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**Bid Documents**

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**St. Clair Catholic District School Board**

**St. Matthew Catholic School  
720 Elm Ave,  
Sarnia, Ontario**

**Parking Expansion**

**Project No. 652-CP1833**

Prepared by:

**Wilson Diaz Architects Inc.**  
280 Queens Ave, Suite 1Q  
London, Ontario  
N6B 1X3

March 23<sup>rd</sup>, 2018

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Submitted By: \_\_\_\_\_

To: **St. Clair Catholic District School Board**

**St. Matthew Catholic School  
720 Elm Ave,  
Sarnia, Ontario**

**Parking Expansion**

**Project No. 652-CP1833**

**1) BID PRICE**

The Drawings, Specifications and other Contract Documents for this Project have been examined, as well as the premises and job site conditions affecting the work. The undersigned hereby offers to complete the work in accordance with the Contract Documents for the following bid price, except as defined below for HST:

\_\_\_\_\_  
\_\_\_\_\_ Dollars (\$\_\_\_\_\_)

in Canadian funds EXCLUDING HST. HST will be added to the bid price.

In submitting this Bid, the undersigned recognizes and accepts the right of the Owner to accept any Bid, which is deemed the most advantageous to the Owner, (or any part thereof), at the price submitted, or to reject any or all Bids. Acceptance of the bid and/or award of the contract is subject to the approval of the **St. Clair Catholic District School Board**.

In the event that a discrepancy arises between the written bid price and the associated numerical price, the written bid price will be deemed to be correct.

Harmonized Sales Tax (HST)

The bidder shall not include the applicable HST in the bid price. The successful contractor will indicate on each application for payment as a separate amount the appropriate HST the Owner is obliged to pay.

2) **CASH ALLOWANCES**

- 1. Include a Stipulated Sum of Ten Thousand Dollars (\$10,000.00) for engineering testing costs associated with the provision of field testing of materials for Asphalt, Concrete and Granular compaction.

Time and Materials rates to be applied against Cash Allowance work. Final reconciliation will adjust the cash allowance as credit the SCCDSB for unexpended amounts and extra to the contractor for over expenditure. The contractor shall mark-up subtrade time and materials billing for this portion of work at 10% only.

3) **INSURANCE**

The undersigned carries Policy # \_\_\_\_\_ with \_\_\_\_\_ in the following amounts:

- 1. Comprehensive General Insurance . . . \$ \_\_\_\_\_
- 2. Automobile Liability Insurance. . . . \$ \_\_\_\_\_

Provide a signed standard form provided by the Contractor's insurance company or broker stated its intention to provide insurance to the Bidder in accordance with the insurance requirements of the Contract Documents.

4) **BONDING**

The undersigned has provided with this bid the required Bonding and Surety as outlined in the Instruction to Bidders, Paragraph 1.08.

5) **WORKPLACE SAFETY AND INSURANCE BOARD**

The Bid package is to include a current Certificate of Good Standing from the Workplace Safety and Insurance Board (WSIB).

6) **TIME OF COMPLETION**

The undersigned hereby affirms and states that, if awarded the Contract for said work, the entire contract will be completed within the time frames as stated in the Instructions to Bidders, Paragraph 1.11.

7) **SUMMARY**

The undersigned agrees that the bid price shall remain in effect for a period of 60 (sixty) calendar days from the date of receipt of bids. The undersigned agrees to assume all increases in labour rates and material prices, taxes, duties, cost indexes, or any other rates that may develop during the life of this Contract.

**8) DOCUMENTS AND INFORMATION**

This Bid is based on the following:

1. Bid Form
2. Instructions to Bidders
3. General Conditions
4. Drawings/Sketches
5. Specifications

**9) SCOPE OF WORK**

The Scope of Work is exterior site work described generally as the following: Demolish part of an existing asphalt parking area, excavation for placement of sub base and provision of new asphalt to tie into remaining parking lot. Work will include some drainage and the relocation of underground electrical service to relocated and new parking lighting. There will be revisions and additional chain link fencing required along with removal of existing garbage enclosures in lieu relocated refuse and recycling area by Envirowirx system. The work will include removal of adjacent asphalt areas and restoration to grass. There will also be new soft landscaping work.

**10) ADDENDA**

The undersigned acknowledges receipt of Addenda Numbers \_\_\_\_\_ through \_\_\_\_\_ inclusive, and that the price, or adjustment thereof, for all work required therein is included in this proposal.

**11) SEPARATE PRICES**

It is accepted that the intent of separate prices is to allow the Owner to add work outlined below, at the Owner's discretion.

The following prices have been included in the base bid amount. The following prices include labour, material, tools, equipment, overhead and profit, but exclude HST.

**Separate Price #1:**

**All work in the North West site area as defined by the boundaries identified as work under Separate Price #1 on drawing A000.**

**12) ALTERNATE PRICES**

It is accepted that the intent of alternate prices is to allow the Owner to select alternate scope of work and prices as outlined below, at the Owner's discretion.

The following prices have not been included in the base bid amount. The following prices include labour, material, tools, equipment, overhead and profit, but exclude HST.

**None at this time.**

13) **IDENTIFIED PRICES**

It is accepted that the intent of identified prices is to allow the Owner to identify cost for specific scope of work outlined below.

The following prices have been included in the base bid amount. The following prices include labour, material, tools, equipment, overhead and profit, but exclude HST.

**None at this time**

14) **LIST OF SUBCONTRACTORS**

The following is the list of subcontractors to which reference is made on the submitted Bid Form.

No changes to the List of Subcontractors will be allowed without the Consultant's express written permission.

List each subcontractor by his firm's proper legal designation, and indicate whether his business is carried on as an individual, partnership, or limited company.

The bidder submits that in proposing the listed subcontractors, he has consulted each and has ascertained to his complete satisfaction that those named are fully acquainted with the extent and nature of the work involved and of the proposed construction schedule, and that they will execute their work to conform to the requirements of the Contract Documents.

**List of Subcontractors:**

- Paving \_\_\_\_\_
- Landscape \_\_\_\_\_
- Electrical \_\_\_\_\_

15) **EXECUTION OF CONTRACT**

The Contract form will be a standard Canadian Construction Documents Committee (CCDC) #2 2008 - Stipulated Sum Contract.

SIGNATURE: \_\_\_\_\_

NAME PRINTED: \_\_\_\_\_

TITLE: \_\_\_\_\_

COMPANY: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

\_\_\_\_\_

PHONE: \_\_\_\_\_

FAX: \_\_\_\_\_

DATE: \_\_\_\_\_

**END OF BID FORM**

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**1.01 INVITATION**

- .1 **St. Clair Catholic District School Board** (the Owner) invites Bids from General Contractors for **Site and Parking Lot Improvement Work** at  
**St. Matthew Catholic School**  
**720 Elm Ave,**  
**Sarnia, Ontario**  
as described in this Specification and on Drawings.

**1.02 FORM OF CONTRACT**

- .1 The following documents (all inclusive) shall form a binding Contract between the Owner and the Contractor:  
CCDC #2 – 2008 Stipulated Sum Contract
1. Completed Bid Form
  2. Specifications and Drawings
  3. Signed Letter of Intent
  4. Required Bonding
  5. WSIB Clearance Certificate
- .2 No payments may be made without a fully executed CCDC #2 – 2008 Stipulated Sum Contract.

**1.03 BID DOCUMENTS**

- .1 Each bidder shall receive access to the Randy Wilson Architect Inc. FTP site in order to access and download Bid Documents.
1. Bid Form
  2. Instructions to Bidders
  3. General Conditions
  4. Supplementary Conditions
  5. Designated Substance Report
  6. Drawings/Sketches
  7. Specifications.
- .2 Bids shall be submitted on the form provided. All blank spaces in the form must be completed in full. In addition to the signature, the name and position of the individual signing the Bid shall be printed. Bid proposals not submitted in this manner may be rejected.
- .3 The Bid proposal shall be delivered to:

**St Clair Catholic District School Board**  
**Facility Services,**  
**1930 Wildwood Drive,**  
**Bright's Grove, Ontario**  
**Attn: Tony Prizio, Procurement Specialist**

- .4 Bids shall be received no later than **1:00 p.m. on Tuesday, April 17th, 2018**, local time as indicated on the timeclock of the SCCDSB Reception.

#### **1.04 BID INELIGIBILITY**

- .1 Bids that are unsigned, improperly signed and sealed, conditional, illegible, obscure, contain arithmetical errors, erasures, alterations, or irregularities of any kind may, at the discretion of the Owner, be declared informal.
- .2 Bids with Bid Forms and enclosures which are improperly prepared may, at the discretion of the Owner, be declared informal.
- .3 Bids that fail to include the security deposit, consent of surety, may, at the discretion of the Owner, be declared informal.
- .4 Bids based upon prices seeming to be so unbalanced as to adversely affect the interests of the Owner may, at the discretion of the Owner, be declared informal.
- .5 Bids based upon an unreasonable period of time for completion of the Work may, at the discretion of the Owner, be declared informal.

#### **1.05 BID SUBMISSION**

- .1 Bidders shall be solely responsible for the delivery of their bids in the manner and time prescribed. One envelope is required for submission of tenders.
- .2 Each set of documents contains 1 bid form and Appendices.
- .3 Submit one copy of the Bid Form at the time of bidding in a sealed envelope identified as follows:

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#### **BID FOR**

**Site and Parking Lot Improvement Work at  
St. Matthew Catholic School  
720 Elm Ave,  
Sarnia, Ontario**

#### **1.06 ADDENDA**

- .1 If discrepancies in, or omissions from the Drawings, Specifications or Documents are observed, or if the Bidder shall be in doubt as to their meaning, the bidder shall immediately notify:
- Tony Prizio  
Procurement Specialist  
420 Creek Street  
Wallaceburg, ON.  
N8A 4C4  
Email: [Tony.prizio@st-clair.net](mailto:Tony.prizio@st-clair.net)  
CC Email: [victoria.iaccino@st-clair.net](mailto:victoria.iaccino@st-clair.net)**
- .2 Certification thereof will be made in addendum form and distributed prior to bid due date. The Architect will not be responsible for any oral instructions or interpretations.

