

**SPECIAL PROVISIONS – CONTRACT ITEMS SUPPLEMENTARY**

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## **A8. CONSTRUCTION SIGNS, TRAFFIC CONTROL & TRAFFIC MANAGEMENT PLAN**

In addition to the conditions stipulated in the Niagara Peninsula Standard Contract Document, GC7.06 and OPSS 706, the following shall also apply:

Interference with normal flow of traffic shall be kept to a minimum. The Contractor shall be prepared to supply and erect any barricades and signs which may be required for complete control of both pedestrians and vehicular traffic including competent flag persons in accordance with Ontario Manual of Uniform Traffic Control Devices. The Contractor shall further provide a traffic control plan in accordance with the most recent amendments to the Occupational Health and Safety Act. The lump sum price shall be deemed to have included this provision.

The Contractor shall also be responsible for supplying their hired help with any necessary safety and/or protective equipment required to perform the work safely.

A minimum of one lane of traffic shall be maintained at all times during construction. Two lanes of traffic shall be maintained at all other times. The Contractor's proposed sequencing and staging of works and operations is to make due allowance for this requirement. Work within intersections shall also be staged such that a minimum of one lane of traffic is maintained on the cross streets.

On **all streets**, one lane of traffic may be closed to traffic during construction, in accordance with the "Traffic Control Manual for Roadway Work Operations". At all other times, all lanes of traffic shall be maintained. Road closures of any kind will only be allowed on an exception basis, and only upon approval of the Project Manager. The Contractor must submit potential road closure requests to the City, in writing, at least one (1) week prior to implementation, for review and approval. Allowances for such operations must be made in the Contractor's Traffic Control and Management Plan; all associated costs will be the Contractor's responsibility.

It is of critical importance that all planned construction activities be coordinated with the City's Operational, Traffic, Parking and Transit Departments. Notification on at least a weekly basis of planned works (schedule) will be required to ensure that the necessary detour signage, parking accommodations, bus routing and maintenance activities account for the active work zones within the project area. The Contractor must also work closely with the City's Construction Inspector and Contract Administrator to keep affected property owners informed of potential impacts to their businesses and residences and to minimize disruption to access and servicing of properties by planned construction activities.

### Winter Maintenance

The successful Contractor will be responsible for winter control maintenance in compliance with Provincial minimum maintenance standards for snow clearing, storage

and removal, salting and sanding activities within the construction work zones during the course of the contract, including maintaining the sidewalks within the project area. All unit prices bid will be deemed to have included allowance for these provisions.

#### Property Access

Pedestrian access to all businesses and residences is to be maintained at all times whenever possible. Access closures are to be scheduled at least two (2) business days in advance between the City, the Contractor and the Business owner and/or Residents, including the type and form of any temporary access provisions. Any disruption to pedestrian access is to be kept to a minimum duration.

On **Regional Roads**, the Contractor will be required to backfill all their trench cut and install temporary restoration in accordance with the Regional Municipality of Niagara specifications at the end of the day's operations so that all lanes of two-way traffic can be maintained at night. All hazards and obstructions shall be properly barricaded and delineated with flashers in accordance with the Ontario Manual of Uniform Traffic Control Devices.

#### Communications

It will be the Contractor's responsibility to inform the various businesses and residences of, and/or the placement of no parking signs the day before, in order to reduce/eliminate any problems with parked vehicles that may interfere with their operations. Access to the abutting businesses and residences must be maintained at all times.

The Contractor shall advise the Police Department, Fire Department and Niagara Emergency Medical Service on a daily basis, with current status of the construction as it pertains to the passage of traffic within the contract limits.

The Contractor shall co-ordinate with Niagara Falls Transit to ensure minimum interruption to their bus schedules on **all streets**. Niagara Transit, school buses and garbage service vehicles will be given priority to maintain their schedule.

The Contractor shall also maintain/provide existing pedestrian access at all times to the businesses and residents during all phases of construction in an acceptable manner.

The traffic control signage requirements shall include the following:

Supply, locate, erect, operate, maintain, relocate as necessary and remove all necessary traffic signs, construction signs, including delineators, barricades and flashing lights, in accordance with the Ontario Traffic Manual (OTM) Book 7 and the latest edition of the "Traffic Control Manual for Roadway Work Operations - Field Edition".

The Contractor is responsible for the installation, daily maintenance and removal of all construction signage throughout the contract.

Regulatory signs and street name signs cannot be removed without approval from the City.

Any existing signs removed by the Contractor to accommodate construction shall be kept operational by placement on a temporary support.

All regulatory signs and street name signs will be replaced permanently by City forces.

#### Basis for Payment

In addition to the payment provisions noted in the Niagara Peninsula Standard Contract Document, the final ten percent (10%) of the lump sum price bid for this item will be held until project completion. The lump sum price bid shall be deemed to include full compensation for all the provisions noted herein.

#### **A9. CONTINGENCY ALLOWANCE**

The Contractor shall include in their tender the indicated contingency allowance in the Form of Tender.

#### Basis for Payment

Payment from this item will only be made for additional work approved in writing by the Contract Administrator. Work completed before receipt of written approval will not be compensated.

#### **B1. TEST PITS (PROVISIONAL ITEM)**

In addition to the conditions stipulated in the Niagara Peninsula Standard Contract Document, the following shall also apply:

Exploratory test holes shall be at locations and depths as directed by the Contract Administrator and must be witnessed by the Contract Administrator or assigned delegate.

Backfill shall be Granular 'A', compacted to 100% Standard Proctor Maximum Dry Density. Alternatively, clear stone may be used as backfill material where hydrovac excavation equipment is used. Disposal of the excavated material shall be in accordance with Special Provisions – Contract Items Supplementary, Item B2.

The purpose of these test holes shall be to verify existing underground infrastructure where a design change is required or as determined by the Contract Administrator.

