

**SPECIAL PROVISIONS – CONTRACT ITEMS  
SUPPLEMENTARY**

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City of Niagara Falls  
Contract 2020-510-20  
For Park Improvements to Ball Diamond # 1 at Oakes Park

#### **A4. CONSTRUCTION LAYOUT**

This line item shall include construction layout, photo records and record survey and drawings as described herein.

##### **a) Construction Layout**

In addition to the conditions stipulated in the Niagara Peninsula Standard Contract Document and OPSS.MUNI 100 GC 7.02, the following shall also apply:

The Contractor shall include in the lump sum cost for this item; the checking of all grades and alignment with the use of batter boards and boning rods or digital survey equipment to ensure proper adherence to design; re-staking of layout lost due to destruction or removals; any additional layout within the intent of the contract for minor revisions to the road, sidewalk, sewer design, etc.

An absolute minimum of 3 layout stakes shall be provided for any single line of layout. Maximum spacing of grade stakes shall be 15 metres for all layout and at all changes of grade and/or direction.

Layout for curb and gutter shall include offset stakes placed a maximum of 2 metres behind the proposed lip of gutter. Layout for curb shall also include the drop locations for all curb depressions, the bottom of slope shall be marked out, on site, prior to curb pour.

Catchbasin layout shall consist of 3 grade stakes installed in line with the inside back wall of the catchbasin (front face of curb) a center stake representing center of catchbasin and a 3 metre offset stake to the left and right of the center line stake.

Failure to comply with the above conditions will result in a reduction in payment to this item at the Contract administrator's sole discretion

##### **Basis for Payment**

As stipulated in the Niagara Peninsula Standard Contract Document.

##### **b) Record Survey, Drawings and Photography**

The lump sum price bid shall include all labour, material and equipment required to complete the following:

##### **Record Survey and Drawings**

Keep and maintain in good condition on site a minimum of one set of construction drawings identified as the "Project Record Copy". Upon request, this drawing set is to be made available for review on-site by the Contract Administrator at any time during the project.

Record neatly and accurately, in red ink, any deviations from the contract documents as follows:

- Significant deviations from the contract documents caused by site conditions and changes ordered by the Contract Administrator;
- Horizontal and vertical location of piping, underground utilities and appurtenances referenced to permanent surface features or improvements;
- Location of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the structure;
- Location and elevation of all crossed utilities during piping installation;
- Field changes of dimension and detail; and
- Changes made by Change Work Order and/or field directions.

The Contractor must provide the City of Niagara Falls with a Civil 3D drawing based on a Construction record topographic survey depicting the location and elevation of all new infrastructure and other proposed (built) works in accordance with the City's new CAD Standards Manual. A copy of the CAD Standards Manual is available on the City of Niagara Falls website:

<https://www.niagarafalls.ca/pdf/municipal-works/cad-manual/cad-standards-manual.pdf>

The Construction Record drawing must be in UTM, NAD 83 for the horizontal co-ordinates and the vertical elevations referenced to City of Niagara Falls benchmarks. The original Issued for Construction (or Issued for Tender) CAD file will be provided by the Contract Administrator for this purpose.

One set of the marked up Construction Record drawings and a CD (or memory stick) with the digital copy of the record survey drawing files are to be submitted to the Contract Administrator for review and acceptance as a requirement of Substantial Performance or Completion of the contract. The Construction Record submission will be certified as to its completeness by the City.

Failure to complete a certified Construction Record submission will result in the delay of substantial performance and/or contract completion.

### Photography

On commencement of work and at monthly intervals thereafter, supply the Contract Administrator with clearly labeled and dated digital progress photographs on CD or memory stick.

Progress photographs are to be taken **daily** to detail construction progress and must be submitted with the Contractor's monthly payment draw request. The digital photographs must have been taken with at least eight (8) megapixels of resolution. Processing of progress payments will be contingent on satisfactory receipt of the required Progress Photographs.