- .3 All addenda issued during the bidding period are to be included and acknowledged in the proposals, and are to be considered part of the Contract Documents.
- .4 Questions shall be received up until 48 hours before close of bid, after which no further communications shall occur between the bidding parties and the architect or representatives of the St. Clair Catholic District School Board.
- .5 The architect will issue no addenda after 46 hours before the close of bid.

#### **1.07 EXAMINATION OF SITE AND CONTRACT DOCUMENTS**

- .1 It shall be understood prior to close of bids, that each bidder has visited the site, and has carefully examined the Drawings, Specifications, and all other Contract Documents and other documents referred to therein, the existing site conditions, and thoroughly understands the conditions under which the work will be performed.
- .2 Site Examination
  - .1 The General Contractor shall visit and examine the site and become familiar with all features, characteristics, conditions and suitability of the work affecting the work of the contract. No allowance will be made by the Owner for any errors, misjudgments and/or difficulties encountered by the General Contractor due to any features of peculiarity of the site or surrounding property which exists at the time of the General Contractor's Tender is submitted.
  - .2 Examination of the site is **mandatory**. Site walk-thru is scheduled for **Tuesday April 3rd. 2018 @ 3:30 p.m.**
  - .3 All interested parties will meet outside the main entrance of **St. Matthew Catholic School 720 Elm Ave, Sarnia, Ontario**  
The site may not be available for viewing at any other time.
  - .4 All General Contractors are invited. No other site review meeting will occur.
  - .5 Attendance will be taken and the General Contract Bidders' List prepared from attendees.
  - .6 Bids will not be accepted from General Contractors who do not attend the Mandatory Site Examination and Bidders Briefing.
  - .7 Attendance by subtrades and suppliers is recommended, but not mandatory.

#### **1.08 BONDING AND SURETY REQUIREMENTS**

- .1 **General Requirements:**
  - .1 Bonding requirements are based on the total bid amount **INCLUSIVE** of **ALL** applicable taxes. Bonding requirements are not required for bids less than \$100,000.00.
  - .2 Bid submissions that do not include the required bonding and surety submissions may be declared informal.

**.2 Performance and Surety Bonds:**

- .1 For bid amounts greater than \$100,000 and less than \$500,000 each bid must be accompanied by agreements to provide performance and labour and materials sureties or security deposits. The agreements must indicate that the Awarded Bidder will provide either:
  - .1 A security deposit in the form of an irrevocable letter of credit, a certified cheque, or a money order made payable to the Board in the value of 10% of the bid amount, or
  - .2 A surety in the form of a 50% labour and materials and a 50% performance bond to be issued in favour of the Board at the time of contract execution. Only agreements to bond issued by insurers licensed in Canada will be accepted.
- .2 For bid amounts of \$500,000 and greater, each bid must be accompanied by agreements to bond for 50% performance and 50% labour and materials bonds. Any expense to be incurred must be included in the bid price. Only agreements to bond issued by insurers licensed in Canada will be accepted.
- .3 The Awarded Bidder must present the bonds to Purchasing Department at the Catholic Education Center within seven (7) working days of the Proponent receiving the letter of intent. Failure to provide the proper surety within seven (7) working days will result in the rejection of that bid.

**.3 Bid Bond:**

- .1 For bid amounts greater than \$100,000 and less than \$500,000 a security deposit in the form of an irrevocable letter of credit, a certified cheque, a bid bond or a money order in the amount of 10% of the bid amount shall be made payable to the St. Clair Catholic District School Board and must accompany the bid.
- .2 For bid amounts of \$500,000 and greater, a security deposit in the form of bid bond in the amount of 10% of the bid price shall be made payable to the St. Clair Catholic District School Board and must accompany the bid. Only bonds issued by insurers licensed in Canada will be accepted.
- .3 The security deposit of unsuccessful Proponents will be returned without interest after the contract is awarded.

**1.09 ACCEPTANCE OR REJECTION OF THE BID PROPOSAL**

- .1 In submitting this Bid, the Contractor recognizes and accepts the right of the Owner to accept any Bid which may be deemed to be most advantageous to the Owner (or any part thereof) at the price submitted, or to reject any or all Bids. Separate Prices and Alternate Prices may be considered in making final decisions.

**1.10 GENERAL REQUIREMENTS FOR CONTRACTOR AWARDED CONTRACT**

- .1 Before any work may be started on the Contract, the Contractor will be required to:
  - .1 Supply satisfactory evidence of all current primary insurance coverage required to be supplied by the Contractor. A minimum of \$2,000,000. For each event is required for Liability and Automobile Policies. The Owner shall be included as co-insured.
  - .2 Supply a current Workplace Safety & Insurance Board Clearance Certificate.
  - .3 Provide within five (5) days after award of contract, a detailed work schedule including proposed phasing of work to confirm completion date.
  - .4 Provide information relating to construction safety measures (company Safety Policy).

**1.11 TIMING OF PROJECT**

- .1 The site is available to commence work on **June 30th, 2018**.
  - .1 Install construction barriers as indicated on the drawings.
  - .2 Provide enclosed perimeter fencing to enclose exterior worksite.
  - .3 Start work on the renovations as indicated on the drawings.
- .2 The Contractor shall include all costs for labour and material to ensure that the renovation and the entire scope of work for this project must be complete by **Wednesday, August 29<sup>th</sup>, 2018**.

**1.12 SAFETY**

- .1 The Contractor shall carry out this project in strict accordance with Occupational Health and Safety Acts; the regulation for construction projects, Ontario Regulation 213/91 as amended by Ontario Regulation 631/94, and other prescribed regulations as they may pertain to the work.
- .2 This Contractor shall also provide full time supervision of on-site activities by all workers to ensure applicable regulations and specification requirements are followed at all times.
- .3 This Contractor shall take all necessary precautions to ensure the continuous safety of the contract workers, the Owner, the architect, and general public at large on the Owner's property.

**1.13 SITE ACCESS**

- .1 The Contractor shall make good any damage to roads, curbs, sidewalks, fencing or grass damaged by vehicles or equipment during the course of Construction.

**1.14 DESIGNATED SUBSTANCES – Not Applicable**

**1.15 POST BID REVIEW MEETING**

- .1 A Post Bid Review Meeting may be convened and chaired by the Architect who will invite the Contractor and his major Subcontractors and/or suppliers to review the Contract Documents, Bid submitted, and Schedule. This meeting will be prior to the Owner issuing a Letter of Intent or instruction to proceed. This meeting does not constitute or infer any contract award to the proposed contractor or any other contractor, or that the project will proceed.

**END OF INSTRUCTIONS TO BIDDERS**

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**LEGAL REQUIREMENTS, RULES AND RESTRICTIONS****.1 Definitions**

- .1 **St. Clair Catholic District School Board** and the **Contractor** will be respectively referred to herein as the **Owner** and the **Contractor**. The term subcontractor, as employed herein, includes only those having a direct contract with the Contractor. It includes one who furnishes material worked to a special design according to drawings or specifications, but does not include one who merely furnishes material not so worked.
- .2 These General Conditions are part of the Contract.
- .3 The Supplementary General Conditions are part of the Contract.

**.2 Laws, Ordinances and Regulations**

- .1 The Contractor shall, in the performance of the Contract, comply with stipulations and representations required by all applicable Federal, Provincial, and Local Laws, Ordinances and Regulations.
- .2 Should the Contractor fail with respect to any of these provisions, he/she shall defend, indemnify and hold harmless the Owner from any liability, damage costs or expenses resulting from such failure.

**.3 Permits, Space Fees and Taxes**

- .1 The architect shall apply for the building permit. The owner shall pay for the building permit. The contractor shall pay for any and all other permits required by authorities having jurisdiction including the Ministry of Labour Notice of Project. The Contractor shall submit applications for permits to the Owner for review before filing. The Contractor shall pay all Federal, Provincial and Local taxes, and duties, of whatever character and description, incident to performance of the Contract.

**.4 Municipality Inspections**

- .1 The Contractor will be required to complete the building inspections required for this project by using the Municipality standard forms to facilitate all inspections required by the Municipality as appropriate. It should be extended to include any other inspections from any statutory authorities. The permit and list shall be displayed together on the site and copies provided to the Consultant and Owner. As each inspection is arranged and completed the process is to be recorded appropriately and copies forwarded to both the Consultant and Owner for record.



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**1.0 MATERIALS AND JOB REQUIREMENTS****.1 Cutting and Patching Building Openings**

- .1 When it is necessary to cut or drill openings in walls, floors, roofs, etc. Precautions shall be taken to prevent dust and falling debris from affecting adjacent areas. All openings shall be patched by the Contractor to match the original construction using workmen skilled in the required crafts.

**.2 Inserts and Attachments to Building Structures or Equipment**

- .1 Any attachments or inserts in walls, ceilings, or building structural members for the support of equipment, ductwork or piping are to be provided by the Contractor. The Contractor must get permission from the Owner to make attachments to an existing structure. Such attachments must conform to all local laws and requirements.
- .2 Any temporary attachments to the building or equipment for installation purposes shall be removed by Contractor upon completion of work. Any damage or defacement caused by such removal shall be repaired or replaced by and at Contractor's expense.

**.3 Interference with Owner's Work**

- .1 It is the intention of the Owner to have board staff working in portions of the premises during the term of this Contract.
- .2 The Contractor will be required to cooperate with Owner's workers outside the designated construction site area.