#### Basis for Payment

Payment at the unit price bid for this item shall include all labour, materials, equipment and Granular 'A' backfill, necessary to complete the work.

This item is provisional. Prior written approval must be provided by the Contract Administrator. Compensation will not be considered if written approval is not sought in advance.

## **B2. EARTH EXCAVATION**

In addition to the conditions stipulated in the Niagara Peninsula Standard Contract Document, OPSS.MUNI 206 and OPSS.MUNI 510, the following shall also apply:

Work under this item will also include the removal of asphalt, concrete, brick pavers and excavations of full road allowance widths as described herein.

The Contractor is responsible for sawcutting, excavating, separating and delivering any concrete or asphalt material to an approved recycling facility. Thickness of the concrete and asphalt will vary; however, no additional compensation will be made for the various depths. The removal of interlocking brick pavers shall also include removal of any concrete and/or granular base.

All asphalt and concrete must be sawcut. Sawcutting shall be to the limits shown on the construction drawings or as directed by the Contract Administrator.

Roadway excavation shall be inclusive of all required excavation from property line to property line on all roadways and include any additional quantities, as shown on the contract drawings.

**In Sections 'B, B2, B3': Item b)** shall be for the removal of asphalt of any thickness for roadway excavation, **base repairs (full depth)**, driveway, private walkway and boulevard restoration. The unit price per square metre shall include saw cutting the existing pavement area to be replaced, removal of the existing cold mix, top asphalt, base asphalt, and/or granular material to a depth specified and proper disposal of excavated materials.

**In Sections 'B, B2, B3': Item c)** shall be for the removal and disposal of all types and thicknesses of sidewalks, miscellaneous concrete subbase and concrete driveways of varying lengths including driveways and walkways adjacent to curb removals. Additionally, any sidewalk segment scheduled for full-replacement shall be paid under this item. This item shall include the additional excavation associated with the widening of an existing 1.2m wide sidewalk.

**In Sections 'B, B2, B3': Item d)** shall be for the removal and disposal of all types of curb and/or curb and/or gutter of any width and thickness.

**In Sections 'B, B2, B3': Item e)** shall be utilized for all concrete/paving stone driveway/private concrete path removals.

The unit price bid shall also include the removal of obstructions from the proposed work area including trees, stumps, brush, logs, and any other items or materials that may be

present. The contractor shall satisfy themselves with respect to the existing site conditions.

The unit price bid shall include saw cutting driveways once prior to removal and a second time prior to final restoration.

The placement of asphalt shall be paid separately under the respective items.

Base repairs shall be paid separately under the respective items.

**The unit prices bid for sidewalk removals shall include all additional excavation required to accommodate the new sidewalk and granular base. This also includes all extra earth (and any other materials) excavation, removal and disposal of materials when a 1.2m wide sidewalk is being replaced with a 1.5m wide sidewalk and any excavation required to adjust the sidewalk grade.**

**Any additional equipment required (jack hammers & compressors, hand saws, skid steers, etc.) to remove the existing sidewalks without causing damage to boulevards, driveways and other existing features shall be included in the unit prices bid.**

The contractor shall take care in removing the existing sidewalks in order to minimize damage to private property and adjacent boulevards. Topsoil and sod restoration will be paid under item B21 for areas disturbed due to reasonable construction practices, typically 0.6m (one roll of sod) adjacent to sidewalks and curbs.

#### Basis for Payment

Payment at the unit price bid for this item shall include all labour, materials and equipment including sawcutting, and disposal of surplus or unsuitable excavated materials, necessary to complete the work as noted on the contract drawings or as directed by the Contract Administrator.

### **B3. GRANULAR MATERIAL**

In addition to the conditions stipulated in the Niagara Peninsula Standard Contract Document, OPSS 314, 401 and 402, the following shall also apply:

All granular materials shall conform to the requirements of OPSS.MUNI 1010.

The unit price bid shall be complete compensation for the supply, hauling, placement, grading and compaction to the specified Standard Proctor Maximum Dry Density of Granular 'A' or 'M'.

This item will be utilized for the Granular 'M' for shoulder restoration and shall be placed at a depth as specified in the contract or as directed by the Contract Administrator.

Roadway excavation Granular 'A' must be installed on all road and sidewalk trenches to the existing grade to provide safe access. Granular 'M' must be installed on shoulders to the existing grade to provide safe access.

The Contractor will be responsible for maintaining granular surfaces until the restoration work is carried out. The Contractor must include in this unit price bid all labour and equipment to remove the excess granular from the trenches prior to final restoration, and delivery of the granular to a location specified by the Contract Administrator. The Contractor is responsible to remove the granular in a manner that avoids contamination of the granular with asphalt, concrete or native material. Any contaminated material shall be removed at the Contractor's expense. Any cost for these requirements must be included in the unit price bid for the granular.

The unit price bid for this item shall include the fine grading and compaction of the sub-base immediately preceding the placement of granular road base material. No roadway granular is to be placed until the subgrade elevation has been checked by the City's Inspector.

The Granular 'A' item is to be utilized where additional granular is required for reshaping the road and on an as-needed basis required for various purposes not identified in these special provisions, as directed by the Contract Administrator. **Granular material used for the sidewalk, driveway and curb base will be paid under this item.**

Payment for all material quantities shall be determined by net weight as recorded by a Government certified weigh scale. The supplier will be responsible for providing suitable scales for all materials to be weighed. Weigh bills (tickets), shall be provided for each load of granular in accordance with SPGS G32.

Weigh tickets received <u>after</u> the monthly Progress Payment has been finalized, for deliveries made within that month's Progress Payment period <b>will NOT be accepted.</b>
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The onus shall be on the Contractor to ensure that the City's Inspector is furnished with all weigh tickets on a daily basis, since these will form the method of measurement.

#### Basis for Payment

As stipulated in the Niagara Peninsula Standard Contract Document and priced as per the breakdown of items as indicated in the Schedule of Quantities and Unit Prices.