On completion of the works, or at a time designated by the Contract Administrator, the Contractor is to undertake a "post-construction" photographic survey of the project site and

submit a digital and printed copy of same to the Contract Administrator for review and acceptance. This photographic survey will form part of the Construction Record submission, as detailed below, and subject to the same provisions regarding acceptance.

Basis for Payment

The lump sum price bid will be deemed to include any allowance to satisfy these provisions, including any revisions and resubmission of information in order to satisfy the City's requirements. Payment of the lump sum price bid will be made upon approval of the final Construction Record drawing and marked-up hard copy plans.

For progress payment photos, ten percent (10%) of the lump sum bid price will be paid upon satisfactory receipt of the daily photos from the payment period. The balance will be paid upon receipt and approval of the final "post-construction" photographic survey of the project site in both digital and hard copy format.

**A7. INSTALL, MAINTAIN AND REMOVE SILT CONTROL DEVICES**

This line item shall include catchbasin silt bags, light duty silt fence barriers, straw bale check dams and rock check dams, as described herein.

The Contractor shall place additional erosion protection as directed by the Contract Administrator or the Niagara Peninsula Conservation Authority.

**a) Catchbasin Silt Bags**

Prior to the start of construction, the Contractor shall place Silt Bags (*such as the Layfield's Catch Basin Sediment Traps (CBST's) or approved equal*) on all existing catchbasins that may be affected by the proposed construction.

Silt Bags shall be checked daily, maintained over the course of the construction and removed only once hydro seed or sod restoration has minimized the risk of erosion related to the construction activities; the Contract Administrator must approve the removal. All reasonable care must be taken to avoid any sediment from entering the catchbasin as the traps are removed.

Sediment that collects within the temporary sediment control facilities shall be removed when the facility is half full.

Basis for Payment

For progress payment, fifty (50) percent of the lump sum price will be paid upon installation with the balance to be paid upon removal of all silt control devices.

**b) Light Duty Silt Fence Barrier (Provisional)**

In addition to the conditions stipulated in the Niagara Peninsula Standard Contract Document and OPSS 805, the following shall also apply:

Prior to the start of construction, the Contractor shall place Temporary Silt Fence so as to prevent sediment carried by sheet flow from leaving the site and entering natural drainage ways and/or the storm sewer system. The Contractor shall install silt fences as indicated on the contract drawings, deemed appropriate in the field and as directed by the Contract Administrator.

During construction, the Contractor shall place Temporary Silt Fence at the base of stockpiled native and imported materials.

#### Basis for Payment

Measurement for Payment shall be per linear metre of fence installed.

Payment per linear metre bid price shall be full compensation for the provision of all labour, equipment and material necessary to install, maintain during construction and remove the temporary silt fence.

For progress payment, fifty (50) percent of the unit bid price will be paid upon installation. The balance will be paid upon removal.

#### **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.

#### **A11. CONSTRUCTION FENCING**

This item shall include all labour, materials and equipment required to supply, install and remove all construction fencing required to safeguard the construction site.

The contractor shall use steel 1.8m high construction fencing (Modu-loc or equivalent) to make safe all site features or hazards on the site during the construction process. In addition snow fencing shall be used as required for hazards requiring short term identification and isolation.

Measurement for payment shall be as per units noted in the Form of Tender.

Basis for Payment

Payment shall be as per the units indicated in the Schedule of Quantities and Unit Prices for each item noted, with 50% made payable on the first progress payment certificate after installation, with the remainder paid after removal at substantial performance.

**A12. MATERIAL SAMPLES AND COMPACTION TESTING**

The lumpsum price bid shall include hiring a qualified geotechnical, material testing firm by the contractor to perform all material sampling and compaction testing.

This item shall include all labour, materials and equipment required to complete all testing as specified, refer to Supplementary Special Provisions – General Section G8.

Basis for Payment

Progress payments shall be based on the following percentage of the contract price:

- twenty-five percent (25%) upon completion of testing of underground service installation, with twenty-five percent,
- twenty-five percent (25%) after completion and satisfactory testing of concrete for dugout footings,
- fifty percent (50%) will be paid at project substantial performance.

