temperature Performance Grade (-YY) means the low temperature performance grade specified elsewhere in the Contract Documents, also referred to as the -YY specified for the performance graded asphalt cement where the PGAC grade specified is PG XX-YY, and equal to the minimum pavement design temperature.

Performance Graded Asphalt Cement (PGAC) means an asphalt binder that is produced from petroleum residue, modified using polymers, according to the latest version of AASHTO M 320 or M 332.

Section 1101.03 of OPSS.MUNI 1101 is amended by the addition of the following:

Recovered Performance Graded Asphalt Cement (PGAC) means an asphalt binder that has been extracted and recovered from the loose hot-mix asphalt (HMA) or from samples saw cut from the finished pavement.

Design and Submission Requirements

PGAC Test Documentation

Clause 1101.04.01.01 of OPSS.MUNI 1101 is amended by the addition of the following:

f) Grade and grade loss according to LS-308 along with a copy of all LS-308 documentation.

g) Average of the critical crack tip opening displacement (□t) as determined according to LS-299 along with a copy of all LS-299 documentation.

h) Test results for the product demonstrating compliance to the requirements of the Contract Documents.

The mix shall not be placed until the Contract Administrator gives a written confirmation of conformance of the PGAC based on the submitted test results and possible Owner testing to the requirements of the Contract Documents.

Within 30 Days, commencing the day all submission deliverables have been received, the Contract Administrator shall provide the above confirmation or advise the Contractor of any non-conformance to the contract requirements. Confirmation of conformance to Contract requirements of the submissions does not constitute any guarantee that the mix can be produced or constructed or both to Contract requirements and does not relieve the Contractor of the responsibility for ensuring the specified quality of materials and workmanship.

Quality Assurance

Quality Assurance Sampling

Subsection 1101.08.03 of OPSS.MUNI 1101 is deleted in its entirety and replaced with the following:

The Contract Administrator shall determine the frequency of sampling and testing based on the HMA tender quantity for each grade of PGAC. PGAC (loose HMA samples) shall be sampled when notified by the Contract Administrator. Sample containers shall be supplied by the Contractor. Sample quantities, labelling, and delivery requirements shall be as shown on Table 2. Samples shall be delivered in a condition suitable for testing.

The QC and referee samples for possible Owner testing shall be taken at the same time.

All samples shall be obtained by the Contractor in the presence of the Contract Administrator’s representative according to AASHTO T 40, ASTM D 3665, and the asphalt mix plant’s health and safety plan. The asphalt mix plant’s health and safety plan and procedure for sampling shall be reviewed at the pre-construction meeting.

All loose HMA samples shall be obtained directly from the paving equipment during the construction of the pavement.

Quality Assurance Testing

Subsection 1101.08.04 of OPSS.MUNI 1101 is deleted in its entirety and replaced with the following:

When the Contract Administrator elects to carry out QA testing, one of the samples shall be randomly selected for testing by the QA laboratory and the remaining sealed sample shall be retained by the QA laboratory for possible referee testing. QA testing will be evaluated against the requirements as specified in the Contract Documents.

Test results for samples that do not comply with the PGAC grading and the additional requirements of Table 1 shall be categorized as borderline or rejectable. PGAC shall be categorized based on the test result's deviation from: (i) the individual design maximum or minimum pavement temperature and the sum of the deviations from the design maximum or minimum pavement temperatures; (ii) the LS- 299 CTOD acceptance criterion; and (iii) the LS-308 grade and grade loss criteria, given in Table 1.

The actual AASHTO M 320 performance grading that is either higher than the design maximum pavement temperature or lower than the design minimum pavement temperature is not considered a deviation.

The Owner may conduct elemental testing according to ASTM D7343 or other tests to determine if the PGAC meets the material requirements as specified in the Materials section.

If a test result for any sample indicates non-compliance to the specification, the Contract Administrator shall advise the Contractor of the test results. The Contract Administrator shall have 30 Days from the time of sample delivery by the Contractor to complete and provide each set of test results to the Contractor.

Disposition of HMA Produced with PGAC Not Conforming with the Requirements of the Contract Documents

Subsection 1101.08.05 of OPSS.MUNI 1101 is amended by the addition of the following:

The Owner's review of the test results to determine disposition of the HMA produced shall include all additional testing requirements for which acceptance requirements have been specified.

Subsection 1101.08.05 of OPSS.MUNI 1101 is amended by the deletion of the third paragraph in its entirety and replaced by the following:

Rejectable: The HMA shall not be accepted into the Work. The Contract Administrator shall notify the Contractor in writing within 15 Days of receipt of the non-conforming data. The Contractor has the option of either removing the HMA from the Work and replacing it with acceptable HMA or invoking referee testing. The Contractor may request a reduced price in-lieu of removal of the HMA. Irrespective of the negotiation of a reduced-price payment, the warranty provisions of the Contract Documents shall apply.

Referee Testing

Subsection 1101.08.06 of OPSS.MUNI 1101 is amended by the deletion of the first paragraph in its entirety and replaced with the following:

Referee testing by an independent laboratory may be invoked by the Contractor for any sample of PGAC or recovered PGAC within 5 Days of receiving all the QA test results for the sample, provided the Contractor has taken and delivered all referee samples in a condition suitable for testing.

Referee testing shall be conducted on the same sample (loose HMA/samples saw cut from the finished pavement) in which the QA results failed.

Table 1 of OPSS.MUNI 1101 is deleted in its entirety and replaced with the following:

Additional asphalt testing requirements and acceptance criteria for all recovered PGAC samples (see Notes 1 and 2)

Property and Attributes (Unit)	**Test Method**	**Results Reported Rounded to the Nearest**	**Acceptance Criteria**	**Borderline**	**Rejectable**
Ash Content, % by mass of residue (%)	LS-227	0.1	≤ 0.6	N/A	> 0.6

Property and Attributes (Unit)	Test Method	Results Reported Rounded to the Nearest	Acceptance Criteria	Borderline	Rejectable
PGAC Grade (PG XX-YY)	AASHTO M320	0.1	XX > 64.0 (OR 58.0 for CP311.01 mixes) and YY < -34	Individual XX and YY deviations ≤ 3.0 and the sum of deviations is ≤ 3.0	Individual XX and YY deviations > 3.0 or the sum of deviations > 3.0
Non-recoverable creep compliance at 3.2 kPa ($J_{nr-3.2}$) (kPa^{-1})	Multiple Stress Creep and Recovery (MSCR) testing	0.01	< 2.0	N/A	≥ 2.0
Average percent recovery at 3.2 kPa ($R_{3.2}$) (%)	according to AASHTO TP 70 testing conducted at a temperature of 64°C OR 58°C or CP311.01 mixes	0.1	> the lesser of [(29.371) $(J_{nr-3.2})^{-0.2633}$] or 55	N/A	≤ the lesser of [(29.371) $(J_{nr-3.2})^{-0.2633}$ _10] or 50
Average critical crack tip opening displacement (CTOD or □t) (mm) (When XX = 64.0 or 58.0)	LS-299	0.1	≥ 14.0	< 14.0 and ≥ 12.0	< 12.0
Maximum Grade Loss with reference to the 1-hour results at -YY + 10 (^{o}C)	LS-308, 72-hour results at -YY + 10	0.1	≤ 6.0	N/A	> 6.0

Maximum Grade Loss with reference to the 1-hour results at -YY + 20 (^{O}C)	LS-308, 72-hour results at -YY + 20	0.1	≤ 4.0	> 4.0 and ≤ 6.0	> 6.0
Limiting Grade (^{O}C)	LS-308	0.1	≤ -34	N/A	> -34

Note 1: Acceptance shall be based on the following: (i) PGAC extracted and recovered from the loose HMA samples taken during construction of the pavement; or (ii) PGAC extracted and recovered from samples saw cut from the finished pavement and tested within a period of 90 Days following final completion of the Contract. Recovered samples shall be used in place of rolling thin film oven (RTFO) residues and only further aged in the pressure aging vessel (PAV) for the purpose of AASHTO M 320, LS-299 and LS-308 grading.

Note 2: All recovered PGAC samples shall be obtained by extraction using reagent grade dichloromethylene (DCM), trichloroethylene (TCE), or toluene, from loose hot-mix asphalt or from saw cut samples from the finished pavement. Fines shall be removed from the solution prior to recovery using a high-speed centrifuge method. Recovery shall be under a nitrogen atmosphere according to the Rotavapor method in LS-284 or ASTM D7906.

Note 3: Borderline results allow for testing variability. Acceptance shall be a “simple acceptance” also known as “shared risk” acceptance and measurement uncertainty shall play no role in accept/reject decisions (American Society of Mechanical Engineers. ASME B89.7.3.1:2001 Guidelines for decision rules: Considering measurement uncertainty in determining conformance to specifications. New York, NY, 2001; and International Laboratory Accreditation Cooperation. ILAC-G8:1996 Guidelines on assessment and reporting of compliance with specification. Silverwater, Australia, 1996).

CP1541.01 Supply/Install Chain Linked Fence with Top Rail

OPSS.MUNI 772, April 2019, shall apply except as amended and extended herein.

The unit price bid identified in the schedule of unit prices shall be full compensation for all labor, equipment, and materials necessary to supply and install chain linked fence with top railing, as illustrated within the contract drawings. The color of chain link fence shall be as per the contract documents.

All posts, post sleeves, rails, chain linked fence fabric and wire bracing material provided shall adhere to OPSS.MUNI 1541 and installed in conformance with OPSD 972.130.

Measurement for payment shall be by linear metre for all properly installed chain linked fencing with top rails.

CP1860.01 Supply/Install Woven Geotextile

OPSS.MUNI 1860, November 2018, shall apply except as amended and extended herein.

In case of wet conditions, on the direction of the Contract Administrator, the contractor shall install a woven geotextile (Class 400W). The woven geotextile shall be installed with a minimum overlap of 1.0m.

The unit price bid identified in the schedule of unit prices shall be full compensation for the supply of all labour, equipment, and materials necessary to install woven geotextile. The unit price bid per square metre shall include required overlap.

Payment shall be adjusted plan quantity or horizontal dimensions as measured by the Contract Administrator.

The Contractor is advised that this is an estimated quantity. The Contract Administrator shall base quantity payment on field measurement.

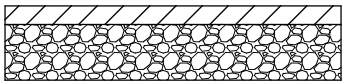
January 2025

City of Peterborough
Unit Price Contract
Standard Drawings
and Forms

Index of Standard Drawings

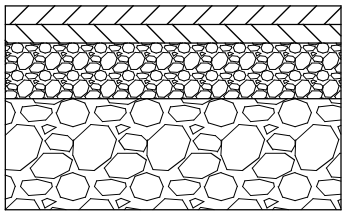
Drawing	Description
CPD M1.1	Driveway and Multi-Use Trail Detail
CPD M1.2	Curb Return at Entrances Detail
CPD M1.3	Replacement (Removal and Reinstatement) of Curb and Gutter
CPD M1.4	Site Servicing Reinstatement Detail
CPD 351.01	Sidewalk Cross Section Details
CPD 351.02	Structural Transit Pad Detail
CPD 353.01	Curb Detail at Catch Basins
CPD 405.01	Standard Subdrain
CPD 408.01	Manhole Frame Final Adjustment
CPD 408.02	Catch Basin Frame Final Adjustment
CPD 408.03	Catch Basin Frame Final Adjustment Poured in Place
CPD 408.04	Manhole Frame Final Adjustment Poured in Place
CPD 408.06	Catch Basin Temporary Adjustment Detail
CPD 408.07	Manhole Frame Temporary Adjustment Detail
CPD 410.01	Sewer Insulation
CPD 410.02	Clear Stone Pipe Bedding Foundation
CPD 510.01	Transition Treatment
CPD 708.020	Support for Pipe and Connections at Catch Basin, Catch Basin Manhole or Maintenance Holes

RESIDENTIAL DRIVEWAY



50mm HL3
150mm GRANULAR 'A'