**.4 Patching and Replacing of Damaged Work or Property**

- .1 All damage to the Owner's property, including that to roadways, sidewalks, floors, fences, doorways, glass damage, etc., that is caused by Contractor's or Subcontractor's work or workers shall be repaired by and at the expense of Contractor and the actual patching, repairing and replacement or work under the Contract shall be done by the firm which installed the work.

**.5 Storage of Materials**

- .1 The Contractor shall not occupy any space on Owner's premises for storage of materials or handling and storage of materials must be done in such manner that minimum interference occurs in connection with Owner's requirements. Hazardous or dangerous materials may be stored on the premises only if prior approval is obtained from the Owner as to the method of storage and location.

**.6 Moving Materials**

- .1 If it becomes necessary at any time during the performance of the work to move Contractor's facilities, materials or equipment which have been placed by the Contractor without the Owner's prior approval, the Contractor shall move them or cause them to be moved when so directed by Owner without additional charge.
- .2 No materials and equipment necessary under the Contract and delivered upon the premises shall be removed from the premises without the written consent of the Owner. Refer to General Conditions, Section 3, responsibility for equipment materials, and Owner's property.

**.7 Cleaning of site and adjacent Municipal Roads and Walks.**

- .1 Each Contractor, and Subcontractor, and/or supplier shall remove rubbish and debris from the site on a daily basis or as directed by the Owner. On completion of the work, all debris shall be removed; the entire site shall be thoroughly cleaned and swept; the site shall be left in a tidy condition.
- .2 The Contractor is responsible for compliance with all applicable laws for the removal of waste.
- .3 The contractors shall be responsible for cleaning adjacent roads and walks from all construction related debris in compliance with municipal requirements.

**.8 Owner Requirements for No Smoking**

- .1 No Smoking Requirement:  
Be advised that the Owner has a no Smoking Requirement on the Owners' property. Contractors are requested to ensure that employees and those of subcontractors and suppliers are advised of the Requirement.

**3.0 CONTRACTOR'S RESPONSIBILITY, INSURANCE, PROTECTION****.1 Contractor's Responsibility**

- .1 Contractor assumes all risks of injury to persons including death and/or damage to property resulting from any action or operation under the Contract and/or in connection with the work, except for such injury to persons including death, and/or damage to property caused due to the negligence of the Owner, and undertakes to defend, indemnify and hold the Owner harmless against all such alleged injury or damage.
- .2 The Contractor shall immediately notify the Owner of any workplace injury defined under the Occupational Health and Safety act as a "critical Injury" as the incident has been discovered. All other reportable incident injuries to persons or damage to property must be reported to the Owner within 2 hrs of the discovery of the incident. All reports are to be copied to the owner.

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- .3 The Contractor and Subcontractors and/or Suppliers will be responsible for loss of equipment or materials supplied by Contractor or Subcontractor or turned over to Contractor by Owner.

.2 **Owner's Insurance Responsibility**

- .1 The Owner will maintain insurance for Fire and the Extended Coverage perils of windstorm, hail, smoke, explosion, aircraft, vehicle, riot and riot attending a strike, civil commotion including vandalism, malicious mischief and where applicable, sprinkler leakage damage, upon the entire structure on which work of this contract is done or to be done or upon the equipment and materials installed to one hundred percent of the insurable value thereof and the full value of only that equipment and materials, delivered to the site of the project and which are to be included in and remain a part of the permanent construction whether or not installed.
- .2 Coverage shall protect the Owner, Contractor and Subcontractors as their interests may appear. Loss, if any, under such insurance shall be adjusted with and payable to the Owner.

.3 **Contractor's Insurance Responsibility**

- .1 It shall be the Contractor's responsibility to effect and maintain adequate Fire and Extended Coverage for perils of windstorm, hail, smoke, explosion, aircraft, vehicle, riot and riot attending a strike, civil commotion and vandalism to cover loss or damage to items of Contractor's equipment including tools, scaffolding, forms and the like, sheds and other temporary structures and their contents, owned or rented by the Contractor or for which the Contractor is liable and which are not to remain as part of the permanent construction.

.4 **Construction Safety Measures**

- .1 The Contractor will be responsible to take all necessary steps to protect personnel (workers, visitors, general public, etc.) and property, from any harm during the course of the Contract.
- .2 All work procedures and equipment will be in accordance with the Owner and legislated standards.
- .3 Only competent personnel will be permitted on site. The Owner will determine during the "site introduction" who is competent, and will cause to remove from the site any persons not observing or complying with safety requirements.
- .4 The contractor shall supply competent personnel to implement their safety program and ensure that the Owner's standards, and those of the OSHA, are being complied with.
- .5 The contractor will report to the Owner, and jurisdictional authorities, any accident or incident involving contractor, university or public; personnel and/or property, arising from the contractor's execution of the work.

- .6 The contractor will include all provisions of this contract in any agreement with subcontractors, and hold all subcontractors equally responsible for safe work performance.
- .7 If the contractor is responsible for a delay in the progress of the work due to an infraction of legislated or Owner health and safety requirements, the contractor will, with additional cost to the Owner, work such overtime, acquire and use for the execution as to be necessary, in the opinion of the Owner to avoid delay in the final; completion of the work or any operations thereof.

**.5 Internal Combustion Engines and Toxic Fumes**

- .1 Before use of internal combustion engines on site or where any toxic fumes may be produced, the precautions required by law are to be in place for review, and the Owner must be advised.
- .2 The duration of the work will be predetermined by the Contractor for everyone's information.

**.6 Insurance (Contractor Coverage)**

- .1 The Contractor agrees to provide and maintain with responsible insurance carriers satisfactory to Owner, the following insurance:

Comprehensive Liability Insurance

- .1 The Contractor shall protect himself and indemnify and save the Owner harmless from any and all claims which may arise from the Contractor's operations under the Contract where bodily injury, death, or property damage is cause and for this purpose shall, without restricting the generality of the foregoing, maintain insurance acceptance to the Owner, to the limits of not less than:

.1	Injury or death to one person	) minimum of
	Injury or death to more than one person	) \$2,000,000.00
.2	Automobile	) \$2,000,000.00
		) inclusive

Issue liability insurance in the joint names of the Owner and the Contractor.

**.7 Workplace Safety Insurance Board (WSIB)**

- .1 The Contractor shall include with his bid documents a current WSIB certificate of good standing.
- .2 At each progress invoice the contractor is required to provide a current WSIB certificate of good standing.

**.8 Protection of Premises and Persons**

- .1 The Contractor shall properly protect Owner's and adjoining property from injury. Any damage to same shall be repaired or replaced by the Contractor without delay.

- .2 The Contractor shall provide and properly maintain warning signs, dust proof barriers, welding tarpaulins, barricades and other safeguards for the protection of workmen and others around holes and openings, on, about, or adjacent to the work as required by the conditions and progress of the work or as directed by the Owner.
- .3 At the end of each working day, all construction materials should be accumulated and piled in designated areas.

.9 **Non Compliance with Safety Rules and Regulations**

- .1 Non-compliance of any of the safety requirements contained in this section may result in the Contractor or Subcontractor being requested to remove the offending person or persons from the Owner's premises.

.10 **Substitution of Subcontractors or Suppliers**

- .1 The Contractor must submit in writing at the time of Bid the identified list of Subcontractors and/or Suppliers who will be employed on the Contract. The Contractor must also submit in writing all other sub-contractors and suppliers listed which will be employed on the Contract at the Post Bid Meeting. Substitution of named Subcontractors and Suppliers after submission of Bids will not be accepted unless a valid reason in writing is given to and approved by the Owner. The reason for substitution must be provided to the original listed Subcontractor or Supplier and the Subcontractor or Supplier given an opportunity to reply to the Contractor and Owner. Contractors are expected to be fully aware of the capability (technical, financial, etc.) of their listed Subcontractors and Suppliers and be prepared to work together prior to submission of the Bid. Similarly, the uses of the term 'own forces' and the subsequent use of unlisted Subcontractors or Suppliers is not acceptable and could result in rejection of the Bid. All Subcontractor and Supplier listings must be firm prior to the issue of a letter of intent or contract. Failure to meet these requirements will permit the Owner to cancel the contract at any stage.

.11 **Project Site Supervisor** (Site Superintendent)

- .1 The designated Site Superintendent (i.e. not a replacement) is to remain full time on the project for a minimum period of 1 week after substantial completion of the project, or until all deficiencies are completed, deemed completion has been achieved and approval of the Owner and Consultant has been obtained.
- .2 For the purpose of this Contract, the "Superintendent" shall mean and shall be interchangeable with the term "Supervisor."

**4.0 TEMPORARY FACILITIES (CONTROL OF USE AND RESTRICTIONS)**

.1 **Water**

- .1 A source of water will be designated by the Owner. Extensions must be approved by the Owner to avoid possible accidental reverse flow.

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.2 **Electric Power**

- .1 A source of electric power will be designated by the Owner. The Owner will allow a tie-in connection with fuse or breaker protection for the Contractor's estimated load requirements. The Contractor must provide the power connections and all extensions from this point to the job site. All electrical connections and extensions must meet ESA requirements and must be approved by the Owner. The Contractor's estimated load requirements must not be exceeded without the Owner's permission.

.3 **Toilet Facilities**

- .1 Contractors are to provide portable washroom facilities in compliance with municipal requirements and place such facilities in a location approved by the Board.

.4 **Telephone**

- .1 The Contractor will be expected to provide and pay for own telephone service as required for the job.

**5.0 ARCHITECT'S REVIEW**

- .1 The architect's review and those of his sub-consultants is for the purpose of assuring the Owner that the plans and specifications are being properly executed. The Owner will not supervise or give instructions to the Contractor's employees other than the Contractor's Superintendent through the architect. While the architect will give the Contractor all desired assistance in interpreting the drawings, specifications and intent, such assistance shall not relieve the Contractor from any responsibility for the work.