**A13. MOBILIZATION/DEMobilIZATION**

The lumpsum price bid shall include all costs to mobilization and demobilization the necessary labour and equipment to complete all works incurred over the course of construction.

Basis for Payment

Payment shall be 60% of the lumpsum price bid made payable of the first progress payment certificate with the remainder paid on the substantial performance payment certificate.

**B1. TEST PITS**

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, including excavation and disposal, and supply and placement of compacted backfill material.

Where 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. 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 topsoil, 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.

#### Basis for Payment

Excavation and disposal costs shall be included in applicable form of tender items requiring excavation works.

### **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 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', 'B' or 'M'.

Granular 'A' material shall be used for bedding, cover and backfill of all items for the water distribution system, sanitary sewer and storm sewer system when specified in the contract or indicated on the contract drawings. Only virgin Granular 'A' will be accepted for pipe bedding and cover.

Granular 'A' or Granular 'B' shall be used under roads, driveways, and sidewalks and shall be placed at a depth specified in the contract or as indicated on the contract drawings. Only virgin Granular 'A' will be accepted for road base.

Granular 'M' shall be used for shoulder restoration and shall be placed at a depth as specified in the contract or as indicated on the contract drawings.

Granular 'A' or Granular 'B' 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 the bid 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 contract bid price.

The price bid 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.

#### 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.

#### Basis for Payment

Granular material costs shall be included in applicable form of tender items requiring granular material placement.

Granular material installed as a provisional item as authorized by the contract administrator, shall be paid for by the metric tonne. Contractor to provide tickets confirming quantity supplied. The unit price bid shall include all labour, equipment, and materials to install the granular material, including excavation and disposal of excavated material.

#### **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 or sewer pipe.

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

The unit price bid shall include, all labour, equipment, and materials to install the subdrain pipe, including pipe, excavation and disposal of excavated material, knitted filter sock, embedment material, and non-woven geotextile fabric, as specified in the form of tender.

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

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 required excavation to accommodate new installation.

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.

The exact location of dropped curbs as shown on the construction drawings will be deemed to be included in Item A4 Construction Layout. 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

The unit price bid shall include the restoration of all disturbed asphalt pavement to match existing conditions or better.

Supply and installation of steel bars as shown on Dwg. NFS-B03 at all catchbasin and curb repair sections shall be paid for under the appropriate items.

#### **B9. CONCRETE SIDEWALKS - RESTORATION**

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.

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, unless required to match existing conditions.

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 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. 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.

#### Basis for Payment

As stipulated in the Niagara Peninsula Standard Contract Document

Payment for excavation and the supply and placement of Granular 'A' shall be included in the bid price for concrete sidewalk.

### **B16. CONCRETE PAVEMENT AND STRUCTURES– RESTORATION**

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

Existing concrete pavement 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 to restore private concrete pavement or as otherwise noted on the contract drawings or directed by the Contract Administrator.

In addition, to concrete pavement this item shall also include the grandstand concrete sidewalk restoration. The sidewalk shall be reinstated to existing conditions or better and the unit price bid for this item shall be complete compensation to reinstate the sidewalk as noted on the contract drawings or as directed by the Contract Administrator, and shall include formwork, granular a base, wire mesh, rebar, dowels and concrete material.

The Contractor is to adjust the pavement gradient where required to allow for positive drainage. Where the restored pavement has created or caused ponding, the Contractor shall adjust and restore the pavement and gradient at no additional cost to the contract.

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.

Curb boxes are to be set flush with the new concrete surface.

Trenches in the pavement shall be completely backfilled with Granular 'A' with all granular material compacted to 100% SPMDD.

Cleanouts in asphalt shall be installed to the finished asphalt grade complete with a flat cleanout cap flush with the finished surface.

Wire mesh shall be as 152x152 MW11.1x11.1 (6x6 – 9 Guage) and the provisions of OPSS 905 shall apply

#### 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, wire mesh, rebar, and bond breaker.

Payment for the supply and installation of cleanout caps shall be paid for separately under the appropriate item in the Schedule of Quantities and Unit Prices.