COMMERCIAL/INDUSTRIAL DRIVEWAY

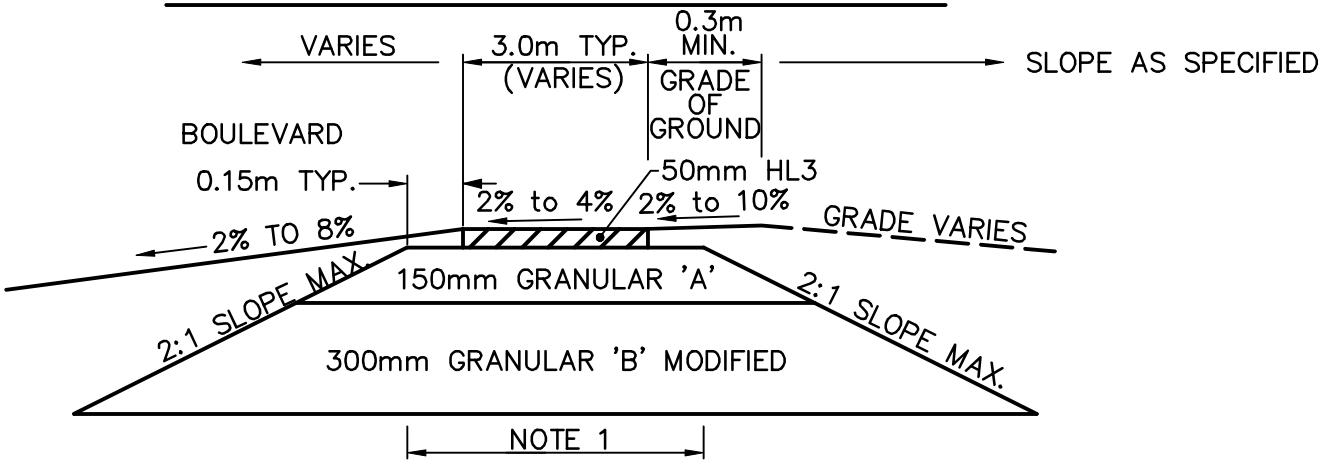


50mm HL3
50mm HDBC
150mm GRANULAR 'A'
300mm GRANULAR 'B' MODIFIED

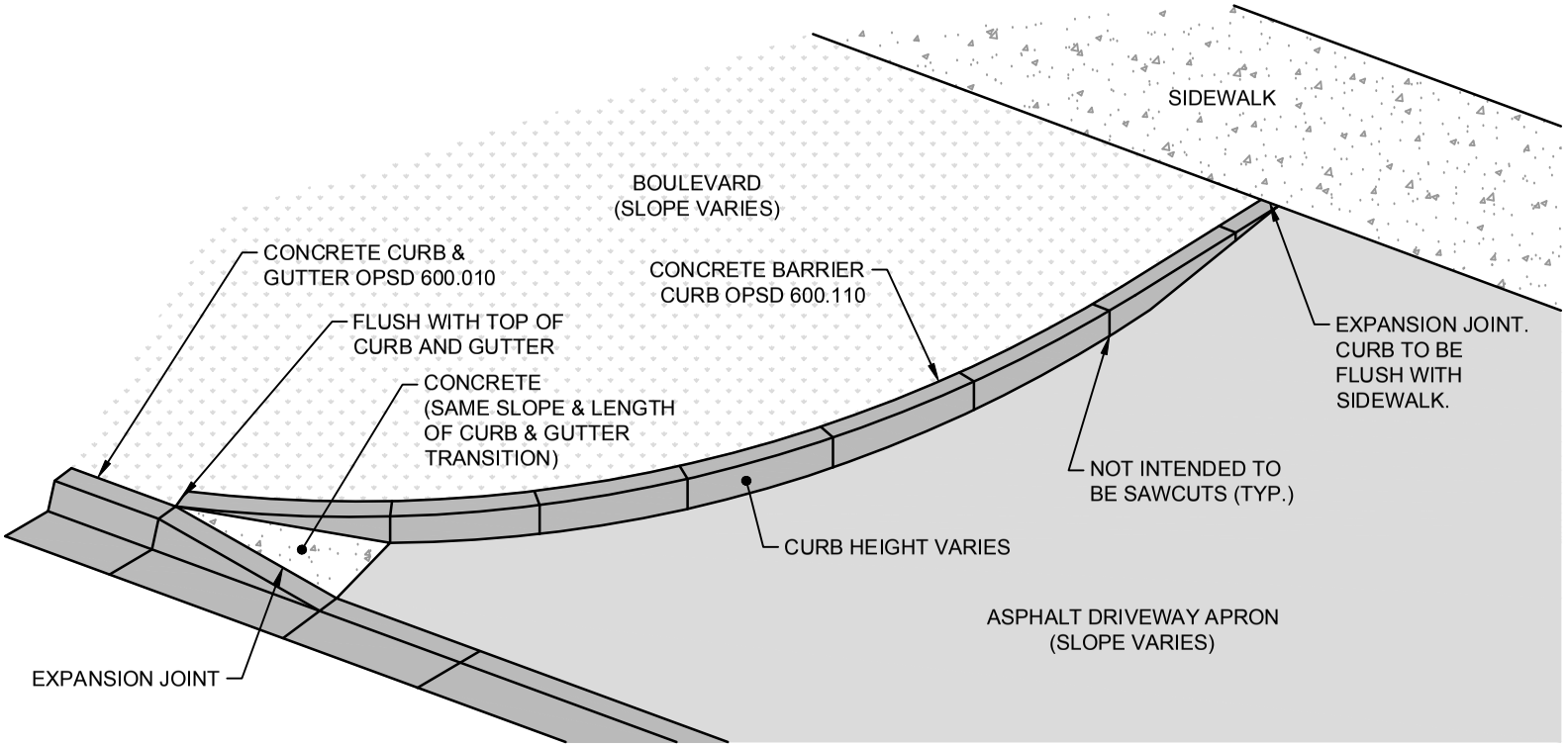
NOTE:

1. PAY LIMITS FOR GRANULAR 'A', GRANULAR 'B' AND EARTH EXCAVATION SHALL BE 0.15m BEYOND ASPHALT, HOWEVER THE CONTRACTOR SHALL CONSTRUCT THE GRANULAR 'A' AND GRANULAR 'B' AS PER THIS DETAIL BY ACCOUNTING FOR THE ACTUAL GRANULARS AND EARTH EXCAVATION INTO THE CONTRACT UNIT PRICES RESPECTIVELY.

MULTI–USE ASPHALT TRAIL



peterborough	CITY OF PETERBOROUGH UTILITY SERVICES DEPARTMENT	DATE DEC. 2019 REV. 1
	DRIVEWAY AND MULTI–USE TRAIL DETAIL Not To Scale	APPROVED
		CPD M1.1



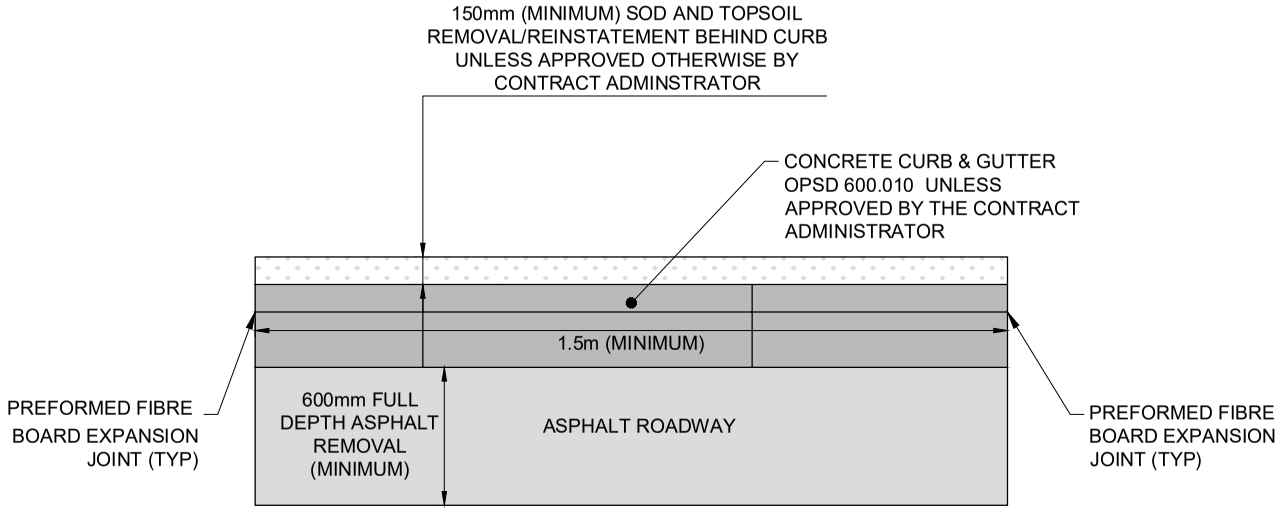
SCALE: N.T.S.

peterborough

CURB RETURN AT ENTRANCES

CITY OF
PETERBOROUGH

N/A	CPD M1.2
SURVEYED BY	DRAWING NUMBER
MDC	0
DRAWN BY	REVISION NUMBER
C.O.P.	DEC. 2017
DESIGNED BY	DATE



NOTE:

1. PAY ITEM SHALL BE AS PER THE SPECIAL PROVISION OF THE CONTRACT THAT REFERS TO CPD M1.3.
2. PREFORMED FIBRE BOARD SHALL BE USED AT THE ENDS OF EACH CURB AND GUTTER REPLACEMENT. CURB AND GUTTER SHALL BE CUT FULLY (ANY CURB OR GUTTER THAT IS BROKEN WILL REQUIRE REMOVAL UNTIL A CLEAN CUT IS MADE THROUGH THE ENTIRE DEPTH OF THE CURB AND GUTTER).
3. ITEMS INCLUDED SHALL BE AS PER THE SPECIAL PROVISIONS OF THE CONTRACT THAT REFERS TO CPD M1.3.

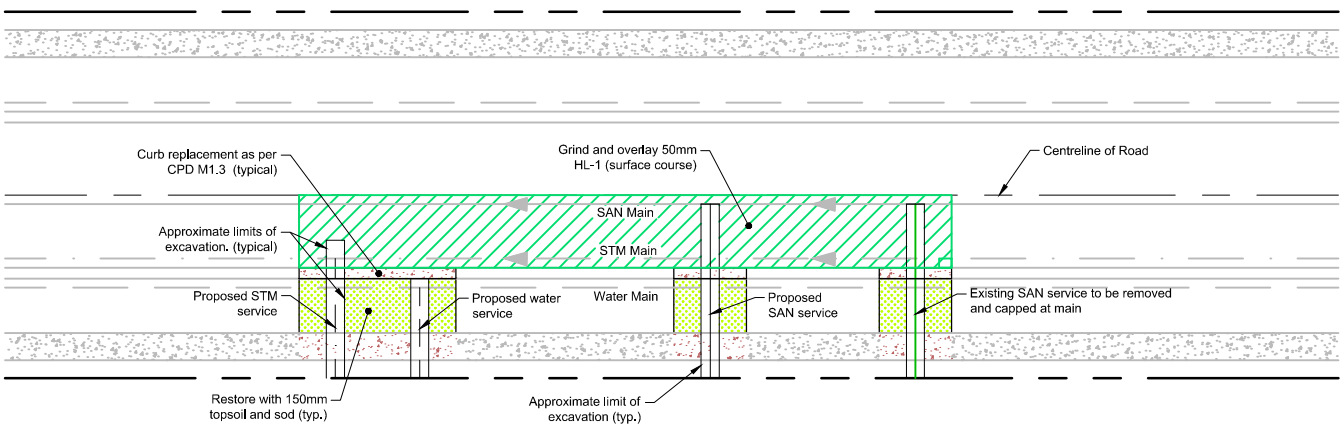
SCALE: N.T.S.

peterborough
outside the ordinary

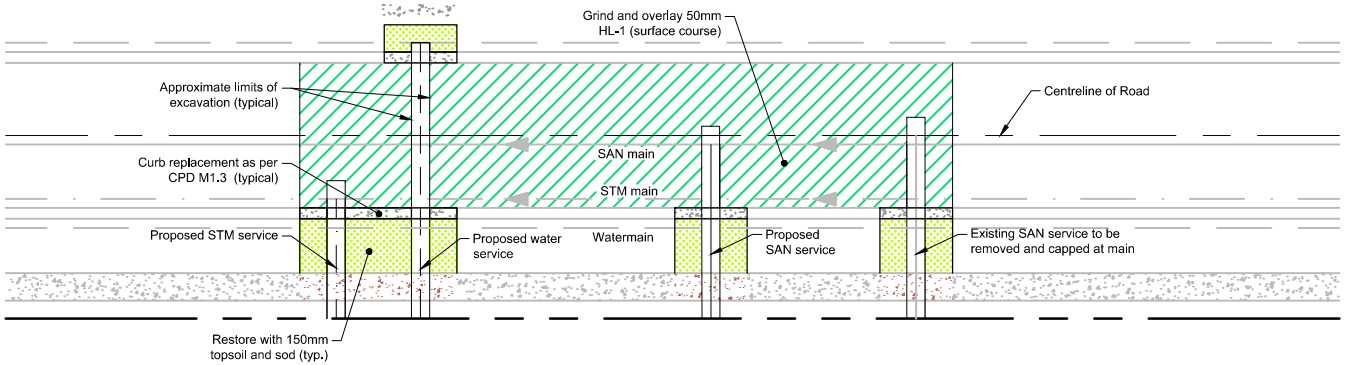
Replacement (Removal and Reinstatement) of Curb and Gutter
CITY OF PETERBOROUGH

N/A	CPD M1.3
SURVEYED BY	DRAWING NUMBER
DW	1
DRAWN BY	REVISION NUMBER
C.O.P.	JAN. 2021
DESIGNED BY	DATE

Servicing Reinstatement Not
Crossing Centreline of Road



Servicing Reinstatement
Crossing Centreline of Road



Notes:
1. Surface course asphalt shall be placed from edge of pavement to edge of pavement.
2. Reinstatement illustrated in this detail only applies to surface course asphalt.
3. Removal of sidewalk must be full bays.
4. Any curb, sidewalk, asphalt or other infrastructure in poor condition and not shown to be reinstated must be brought to the attention of the city.
5. For additional lanes (ie 3, 4, 5 lanes) surface course asphalt must be replaced to the nearest longitudinal joint separating lanes.
6. All curb shall be reinstated as per cpd m1.3.
7. If the existing road surface asphalt is within 5 years of being placed, that the asphalt shall be replaced from curb to curb.