- .2 In the event that the architect may have permitted or overlooked faulty work, or work done which is not in accordance with drawings and specifications, shall not prevent the architect from insisting that the Contractor make all work right. Any work, which proves faulty, shall be rectified by the Contractor without delay.

.3 **Contractor to Assist Architect**

- .1 The Contractor shall provide sufficient, safe and proper access facilities at all times for the review of the work by the architect.

.4 **Cooperation Between Contractor, Subcontractors and Trades**

- .1 Anything necessary on the part of any one trade to make possible or expedite the work of other trades shall be done as part of the Contract by the Contractor without additional expenses to the Owner.

**6.0 AS BUILT INFORMATION**

- .1 The General Contractor will provide As Built information in accordance with the architect's instructions.

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**7.0 PAYMENTS TO CONTRACTOR****.1 Certificate & Payments (In General)**

- .1 The Owner shall pay within forty-five (45) days after the receipt of the invoices which are received and approved by the architect.
- .2 A 10% holdback of invoiced amounts, plus a 1 ½% completion retention amount will be withheld in accordance with the current provisions of the Provincial Lien Legislation and General Conditions of the contract.
- .3 Upon determination of Substantial completion as certified by the architect and notification of Substantial Completion being duly advertised, the Lien period shall commence. On the 45<sup>th</sup> day, holdback monies shall be released upon clear search of title by the St. Clair Catholic District School Board.
- .4 Once all as-built drawings and maintenance materials are received and vetted by the architect, the 1 ½ % completion retention shall be released for payment.

**.2 Evidence of Payment to Subcontractors**

- .1 The monthly billing (progress draw) is to be accompanied by statutory declarations (affidavit) indicating payment of obligations to Subcontractors, for purchase of materials, and own payroll to the date of billing.

**8.0 GUARANTEE**

- .1 The guarantee shall be for a period of 1 year from and after completion of the entire job and acceptance thereof by Owner unless a different period of time is specified with the Owner's approval. The Contractor's guarantee shall cover all work under the Contract whether or not any portion or trade has been sublet.
  - .1 The Contractor agrees to correct promptly, at the Contractor's own expense, defects or deficiencies in the Work which appear prior to and during the period of guarantee, or such longer periods as may be specified for certain products or work.
  - .2 If the Contractor fails to make any replacements or repairs required hereunder, after notice from Owner and reasonable opportunity to do so, Owner may have such work done at Contractor's expense, including all necessary labour costs in connection therewith. Owner shall inform Contractor in advance of the approximate cost of any such work to be done by Owner.

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**9.0 MEETINGS****.1 POST BID REVIEW MEETING**

1. A Post Bid Review Meeting may be convened and chaired by the architect who will invite Contractor and his major Subcontractors to review the Contract Documents and Bid submitted. This meeting will be prior to the Owner issuing a Letter of Intent or Contract and subject to requisite Owner approvals. This meeting does not constitute or infer any contract award to the proposed contractor or any other contractor, nor that the project will proceed.

**.2 PROGRESS MEETINGS**

1. During the course of Work, schedule progress meetings as may be required and at the call of the Consultant until Project Completion.

**.3 OWNERS'S CONTRACTED SERVICES PROGRAM**

1. Contractors, their employees and subtrades must complete the SCCDSB Contracted Services Program and obtain an identification badge which must be worn at all times while working on any SCCDSB project. Obtain the information regarding this program from the St. Clair Catholic District School Board's website at [www.st-clair.net](http://www.st-clair.net).

**END OF GENERAL CONDITIONS**





ST. CLAIR CATHOLIC  
DISTRICT SCHOOL BOARD

**CCDC 2- 2008**  
**Stipulated Price Contract**



**Supplementary Conditions**



The Standard Construction Document CCDC 2 2008 for a Stipulated Price Contract, English version, consisting of the Agreement Between *Owner* and *Contractor*, Definitions and General Conditions of the Stipulated Price Contract, Parts 1 to 12 inclusive, governing same is hereby made part of these *Contract Documents*, with the following amendments, additions and modifications:

## AGREEMENT BETWEEN OWNER AND CONTRACTOR

### ARTICLE A-3 – CONTRACT DOCUMENTS

3.1 Add the following to the list of *Contract Documents* in paragraph 3.1:

- Amendments to CCDC 2 – 2008
- *Drawings*
- *Specifications*
- Performance Bond
- Labour and Material Payment Bond

### ARTICLE A-5 – PAYMENT

5.1.3 Amend paragraph 5.1.3, in the first line, by deleting the words “...the issuance of the...” and replacing them with “...receipt of the *Consultant's*...”

5.3.1 Delete paragraph 5.3.1 in its entirety and replace it with the following:

Interest

.1 Should either party fail to make payments as they become due under the terms of the Contract or in an award by arbitration or court, interest shall also become due and payable on such unpaid amounts at 0% above the prime rate. Such interest shall be compounded on a monthly basis. The prime rate shall be the rate of interest quoted by the Bank of Canada for prime business loans, as it may change from time to time.

### ARTICLE A-9 – CONFLICT OF INTEREST

Add new Article A-9 – Conflict of Interest:

- 9.1 The *Contractor*, all of the *Subcontractors* and *Suppliers* and any of their respective advisors, partners, directors, officers, employees, agents, and volunteers shall not engage in any activity or provide any services where such activity or the provision of such services creates a conflict of interest (actually or potentially, in the sole opinion of the *Owner*) with the provision of the *Work* pursuant to the *Contract*. The *Contractor* acknowledges and agrees that a conflict of interest, as described in this Article A-9, includes, but is not limited to, the use of *Confidential Information* where the *Owner* has not specifically authorized such use.
- 9.2 The *Contractor* shall disclose to the *Owner*, in writing, without delay, any actual or potential situation that may be reasonably interpreted as either a conflict of interest or a potential conflict of interest, including the retention of any *Subcontractor* or *Supplier* that is directly or indirectly affiliated with or related to the *Contractor*.
- 9.3 The *Contractor* covenants and agrees that it will not hire or retain the services of any employee or previous employee of the *Owner* where to do so constitutes a breach by such employee or previous employee of the *Owner's* conflict of interest policy, as it may be amended from time to time, until after completion of the *Work* under the *Contract*.
- 9.4 It is of the essence of the *Contract* that the *Owner* shall not have direct or indirect liability to any *Subcontractor* or *Supplier*, and that the *Owner* relies on the maintenance of an arm's-length relationship between the *Contractor* and its *Subcontractors* and *Suppliers*. Consistent with this fundamental term of the *Contract*, the *Contractor* will not enter into any agreement or understanding with any *Subcontractor* or *Supplier*, whether as part of any contract or any written or oral collateral agreement, pursuant to which the parties thereto agree to cooperate in the presentation of a claim for payment against the *Owner*, directly or through the *Contractor*, where such claim is, in whole or in part, in respect of a disputed claim by the *Subcontractor* or *Supplier* against the *Contractor*, where the payment to the *Subcontractor* or *Supplier* by the *Contractor* is agreed to be conditional or contingent on the ability to recover those amounts or a portion thereof from the *Owner*, failing which the *Contractor* shall be saved harmless from all or a portion of those claims. The *Contractor* acknowledges that any such agreement would undermine the required arm's-length relationship and constitute a conflict of

interest. For greater certainty, the *Contractor* shall only be entitled to advance claims against the *Owner* for amounts pertaining to *Subcontractor* or *Supplier* claims where the *Contractor* has actually paid or unconditionally acknowledged liability for those claims or where those claims are the subject of litigation or binding arbitration between the *Subcontractor* or *Supplier* and the *Contractor* has been found liable for those claims.

- 9.5 Notwithstanding paragraph 7.1.2 of GC 7.1 - OWNER'S RIGHT TO PERFORM THE WORK, TERMINATE THE CONTRACTOR'S RIGHT TO CONTINUE WITH THE WORK, SUSPEND THE WORK OR TERMINATE THE CONTRACT, a breach of this Article by the *Contractor*, any of the *Subcontractors*, or any of their respective advisors, partners, directors, officers, employees, agents, and volunteers shall entitle the *Owner* to terminate the *Contract*, in addition to any other rights and remedies that the *Owner* has in the *Contract*, in law, or in equity.

## DEFINITIONS

Add the following new definitions:

### 27. Confidential Information

*Confidential Information* means all the information or material of the *Owner* that is of a proprietary or confidential nature, whether it is identified as proprietary or confidential or not, including but not limited to information and material of every kind and description (such as drawings and move-lists) which is communicated to or comes into the possession or control of the *Contractor* at any time, but *Confidential Information* shall not include information that:

- 1) is or becomes generally available to the public without fault or breach on the part of the *Contractor*, including without limitation breach of any duty of confidentiality owed by the *Contractor* to the *Owner* or to any third party, but only after that information becomes generally available to the public;
- 2) the *Contractor* can demonstrate to have been rightfully obtained by the *Contractor* from a third party who had the right to transfer or disclose it to the *Contractor* free of any obligation of confidence;
- 3) the *Contractor* can demonstrate to have been rightfully known to or in the possession of the *Contractor* at the time of disclosure, free of any obligation of confidence; or
- 4) is independently developed by the *Contractor* without use of any *Confidential Information*.

### 28. Construction Schedule

*Construction Schedule* means the schedule for the performance of the *Work* provided by the *Contractor* pursuant to GC 3.5, including any amendments to the *Construction Schedule* made pursuant to the *Contract Documents*.

### 29. Force Majeure

*Force Majeure* means any cause, beyond the *Contractor's* control, other than bankruptcy or insolvency, which prevents the performance by the *Contractor* of any of its obligations under the *Contract* and the event of *Force Majeure* was not caused by the *Contractor's* default or active commission or omission and could not be avoided or mitigated by the exercise of reasonable effort or foresight by the *Contractor*. *Force Majeure* includes *Labour Disputes*, fire, unusual delay by common carriers or unavoidable casualties, civil disturbance, acts, orders, legislation, regulations or directives of any government or other public authority, acts of a public enemy, war, riot, sabotage, blockage, embargo, lightning, earthquake, or acts of God.