Payment for the supply and installation of doweled joints, railing restoration and metal stair restoration shall be paid for separately under the appropriate item in the Schedule of Quantities and Unit Prices.

Payment for excavation and the supply and placement of Granular 'A' shall be included in the bid price for concrete pavement

#### **B18. GRANULAR DRIVEWAYS - RESTORATION**

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. 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 granular driveways, as necessary, and as directed by the Contract Administrator.

Payment shall be as stipulated in the Niagara Peninsula Standard Contract Document and the bid price shall include excavation and the supply and placement of Granular 'A'.

### **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.

All unnecessary damage to 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, imported topsoil as required, and the supply and application of fertilizer and water necessary to ensure growth within the one year maintenance period.

**B27. REMOVAL OF EXISTING ITEMS**

In addition to the conditions stipulated in the Niagara Peninsula Contract Document, the provisions of OPSS 206 shall also apply for the following items:

Topsoil Stripping

The lump sum price for this item shall include all labour, equipment and materials required to strip, topsoil and sod to a depth of 100mm from finished grade and dispose of the material offsite at the contractors expense.

Basis for Payment

Measurement for payment will be made on a lump sum basis

Infield Clay Stripping

The lump sum price for this item shall include all labour, equipment and materials required to strip, the infield clay to a depth of 250mm from finished grade and dispose of the material offsite at the contractors expense. Any material approved for reuse as backfill by the contract administrator shall be stockpiled at a location approved by the contract administrator.

Basis for Payment

Measurement for payment will be made on a lump sum basis

**B28. PEDESTRIAN BARRICADE**

In addition to the conditions stipulated in OPSS 908, the following shall also apply:

Pedestrian barricade where shown on drawings shall be installed as per OPSD 980.101.

Pedestrian barricade installed on top of the precast concrete block wall structure shall be installed as per block wall manufactures recommendations.

Basis for Payment

The unit price bid shall include, all labour, equipment, and materials to install the pedestrian barricade, including coring, grouting, excavation, concrete footings, or plates and bolts as required for anchoring and shall include the disposal of all excavated and waste materials.

### **B36. REMOVE, STORE AND REINSTATE**

This item shall be used for the careful removal, storage and reinstatement of items noted on the contract drawings. Any item damaged for any reason shall be replaced at the expense of the Contractor as directed by the owner.

#### Sidewalk Hand Rails and Metal Stairs

This item shall be used, if required, for the careful removal, storage and reinstatement of sidewalk hand rails as noted on the contract drawings.

This item shall include all labour, materials and equipment necessary to remove the hand rails, store for the required duration, and complete the reinstatement of the hand rails to existing or better condition. Reinstatement will include any underground/aboveground support and/or base requirements as directed by the Owner.

If the hand rail is damaged, the Contractor shall notify the Owner. The Contractor shall repair or replace the hand rail in accordance with the Owner's requirements at no additional cost to the contract.

#### Basis for Payment

Payment shall be as per the units indicated in the Schedule of Quantities and Unit Prices for each item noted.

### **B38. ELECTRICAL**

The Contractor shall, prior to any work, engage the services of a licensed electrician to isolate and make safe the electrical feed to the existing sports lighting system and scoreboard at Oakes Park

All electrical works shall be completed by a qualified licenced electrical contractor, in accordance with the Ontario Electrical Code, 26<sup>th</sup> Edition, and local Hydro Utility.

A copy of the electrical plans and details, drawing E1, dated October 21, 2009 for Oaks Park – Baseball Diamond Sports Lighting Wiring Upgrade is provided for information, and locate purposes

The lump sum price bid for this item shall include all labour, equipment and materials required to locate the duct banks in the vicinity of the proposed dugout and bullpen locations, and shall include the temporary disconnect and removal of the above grade electrical service attached to the existing north dugout, and reinstall and reconnect service to the new dugout. Contractor to coordinate the disconnect with City Electrician and Park Staff.