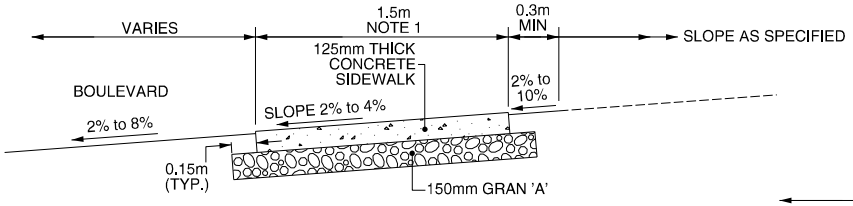
Scale: N.T.S.

peterborough

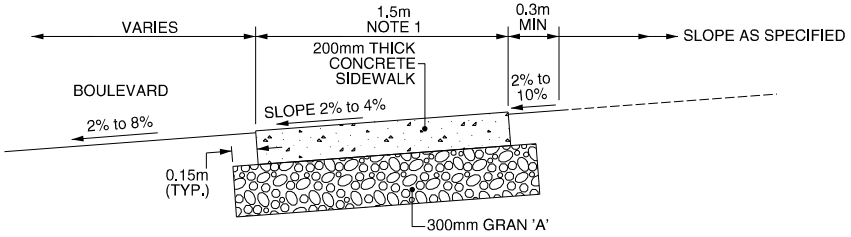
Site Servicing Reinstatement Detail

City of Peterborough

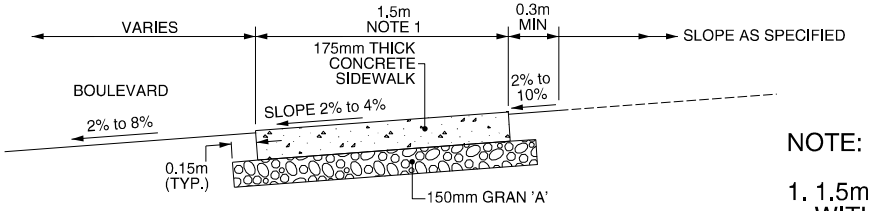
N/A	CPD M1.4
Surveyed By	Drawing Number
M.D.C.	0
Drawn By	Revision Number
C.O.P.	Dec. 2024
Designed By	Date



TYPICAL SECTION



COMMERCIAL / INDUSTRIAL DRIVE SECTION



RESIDENTIAL DRIVE SECTION

NOTE:

1. 1.5m SHALL BE 2.0m WHERE SIDEWALK IS LOCATED WITHIN 1.0m OF THE TRAVELLED ROADWAY (AS PER C.2.8 OF THE CITY'S ENGINEERING DESIGN STANDARDS). 1.5m SHALL INCREASE TO 2.4m WIDE AT SCHOOLS, BUS STOPS, AND ANY OTHER HIGH PEDESTRIAN TRAVELLED AREAS.

2. PAY LIMIT FOR GRANULAR 'A' SHALL BE 0.15m BEYAND CONCRETE SIDEWALK.

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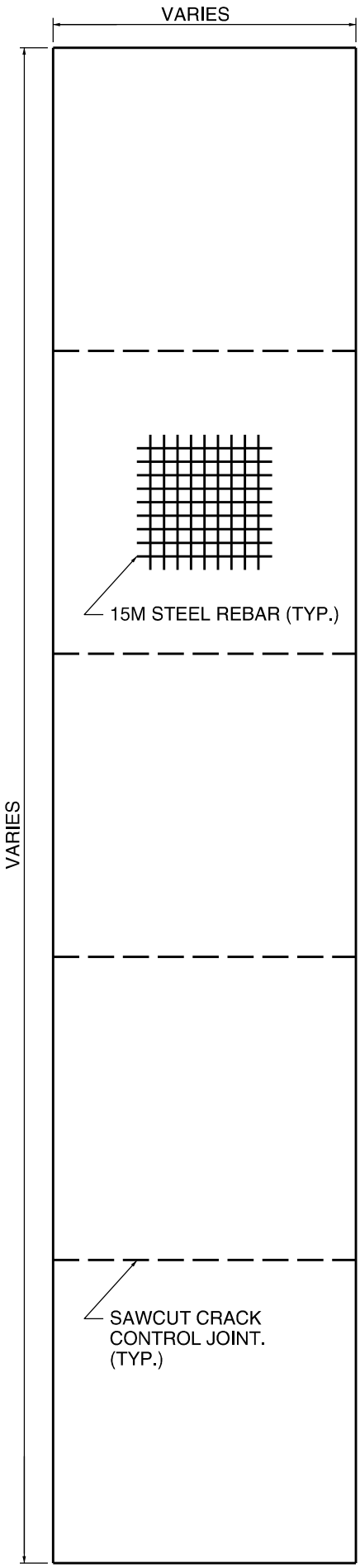
CITY OF PETERBOROUGH
UTILITY SERVICES DEPARTMENT

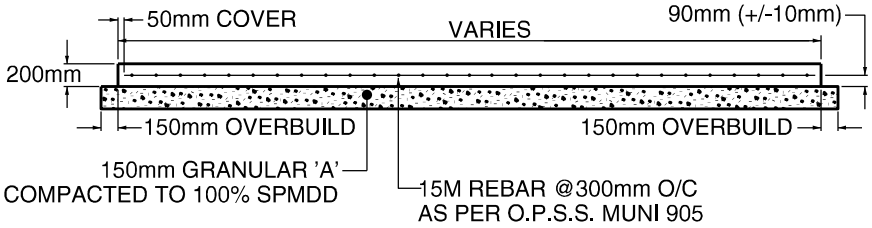
CONCRETE SIDEWALK
TYPICAL, RESIDENTIAL,
COMMERCIAL, INDUSTRIAL
Not To Scale

DATE DEC. 2018 REV. 0

APPROVED

CPD351.01





1. CONCRETE SHALL HAVE A 28 DAY COMPRESSIVE STRENGTH OF 32MPa (CSA EXPOSURE CLASSIFICATION C-2).

2. CONCRETE AIR ENTRAINMENT SHALL BE 5-8%.

3. CONCRETE MAXIMUM AGGREGATE SIZE SHALL BE 20mm.

4. MINIMUM SOIL BEARING CAPACITY = 150kPA

5. CONCRETE SHALL BE PROPERLY CONSOLIDATED (MECHANICALLY VIBRATED) AROUND THE STEEL REINFORCING DURING PLACEMENT.

6. SAWCUT CRACK CONTROL JOINTS SHALL BE SAWCUT BETWEEN 4-12 HOURS AFTER FINISHING OF CONCRETE TO PREVENT UNCONTROLLED CRACKING DURING CURING.
   IF RAVELLING DURING SAW CUTTING OCCURS, STOP AND DELAY BY 2 HOURS BEFORE PROCEEDING.
   SAWCUTS SHALL BE INCLUDED WHEN SLAB WIDTHS OR LENGTHS EXCEED 4.0m.
   TRANSVERSE AND LONGITUDINAL SAWCUTS SHALL BE SPACED AT A MAXIMUM DISTANCE OF 2.5m.

7. NON-METALLIC BAR-CHAIRS SHALL BE UTILIZED TO SUPPORT STEEL REBAR.

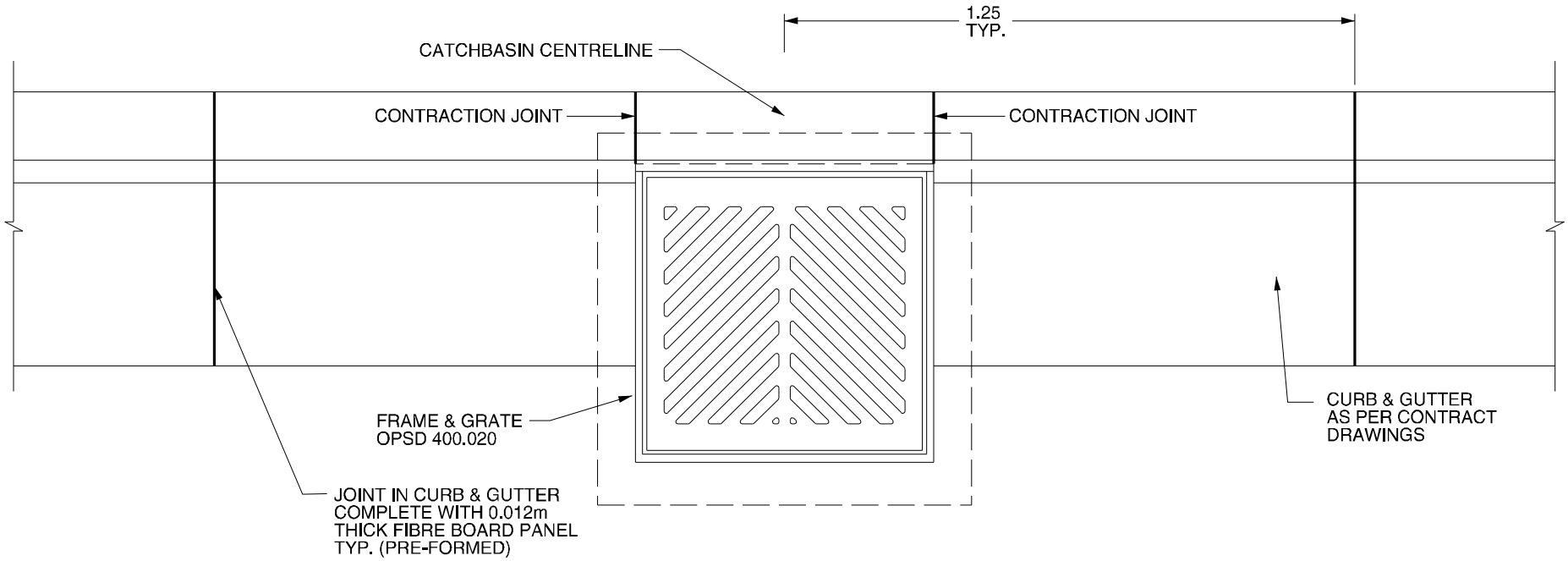
peterborough

SCALE : N.T.S.

STRUCTURAL TRANSIT PAD DETAIL

CITY OF PETERBOROUGH

DEC. 2018	CPD 351.02
DATE	DRAWING NUMBER
R.J.S.	0
DRAWN BY	REVISION NUMBER



NOTES:

1. ALL DIMENSIONS ARE IN METRES.
2. REFER TO DWG. CPD408.02 FOR CATCH BASIN FRAME ADJUSTMENT DETAIL.

peterborough

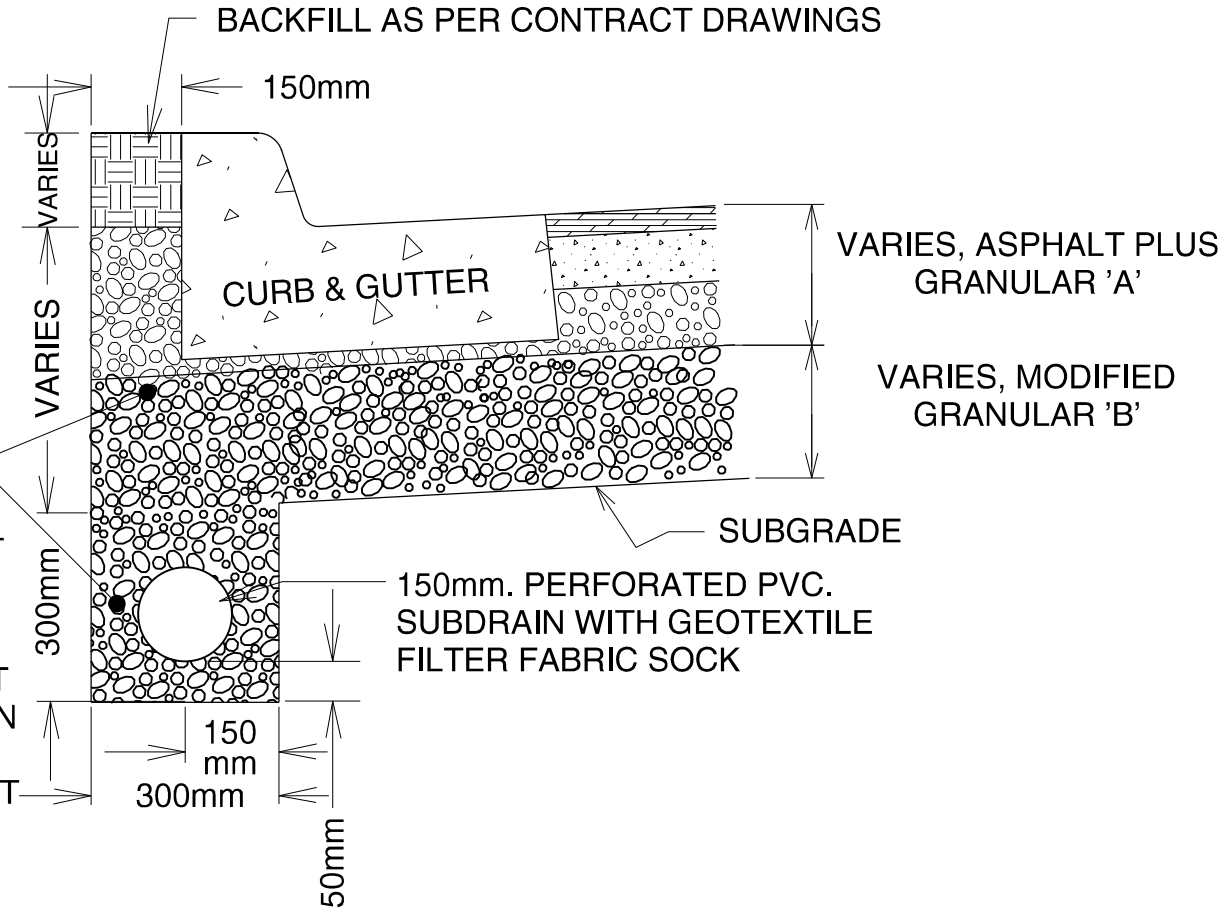
CITY OF PETERBOROUGH
UTILITY SERVICES DEPARTMENT

DATE JAN. 23 2013 REV. 03

CURB
DETAIL AT CATCHBASINS
Not To Scale

APPROVED

CPD353.01



NOTES:

1. DEPTH OF SUBDRAIN WILL BE LESS WHERE REQUIRED TO OBTAIN OUTLET

2. POSITIVE DRAINAGE MUST BE MAINTAINED. ALTERATION TO CB MAY BE REQUIRED WHERE PRECAST KNOCKOUT IS PROVIDED BY MAUFACTURER.