### 30. Install

*Install* means install and connect. *Install* has this meaning whether or not the first letter is capitalized.

### 31. Labour Dispute

*Labour Dispute* means any lawful or unlawful labour problems, work stoppage, labour disruption, strike, job action, slow down, lock-outs, picketing, refusal to work or continue to work, refusal to supply materials, cessation or work or other labour controversy which does, or might, affect the *Work*.

**32. Overhead**

*Overhead* means all site and head office operations and facilities, all site and head office administration and supervision; all duties and taxes for permits and licenses required by the authorities having jurisdiction at the *Place of the Work*; all requirements of Division 1, including but not limited to submittals, warranty, quality control, insurance and bonding; calculations, testing and inspections; meals and accommodations; and, tools, expendables and clean-up costs.

**33. Request for Information/RFI**

*Request for Information* or *RFI* means written documentation sent by the *Contractor* to the *Owner* or to the *Owner's* representative or the *Consultant* requesting written clarification(s) and/or interpretation(s) of the *Drawings* and/or *Specifications*, *Contract* requirements and/or other pertinent information required to complete the *Work* of the *Contract* without applying for a change or changes to the *Work*.

**4.** Amend Definition 4 by adding the following to the end of the Definition:

For the purposes of the *Contract*, the terms “*Consultant*”, “*Architect*” and “*Engineer*” shall be considered synonymous.

**16.** Amend Definition 16 by adding the following to the end of the Definition:

*Provide* has this meaning whether or not the first letter is capitalized.

**GENERAL CONDITIONS OF THE STIPULATED PRICE CONTRACT**

1.0 Where a General Condition or paragraph of the General Conditions of the *Contract* is deleted by these amendments, the numbering of the remaining General Conditions or paragraphs shall remain unchanged, unless stated otherwise herein, and the numbering of the deleted item will be retained, unused.

**GC 1.1 CONTRACT DOCUMENTS**

1.1.6 Add the following to the end of paragraph 1.1.6:

The *Specifications* are divided into divisions and sections for convenience but shall be read as a whole and neither such division nor anything else contained in the *Contract Documents* will be construed to place responsibility on the *Owner* or the *Consultant* to settle disputes among the *Subcontractors* and *Suppliers* with respect to such divisions. The *Drawings* are, in part, diagrammatic and are intended to convey the scope of the *Work* and indicate general and appropriate locations, arrangements and sizes of fixtures, equipment and outlets. The *Contractor* shall obtain more accurate information about the locations, arrangements and sizes from study and coordination of the *Drawings*, including *Shop Drawings* and shall become familiar with conditions and spaces affecting those matters before proceedings with the *Work*. Where site conditions require reasonable minor changes in indicated locations and arrangements, the *Contractor* shall make such changes at no additional cost to the *Owner*. Similarly, where known conditions or existing conditions interfere with new installation and require relocation, the *Contractor* shall include such relocation in the *Work*. The *Contractor* shall arrange and install fixtures and equipment in such a way as to conserve as much headroom and space as possible. The schedules are those portions of the *Contact Documents*, wherever located and whenever issued, which compile information of similar content and may consist of drawings, tables and/or lists.

1.1.7 Amend paragraph 1.1.7.1 by adding “Amendments to CCDC 2 – 2008” before “the Agreement between the Owner and the Contractor” and deleting the reference to “Supplementary Conditions”.

Add new paragraphs 1.1.7.5, 1.1.7.6, 1.1.7.7, 1.1.7.8, 1.1.7.9 and 1.1.7.10 as follows:

- .5 noted materials and annotations on the *Drawings* shall govern over the graphic representation of the *Drawings*.
- .6 finishes in the room finish schedules shall govern over those shown on the *Drawings*.
- .7 Schedules of Division 01 – General Requirements of the *Specifications* shall form part of and be read in conjunction with the technical specification section as listed in the table of contents of the *Specifications*.

- .8 architectural drawings shall have precedence over structural, plumbing, mechanical, electrical and landscape drawings insofar as outlining, determining and interpreting conflicts over the required design intent of all architectural layouts and architectural elements of construction, it being understood that the integrity and installation of the systems designed by the *Consultant* or its sub-*Consultants* are to remain with each of the applicable drawing disciplines.
- .9 fixturing drawings provided by the *Owner* shall have precedence over architectural drawings insofar as outlining, determining and interpreting conflicts over the required design intent of all architectural layouts.
- .10 should reference standards contained in the *Specifications* conflict with the *Specifications*, the *Specifications* shall govern. Should reference standards and *Specifications* conflict with each other or if certain requirements of the *Specifications* conflict with other requirements of the *Specifications*, the more stringent requirements shall govern.

1.1.8 Delete paragraph 1.1.8 in its entirety and substitute as follows:

The *Consultant*, on behalf of the *Owner* shall provide the *Contractor* without charge, twelve (12) copies of the *Contract Documents*, exclusive of those required by jurisdictional authorities and the executed *Contract Documents*. Additional copies can be purchased by the *Contractor* at the *Consultant's* cost of reproduction, handling and sales tax.

1.1.11 Add new paragraph 1.1.11 as follows:

The *Contract Documents* shall be signed in triplicate (3) by the *Owner* and the *Contractor*, and each of the *Contractor*, the *Owner* and the *Consultant* shall retain one set of signed and sealed (if required by the governing law of the *Contract Documents*).

### GC 1.3 RIGHTS AND REMEDIES

1.3.2 Delete the word “No” from the beginning of paragraph 1.3.2 and substitute the words:

“Except with respect to the requirements set out in paragraphs 2.2.13, 6.4.1, 6.5.4, 6.6.1 and 8.2.2, no...”

### GC 1.4 ASSIGNMENT

Delete paragraph 1.4.1 in its entirety and replace with the following:

1.4.1 The *Contractor* shall not assign the *Contract*, or any portion thereof, without the prior written consent of the *Owner*, which consent may be unreasonably withheld. The *Owner* shall be entitled to assign the *Contract* to a corporation, partnership or other entity (the “Assignee”). Upon the assumption by the Assignee of the *Owner's* obligations under the *Contract*, the *Owner* shall be released from its obligations under the *Contract*.

### GC 1.5 EXAMINATION OF DOCUMENTS AND SITE

Add new GC 1.5 – EXAMINATION OF DOCUMENTS AND SITE as follows:

1.5.1 The *Contractor* declares and represents that in tendering for the *Work*, and in entering into a *Contract* with the *Owner* for the performance of the *Work*, it has either investigated for itself the character of the *Work* to be done and all local conditions, including the location of any utility which can be determined from the records or other information available at the offices of any person, partnership, corporation, including a municipal corporation and any board or commission thereof having jurisdiction or control over the utility that might affect its tender or its acceptance of the *Work*, or that, not having so investigated, the *Contractor* has assumed and does hereby assume all risk of conditions now existing or arising in the course of the *Work* which might or could make the *Work*, or any items thereof more expensive in character, or more onerous to fulfil, than was contemplated or known when the tender was made or the *Contract* signed.

1.5.2 The *Contractor* also declares that in tendering for the *Work* and in entering into this *Contract*, the *Contractor* did not and does not rely upon information furnished by the *Owner* or any of its agents or servants respecting the nature or confirmation of the ground at the site of the *Work*, or the location, character, quality or quantity of the materials to be removed or to be employed in the construction of *Work*, or the character of the construction machinery and equipment or facilities needed to perform the *Work*, or the general and local performance of the work under the *Contract* and expressly waives and releases the *Owner* from all claims with respect to the said information with respect to the *Work*.

**GC 1.6 TIME IS OF THE ESSENCE OF THE CONTRACT**

Add new GC 1.6 - TIME IS OF THE ESSENCE OF THE CONTRACT as follows:

1.6.1 All time limits stated in the *Contract Documents* are of the essence of the *Contract*.

**GC 2.2 ROLE OF THE CONSULTANT**

2.2.7 Delete the words “Except with respect to GC 5.1 – FINANCING INFORMATION REQUIRED OF THE OWNER” .

2.2.13 Amend paragraph 2.2.13 by the addition of the following to the end of that paragraph:

If, in the opinion of the *Contractor*, the *Supplemental Instruction* involves an adjustment in the *Contract Price* or in the *Contract Time*, it shall, within ten (10) *Working Days* of receipt of a *Supplemental Instruction*, provide the *Consultant* with a notice in writing to that effect. Failure to provide written notification within the time stipulated in this paragraph 2.2.13 shall be deemed an acceptance of the *Supplemental Instruction* by the *Contractor*, without any adjustment in the *Contract Price* or *Contract Time*.

2.2.19 Add new paragraph 2.2.1.9 as follows:

The *Consultant* or the *Owner*, acting reasonably, may from time to time require the *Contractor* to remove from the *Project* any personnel of the *Contractor*, including project managers, superintendents or *Subcontractors*. Such persons shall be replaced by the *Contractor* in a timely fashion to the satisfaction of the *Consultant* or the *Owner*, as the case may be, at no cost to the *Owner*.

**GC 2.3 REVIEW AND INSPECTION OF THE WORK**

2.3.2 Amend paragraph 2.3.2 by adding the words “and *Owner*” after the words “*Consultant*” in the second and third lines.

2.3.3 Delete paragraph 2.3.3 in its entirety and replace it with the following:

The *Contractor* shall furnish promptly two copies to the *Consultant* and one copy to the *Owner* of all certificates and inspection reports relating to the *Work*.