In addition, the lump sum price bid shall include adjustment of the existing electrical junction box located within the proposed north bullpen area, and shall include the cost to protect or relocate the existing service for the installation of the bullpen concrete curb.

Basis for Payment

Measurement for payment will be made on a lump sum basis

**B46. CLEAR STONE FILL**

The contractor shall supply and install clear stone backfill to fill the gap between the dugout and retaining wall, to finished retained earth grade, and shall include sealing the gap at the exposed front corners of the dug with brick, mortar and parging, or equivalent alternative. contractor to allow for the design of waterproofing. In addition, the contractor shall include the design and installation of waterproofing for the dugout wall backing onto the fill material.

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, and sealing the exposed ends, and for the design and installation of dugout wall waterproofing.

Measurement for payment will be made on a lump sum basis,

**C1. STORM SEWERS**

In addition to the conditions stipulated in the Niagara Peninsula Standard Contract Document and OPSS 410, the following shall apply:

Materials

Unless otherwise specified, sewer pipe may be PVC or concrete as follows:

- a. Polyvinyl chloride (P.V.C.) pipe - smooth wall (CSA B182.2) - 100mm - 600mm inclusive;
- b. Non-Reinforced - CAN/CSA257.1 - 100mm - 600mm; and/or
- c. Reinforced - CAN/CSA257.2

All PVC fabricated and moulded fittings shall be C.S.A. Certified.

Open Trench

It is strongly recommended that the Contractor use a trench box to install the storm sewer catchbasin leads, and any other pipes. The width of the trench box shall conform to OPSD 802.010 for Flexible Pipe, and OPSD 802.020 and OPSD 802.031 for Rigid Pipe. The

height of the trench box shall be from 150mm below the bottom of the pipe to the level of the existing ground.

**During sewer installations, the Contractor shall be responsible to maintain the proper functioning of each sanitary, storm and water service lateral located in the field or shown on the construction drawings, at no additional cost to the contract.**

***Should the Contractor choose to make temporary connections to ensure the same, these connections shall be removed in full and at no additional cost to the contract.***

The Contractor is to note that full Granular 'A' will be used for backfill in shoulders, driveways, sidewalks and travelled roadways unless otherwise noted by the Contract Administrator. Native material may be used in all other areas with the written approval of the Contract Administrator. Where native material is used, the Contractor is to include in their price for all handling, hauling, stockpiling, placement and compaction.

#### Bedding and Cover

Bedding and cover shall always be Granular 'A' material; recycled materials will not be accepted for this purpose.

#### Leads/Laterals & Connections

**Kor'n Seal adapters or an approved equivalent shall be used in all cases where PVC pipe is to be connected to a concrete structure (excluding catchbasins and ditchinlet catchbasins).**

**Where concrete pipe is used, a concrete cradle shall be required at each structure in addition to a Kor'n Seal connector.**

The price bid for PVC catchbasin leads shall include connections to the sewer main using approved saddles or manufactured tees for pipe size less than 600mm diameter, all bends, proper couplings at maintenance holes and catchbasins, manufactured plug or cap at property lines, and reconnecting existing rear yard catchbasin leads using appropriate reducers and couplings.

Where the new pipe installation crosses or is adjacent to an existing pipe or structure, the Contractor shall support the existing pipe or structures. In the event the existing pipe or structure becomes disturbed, the Contractor shall replace or repair the same regardless of the material and at no additional cost to the contract.

Where the new pipe or lateral installation crosses a pipe which is abandoned, or is to be abandoned and requires removal, the abandoned pipe sections remaining shall be plugged and sealed on either side of the new pipe at no additional cost to the contract.

The unit price bid for this item shall include all sawcutting required.

### Basis for Payment

The unit price bid under this item in the Schedule of Quantities and Unit Prices shall be full compensation for all labour, equipment and material to complete the trenching work including disposal of surplus excavated material and **removal and disposal of existing pipes and sewers.**

The supply and placement of Granular 'A', and existing sewer connections, and the removal and disposal of existing asphalt and concrete shall be included in the unit price bid.