#### Recycled Material

Recycled concrete (RCM) and asphalt (RAP) will not be permitted on this project.

**Under no circumstances will recycled material of any kind be permitted for use as pipe bedding, pipe cover or road base material.**



### Recycled Granular

Consideration may be given for the use of recycled granular for deep trench backfill.

**Where recycled material is imported as a substitution for virgin granular material, the cost savings will be shared between the Contractor and the Owner.**

The successful Contractor shall submit a written proposal to utilize recycled granular to the Contract Administrator at the pre-construction review meeting. The Contractor must include with the written proposal certified copies of laboratory testing results confirming that the proposed recycled granular material conforms to the provisions of OPSS.MUNI 1010 for both composition (physical properties) and gradation as specified for Granular 'A'.

The City reserves the right to undertake any additional confirmatory testing it deems necessary, prior to approving the use of recycled material on this project. Therefore, access to the Contractor's recycled material stockpile(s) is to be made available for sampling and testing by a QA/QC testing company retained by the City to verify compliance with the above noted provision. The provisions of NPSCD General - Item G8 will apply to payment for testing in this regard.

### Basis for Payment

Measurement for payment for recycled granular will be by the tonne (t).

Payment for all recycled granular quantities shall be determined by net weight as recorded by a Government certified weigh scale. The supplier will be responsible for supplying suitable scales for all recycled granular to be weighed. Triplicate numbered weigh bills shall be provided by the representative for each load of material as soon as delivery has been accepted.

Tenderers shall note that weigh bills for recycled granular materials will only be accepted for payment when delivery is made in the presence of the City's Inspector. Tenderers are advised to familiarize themselves with the Inspector's normal work hours.

All weigh tickets pertaining to all materials paid for by weight must show either "Tare and Net" or "Gross and Net" weights, if printimatic tickets are used. If printimatic tickets are not used, then the "Gross", "Net" and "Tare" must be given, otherwise the tickets will not be considered for payment.

No deliveries of recycled material to the site are to be made until written approval is received from the Contract Administrator. Approval will be subject to confirmation that the material complies with quality criteria and that cost savings will be shared between the Contractor and the Owner.

## **B6. SUBDRAIN**

In addition to the conditions stipulated in the Niagara Peninsula Standard Contract Documents and OPSS 405, the following shall also apply:

The unit price bid shall include coring into all structures as required for the connection of the subdrains, regardless of the concrete thickness. The unit price bid shall also include all labour, materials and/or equipment necessary to make the subdrain connection to the outlet structure.

All labour, materials (including Granular material and all necessary compaction) and equipment required to excavate and install the subdrain shall be included in the unit price.

PVC subdrain coupling connectors shall be used where the connection to existing subdrain is required. The unit price bid shall include this requirement.

The unit price bid shall include the provision of test pits to verify the existence or location of existing subdrains if deemed necessary or as directed by the Contract Administrator.

It is the Contractor's responsibility to satisfy themselves as to the existing conditions and make allowance in their unit price bid, accordingly.

### Basis for Payment

As stipulated in the Niagara Peninsula Standard Contract Document and priced as per the breakdown of items as indicated in the Schedule of Quantities and Unit Prices.

## **B8. CONCRETE CURB & GUTTER**

In addition to the conditions stipulated in the Niagara Peninsula Standard Contract Documents and OPSS 353, the following shall also apply:

The unit prices bid shall also include the following:

- **Supply and installation of 15M steel reinforcing bars as shown on Dwg. NFS-B03 at all catchbasin and double catchbasins shall be included in the linear cost.**
- **Supply and installation of 15M steel reinforcing dowels as shown on Dwg. NFS-B03 at all curb repair sections shall be paid for separately under the appropriate item.**
- Supply and placement of 32MPa concrete.
- Any type of curb and/or gutter – match existing specifications.
- Required excavation to accommodate new installation, if not otherwise included in Contract Item SPCS B2 Earth Excavation.
- All asphalt removal (including temporary asphalt curbs/infills), disposal and restoration with HL8 HS minimum width 0.3m and a thickness of 75mm
- All required Granular "A" material and compaction.

- Any length of curb and/or gutter as directed by the Contract Administrator or Inspector.
- Surveying to ensure proposed curb repairs will allow for adequate surface drainage to roadway CB's.
- **Item B8 g)** shall include any type of private curbs including decorative/landscaping curbs including poured-in-place and precast, to match existing specifications.

The Contractor shall take due precaution to protect green concrete from being damaged, marred or defaced, particularly at driveway entrances. In the event that the green concrete is marred or damaged in any way, the Contractor shall breakout and replace the damaged sections. Patching or grinding of damaged, marred or defaced concrete will not be accepted. The unit price bid shall be deemed to have made due allowance for this requirement.

A total tolerance (or elevation variance) of 3mm will be accepted as a reasonable variance from the specified curb and gutter elevations. If the total tolerance is exceeded, the Contractor shall, at their own expense, remove and replace the concrete curb and gutter to the satisfaction of the Contract Administrator, at no additional cost to the contract.

Private curb restoration shall include all necessary saw cutting.

If the contractor is not able to match the existing specifications of the private curbs exactly, a suitable alternative may be used. The contractor will be responsible for consulting the homeowner before selecting a suitable alternative.

The exact location of dropped curbs as directed by the Contract Administrator or Inspector will be deemed to be included in the unit price bid. Adjustments in the field will be conducted by the Contract Administrator or the City's representative.

#### Basis for Payment

As stipulated in the Niagara Peninsula Standard Contract Document and priced as per the breakdown of items as indicated in the Schedule of Quantities and Unit Prices.

### **B9. CONCRETE SIDEWALKS**

In addition to the conditions stipulated in the Niagara Peninsula Standard Contract Document and OPSS 351, the following shall also apply:

The unit price bid shall include all necessary equipment, materials and labour to excavate to subgrade, form, finish and cure 32 MPa concrete sidewalks to the specified thickness, on a 125mm granular base.