3. GRANUALR 'A' AND 'B' PAY LIMITS FOR ROADWAY SHALL BE TO 150mm BEHIND CURB.

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CITY OF PETERBOROUGH
UTILITY SERVICES DEPARTMENT

STANDARD SUBDRAIN AND ROADWAY PAY LIMITS
Not To Scale

DATE DEC. 2016 REV. 01

APPROVED

CPD405.01

NOTES:

1. ALL DIMENSIONS ARE IN METRES.

2. ADJUSTMENT UNITS SHALL BE FREE OF VISIBLE CRACKS. HDPE GRADE RINGS MAY BE USED.

3. MINIMUM OF ONE AND A MAXIMUM OF THREE ADJUSTMENT UNITS SHALL BE USED TO A MAXIMUM HEIGHT OF 0.3m.

4. EXCESS MORTAR & CONCRETE SHALL BE REMOVED ON THE INSIDE OF THE STRUCTURE TO PRODUCE A FLUSH FINISH. CLEAN AND ROUGHEN EXISTING SURFACE BRUSH WITH PURE CEMENT PASTE PRIOR TO POURING CONCRETE.

5. CONCRETE CURB & GUTTER AND FRAME ADJUSTMENT SHALL NOT BE COMPLETED UNTIL ONE WEEK PRIOR TO THE PLACEMENT OF THE SURFACE ASPHALT.

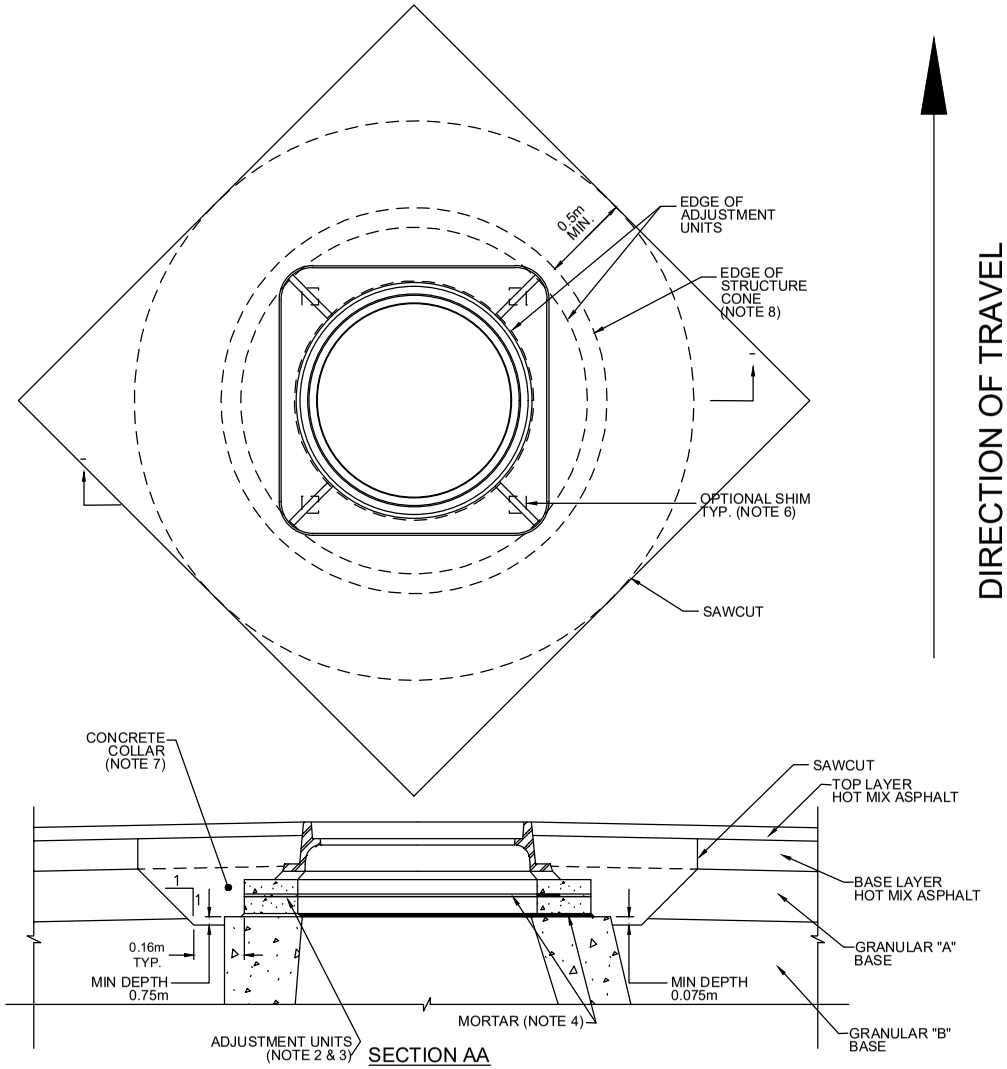
6. CONCRETE PAVER OR HDPE SHIMS MAY BE USED TO ADJUST THE SETTING OF FRAME AND SHALL BE PROPER GRADE PRIOR TO THE PLACEMENT OF CONCRETE OR MORTAR.
MAX. HEIGHT OF 0.025m HDPE SHIMS MAY BE USED.
FOR SHIM HEIGHT RANGE 0.025m TO 0.080m USE 0.06m x 0.1m STANDARD CONCRETE PAVER.
NEATLY CUT TO HEIGHT REQUIRED.

7. A CONCRETE COLLAR SHALL BE USED TO SEAL ADJUSTMENT UNITS.

8. THE CONCRETE COLLAR SHALL EXTEND BELOW THE TOP EDGE OF THE STRUCTURE CONE. IF THE TOP OF THE STRUCTURE IS A FLAT CAP THE COLLAR SHALL GO TO THE TOP OF THE FLAT CAP.

9. ADJUSTMENTS TO FINAL ELEVATION MUST BE COMPLETED SUBSEQUENT TO BASE ASPHALT INSTALLATION AND SHALL NOT PROCEED PRIOR TO ITS ACCEPTANCE, UNLESS OTHERWISE APPROVED AT THE DISCRETION OF THE CITY'S DESIGNATE WHEN DEALING WITH MINOR ASPHALT INFILL WORKS.

10. STRUCTURE ADJUSTMENT COLLARS AND CURB BEHIND STRUCTURES SHALL BE POURED MONOLITHICALLY.



peterborough

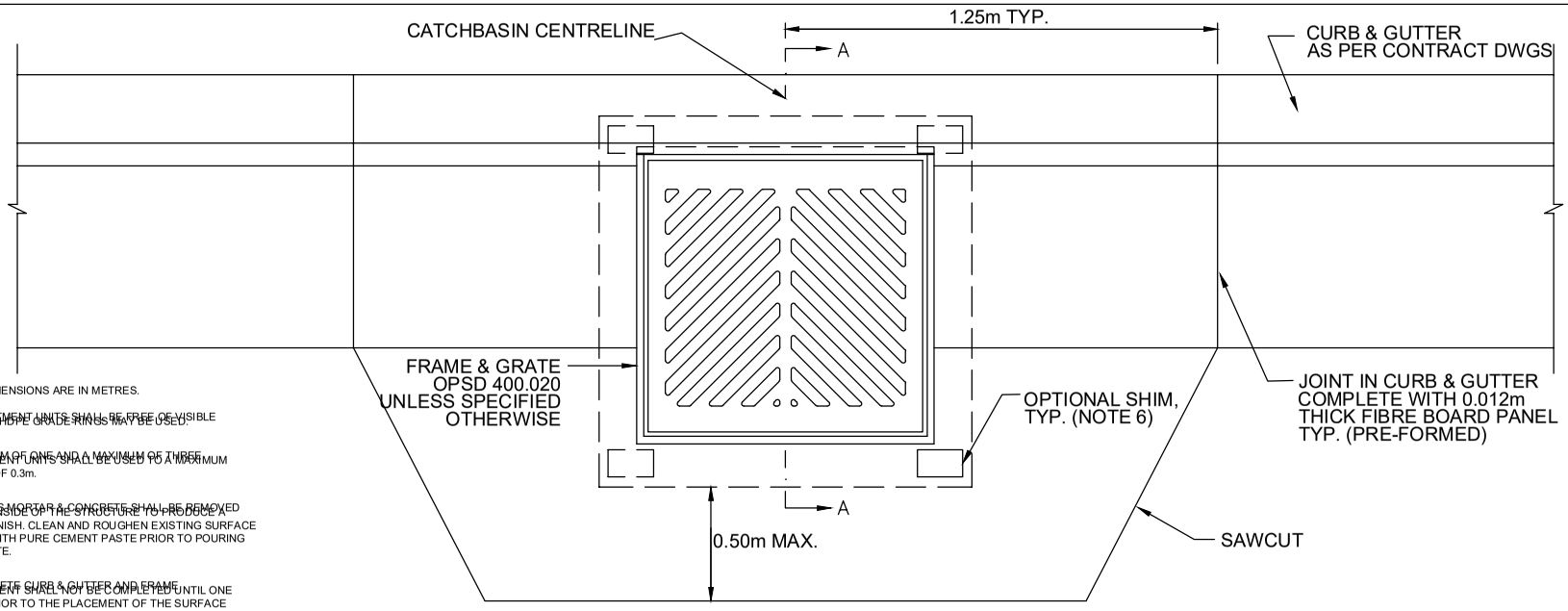
CITY OF PETERBOROUGH
UTILITY SERVICES DEPARTMENT

MANHOLE FRAME
FINAL ADJUSTMENT DETAIL
Not To Scale

DATE Dec. 2023 REV. 4

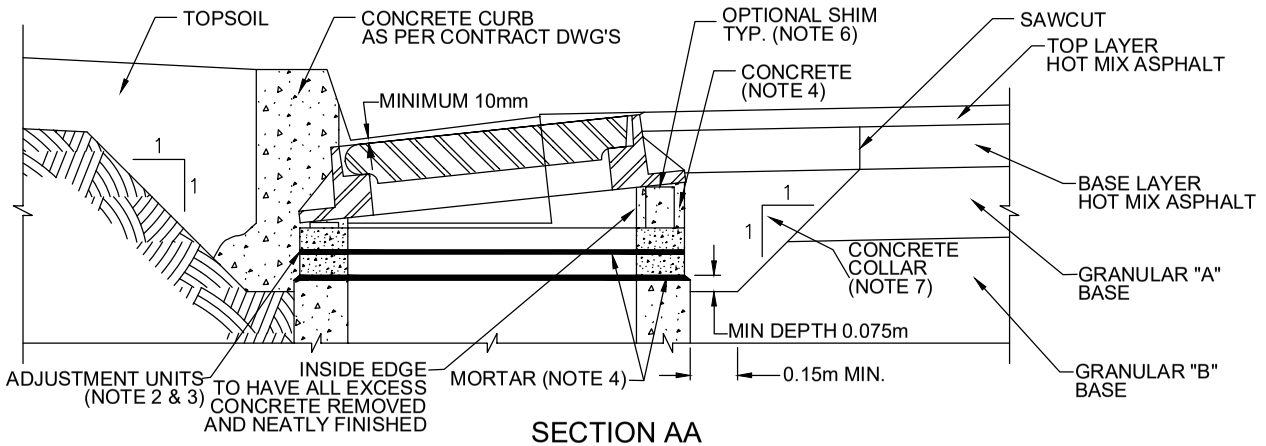
APPROVED

CPD408.01



NOTES:

1. ALL DIMENSIONS ARE IN METRES.
2. ADJUSTMENT UNITS SHALL BE FREE OF VISIBLE CRACKS. HDPE GRADE RINGS MAY BE USED.
3. MINIMUM OF ONE AND A MAXIMUM OF THREE ADJUSTMENT UNITS SHALL BE USED TO A MAXIMUM HEIGHT OF 0.3m.
4. EXCESS MORTAR & CONCRETE SHALL BE REMOVED ON THE INSIDE OF THE STRUCTURE TO PRODUCE A FLUSH FINISH. CLEAN AND ROUGHEN EXISTING SURFACE BRUSH WITH PURE CEMENT PASTE PRIOR TO POURING CONCRETE.
5. CONCRETE CURB & GUTTER AND FRAME ADJUSTMENT SHALL NOT BE COMPLETED UNTIL ONE WEEK PRIOR TO THE PLACEMENT OF THE SURFACE ASPHALT.
6. CONCRETE PAVER OR HDPE SHIMS MAY BE USED TO AID IN THE SETTING OF FRAME AND GRATE TO PROPER GRADE PRIOR TO THE PLACEMENT OF CONCRETE OR MORTAR.
MAX. HEIGHT OF 0.025m HDPE SHIMS MAY BE USED.
FOR SHIM HEIGHT RANGE 0.025m TO 0.080m USE 0.06m x 0.1m STANDARD CONCRETE PAVER.
NEATLY CUT TO HEIGHT REQUIRED.
7. A CONCRETE COLLAR SHALL BE USED TO SEAL ADJUSTMENT UNITS.
8. THE CONCRETE COLLAR SHALL EXTEND BELOW THE TOP EDGE OF THE STRUCTURE CONE. IF THE TOP OF THE STRUCTURE IS A FLAT CAP THE COLLAR SHALL GO TO THE TOP OF THE FLAT CAP.
9. ADJUSTMENTS TO FINAL ELEVATION MUST BE COMPLETE SUBSEQUENT TO BASE ASPHALT INSTALLATION AND SHALL NOT PROCEED PRIOR TO ITS ACCEPTANCE, UNLESS OTHERWISE APPROVED AT THE DISCRETION OF THE CITY'S DESIGNATE WHEN DEALING WITH MINOR ASPHALT INFILL WORKS.
10. WOODEN FORMS AND STAKES SHALL BE REMOVED FROM THE CONCRETE COLLAR PRIOR TO CONCRETE HARDENING. ANY FORMS OR STAKES LEFT IN COLLAR SHALL REQUIRE COMPLETE REMOVAL AND PATCHING OF HOLES TO THE SATISFACTION OF THE CONTRACT ADMINISTRATOR.
11. STRUCTURE ADJUSTMENT COLLARS AND CURB BEHIND STRUCTURES SHALL BE POURED MONOLITHICALLY.



SECTION AA

peterborough

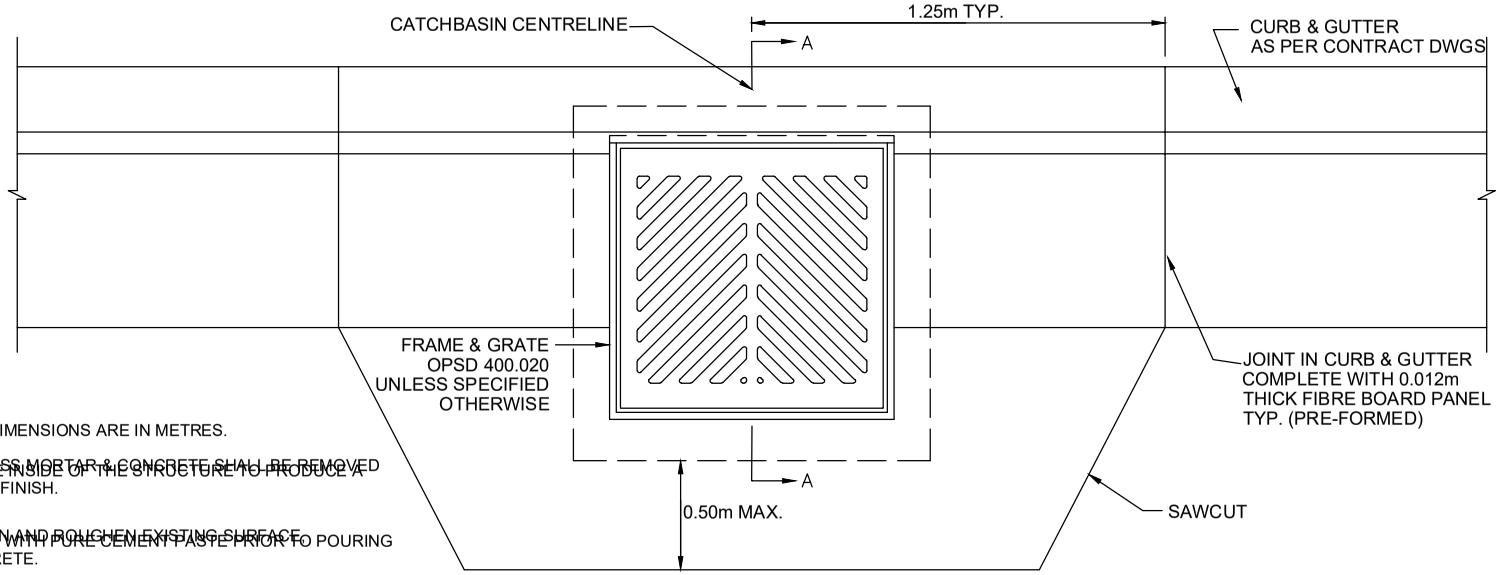
CITY OF PETERBOROUGH
UTILITY SERVICES DEPARTMENT

CATCHBASIN FRAME
FINAL ADJUSTMENT DETAIL
Not To Scale

DATE DEC. 2022 REV. 03

APPROVED

CPD408.02



NOTES:

1. ALL DIMENSIONS ARE IN METRES.

2. EXCESS MORTAR & CONCRETE SHALL BE REMOVED ON THE INSIDE OF THE STRUCTURE TO PRODUCE A FLUSH FINISH.

3. CLEAN AND ROUGHEN EXISTING SURFACE BRUSH WITH PURE CEMENT PASTE PRIOR TO POURING CONCRETE.

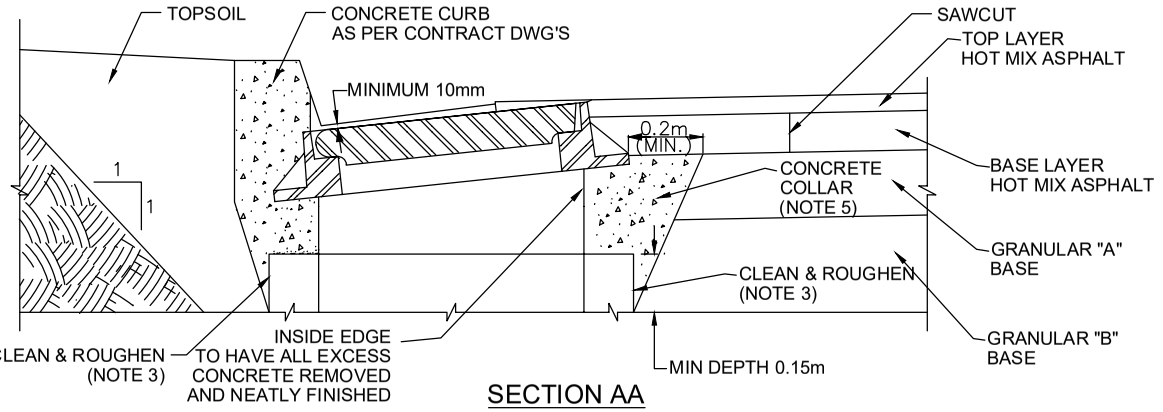
4. CONCRETE CURB & GUTTER AND FRAME ADJUSTMENT SHALL NOT BE COMPLETED UNTIL ONE WEEK PRIOR TO THE PLACEMENT OF THE SURFACE ASPHALT.

5. POURED-IN-PLACE CONCRETE COLLAR.

6. ADJUSTMENTS TO FINAL ELEVATION MUST BE COMPLETE SUBSEQUENT TO BASE ASPHALT INSTALLATION AND SHALL NOT PROCEED PRIOR TO ITS ACCEPTANCE, UNLESS OTHERWISE APPROVED AT THE DISCRETION OF THE CITY'S DESIGNATE WHEN DEALING WITH MINOR ASPHALT INFILL WORKS.

7. WOODEN FORMS AND STAKES SHALL BE REMOVED FROM THE CONCRETE COLLAR PRIOR TO CONCRETE HARDENING. ANY FORMS OR STAKES LEFT IN COLLAR SHALL REQUIRE COMPLETE REMOVAL AND PATCHING OF HOLES TO THE SATISFACTION OF THE CONTRACT ADMINISTRATOR.

8. STRUCTURE ADJUSTMENT COLLARS AND CURB BEHIND STRUCTURES SHALL BE POURED MONOLITHICALLY.



SECTION AA

peterborough

CITY OF PETERBOROUGH
UTILITY SERVICES DEPARTMENT

CATCHBASIN FRAME
FINAL ADJUSTMENT DETAIL (POURED-IN-PLACE)

Not To Scale

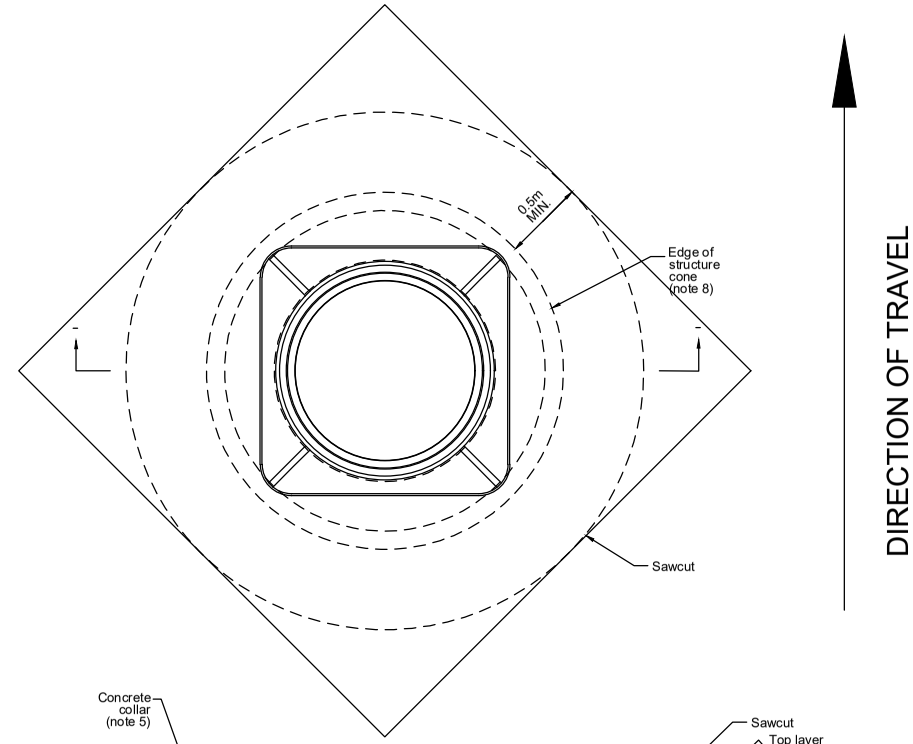
DATE DEC. 2022 REV. 03

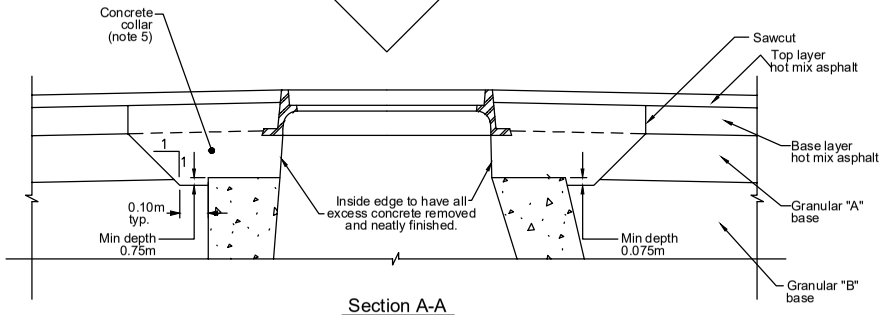
APPROVED

CPD408.03

Notes:

1. All dimensions are in metres.
2. Excess mortar & concrete shall be removed on the inside of the structure to produce a flush finish.
3. Excess mortar & concrete shall be removed on the inside of the structure to produce a flush finish. Clean and roughen existing surface brush with pure cement paste prior to pouring concrete.
4. Concrete curb & gutter and frame adjustment shall not be completed until one week prior to the placement of the surface asphalt.
5. A poured-in-place concrete collar shall be used to a maximum height of 0.3m below the top edge of the structure cone.
6. The concrete collar shall extend to the top of the structure cone. If the top of the structure is a flat cap the collar shall go to the top of the flat cap.
7. Adjustments to final elevation must be complete subsequent to base asphalt installation and shall not proceed prior to its acceptance, unless otherwise approved at the discretion of the city's designate when dealing with minor asphalt infill works.
8. Structure adjustment collars and curb behind structures shall be poured MONOLITHICALLY