### SEWERS Flushing (Cleaning) and TV Inspection

In addition to the conditions stipulated in the Niagara Peninsula Standard Contract Document item C5, the following shall apply:

Upon completion, all new mainline sewers shall be cleaned and flushed using a high pressure, low volume hydraulic sewer flusher truck, after which the sewers shall be video inspected.

The Contractor will be fully responsible for the materials supplied and workmanship, including the submission of a written report and digital CCTV video following the completion of the inspection. The written report shall include a photograph at every service connection.

Two copies of each report and digital video shall be supplied to the Contract Administrator for review and shall remain the property of the City. Any and all defects discovered during this inspection shall be immediately repaired, flushed clean and re-inspected, to the satisfaction of the Contract Administrator.

## **C6. PRECAST CONCRETE MAINTENANCE HOLES, CATCHBASINS & DITCH INLETS**

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

All structures shall be founded on a 300mm (min.) thick layer of compacted Granular 'A'. All Granular material shall be placed in maximum 300mm loose lifts and compacted to 100% of Standard Proctor Maximum Dry Density (SPMDD) at optimum moisture content.

Excavation, removal and disposal of surplus excavated materials shall be included in the unit price. The removal and disposal of any existing structure shall be paid under the appropriate item.

The Contractor shall make due allowance in the unit prices tendered for any bypass pumping, dewatering, sheathing, shoring and bracing to complete the work.

Kor'n Seal adapters or an approved equivalent shall be used in all cases where PVC pipe is to be connected to concrete structures (excluding catchbasin connections). Where

concrete pipe is used, a concrete cradle shall be required at each structure connection in addition to Fernco large diameter manhole connectors.

Structure rim elevation shall be set to blend with the surrounding **base** asphalt grade.

**Under no circumstance shall HDPE adjustment units be used.**

#### Maintenance Holes (MH)

Materials and installation shall be in accordance with OPSS 407 and any other specifications referenced therein and include benching, aluminium safety rungs, bulkheads, adjustment units and MH frame and covers.

#### Catchbasins (CB)

The frame and grating shall be in accordance with OPSD 400.020.

The CB shall provide for a minimum 1.5m depth to invert of CB lead unless otherwise specified and the placement of a minimum 100mm to a maximum 300mm of concrete adjustment units, per OPSD 704.010.

#### Basis for Payment

The unit price bid for this item shall be complete compensation for all labour, equipment and material (including frame, covers and/or grates) to do the work as specified in OPSS 407.10.01.

The unit price bid shall include excavation and supply and placement of Granular 'A'.

### **C10. SEWER AND/OR STRUCTURE CONNECTIONS**

The provisions of OPSS 407, OPSS 410 and OPSS 412 apply as amended herein.

This item shall be used for connection of a new sewer to an existing structure or sewer and the reconnection of an existing sewer or forcemain to a new structure.

Kor'n Seal adapters or an approved equivalent shall be used in all cases where PVC pipe is to be connected to concrete structures (excluding catchbasin connections). Where concrete pipe is used, a concrete cradle shall be required at each structure connection. The unit bid price shall have made due allowance for these requirements.

#### Basis for Payment

The unit price bid this item shall be full compensation for all labour, material and equipment required to complete the connection including excavation, backfilling, structure coring and re-benching where required.

The unit price bid shall include excavation and supply and placement of Granular 'A'.

## **PROVISIONAL ITEMS AND UNIT PRICE ITEMS**

**NOTE:** Provisional and unit price 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 (Site/Sewer/Watermain) within the specific Section of the Schedule of Quantities and Unit Prices and as such have been separated within these supplementary specifications where not included in the specific sections.

**All provisional and unit price items must be approved by the Contract Administrator.**

### **B10. SAWCUTTING PAVEMENT (UNIT PRICE 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.

### **B14. SUPPLY AND PLACE HOT MIX ASPHALT (UNIT PRICE ITEM)**

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.

At the limits of the proposed road works, the base asphalt thickness shall be increased to match the existing top course asphalt over distance of 2 metres. This provision shall be included in the unit price bid.