2.3.4 Insert the word “review” after the word “inspections” in the first line of paragraph 2.3.4.

2.3.5 In the first line after “*Consultant*”, add “or the *Owner*”.

2.3.8 Add a new paragraph 2.3.8 as follows:

The *Consultant* will conduct periodic reviews of the *Work* in progress, to determine general conformance with the requirements of the *Contract Documents*. Such reviews, or lack thereof, shall not give rise to any claims by the *Contractor* in connection with construction means, methods, techniques, sequences and procedures, nor in connection with construction safety at the *Place of Work*, responsibility for which belongs exclusively to the *Contractor*.

**GC 2.4 DEFECTIVE WORK**

2.4.1 Amend GC 2.4.1 by inserting “, the *Owner* and/or its agent” in the first sentence following “rejected by the *Consultant*”.

Add new paragraphs 2.4.1.1 and 2.4.1.2:

2.4.1.1 The *Contractor* shall rectify, in a manner acceptable to the *Owner* and the *Consultant*, all defective work and deficiencies throughout the *Work*, whether or not they are specifically identified by the *Consultant*.

2.4.1.2 The *Contractor* shall prioritize the correction of any defective work, which, in the sole discretion of the *Owner*, adversely affects the day to day operations of the *Owner* or which, in the sole discretion of the *Consultant*, adversely affects the progress of the *Work*.

2.4.2 Delete paragraph 2.4.2 in its entirety and replace it with the following:

The *Contractor* shall promptly pay the *Owner* for costs incurred by the *Owner*, the *Owner's* own forces or the *Owner's* other contractors, for work destroyed or damaged or any alterations necessitated by the *Contractor's* removal, replacement or re-execution of defective work. The *Owner* may request that the *Contractor* rectify any such deficiencies to other contractors' work, at the *Contractor's* expense.

Add new paragraph 2.4.4 as follows:

- 2.4.4 Neither acceptance of the *Work* by the *Consultant* or the *Owner*, nor any failure by the *Consultant* or the *Owner* to identify, observe or warn of defective *Work* or any deficiency in the *Work* shall relieve the *Contractor* from the sole responsibility for rectifying such defect or deficiency at the *Contractor's* sole cost, even where such failure to identify, observe or warn is negligent.

### **GC 3.1 CONTROL OF THE WORK**

3.1.3 Add a new paragraph 3.1.3 as follows:

Prior to commencing individual procurement, fabrication and construction activities, the *Contractor* shall verify at the *Place of the Work*, all relevant measurements and levels necessary for proper and complete fabrication, assembly and installation of the *Work* and shall further carefully compare such field measurements and conditions with the requirements of the *Contract Documents*. Where dimensions are not included or exact locations are not apparent, the *Contractor* shall immediately notify the *Consultant* in writing and obtain written instructions from the *Consultant* before proceedings with any part of the affected *Work*.

3.1.4 Add a new paragraph 3.1.4 as follows:

Notwithstanding the provisions of paragraphs 3.1.1 and 3.1.2, the *Owner* shall have access to the site at all times to monitor all aspects of construction. Such access shall in no circumstances affect the obligations of the *Contractor* to fulfill its contractual obligations.

### **GC 3.2 CONSTRUCTION BY OWNER OR OTHER CONTRACTORS**

3.2.2.1 Delete paragraph 3.2.2.1 in its entirety.

3.2.2.2 Delete paragraph 3.2.2.2 in its entirety.

3.2.2.3 Delete paragraph 3.2.2.3 in its entirety.

3.2.2.4 Delete paragraph 3.2.2.4 in its entirety.

3.2.3.2 Delete paragraph 3.2.3.2 and replace it with the following:

Co-ordinate and schedule the activities and work of other contractors and *Owner's* own forces with the *Work* of the *Contractor* and connect as specified or shown in the *Contract Documents*.

3.2.3.4 Add new paragraph 3.2.3.4 as follows:

Subject to GC 9.4 CONSTRUCTION SAFETY, for the *Owner's* own forces and for other contractors, assume overall responsibility for compliance with all aspects of the applicable health and safety legislation in force at the *Place of the Work*, including all of the responsibilities of the "constructor", pursuant to the *Occupational Health and Safety Act* (Ontario)...

### **GC 3.3 TEMPORARY WORK**

3.3.2 In paragraph 3.3.2, in the second line after the words "where required by law", insert "or the *Consultant*".

### **GC 3.4 DOCUMENT REVIEW**

3.4.1 Delete paragraph 3.4.1 in its entirety and substitute new paragraph 3.4.1:



The *Contractor* shall review the *Contract Documents* and shall report promptly to the *Consultant* any error, inconsistency, or omission the *Contractor* may discover. Such review by the *Contractor* shall be undertaken with the standard of care described in paragraph 3.14.1 of the *Contract*. Except for its obligation to make such review and report the result, the *Contractor* does not assume any responsibility to the *Owner* or to the *Consultant* for the accuracy of the *Contract Documents*. Provided it has exercised the degree of care and skill described in this paragraph 3.4.1, the *Contractor* shall not be liable for damage or costs resulting from such errors, inconsistencies, or omissions in the *Contract Documents*, which the *Contractor* could not reasonably have discovered through the exercise of the required standard of care.

3.4.2 Add new paragraph 3.4.2. as follows:

If, at any time, the *Contractor* finds errors, inconsistencies, or omissions in the *Contract Documents* or has any doubt as to the meaning or intent of any part thereof, including laying out of the *Work*, the *Contractor* shall immediately notify the *Consultant*, and request instructions, a *Supplemental Instruction*, *Change Order*, or *Change Directive*, as the case may require, and the *Contractor* shall not proceed with the work affected until the *Contractor* has received such instructions, a *Supplemental Instruction*, *Change Order* or *Change Directive*. Neither the *Owner* nor the *Consultant* will be responsible for the consequences of any action of the *Contractor* based on oral instructions.

3.4.3 Add new paragraphs 3.4.3 and 3.4.4 as follows:

Errors, inconsistencies and/or omissions in the *Drawings* and/or *Specifications* which do not allow completion of the *Work* of the *Contract* shall be brought to the *Consultant's* attention prior to the execution of the *Contract* by means of an *RFI*.

3.4.4 Notwithstanding the foregoing, errors, inconsistencies, discrepancies and/or omissions shall not include lack of reference on the *Drawings* or in the *Specifications* to labour and/or *Products* that are required or normally recognized within respective trade practices as being necessary for the complete execution of the *Work*. The *Contractor* shall not use subsequent *RFIs*, issued during execution of the *Work* to establish a change and/or changes in the *Work* pursuant to Part 6 – CHANGES IN THE WORK.

### GC 3.5 CONSTRUCTION SCHEDULE

3.5.1 Delete paragraph 3.5.1 in its entirety and replace with the following:

The *Contractor* shall:

.1 within five (5) calendar days of receiving written confirmation of the award of the *Contract*, prepare and submit to the *Owner* and the *Consultant* for their review and acceptance, a construction schedule in the format indicated below that indicates the timing of the activities of the *Work* and provides sufficient detail of the critical events and their inter-relationship to demonstrate the *Work* will be performed in conformity with the *Contract Time* and in accordance with the *Contract Documents*. Such schedule is to include a delivery schedule for *Products* whose delivery is critical to the schedule for the *Work* or are required by the *Contract* to be included in a *Products* delivery schedule. The *Contractor* shall employ construction scheduling software, being the latest version of “Microsoft Project”, that permits the progress of the *Work* to be monitored in relation to the critical path established in the schedule. The *Contractor* shall provide the schedule and any successor or revised schedules in both electronic format and hard copy. Once accepted by the *Owner* and the *Consultant*, the construction schedule submitted by the *Contractor* shall become the baseline construction schedule; and,

.2 provide the expertise and resources, such resources including manpower and equipment, as are necessary to maintain progress under the accepted baseline construction schedule or revised schedule accepted by the *Owner* pursuant to GC 3.5 CONSTRUCTION SCHEDULE; and,

.3 monitor the progress of the *Work* on a weekly basis relative to the baseline construction schedule, or any revised schedule accepted by the *Owner* pursuant to GC 3.5 CONSTRUCTION SCHEDULE, update and submit to the *Consultant* and *Owner* the electronic and hard copy schedule on a monthly basis, at a minimum, or as required by the *Consultant* and advise the *Consultant* and the *Owner* weekly in writing of any variation from the baseline or slippage in the schedule; and,

.4 provide overtime work without change to the *Contract Price* if such work is deemed necessary to meet the schedule; and,

.5 ensure that the *Contract Price* shall include all costs required to phase or stage the *Work*.

3.5.2 Add new paragraph 3.5.2 as follows:

If, at any time, it should appear to the *Owner* or the *Consultant* that the actual progress of the *Work* is behind schedule or is likely to become behind schedule, or if the *Contractor* has given notice of such to the *Owner* or the *Consultant* pursuant to subparagraph 3.5.1.3, the *Contractor* shall, either at the request of the *Owner* or the *Consultant*, or following giving notice pursuant to subparagraph 3.5.1.3, take appropriate steps to cause the actual progress of the *Work* to conform to the schedule or minimize the resulting delay. Within five (5) calendar days of the request by the *Owner* or the *Consultant* or the notice being given pursuant to subparagraph 3.5.1.3, the *Contractor* shall produce and present to the *Owner* and the *Consultant* a plan demonstrating how the *Contractor* will achieve the recovery of the last accepted schedule.

3.5.3 The *Contractor* is responsible for performing the *Work* within the *Contract Time*. Any schedule submissions revised from the accepted baseline construction schedule or revised schedule accepted by the *Owner* pursuant to GC 3.5 CONSTRUCTION SCHEDULE, during construction are not deemed to be approved extensions to the *Contract Time*. All extensions to the *Contract Time* must be made in accordance with the *Contract Documents*.