Section A-A

peterborough

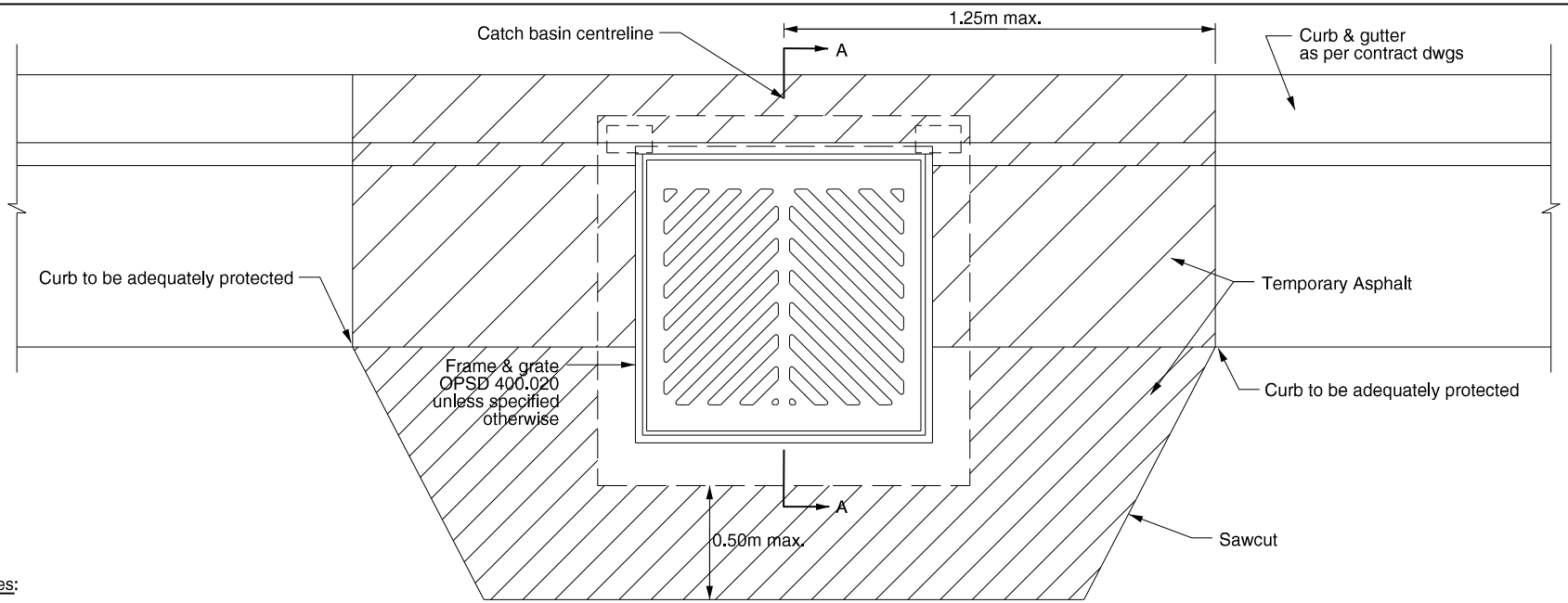
City of Peterborough
Utility Services Department

Manhole Frame
Final Adjustment Detail
(Poured-in-Place)
Not to Scale

Date Dec. 2023 Rev. 03

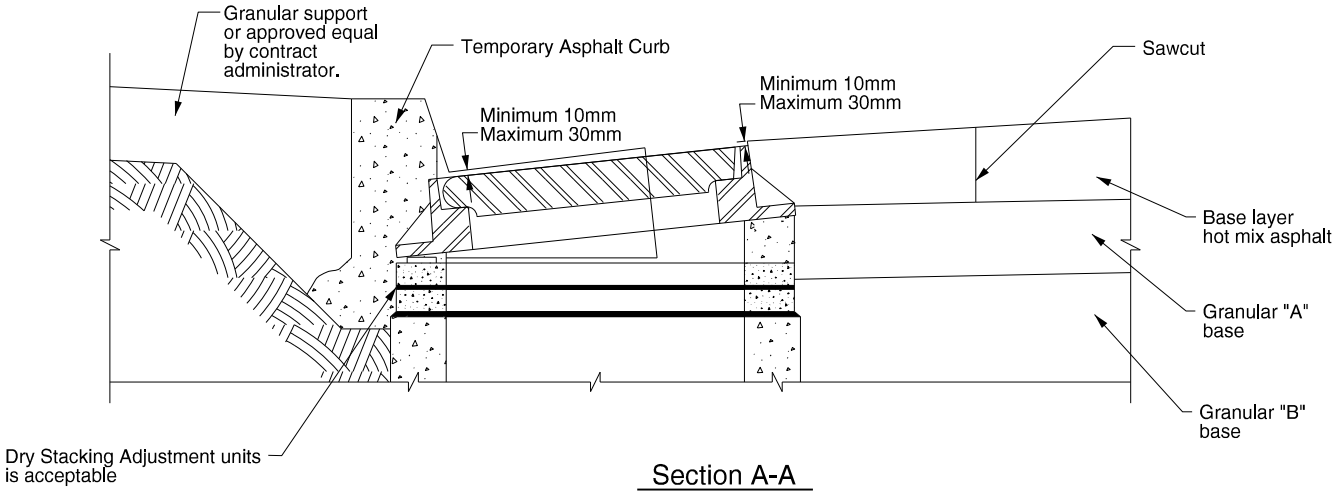
Approved

CPD408.04



Notes:

1. All dimensions are in metres.
2. Minimum of one adjustment units shall be used.
3. Concrete paver or HDPE shims may be used to aid in the setting of frame and grate to proper grade.



Section A-A

peterborough

City of Peterborough
Utility Services Department

Catch Basin Frame
Temporary Adjustment Detail
Not to Scale

DATE Feb. 2018 REV. 0

Approved

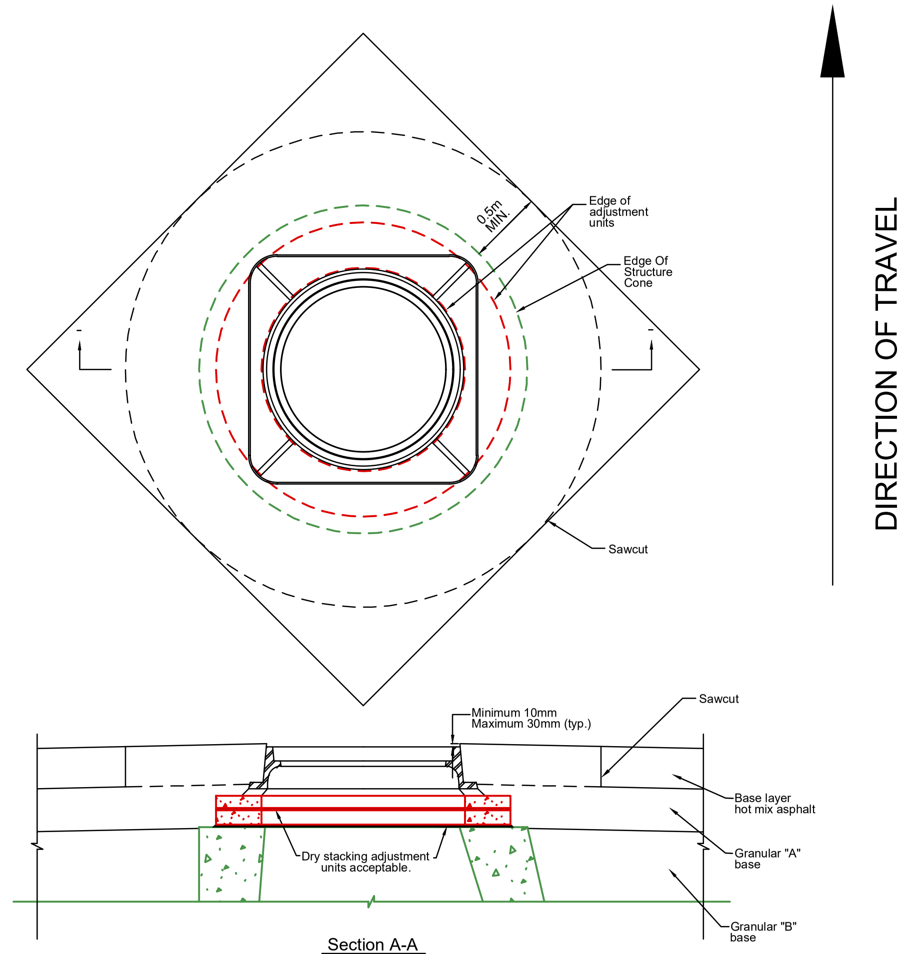
CPD408.06

Notes:

1. All dimensions are in metres.

2. Minimum of one adjustment units shall be used.

3. Concrete or HDPE shims may be used to aid in the setting of frame and grate to proper grade.



City of Peterborough
Utility Services Department

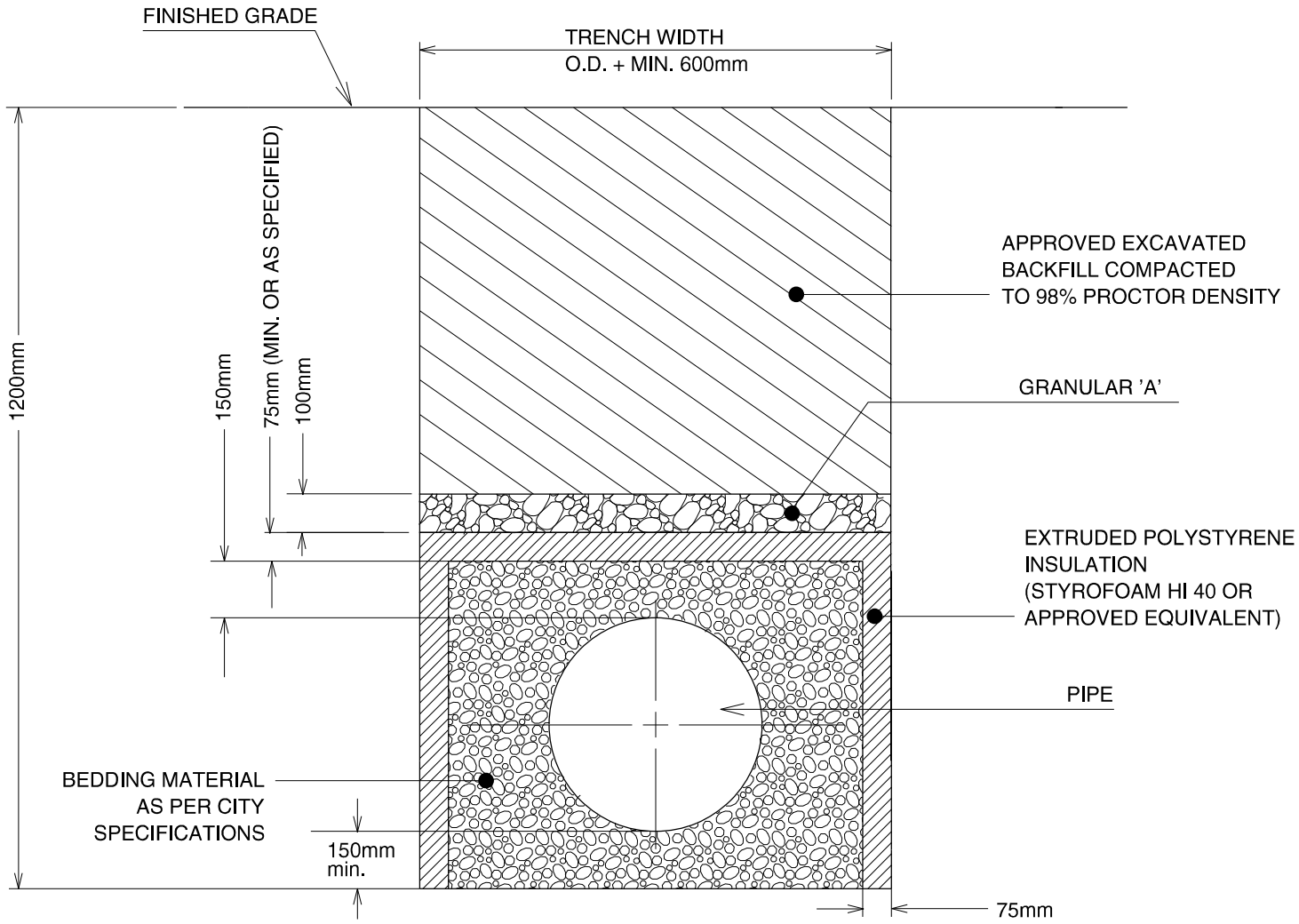
Manhole Frame
Temporary Adjustment Detail
Not to Scale