This item shall be used to construct or reconstruct **any type** of concrete sidewalk including but not limited to: standard, curb-faced, commercial curb-faced, adjacent to curbs and/or gutters, adjacent to edge of pavements, private walks, bus stop landing pads, miscellaneous concrete pads, etc.

**Granular 'A' for a 125mm granular base will be paid under item B3.**

Restoration work shall be carried out within five (5) days after the sidewalk/curb has been placed. Payment for this item shall be made at 50% upon completion of the concrete work with the remaining 50% upon completion of the restoration to the satisfaction of the Contract Administrator.

Commercial and industrial driveways shall also include wire mesh and an allowance to pour the drives in two (2) sections to allow access at all-time. As an alternative to two (2) separate concrete pours, the Contractor may elect to use 'High Early Strength Concrete' at no additional cost to the contract provided approval from the businesses is provided.

**The unit price bid shall also include provisions for cold weather work as noted in OPSS 351.**

A flat obstacle free surface is desired, therefore, do not apply a trowel finish at the joints or provide 'Dummy' joints.

Expansion joints shall be set in place prior to pouring and shall be full depth, spaced 30.0m c/c maximum. Contraction joints shall be spaced 2.5m c/c maximum and are to be saw cut to 1/4 thickness of the slab. The City will not accept any variance in the joint spacing beyond a 50mm tolerance from that specified. Panels with a greater variance will be removed and replaced at the Contractor's expense.

Private concrete sidewalks will be constructed to match the existing (including colour, patterns, stamps, etc) or minimum 125mm depth, whichever is greater, and paid for under this item.

The Contractor is to adjust the sidewalk crossfall where required to allow for positive drainage from the driveway and housewalks. Where the new sidewalk has caused ponding, the Contractor shall remove and replace the sidewalk at no additional cost to the contract. The Contractor shall include the supply and installation of a bond breaker (either plastic or tar paper) when a new sidewalk is installed adjacent to the concrete curb. An expansion joint at this location is not required.

The Contractor shall take due precaution to protect the finished surface of freshly laid concrete sidewalk from being damaged, marred or defaced. In the event that the freshly placed concrete is marred or damaged in any way, the Contractor shall break out and replace the damaged sections. Patching or grinding of damaged, marred or defaced concrete will not be accepted. The unit price bid shall be deemed to have allowed for this contingency.

The unit price bid for this item shall include removal of all tree roots located within the excavated area. The tree root must be cut back outside the form work to sound wood by lopping shears or saw cutting. The tree roots should be backfilled immediately to prevent any damage to the root system. Should backfilling not take place immediately, the tree root system shall be covered to protect against damage. Any costs associated with the unnecessary damage to trees will be the contractor's responsibility.

The unit price bid shall include drop sidewalk ramps at driveways as per OPSD 310.050 and at crossings.

Tactile warning plates shall be supplied and installed within concrete sidewalks at all road crossings in accordance with SPCS Item B34 and NPSCD Section 7 Standard Drawings.

#### Basis for Payment

Excavation to accommodate a grade difference greater than 75mm between an existing sidewalk elevation and the replacement sidewalk shall be paid for separately under the appropriate item in the Schedule of Quantities and Unit Prices, specifically Item B2 Earth Excavation.

Tactile Warning Surfaces shall be paid for under the appropriate item in the Schedule of Quantities and Unit Prices, specifically Item B34

### **B10. SAWCUTTING PAVEMENT (PROVISIONAL ITEM)**

In addition to the conditions stipulated in the Niagara Peninsula Standard Contract Documents, the following shall also apply:

This item shall also apply to additional sawcutting of asphalt and/or concrete where approved by the Contract Administrator and not otherwise referenced within the contract, the Special Provisions – Contract Items Supplementary specifications or noted on the contract drawings.

#### Basis for Payment

Measurement for payment will be made per linear metre as measured in the field. Payment will be made at the unit price bid in the Schedule of Quantities and Unit Prices.

All other sawcutting costs shall be included in the appropriate item as specified in NPSCD General - Item G13.

This item is provisional and requires prior written approval by the Contract Administrator. Compensation will not be provided if written approval is not sought in advance.

## **B11. ASPHALT MILLING**

In addition to the conditions stipulated in the Niagara Peninsula Standard Contract Documents, the following shall also apply:

### **SECTION 'B':**

Payment for item **B11a** will be made for any milling of areas that require butt joints at paving limits, butt joints for driveways, etc. as well as any milling that is required for asphalt boulevards and to remove ramps at crosswalks, catchbasins, manholes, driveway ends, etc., prior to paving..

Payment for **item B11b** will be made for any areas requiring full depth milling for base repairs and full depth pavement replacement, regardless of thickness of existing pavement.

Payment for **item B11c** will be made for any areas requiring a milling thickness of 50mm.

It will be the contractor's responsibility to verify if traffic signal loops are present. If traffic signal loops are present on any of the streets, the contractor will be required to coordinate their work with the Regional Traffic Department prior to milling. The City will pay the Region directly for any associated costs.

Disposal of the asphalt millings is the responsibility of the Contractor. The unit price bid shall be deemed to have made due allowance for this requirement.

### Basis for Payment

As stipulated in the Niagara Peninsula Standard Contract Document and priced as per the breakdown of items as indicated in the Schedule of Quantities and Unit Prices.

## **B13. ADJUSTMENT OF APPURTENANCES**

In addition to the conditions stipulated in the Niagara Peninsula Standard Contract Documents and OPSS 408, the following shall also apply:

Payment for these works shall include the adjustment of existing (and remaining) maintenance holes, catchbasins, ditch inlets, valve chambers and/or valve boxes located within the road allowance. No payment will be made under this item for newly constructed appurtenances.