**GC 3.6 SUPERVISION**

Delete paragraph 3.6.1 in its entirety and replace with the following:

3.6.1 The *Contractor* shall employ a competent full-time superintendent, acceptable to the *Owner* and *Consultant*, who shall be in full time attendance at the *Place of Work* while the *Work* is being performed. The superintendent shall not be changed by the *Contractor* without valid reason which shall be provided in writing and shall not be changed without prior consultation with and agreement by the *Owner* and the *Consultant*. The *Contractor* shall replace the superintendent within 7 *Working Days* of the *Owner's* written notification, if the superintendent's performance is not acceptable to the *Owner*. The *Contractor* shall provide the *Owner* and the *Consultant* with the names, addresses and telephone numbers of the superintendent referred to in this paragraph 3.6.1 and other responsible persons who may be contacted for emergency and other reasons during non-working hours.

Delete paragraph 3.6.2 in its entirety and replace with the following:

3.6.2 The superintendent, and any project manager appointed by the *Contractor*, shall represent the *Contractor* at the *Place of Work* and shall have full authority to act on written instructions given by the *Consultant* and/or the *Owner*. Instructions given to the superintendent or the project manager shall be deemed to have been given to the *Contractor* and both the superintendent and any project manager shall have full authority to act on behalf of the *Contractor* and bind the *Contractor* in matters related to the *Contract*.

3.6.3 Add new paragraph 3.6.3, 3.6.4, 3.6.5 and 3.6.6 as follows:

The *Owner* may, at any time during the course of the *Work*, request the replacement of the appointed representative(s). Immediately upon receipt of the request, the *Contractor* shall make arrangements to appoint an acceptable replacement, which is approved by the *Owner*.

3.6.4 The supervisory staff assigned to the *Project* shall also be fully competent to implement efficiently all requirements for scheduling, coordination, field engineering, reviews, inspections and submittals defined in the *Specifications*, and have minimum 5 years documented "Superintendent/Project Management" experience.

3.6.5 The *Consultant and Owner* shall reserve the right to review the record of experience and credentials of supervisory staff assigned to the *Project* prior to commencement of the *Work*.

3.6.6 A superintendent assigned to the *Work* shall be "Gold Seal Certified" as per the Canadian Construction Association; or a superintendent that can demonstrate the requisite experience and success related to the *Project* to the sole satisfaction of the *Owner*.

**GC 3.7 SUBCONTRACTORS AND SUPPLIERS**

3.7.1.1 In paragraph 3.7.1.1 add to the end of the second line "including any warranties and service agreements which extend beyond the term of the *Contract*."

- 3.7.1.2 In subparagraph 3.7.1.2 after the words “the *Contract Documents*” insert the words “including any required surety bonding”.

Delete paragraph 3.7.2. in its entirety and replace with the following:

- 3.7.2 Substitution of any *Subcontractor* and/or *Suppliers* after submission of the *Contractor’s* bid will not be accepted unless a valid reason is given in writing to and approved by the *Owner*, whose approval may be arbitrarily withheld. The reason for substitution must be provided to the *Owner* and to the original *Subcontractor* and/or *Supplier* and the *Subcontractor* and/or *Supplier* shall be given the opportunity to reply to the *Contractor* and *Owner*. The *Contractor* shall be fully aware of the capability of each *Subcontractor* and/or *Supplier* included in its bid, including but not limited to technical ability, financial stability and ability to maintain the proposed construction schedule.

- 3.7.4 Change the word “shall” to “may” in the second line.

Add new paragraphs 3.7.7 and 3.7.8 as follows:

- 3.7.7 Where provided in the *Contract*, the *Owner* may assign to the *Contractor*, and the *Contractor* agrees to accept, any contract procured by the *Owner* for *Work* or services required on the *Project* that has been pre-tendered or pre-negotiated by the *Owner*, and upon such assignment, the *Owner* shall have no further liability to any party for such contract.

- 3.7.8 The *Contractor* covenants that each subcontract or supply contract which the *Contractor* enters into for the purpose of performing the *Work* shall expressly provide for the assignment thereof to the *Owner* (at the option of the *Owner*) and the assumption by the *Owner* of the obligations of the *Contractor* thereunder, upon the termination of the *Contract* and upon written notice by the *Owner* to the other parties to such subcontracts or supply contracts, without the imposition of further terms or conditions; provided, however, that until the *Owner* has given such notice, nothing herein contained shall be deemed to create any contractual or other liability upon the *Owner* for the performance of obligations under such subcontracts or supply contracts and the *Contractor* shall be fully responsible for all of its obligations and liabilities (if any) under such subcontracts and supply contracts.

### GC 3.8 LABOUR AND PRODUCTS

- 3.8.2 Delete paragraph 3.8.2 and substitute with the following:

*Products* provided shall be new and shall conform to all current applicable specifications of the Canadian Standards Association, Canadian Standards Board or General Standards Board, ASTM, National Building Code, provincial and municipal building codes, fire safety standards, and all governmental authorities and regulatory agencies having jurisdiction at the *Place of the Work*, unless otherwise specified. *Products* which are not specified shall be of a quality consistent with those specified and their use acceptable to the *Consultant*. *Products* brought on to the *Place of the Work* by the *Contractor* shall be deemed to be the property of the *Owner*, but the *Owner* shall be under no liability for loss thereof or damage thereto arising from any cause whatsoever. The said *Products* shall be at the sole risk of the *Contractor*. Workmanship shall be, in every respect, first class and the *Work* shall be performed in accordance with the best modern industry practice.

- 3.8.3 Amend paragraph 3.8.3 by adding the words, “..., agents, *Subcontractors* and *Suppliers*...” after the word “employees” in the first line.

Add new paragraphs 3.8.4, 3.8.5, 3.8.6, 3.8.7, 3.8.8, 3.8.9 and 3.8.10 as follows:

- 3.8.4 Upon receipt of a written notice from the *Consultant*, the *Contractor* shall immediately dismiss, from the *Place of the Work*, tradesmen and labourers whose *Work* is unsatisfactory to the *Consultant* or who are considered by the *Consultant* to be unskilled or otherwise objectionable.

- 3.8.5 The *Contractor* shall cooperate with the *Owner* and its representatives and shall take all reasonable and necessary actions to maintain stable and harmonious labour relations with respect to the *Work* at the *Place of the Work*, including cooperation to attempt to avoid *Work* stoppages, trade union jurisdictional disputes and other *Labour Disputes*. Any costs arising from labour disputes shall be at the sole expense of the *Contractor*.

- 3.8.7 The cost for overtime required beyond the normal *Working Day* to complete individual construction operations of a continuous nature, such as pouring or finishing of concrete or similar work, or *Work* that the *Contractor* elects to perform at overtime rates without the *Owner* requesting it, shall not be chargeable to the *Owner*.
- 3.8.8 All manufactured *Products* which are identified by their proprietary names or by part or catalogue number in the *Specifications* shall be used by the *Contractor*. No substitutes for such specified *Products* shall be used without the written approval of the *Owner* and the *Consultant*. Substitutes will only be considered by the *Consultant* when submitted in sufficient time to permit proper review and investigation. When requesting approval for the use of substitutes, the *Contractor* shall include in its submission any proposed change in the *Contract Price*. The *Contractor* shall use all proprietary *Products* in strict accordance with the manufacturer's directions. Where there is a choice of proprietary *Products* specified for one use, the *Contractor* may select any one of the *Products* so specified for this use.
- 3.3.9 No consideration will be given to claims by the *Contractor* of unsuitability or unavailability of any *Products*, nor to the *Contractor's* unwillingness to use, or to produce first class work with, any *Products*, or to provide the specified warranties or guarantees.
- 3.8.10 Materials, appliances, equipment and other *Products* are sometimes specified by reference to brand names, proprietary names, trademarks or symbols. In such cases, the name of a manufacturer, distributor, *Supplier* or dealer is sometimes given to assist the *Contractor* to find a source *Supplier*. This shall not relieve the *Contractor* from its responsibility from finding its own source of supply even if the source names no longer supplies the *Product* specified. If the *Contractor* is unable to obtain the specified *Product*, the *Contractor* shall supply a substitute product equal to or better than the specified *Product*, as approved by the *Consultant* with no extra compensation. Should the *Contractor* be unable to obtain a substitute *Product* equal to or superior to the specified *Product* and the *Owner* accepts a different *Product*, the *Contract Price* shall be adjusted accordingly, as approved by the *Consultant*.

### GC 3.9 DOCUMENTS AT THE SITE

- 3.9.1 Delete paragraph 3.9.1 in its entirety and substitute the following:

The *Contractor* shall keep one copy of the current *Contract Documents*, *Supplemental Instructions*, contemplated *Change Orders*, *Change Orders*, *Change Directives*, cash allowance disbursement authorizations, reviewed *Shop Drawings*, submittals, reports and records of meeting at the *Place of the Work*, in good order and available to the *Owner* and *Consultant*.

### GC 3.10 SHOP DRAWINGS

- 3.10.1 Delete paragraph 3.10.1 in its entirety and replace with the following:

The *Contractor* shall provide shop drawings as described in the *Contract Documents* and as the *Consultant* may reasonably request

- 3.10.9 Delete paragraph 3.10.9 in its entirety and substitute the following:

At the time of providing *Shop Drawings*, the *Contractor* shall advise the *Consultant* in writing of any deviations in *Shop Drawings* from the requirements of the *Contract Documents*. The *Consultant* shall indicate the acceptance of such deviation expressly in writing. Where manufacturers' literature is submitted in lieu of scaled drawings, it shall be clearly marked in ink, to indicate the specific items for which review is requested.

Add new paragraphs 3.10.13, 3.10.14, 3.10.15, 3.10.16, 3.10.17 and 3.10.18 as follows:

- 3.10.13 Reviewed *Shop Drawings* shall not authorize a change in the *Contract Price* and/or the *Contract Time*.
- 3.10.14 The *Contractor* shall prepare a *Shop Drawings* schedule acceptable to the *Owner* and the *Consultant* prior to the first application for payment. A draft of the proposed *Shop Drawings* schedule shall be submitted by the *Contractor* to the *Consultant* and the *Owner* for approval. The draft *Shop Drawings* schedule shall clearly indicate the phasing of *Shop Drawings* submissions. The *Contractor* shall periodically re-submit the *Shop Drawings* schedule to correspond to changes in the construction schedule.