Date Dec. 2023 Rev. 1

Approved

CPD408.07

peterborough



peterborough

CITY OF PETERBOROUGH
UTILITY SERVICES DEPARTMENT

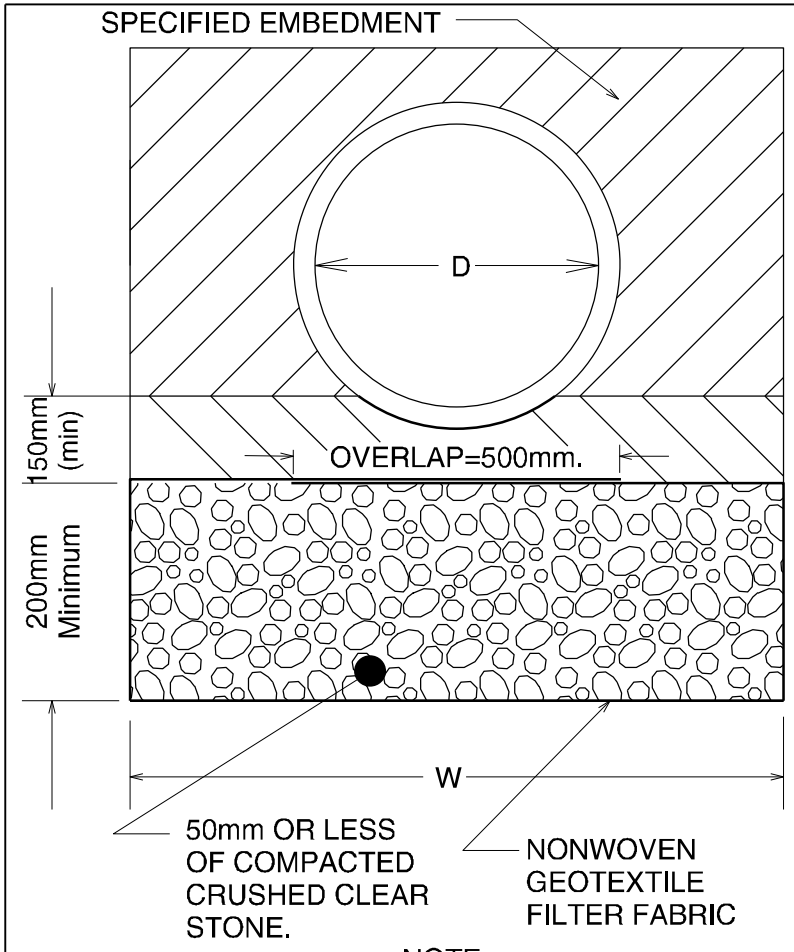
DATE FEB. 18, 2009 REV. _____

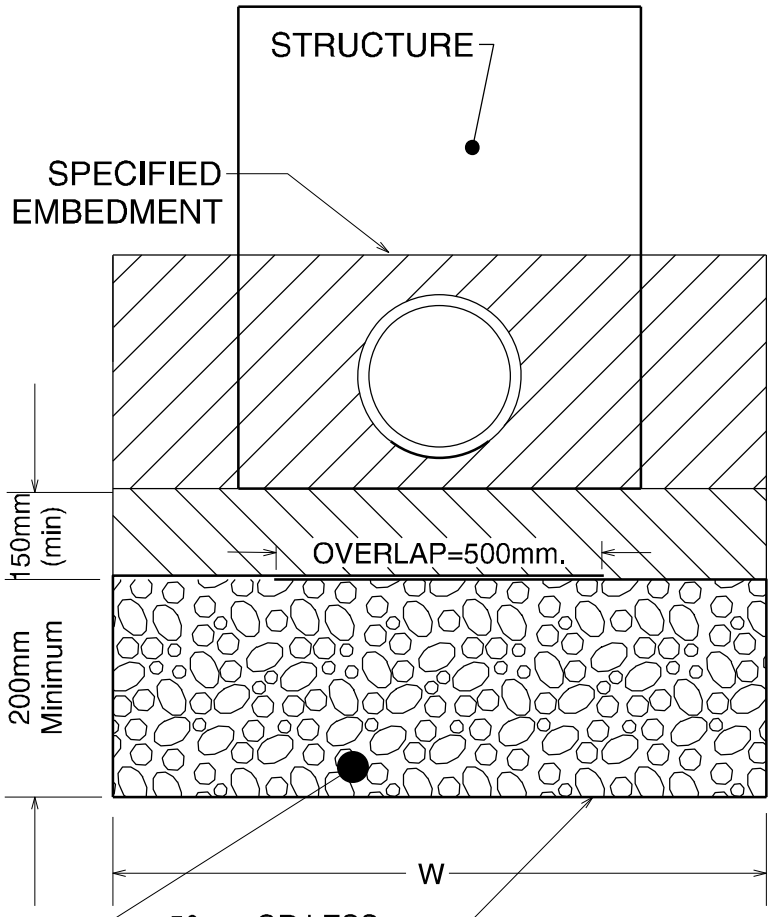
SEWER INSULATION

Not To Scale

APPROVED

CPD410.01





W=OD.+750mm. Min.
(D=1200mm. OR LESS)
W=OD.+1200mm. OR D3
(D=1200mm. OR LARGER)

NOTE:
SIZE AND USE OF BEDDING FOUNDATION TO BE CERTIFIED BY GEOTECHNICAL QUALITY CONTROL.

peterborough

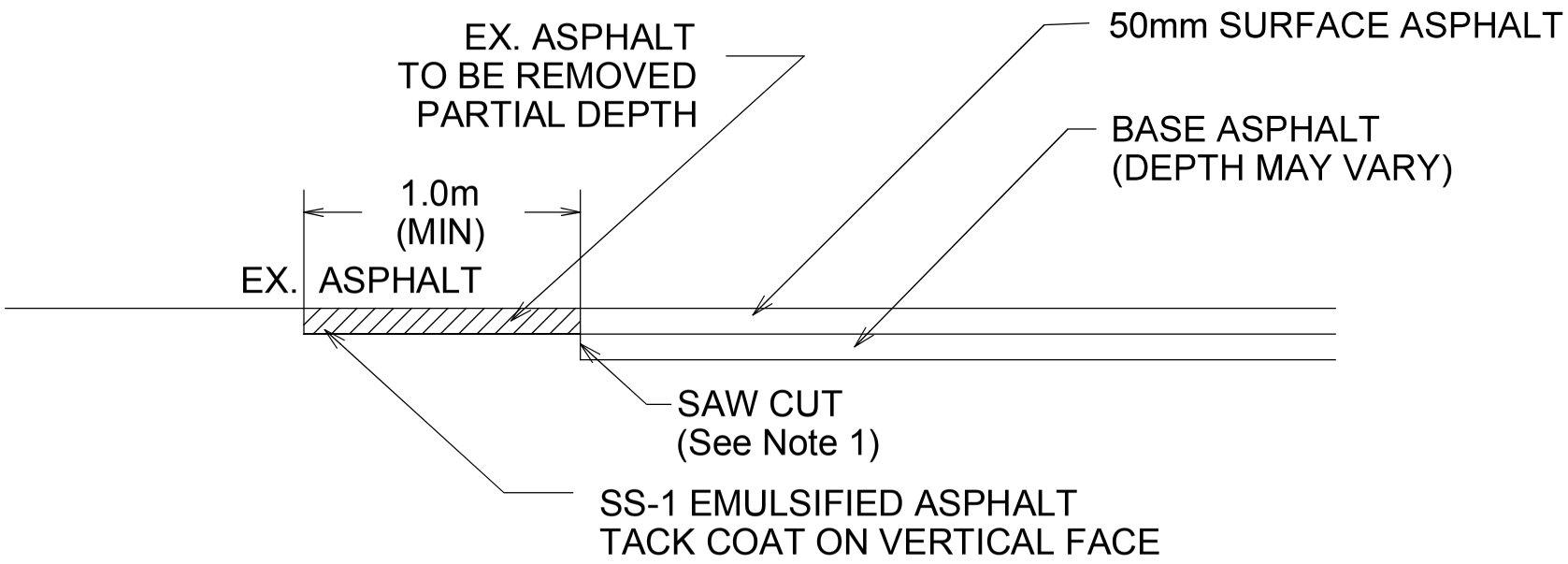
CITY OF PETERBOROUGH
UTILITY SERVICES DEPARTMENT

CLEAR STONE
PIPE AND STRUCTURE
BEDDING FOUNDATION
Not To Scale

DATE FEB .2016 REV. 1

APPROVED

CPD410.02



NOTES:

1. WHEREVER THROUGH-OUT THE CONTRACT A BUTT JOINT IS CREATED A TRANSITION TREATMENT SHALL APPLY. THE EXISTING PAVEMENT EDGES SHALL BE "SAW CUT" TO FORM A STRAIGHT,CLEAN VERTICAL FACE.

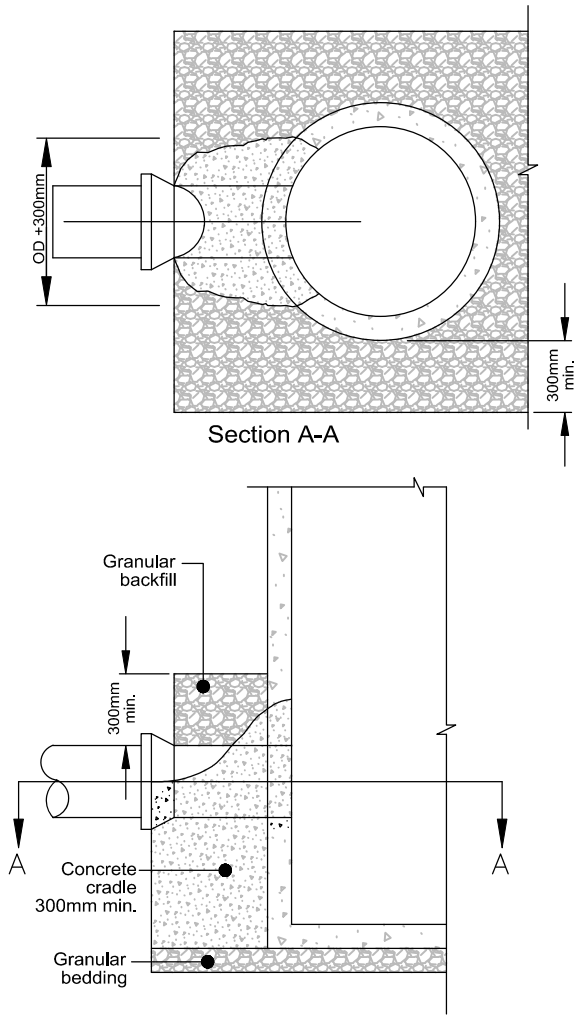
2. ALL VERTICAL FACES AT WHICH JOINTS ARE MADE SHALL BE PAINTED WITH A THIN UNIFORM & CONTINUOUS COATING OF SS-1 EMULSIFIED TACK COAT.

3. ALL DIMENSIONS IN MILLIMTETRES UNLESS STATED OTHERWISE.

peterborough	CITY OF PETERBOROUGH UTILITY SERVICES DEPARTMENT	DATE JAN. 18 2012 REV. 1
	TRANSITION TREATMENT DETAIL Not To Scale	APPROVED
		CPD510.01

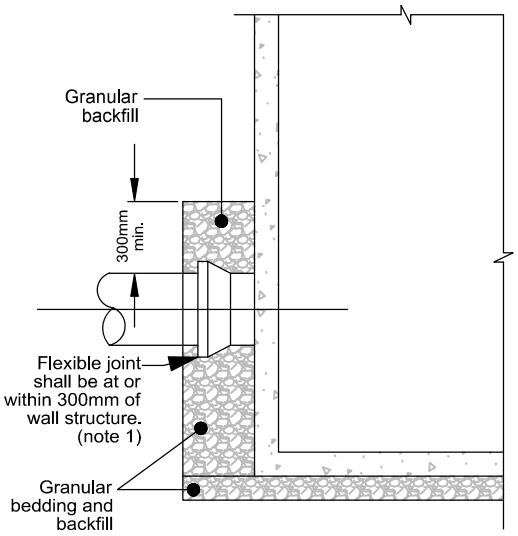
Detail 1 - Concrete (Rigid) Pipe

Rigid Connection with Concrete Cradle



Detail 2 - PVC (Flexible) Pipe

Flexible Connection with Watertight Flexible Joint



1. All flexible pipes connections to structures shall be installed to the manufacturers specifications to provide a water-tight seal.
2. Connections to structures with flexible pipes shall have factory installed rubber gaskets (boots). Use of sanded adapters and parging of these connections is not accepted unless otherwise approved by the Contract Administrator, as per above detail drawing:

General Notes:

1. Connections to structures with rigid pipes shall have a supportive concrete cradle poured from the face of structure to the first adjacent pipe joint.
2. All dimensions are in millimeters unless otherwise shown.

peterborough

SCALE : N.T.S.