**Under no circumstances shall HDPE adjustment units be used on this contract.**

The unit price bid shall include all materials, equipment and labour necessary to ensure that the final elevation of each appurtenance matches the final elevation of the proposed asphalt works.

**All structures are ultimately to be set to surface (finished) asphalt elevation.**

All costs associated, including the supply and installation of new frames, covers and grates, new valve/curb boxes, precast adjustment units, mortar or concrete, supply, placement and compaction of Granular 'A' (as required) and Hot Mix Asphalt (as required), as well as any excavation and/or the breaking out of concrete within the road base, shall be deemed to have been included in the unit prices bid under this item.

Replace Existing Maintenance Hole/Valve Chamber Frame & Cover, Catchbasin/Ditch Inlet Frame & Grate

Unless specifically identified on the contract drawings, any replacement of existing 'frame and covers' or 'frame and grates' must receive written prior approval from the Contract Administrator. Payment will not be entertained where the Contractor has failed to secure this approval.

Hinged catchbasin covers shall open away from the roadway.

Maintenance Hole/Valve Chamber frames and covers within the roadway shall be replaced with a **self-adjusting frame and cover** from either East Jordan Iron Works (Product No. 00302201) or Bibby-Ste-Croix (Auto Stable C-50MONT.) Follow manufacturer's installation recommendations. MH top elevation shall be set to blend with the surrounding finished grades.

Replacing the 'frame and cover' or 'frame and grate' of an existing (and remaining) maintenance hole/valve chamber or catchbasin/ditch inlet shall include the salvage and delivery of the existing frame and cover/grate to the City's Service Centre at no additional cost to the contract. Failure to deliver the salvaged materials to the Service Centre will result in a 50% reduction in payment for the replacement frame and cover.

No separate or additional payment will be made for the supply of materials and/or labour required to adjust new frames and covers/grates on existing (and remaining) maintenance holes/valve chambers or catchbasins/ditch inlets. Any and all costs associated with the adjustment of these frames, covers and grates shall be deemed to be included in the appropriate unit prices.

Any structure (Manhole, Catchbasin, Ditch Inlet, etc.) that is found to require more than 450mm of adjustments shall be considered a rebuild and will be paid under the appropriate items in the schedule of quantities and unit prices. This will be considered full compensation to completely rebuild the structure including, but not limited to all specifications and requirements of OPSS 408 and as specifically detailed in OPSS 408.07.09, AND the following:

- All necessary saw cutting, removal and disposal of road asphalt, asphalt or concrete curbs and/or curb & gutter.
- The removal of all existing brickwork and mortar or adjustment units from the top of the existing structure.

- Rebuilding the structure with adjustment units to final grade. The completed rebuilt structure shall have a minimum of one and a maximum of three adjustment units to the top of the structure prior to placing the frame and cover.
- Any concrete, rebar and pre-cast riser sections necessary.
- Granular 'A' backfill and 75mm of HL8 HS base asphalt restoration.

It will be the contractor's responsibility to obtain prior written approval from the Contract Administrator or Inspector for any structure requiring a rebuild. No payments will be made for rebuilds if prior written approval was not obtained in advance of performing the work.

Curb and gutter restoration (3m in length) including plunge saw cuts at curbs shall be paid under Item B8, when applicable.

#### Salvaged Materials

Salvaged frames, covers and grates and valve/curb boxes shall be delivered to the City's Service Centre at 3200 Stanley Ave, as directed by the Contract Administrator at no additional cost to the contract. Deliveries to the Service Centre must be made between 8:00 am - 4:00 pm, Monday to Friday.

#### Basis for Payment

The unit price bid shall include all materials, equipment and labour necessary to ensure that the final elevation of each appurtenance matches the final elevation of the proposed asphalt works.

### **B14. SUPPLY AND PLACE HOT MIX ASPHALT**

In addition to the conditions stipulated in the Niagara Peninsula Standard Contract Documents and OPSS 310, the following shall also apply:

Clause 14.09 of the NPSCD for price adjustment provisions is not applicable under this contract.

Clause 14.07.3 of the NPSCD for Use of Paving Equipment – Paving in Echelon is not applicable under this contract

Clause 14.07.4 of the NPSCD for Use of Asphalt Material Transfer Vehicle is not applicable under this contract

Clause 14.07.5 of the NPSCD for Use of Re-Heating and Compaction of Longitudinal Joints is not applicable under this contract

All materials shall conform to the requirements of OPSS.MUNI 1003 and OPSS 1150.



No extra payments will be made for any hand work involved in spreading or compacting the hot mix asphalt around radius, intersections, trench areas, areas between the existing asphalt and new gutters, curbs etc.

If, due to delays, asphalt paving occurs in cold weather, there shall be no additional compensation for any heating, environmental charges or joint heating equipment that may be required to complete the work.

### **SECTION 'B, B2 & B3'**

**Item B14a)i.** shall be utilized for the supply and placement of the HL3 HS surface course asphalt on entire roadways at a thickness of 40mm. This shall also include any hand work required to form a temporary asphalt curb to match the concrete curb and gutter at catchbasin sections where the concrete curb and gutter is not installed, or for any other reason deemed necessary by the Contract Administrator.

**Item B14a)ii.** shall be utilized for the supply and placement of the HL8 HS roadway base asphalt for all base repairs and full-base replacement at a minimum thickness of 80mm. When HL8 HS is required in areas for base repairs, the work shall be carried-out immediately.

**Item B14a)iii.** shall be utilized for the placement of HL8 HS in areas that require base asphalt repairs and granular base repairs. The thickness of HL8 HS asphalt shall be placed to match the existing pavement thickness or at a minimum thickness of 75mm and is to be placed immediately after milling where base repairs are required.

**Item B14 b)i.** shall be utilized for the supply and placement of HL3 F asphalt for driveway restoration at the minimum thicknesses specified in the schedule of quantities and unit prices. Existing driveway depths are to be matched if greater.