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.

Asphalt trench restoration shall be required once the granular backfill is completed. The restoration shall consist of a minimum of 130mm of HL8 HS for all trenches.

#### 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 (UNIT PRICE ITEM)**

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. 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.

#### 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.

### Services

Where the installation of sanitary services, cleanouts or water services requires the excavation of existing asphalt driveway, the entire driveway bay shall be removed from edge to edge and from the back of curb or sidewalk to a neat straight sawcut line behind the new installation. The sawcut line shall be made prior to all excavation or removals and shall be perpendicular to both edges of the driveway. The sawcut shall be made sufficiently behind the cleanout or curb stop to allow for the safe installation of the new service so as to provide a neat finished match line. Should this matchline become damaged, a new sawcut limit will be required and shall be completed at no additional cost to the contract (or Property Owner).

Curb boxes are to be set flush with the new driveway surface.

Trenches in the driveways shall be completely backfilled with Granular 'A' with all granular material compacted to 100% SPMDD.

Cleanouts in asphalt shall be installed to the finished asphalt grade complete with a flat cleanout cap flush with the finished surface.

### 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.

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 installation of cleanout caps, supply and placement of Granular 'A' and supply and placement of Hot Mix Asphalt shall be paid for separately under the appropriate item in the Schedule of Quantities and Unit Prices.

### **B24. APPLICATION OF WATER FOR DUST CONTROL (UNIT PRICE 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.

#### **P1. 32MPA CONCRETE (UNIT PRICE ITEM)**

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.

#### **P3. ROCK EXCAVATION IN TRENCH (UNIT PRICE ITEM)**

The provisions of OPSS 403 shall apply as amended or extended herein.

This item shall include bedrock excavation by controlled hoe ramming. Bedrock excavation by means of drilling and blasting will not be permitted. On-site crushing of rock will not be permitted.

This item shall only be applied to excavations where conditions prohibit the use of standard excavation equipment as defined below:

**Broken Rock:** Rock material that can be removed using standard excavation equipment equipped with rock teeth.

**Bedrock:** Rock material that cannot be removed using excavation equipment equipped with rock teeth and requires breaking up using a Hoe Ram or other mechanical breaking equipment.

The unit price bid for bedrock removal shall include all labour, equipment and materials necessary to complete the work. The work shall consist of breaking of bedrock by

mechanical means during the trenching operation and removal to an approved disposal site.

**The Contractor is required to obtain written approval from the Contract Administrator that refusal to standard excavation has occurred.**

All operations shall be conducted in such a manner as to prevent undue heaving of the roadway, or damage to existing utilities, infrastructure and/or property. All related repairs shall be completed at no additional cost to the contract.

Measurement

Bedrock excavation for these installations shall be limited to a maximum depth of 300mm below the O.D. of the pipe and a maximum trench width of the pipe O.D. plus 1000mm. Rock shall be broken in the trench a minimum five (5) metres beyond the ends of the new servicing. Measurement for payment shall not exceed this maximum.

Basis for Payment

Payment of bedrock excavation in the open trench will be made by a field measurement in cubic meters (m<sup>3</sup>) calculated by average end areas. No payment will be made for over-break beyond specified limits.

**P4. UNSHRINKABLE FILL (UNIT PRICE ITEM)**

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 (UNIT PRICE ITEM)**

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.

**P7. TRENCH OR ROAD SUB-EXCAVATION (UNIT PRICE ITEM)**

The provision of OPSS 314 shall apply as amended or extended herein. The unit price indicated in the Schedule of Quantities and Unit Prices shall include all sub-excavation

below the required trench bottom or unsuitable sub-grade material, any additional sheathing and shoring required, disposal of excavated material as specified in SPCS B2. The supply and placement of 50mm crusher-run stone in the trench or sub-grade compacted to 100% Standard Proctor Maximum Dry Density is also included in the price indicated.

Basis for Payment

Payment will be made by a field measurement in cubic meters (m<sup>3</sup>) calculated by average end areas. No payment will be made for sub-excavation beyond specified limits.