Support for pipe and connections at catch basin, catch basin manhole or maintenance hole

City of Peterborough

Dec. 2022	CPD 708.020
Date	Drawing number
R.J.S.	01
Drawn by	Revision number

Index of Forms

Form	Description
001	City of Peterborough Leakage Testing For Concrete Pipes and Concrete Structures
002	City of Peterborough Leakage testing For PVC, HDPE and Flexible Pipe Sections with Air
003	Notification of Concrete Pour/Asphalt Paving
004	Quality Control Reporting
005	Environmental Checklist
006	Traffic Control Application & Covering Letter for Engineering Projects
007	Traffic Control Log
008	Earth Excavation, Grading, and Excess Soil (Cut/Fill/Export)
009	CP206.01 Excess Soil Documentation Checklist
010	Driveway Access Disruption Notice

Form 001
City Of Peterborough Leakage Testing
Concrete Pipes and Concrete Structures
With Water

Project: _____

Test No.: _____

Description: Exfiltration Test

Test Completed by: _____

Table 1.
Leakage Testing for Concrete Pipe Sections

PIPE ID	Ø OF PIPE (mm)	LENGTH OF PIPE SECTION (m)	LEAKAGE ALLOWED (litres/mm of pipe Ø)	STRUCTURE ID FROM TABLE 2.	ADDITIONAL ALLOWABLE LEAKAGE FROM MANHOLE(S)/ho	ALLOWABLE LEAKAGE/hour (litres)	MEASURED HEAD LOSS (mm)	MEASURED LEAKAGE/hour (litres)	FIELD NOTES & TEST RESULTS		
Input ↓	**Input ↓**	**Input ↓**		**Input ↓**	**Input ↓**		**Input ↓**		*Test Date*	*Grade*	*Notes*
xxxxxx	975	28.72	***0.075***	xxxxxx	6.000	***27.0015***	2.0000	***1.4623***	m/d/y	***PASS***	
xxxxxx	975	90.00	***0.075***	xxxxxx	12.000	***77.8125***	170.0000	***124.2956***	12/06/2013	***FAIL***	

TOTAL ALLOWABLE PIPE LEAKAGE (litres)	**122.8140**

Table 2.
Allowance of 3.0 litres per hour per metre of head above invert for each for each manhole

STRUCTURE ID	Ø OF STRUCTURE (mm)	MEASURED WATER ABOVE INVERT (m)	LITRES/m of HEAD	ALLOWABLE LEAKAGE/hour (litres)	MEASURED HEAD LOSS (mm)	MEASURED LEAKAGE/hour (litres)	FIELD NOTES & TEST RESULTS		
Input ↓	**Input ↓**	**Input ↓**			**Input ↓**		*Test Date*	*Grade*	*Notes*
xxxxxx	1800	2.00	***3.00***	***6.0000***	2.0000	***1.4623***	m/d/y	***PASS***	
xxxxxx	1200	4.00	***3.00***	***12.0000***	170.0000	***124.2956***	12/06/2013	***FAIL***	

TOTAL ALLOWABLE MANHOLE LEAKAGE (litres):	**18.0000**

TOTAL ALLOWABLE LEAKAGE (litres) FOR TEST SECTION:	**122.8140**

This form will be provided in .xml format by the Contract Administrator.
The Contractor shall populate formulas.

City Of Peterborough Form 002
Leakage Testing
For PVC, HDPE and all Flexible Pipe Sections
With Water and/or Air

Project: _____

Test No.: _____

Description: Exfiltration Test

Test Completed by: _____

Table 3
Leakage Testing for PVC Pipe Sections

PIPE ID	Ø OF PIPE (mm)	MINIMUM TIME (min:sec)	LENGTH FOR MINIMUM TIME (m)	TIME FOR LONGER LENGTH (sec)	MEASURED LENGTH OF PIPE (m)	ADJUSTED MINIMUM TIME (min:sec)	ADJUSTED MINIMUM TIME (sec)	DURATION TO LOSE 3.5 KPa (sec)	DURATION TO LOSE 3.5 Kpa (min:sec)	FIELD NOTES & TEST RESULTS		
Input ↓					**Input ↓**			**Input ↓**		Date	Grade	Notes

Form 003
City of Peterborough
Notification of Concrete Pour/Asphalt Paving

Contractor: _____

CONTRACT NO: _____

Description: Please list below the type of work, the intended location(s) and the date this work will be completed.

Operation:

☐ Concrete Pour
- ☐ Concrete Curb and Curb & Gutter
- ☐ Concrete Sidewalk
- ☐ Concrete Accessibility Ramps with Tactile Walking Surface Indicators
- ☐ Concrete Driveways and Medians
- ☐ Catchbasin or Manhole Final Structure Adjustments

☐ Asphalt Paving
- ☐ HDBC Hot Mix Asphalt
- ☐ HL-1 Hot Mix Asphalt
- ☐ HL-3 Hot Mix Asphalt
- ☐ Base Lift
- ☐ Surface Lift
- ☐ Other _____

Proposed Date of Operation: ____/____/_____
DD MM YYYY

Intended Location(s):

Additional Comments:

Applicant for Contractor:
_____

Date: _____/_____/_____
DD MM YYYY

Form 004

City of Peterborough Quality Control Compaction Report

Revision: 1
Date: December 2016

City Contract NO.: _____

Material: _____ **Material Description:** _____

Source: _____ **Maximum Dry Density (t/m3):** _____

Report NO: _____ **Optimim Mositure content (%):** _____

Week: _____ **Specified Compaction (%) as per CP 501.01:** _____

Date: _____

Test		**Location**															**Density**									
Shot Number	date: (dd/mm/yy)	Grade (elev.)m	Bedding	Embedment	Cover	Backfill	Struture	Storm Sewer	Sanitary Sewer	Water main	Subgrade	Subbase	Other	Station	Offset	Lift Thickness cm	Probe Depth cm	Mosture Content %	Wet density kg/m3	Dry density kg/m3	Dry Density %	% Target Density as per CP 501.01	Method of Compaction (J) Jumping Jack (R) Roller (P) Plate Packer	Compaction Patterns Required to Achieve Acceptable Target Density (Number of Passes)	**Is Water Required to Achieve Compaction (Yes) or (No)**	Accepted **(A)** Rejected **(X)** Retested **(R)**

Additional Requirements: Associated Documents from the testing firm shall be submitted with this form. One form 004 for each material shall be submitted.

Notes: _____

Form 005

City of Peterborough Environmental Checklist

City Contract No: _____

Date : _____

Yes	Controls and Measures found to be in Place
No	Controls and Measures are not in Place. Corrective action must be taken
NA	This item was not applicable at the time of the audit

	Satisfactory	**Corrected Immediately**	**Comments /Corrective action required**	**Corrective Action Completed**
Item	Yes /No	Yes /No		Date
Catch Basins				
Check Dams				
Silt Fence				
Silt Curtain				
Containment Berms				
Road Conditions				
Spill Response Plan				
Emergency Contacts				
Other				

Name (please print) _____ **Contractor Name** _____

Signed _____

Please Return completed form to Contract Administrator as per CP 805.01

Form 006
City of Peterborough
Traffic Control Application Covering Letter for Engineering Projects
(Must be appended to the front of form 'A' and 'B' of the Traffic Department Application)

General Contractor Name: _____

Contract Number and Name: _____

To the Attention of:
(Check the appropriate designated Contract Administrator who is responsible for the Engineering Project stipulated above).

☐ Todd Williamson
705-742-7777 ext.1760
705-930-6864
twilliamson@Peterborough.ca

☐ Dan Witteveen
705-742-7777 ext.1755
705-875-8526
dwitteveen@Peterborough.ca

☐ Utkarsh Singh
705-742-7777 ext. 1762
705-740-3607
usingh@Peterborough.ca

☐ Other: _____ (Print name of Contract Administrator and Firm)

Note: Items contained within section 3.1 Certificate of Insurance below are to be deemed as "deleted". Insurance requirements are superseded by the Contract Documents. Please note that the Traffic Control Permit will not be issued until such time that insurance requirements have been approved by the Contract Administrator. The Traffic Department contacts shall not be contacted as all correspondence must be channeled through the appropriate designated Contract Administrator.

(Please note that Form 006 "cover letter" and "Traffic Department Application" must be sent to the Contract Administrator for processing)

General Contractor:

_____ Date: _____/_____/_____
DD MM YYYY

Form 007 - Traffic Control Log									
Contractor's Name - Weekly Schedule of Work in Peterborough (T-XX-XX, Contract Title)									
Anticipated Performance Date	**Street**	**From**	**To**	**Road Classification** A = Arterial C = Collector L = Local	**Traffic Layout** (TL #)	**Book #7 Partial Lane (Y/N)**	**Book #7 Lane Closure (Y/N)**	**Status** - New - Continuing - Completed	**Foreman & Contact Number**

Form 008 - Earth Excavation, Grading and Excess Soil (Cut/Fill/Export)							
Contract Number:							
Contract Name/Title:							
Contract Administrator's Name:							
Company Name (General Contractor):							
Project Manager's Name (Contractor):							
Project Site Location and Description (this only applies to a contract with multiple locations):							
Soil Type to be Excavated	**Estimated Quantity (tonnes)**	**Contingent Quantity (tonnes)**	**Re-use on Project Area / Site (tonnes)**	**Alternate Re-use Site (tonnes and desired site location)**	**Disposal Site (tonnes and desired site location)**	**Site Coordinates (Latitude and Longitude)**	**QP name and Professional Credential Number**
Subgrade (liquid soil)							
Subgrade (Dry)							
Vac Truck Disposal							
Granular Road Base							
Asphalt							
Topsoil							
Mixed subgrade and granular or topsoil							

*Contingent quantity shall represent no less than 15% of the Contractor's estimated quantity. The above chart is not exhaustive and represents an example of different soils and materials to be encountered. Latitude and Longitude must only be to 5m accuracy located at the entrance to the site near the right-of-way property line.

Form 009

CP 206.01 – Excess Soil Final Documentation Checklist

The Contractor shall submit this form all with all project documentation prior to Final Completion of contract. Although the following items are the Contractor's responsibility for submission, it is understood that the list of items is provided as courtesy and may not be limited to these items:

'X' indicates not required.
'✓' indicates not required and provided with this package of documentation.

Pre-Construction (prior to mobilization) on-site:

- ☐ In any case where excess soil is being taken off-site either to a reuse site or licensed facility, written consent of the site accepting the material should be obtained prior to the removal of excess soils. This shall be in the form of the OPSS.MUNI 180.

- ☐ When applicable (i.e., in a situation not exempt under Schedule 2 of O.Reg. 406/19) all tracking/hauling information is required to be retained by the Project Leader (the City), a hauling/tracking plan shall be developed by the Contractor and reviewed/approved prior to the removal of soils.

- ☐ When required, the Contractor is to complete the site registration on behalf of the City. Confirmation should be provided to show registry has been done. Items required for registration with the Resource Productivity and Recovery Authority (RPRA) include:

    - Project Area Initial Declaration Form
    - Formal registration of the project area
    - Project Area Final Declaration Form (once the project has been completed and all excess soil has been transported)

- ☐ Contractor's written (email) notice that the export materials will exceed 2,000 cubic meters. This document shall be provided along with the prepared form 008.

- ☐ A prepared form 008 – Earth Excavation, Grading and Excess Soil for City review

- ☐ Temporary Excess Soil Stockpiling Alternatives.

    - Excess soil stockpiling on the Contractor's site (i.e.: soil bank storage) – Proof of documentation (i.e.: permit, Environmental Compliance Approval, license, Certificate of Authorization, etc.), when applicable; and/or

- Email agreement - Contractor and City may enter into a mutual written agreement for temporary stockpiling a project's soil for possible/anticipated re-use during the project.

During Construction (On-Site):

- Any documentation prepared by the Contractor's QP for the receiving site shall be provided to the City throughout the Contract.

- In cases involving vac-truck (i.e., liquid soil) being taken off-site, proof that the facility is licensed to receive vac-truck waste is required prior to removal. Similarly, when non-liquid excess soil is being taken to a facility as waste (due to contamination), additional testing (leachate testing) will be required to characterize the soil quality and appropriate documentation should be obtained from the receiving facility indicating that they are licensed to accept contaminated soil. Depending on the waste disposal site, the requirements for chemical analysis will vary and be reviewed by the City's QP.

Disposal Site:

- A copy of the Government instrument and statement indicating that they have confirmed such to be a receiving site.

- Named QP and associated number with their respective association along with a statement from the receiving owner and QP that the site is adequate for receiving such type, quality, and quantity of material when a Government Instrument is not available.

Re-use Site:

- Named QP and credential number along with a statement from the receiving owner and QP that the site is adequate for receiving such type, quality, and quantity of material.

Contractor Template Logo

Date

Driveway Access Disruption

Dear Resident: **ADDRESS: Project Name**

As part of the Project Name on your street, the City's Contractor Contract Name will be working in front of your house between, start date to end date. This will result in periods of no longer than a insert duration where your driveway may be inaccessible. If your driveway is impacted during this time, you will be provided with 24 hours' notice before the closure, and you will be required to find alternative parking until the work is complete and access to your driveway is restored.

Alternative Parking

Residents can park their vehicle in an alternative location while construction work is blocking access to their driveway. Alternative parking may be available on the following streets:

- Street name and Street name

Residents should place a copy of this notice face up on your dashboard so that it is visible to Parking Enforcement Officers. (Please ensure it is a legal parking space.)

If you receive a Parking Notice Violation (yellow ticket) for on-street parking during this period, please follow the steps below within **15 days** of the notice date:

1) Contact the Contractor contact listed below and give them the yellow notice number.

2) Dispute the parking violation notice online or in person following the process listed on the reverse side of the parking violation notice.

You may use this notice as part of the explanation of why the violation notice should be cancelled.

Please note: This notice will only provide relief to the parking duration restrictions, and only for residents impacted by the construction. Violation notices cannot be cancelled if vehicles are parked illegally (i.e., blocking fire hydrants, bus stops or driveways, or parked in no parking zones). If vehicles are parked in a paid parking space it is expected that the parking fee will be paid.

City of Peterborough Contractor

Contractor Name
Contractor Email or Phone Number
Monday to Friday, 7:00AM to 5:30PM (excluding holidays)

Thank you for your patience. Building a great city takes time. Better infrastructure for all of us is worth the wait.