#### Basis for Payment

As stipulated in the Niagara Peninsula Standard Contract Document and priced as per the breakdown of items as indicated in the Schedule of Quantities and Unit Prices.

### **B15. ASPHALT WALKWAYS & DRIVEWAYS**

In addition to the conditions stipulated in the Niagara Peninsula Standard Contract Document, OPSS 311, OPSS 314, and Special Provisions – Contract Items Supplementary, Item B14, the following shall also apply:

Existing asphalt driveway depths are to be matched if thickness is greater than that specified in the Niagara Peninsula Standard Contract Document, which are deemed to be the minimum requirement.

The unit price bid for this item shall be complete compensation for the preparation and additional handwork that may be required to restore driveway aprons and driveways, as necessary, and as directed by the Contract Administrator.

The Contractor is to adjust the driveway gradient where required to allow for positive drainage from the driveway and housewalks. Where the restored driveway has created or caused ponding, the Contractor shall adjust and restore the driveway and gradient at no additional cost to the contract. Driveway gradient adjustments must not negatively impact vehicle access.

The Contractor must take all due precaution not to disturb any areas outside the limits required to complete the proposed works safely. Areas disturbed outside these limits will be repaired in accordance with the specifications outlined in this contract at the Contractor's own expense and solely at the discretion of the Contract Administrator.

Tenderers shall note that any damage caused by careless operations to pavements and/or driveways shall be reinstated by the contractor at his own expense. This includes pavements and/or driveways that are not saw cut twice, once prior to removal and a second time prior to restoration. If the contractor does not saw cut the pavement and/or driveway prior to removing the asphalt material and this results in restoration greater than 0.3m in width, the contractor will only be paid for the removal and restoration up to 0.3m in width under Items B2 & B14 respectively. The remaining area that was damaged, removed and restored will be at the contractor's expense.

#### Winter Work

The Contractor shall make due allowance in the unit price bid for the additional effort required to maintain asphalt driveways during winter construction.

The extent of the driveway restoration will be in accordance with the initial sawcut limit as approved by the Contract Administrator, prior to the asphalt driveway removal. Any subsequent asphalt damage, maintenance and/or repair will be the Contractor's responsibility at no additional cost to the contract. Once any part of the asphalt is removed to facilitate construction, the Contractor must inspect the driveway on a daily basis to remove any broken asphalt pieces and maintain an even granular surface so as to minimize the risk of damage to pedestrians, vehicles, snowploughs and/or snow blowers.

#### Basis for Payment

The unit price bid shall include all necessary labour, materials and equipment to complete the work in accordance with the specifications of this contract including, but not limited to, sawcutting, removals, disposals, surface preparation, backfilling, grading, compaction, bond breaker and tack coat.

The unit price bid does **NOT** include for Granular 'A' required to complete **all types** in item B15 Asphalt Walkways and Driveways, as well as the adjustment of existing curb boxes, cleanouts etc., **the granular required will be paid for under item B3.**

In addition to the above, the unit price bid will cover any required restoration work between the contract limits (property line) and building face, where directed by the Contract Administrator.

Payment for the supply and placement of Hot Mix Asphalt shall be paid for separately under the appropriate item in the Schedule of Quantities and Unit Prices.

### **B16. CONCRETE PAVEMENT & DRIVEWAYS**

In addition to the conditions stipulated in the Niagara Peninsula Standard Contract Document and OPSS 350, the following shall also apply:

Existing concrete driveway depths are to be matched if thickness is greater than that specified in the Niagara Peninsula Standard Contract Document, which are deemed to be the minimum requirement.

Existing conditions are to be matched including, but not limited to: colour, patterns, saw-cuts, stamps, finishing methods (i.e. exposed aggregate), etc.

The unit price bid for this item shall be complete compensation to restore private driveways and driveways adjacent to sidewalk or curb removals or as otherwise noted on the contract drawings or directed by the Contract Administrator.

The Contractor is to adjust the driveway gradient where required to allow for positive drainage from the driveway and housewalks. Where the restored driveway has created or caused ponding, the Contractor shall adjust and restore the driveway and gradient at no additional cost to the contract. Driveway gradient adjustments must not negatively impact vehicle access.

The Contractor must take all due precaution not to disturb any areas outside the limits required to complete the proposed works safely. Areas disturbed outside these limits will be repaired in accordance with the specifications outlined in this contract at the Contractor's own expense and solely at the discretion of the Contract Administrator.

Commercial and industrial driveways shall also include wire mesh and an allowance to pour the drives in two (2) sections to allow access at all-times. As an alternative to two (2) separate concrete pours, the Contractor may elect to use 'High Early Strength Concrete' at no additional cost to the contract provided approval from the businesses is provided.

### Basis for Payment

The unit price bid shall include all necessary labour, materials and equipment to complete the work in accordance with the specifications of this contract including, but not limited to, sawcutting, removals, disposals, surface preparation, backfilling, grading, compaction, and bond breaker.

The unit price bid shall **NOT** include all Granular 'A' required to complete **all types** in item B16 Concrete Pavement and Driveways, as well as the adjustment of existing curb boxes, cleanouts, etc., **the granular will be paid for under item B3.**

In addition to the above, the unit price bid will cover any required restoration work between the contract limits (property line) and building face, where directed by the Contract Administrator.

### **B17. ADJUST PAVING (STONE) BRICK DRIVEWAY**

In addition to the conditions stipulated in the Niagara Peninsula Standard Contract Document, the following shall also apply:

As per the Niagara Peninsula Standard Contract Document, the Contractor shall replace any paving stones broken or damaged as a result of removal or stolen from the stockpile, at no additional cost to the contract.

The Contractor is to adjust the driveway gradient where required to allow for positive drainage from the driveway and housewalks. Where the restored driveway has caused ponding, the Contractor shall adjust and restore the driveway and gradient at no additional cost to the contract. Driveway gradient adjustments must not negatively impact vehicle access.

Should paving stones be left over and the property owner would like to keep the extra paving units, the Contractor is to stockpile the paving stones in a safe manner and secure place for the owner. If the property owner does not wish to keep the extra paving units, they will become the property of the Contractor for his reuse and/or disposal. Paving stones shall not be removed from site without the permission of the property owner. Any stones that are removed from site without the property owner's permission are to be replaced by the Contractor at no additional cost to the contract.

### Basis for Payment

The unit price bid for this item shall be complete compensation to restore sidewalks, driveway aprons and driveways, as necessary, and as directed by the Contract Administrator.

The unit price bid shall **NOT** include for Granular 'A' required to complete **all types** in item B17 Adjustment Paving Stone Driveway, as well as the adjustment of existing curb boxes, cleanouts, etc. ., **the granular will be paid for under item B3.**

The unit price bid shall include the cost to supply and place a 50mm limestone screening bedding and a sharp course granular sand between the pavers.

In addition to the above, the unit price bid will cover any required restoration work between the contract limit (property line) and building face, where directed by the Contract Administrator.

Payment shall be as stipulated in the Niagara Peninsula Standard Contract Document and priced as per the breakdown of items as indicated in the Schedule of Quantities and Unit Prices.

### **B18. GRANULAR DRIVEWAYS**

In addition to the conditions stipulated in the Niagara Peninsula Standard Contract Document and OPSS 314, the following shall also apply:

The Contractor is to note that the granular driveway thicknesses specified in the NPSCD are minimum requirements. Existing driveway depths are to be matched if greater.

All granular driveways are to be compacted to 100% Standard Proctor Maximum Dry Density.

The Contractor is to adjust the driveway gradient where required to allow for positive drainage from the driveway and housewalks. Where the restored driveway has caused ponding, the Contractor shall adjust and restore the driveway and gradient at no additional cost to the contract. Driveway gradient adjustments must not negatively impact vehicle access.

#### Basis for Payment

The unit price bid for this item shall be complete compensation to restore driveway aprons and driveways, as necessary, and as directed by the Contract Administrator.

The unit price bid shall **NOT** include for Granular 'A' required to complete **all types** in item B18 Granular Driveways, as well as the adjustment of existing curb boxes, cleanouts, etc., **the granular will be paid for under item B3.**

Payment shall be as stipulated in the Niagara Peninsula Standard Contract Document and priced as per the breakdown of items as indicated in the Schedule of Quantities and Unit Prices.

### **B21. TOPSOIL AND SOD**

In addition to the conditions stipulated in the Niagara Peninsula Contract Document, OPSS 802 and OPSS 803, the following shall also apply:

All areas to be sodded shall be graded to provide proper drainage. Any areas on private property shall also be included.

All unnecessary damage to front lawns, boulevards or grass areas caused by the Contractor's carelessness shall be reinstated at his/her own expense.

### Topsoil

Topsoil shall be a PREMIUM BLEND, weed free, and naturally sterilized through composting.

The blend shall consist of:

- 50% Triple Mix (30% mixture of topsoil, sands, and shredded wood mulch/30% mixture of black organic compost and manure/30% mixture of peat loam); and
- 50% Premium Topsoil (50% mixture of topsoil, sands, and shredded wood mulch/ 25% mixture of black organic compost/ 25% mixture of composted cow manure).

In general, the resulting topsoil mix should meet the following parameters:

pH:	6.5 – 7.5
Potassium:	100 – 120 ppm
Phosphorous:	15 – 30 ppm
Magnesium:	100 – 120 ppm
Organic Matter:	≥ 3%

Unless otherwise specified, the minimum depth of applied Premium Blend Topsoil shall be 100 mm.

### Basis for Payment

Measurement for payment shall be square metre of area topsoiled and sodded.

The unit price bid shall include all materials, equipment and labour necessary to complete the work and shall include grading and the supply and application of fertilizer and water necessary to ensure growth within the one year maintenance period.

**B23. SUPPLY & APPLY CALCIUM CHLORIDE (PROVISIONAL)**

In addition to the conditions stipulated in the Niagara Peninsula Standard Contract Document, the following shall also apply:

Calcium chloride shall conform to the requirements of OPSS 506.

Calcium chloride shall be applied uniformly by means of a mechanical spreader when and as directed by the Contract Administrator.

Calcium chloride will be measured in tonnes for that quantity used in the work for compaction and dust control. The unit price indicated in the Form of Tender shall be compensation in full for the supply and application of calcium chloride.

**B24. APPLICATION OF WATER FOR DUST CONTROL (PROVISIONAL ITEM)**

In addition to the conditions stipulated in the Niagara Peninsula Standard Contract Document, the following shall also apply:

Filling of water application vehicles from municipal hydrants will no longer be permitted. The City has installed a smart card water filling station, located across from the Service Centre located at 3200 Stanley Avenue.

The station is equipped with new technology allowing Contractors to pre-pay for water credit on a swipe card system that can be refilled once the card has been emptied. The cost of the swipe card is \$15.00 and may be purchased at the Service Centre. To set up a water filling account please contact Environmental Services at 905-356-7521, Extension 6322.

Water shall be applied by means of approved equipment capable of uniform and controlled distribution.

**Basis for Payment**

Water will be measured in cubic metres.

Payment at the unit price bid in the Schedule of Quantities and Unit Prices shall be deemed full compensation for all water, carrying, application and any other costs involved with this dust control operation.

This item is provisional. Prior written approval must be provided by the Contract Administrator. Compensation will not be provided if written approval is not sought in advance.

### **B30. BASE REPAIRS – GENERAL**

The unit price bid per cubic metre of base repair shall include the following:

- Local Roads:
  - Excavation of the road base and earth to a depth of 420 mm, including fine grading and compaction of the sub-grade.
  - Supply and placement of granular 'A' material to the appropriate subbase elevation including grading and compaction to 100% Standard Proctor Density.
  - Disposal of the excavated material as specified in Clause 2 of the Special Provisions.
- Collector/Arterial Roads:
  - Excavation of the road base and earth to a depth of 600 mm, including fine grading and compaction of the sub-grade.
  - Supply and placement of granular 'A' material to the appropriate subbase elevation including grading and compaction to 100% Standard Proctor Density.
  - Disposal of the excavated material as specified in Clause 2 of the Special Provisions.

### **B32. CONSTRUCTION OF SPEED CUSHIONS**

Speed Cushions shall be constructed as per the appended drawings. Locations will be specified by the Contract Administrator (Woodbine Street). The unit price bid will include all costs associated with constructing the speed hump including removal, supply, placement and compaction of all granular material, sawcutting, removals, disposals, surface preparation, backfilling, grading, compaction, bond breaker and tack coat as required to complete the speed hump. The supply and placement of the hot mix asphalt shall be paid under item B14a)i).

### **B34. TACTILE WARNING SURFACES**

In addition to the conditions stipulated in the Niagara Peninsula Contract Document, the following shall also apply:

Payment for item B34A will be made for the complete supply and installation of straight sections of tactile warning plates at all crossings.

Payment for item B34B will be made for the complete supply and installation of curved sections of tactile warning plates at all crossings.

Tactile Warning plates are to be installed in accordance with the latest detail drawings and specification in the Niagara Peninsula Standard Contract Documents.



It will be the contractor's responsibility to determine which type and size (radius) of tactile plate will be required at each location.

**B38. SURVEYING OF EXISTING AND PROPOSED GRADES (PROVISIONAL)**

The unit price bid is to include all labour, materials, traffic control devices and equipment required to properly survey sections of roadway, sidewalk, curbs, driveways and any other areas as required or as directed by the Contract Administrator.

Surveying may also be required for any reason deemed necessary by the Contract Administrator.

Any discrepancies or issues discovered during surveying are to be brought to the attention of the Inspector and Contract Administrator.

The Contract Administrator may request a sketch, grade sheet or CAD point file following the completion of a survey. The unit price bid shall include any costs associated with providing a copy of the survey information, grade sheets, sketches or CAD point files. This information is to be provided within two (2) days of completing the survey.

This item is provisional. Prior written approval must be provided by the Contract Administrator. Compensation will not be considered if written approval is not sought in advance.

**B40. FINE GRADING AND COMPACTION**

The unit price bid for this item shall include grading to restore crossfall and compaction to 100%SPD including regarding the existing granular material to achieve a compacted thickness of 80mm base asphalt and 40mm top course asphalt. A maximum of 75mm of granular 'A' shall be placed for grading and will be paid under Section 'B' item B3.

**B41. TIMBER RETAINING WALLS AND CURBS (PROVISIONAL)**

The unit price bid for this item shall be for the supply and installation of all types of timber curbs and/or timber retaining walls and any granular material, screenings or grading that may be required. Payment will be made by the linear metre of timber used. Dimensions/sizes and types of timber are to match existing specifications.

## **PROVISIONAL ITEMS**

**NOTE:** Provisional items have been included within this contract in an effort to receive competitive pricing in the unlikely event that they may be required during construction. These items may be related to any infrastructure works (Roads/Sewer/Watermain) within the specific Section of the Schedule of Quantities and Unit Prices and as such have been separated within these supplementary specifications.

**All Provisional Items must be approved by the Contract Administrator.**

### **P1. 32MPA CONCRETE**

This concrete shall have minimum 28 day strength of 32 MPa. The price indicated in the Schedule of Quantities and Unit Prices per cubic metre (m<sup>3</sup>) shall include supply and placement of concrete in trench at any depth for whatever purpose as directed by the Contract Administrator.

### **P2. REMOBILIZATION TO SITE**

The quoted price shall outline the cost to return to a street that has been completed, to perform additional works as may be added by the contract administrator.

The price shall include all costs associated with remobilizing the entire crew and equipment to an area that has already been completed. This also includes the cost for all sub-contractors to return to the street. One remobilization will be paid per street/location which includes removals, replacements and reinstatements.

This item will not be utilized for a crew going back to a side of the street that has been completed, or for the initial mobilization to any area/street that is part of the contract or added to the contract.

### **P4. UNSHRINKABLE FILL**

The provisions of OPSS 1359 apply as amended herein.

All unshrinkable fill materials shall conform to the requirements of OPSS.MUNI 1350.

#### **Basis for Payment**

Payment at the unit price bid for this item shall include all labour, materials and equipment necessary to supply and place unshrinkable fill for whatever purpose as directed by the Contract Administrator.

**P5. 19MM CLEAR STONE**

All 19mm clear stone materials shall conform to the requirements of OPSS.MUNI 1010.

Basis for Payment

Payment at the unit price bid for this item shall include all labour, materials and equipment necessary to complete the work for supplying and placing the 19mm clear stone as shown on the contract drawings or as directed by the Contract Administrator.

Payment will be by the tonne, based on submitted weigh tickets for same.

**P6. CURB BOXES – ALL TYPES**

In addition to the conditions stipulated in the Niagara Peninsula Standard Contract Documents, the following shall apply:

The curb stops shall be Mueller Mark II Ori-seal or approved equal. All curb stops will use stainless steel stems to operate the valves. All Granular materials shall be included in this unit price.

Curb boxes shall be cast iron, slide-type and adjustable to suit depth of service.

Service rods shall be stainless steel with a minimum 13mm diameter and include stainless steel cotter pin retainer clips.

The cap shall be a ribbed cover with bronze cap and 25mm I.P.S. tapping. The service box shall be installed and adjusted such that the telescopic portion of the box does not rest on the curb stop.

Any damage to existing curb boxes shall be repaired prior to pouring the new sidewalk. This includes any existing damage that was not done by the contractor or their activities. Any repairs required due to the contractor's carelessness shall be repaired at the contractor's expense.