- 3.10.15 Except where the parties have agreed to a different *Shop Drawings* schedule pursuant to paragraph 3.10.3, the *Contractor* shall comply with the requirements for *Shop Drawings* submissions stated in the *Specifications*.
- 3.10.16 The *Contractor* shall not use the term “by others” on *Shop Drawings* or other submittals. The related trade, *Subcontractor* or *Supplier* shall be stated.
- 3.10.17 Certain *Specifications* sections require the *Shop Drawings* to bear the seal and signature of a professional engineer. Such professional engineer must be registered in the jurisdiction of the *Place of the Work* and shall have expertise in the area of practice reflected in the *Shop Drawings*.
- 3.10.18 The *Consultant* will review and return *Shop Drawings* and submittals in accordance with the schedule agreed upon in paragraph 3.10.3, The *Contractor* shall allow the *Consultant* a minimum of 14 days to review *Shop Drawings* from the date of receipt. If resubmission of *Shop Drawings* is required, a further 14 day period is required for the *Consultant’s* review.

### GC 3.11 USE OF THE WORK

- 3.11.1 In the second line between the words “permits and “or” add”, by direction of the *Owner* or *Consultant*.
- 3.11.3 Add new paragraph 3.11.3 as follows:

The *Owner* shall have the right to enter or occupy the *Work* in whole or in part for the purpose of placing fittings and equipment, or for other use before *Substantial Performance of the Work*, if, in the opinion of the *Consultant*, such entry and occupation does not prevent or substantially interfere with the *Contractor* in the performance of the *Contract* within the *Contract Time*. Such entry or occupation shall neither be considered as acceptance of the *Work*, nor in any way relieve the *Contractor* from its responsibility to complete the *Contract*.

### GC 3.12 CUTTING AND REMEDIAL WORK

Add new paragraphs 3.12.5 and 3.12.6 as follows:

- 3.12.5 Unless specifically stated otherwise in the *Specifications*, the *Contractor* shall do all cutting and making good necessary for the proper installation and performance of the *Work*.
- 3.12.6 To avoid unnecessary cutting, the *Contractor* shall lay out its work and advise the *Subcontractors*, when necessary, where to leave holes for installation of pipes and other work.

### GC 3.13 CLEAN UP

- 3.13.1 At the end of the paragraph 3.13.1, add the following:

Remove accumulated waste and debris at least once a week as a minimum or as required by the nature of the *Work*.

- 3.13.2 In paragraph 3.13.2, in the fourth line add the word “materials” between the word “tools” and the words “*Construction Equipment*”.
- 3.13.3 In paragraph 3.13.3, in the first and second lines add the word “materials” between the word “tools” and the words “*Construction Equipment*”.

Add new paragraphs 3.13.4, 3.13.5, 3.13.6 and 3.13.7 as follows:

- 3.13.4 In the event that the *Contractor* fails to remove waste and debris as provided in this GC 3.13, then the *Owner* or the *Consultant* may give the *Contractor* twenty-four (24) hours written notice to meet its obligations respecting clean up. Should the *Contractor* fail to meet its obligations pursuant to this GC 3.13 within the twenty-four (24) hour period next following delivery of the notice, the *Owner* may remove such waste and debris and deduct from payments otherwise due to the *Contractor*, the *Owner’s* costs for such clean up, including a reasonable mark-up for administration costs.
- 3.13.5 The *Contractor* shall clean up garbage during and after construction, and maintain the site in a neat and orderly condition on a daily basis. Prior to leaving the site at the end of construction, the *Contractor* shall make good all damage to the building and its components caused by the performance of the *Work* or by any *Subcontractor* or *Supplier*. The *Contractor*

shall leave the site in a clean and finished state; remove all equipment and materials; remove all paint, stains, labels, dirt, etc. from the *Work*; and touch up all damaged painted areas.

- 3.13.6 Without limitation to or waiver of the *Owner's* other rights and remedies, the *Owner* shall have the right to back charge to the *Contractor* the cost of damage to the site caused by transportation in and out of the site by the *Contractor*, *Subcontractors* or *Suppliers*, if not repaired before final payment.
- 3.13.7 The *Contractor* shall dispose of debris at location and in a manner acceptable to the *Owner*, and authorities having jurisdiction in the area of the *Work* and the disposal area, and cover containers with tarpaulins tied in place to prevent scattering of debris on site and during transport.

#### **GC 3.14 CONTRACTOR STANDARD OF CARE**

Add a new General Condition 3.14 – CONTRACTOR STANDARD OF CARE as follows:

- 3.14.1 In performing its services and obligations under the *Contract*, the *Contractor* shall exercise the standard of care, skill and diligence that would normally be provided by an experienced and prudent contractor supplying similar services for similar projects. The *Contractor* acknowledges and agrees that throughout the *Contract*, the performance of the *Contractor's* obligations, duties and responsibilities shall be judged against this standard. The *Contractor* shall exercise the same standard of care, skill and diligence in respect of any *Products*, personnel or procedures which it may recommend to the *Owner*.
- 3.14.2 The *Contractor* further represents, covenants and warrants to the *Owner* that:
- .1 the personnel it assigns to the *Project* are appropriately experienced;
  - .2 it has a sufficient staff of qualified and competent personnel to replace any of its appointed representatives, subject to the *Owner's* approval, in the event of death, incapacity, removal or resignation; and
  - .3 there are no pending, threatened or anticipated claims, liabilities or contingent liabilities that would have a material effect on the financial ability of the *Contractor* to perform its work under the *Contract*.

#### **GC 3.15 OCCUPANCY OF THE WORK**

- 3.15.1 The *Owner* reserves the right to take possession of and use for any intended purpose any portion or all of the undelivered portion of the *Project* even though the *Work* may not be substantially performed, provided that such taking possession and use will not interfere, in any material way, with the progress of the *Work*. The taking of possession or use of any such portion of the *Project* shall not be deemed to be the *Owner's* acknowledgement or acceptance of the *Work* or the *Project*, nor shall it relieve the *Contractor* of any of its obligations under the *Contract*.
- 3.15.2 Whether the *Project* contemplates *Work* by way of renovations in buildings which will be in use or be occupied during the course of the *Work* or where the *Project* involves *Work* that is adjacent to a structure which is in use or is occupied, the *Contractor*, without in any way limiting its responsibilities under the *Contract*, shall take all reasonable steps to avoid interference with fire exits, building access and egress, continuity of electric power and all other utilities, to suppress dust and noise and to avoid conditions likely to propagate mould or fungus of any kind and all other steps reasonably necessary to promote and maintain the safety and comfort of the users and occupants of such structures or adjacent structures.

#### **GC 4.1 CASH ALLOWANCES**

- 4.1.1 Delete the second sentence in paragraph 4.1.1
- 4.1.4 Delete paragraph 4.1.4 in its entirety and substitute the following:

Where the actual cost of the *Work* under any cash allowance exceeds the amount of the allowance, any unexpended amounts from other cash allowances shall be reallocated, at the *Consultant's* direction, to cover the shortfall, and, in that case, there shall be no additional amount added to the *Contract Price* for overhead and profit. Only where the actual cost of the *Work* under all cash allowances exceeds the total amount of all cash allowances shall the *Contractor* be compensated for the excess incurred and substantiated, plus an amount for overhead and profit on the excess only, as set out in the *Contract Documents*.

4.1.5 Delete paragraph 4.1.5 in its entirety and substitute the following:

The net amount of any unexpended cash allowances, after providing for any reallocations as contemplated in paragraph 4.1.4, shall be deducted from the *Contract Price* by *Change Order* without any adjustment for the *Contractor's* overhead and profit on such amount.

Add new paragraphs 4.1.8 and 4.1.9 as follows:

4.1.8 The *Owner* reserves the right to call, or to have the *Contractor* call, for competitive bids for portions of the *Work*, which are to be paid for from cash allowances.

4.1.9 Cash allowances cover the net cost to the *Contractor* of services, *Products*, *Construction Equipment*, freight, unloading, handling, storage, installation, provincial sales tax, and other authorized expenses incurred in performing any *Work* stipulated under the cash allowances but does not include any *Value Added Taxes* payable by the *Owner* and the *Contractor*.

#### **GC 5.1 FINANCING INFORMATION REQUIRED OF THE OWNER**

5.1.1 Delete paragraph 5.1.1 in its entirety.

5.1.2 Delete paragraph 5.1.2 in its entirety.

#### **GC 5.2 APPLICATIONS FOR PROGRESS PAYMENT**

Delete paragraph 5.2.2 in its entirety and substitute the following:

5.2.2 Applications for payment shall be dated the last day of each payment period, which is the last day of the month or an alternative day of the month agreed in writing by the parties. The amount claimed shall be for the value, proportionate to the amount of the *Contract*, or work performed and *Products* delivered and incorporated into the *Work* at that date. No amount claimed shall include products delivered and incorporated into the work, unless the products are free and clear of all security interests, liens and other claims of third parties.

Each application for payment, except the first, shall include a statutory declaration, in the CCDC 9A – 2001 form, up to the date of the application for payment, in a form approved by the Consultant. Each application for payment (including the first), shall also include:

.1 A certificate, issued by an agency or firm providing workers' compensation insurance to the *Contractor*, verifying that coverage is in force at the time of making the application for payment, and that coverage will remain in force for at least sixty (60) days thereafter.

.2 A declaration by the *Contractor*, in a form approved by the *Consultant*, verifying that the performance of the *Work* is in compliance with all applicable regulatory requirements respecting environmental protection, first safety, public safety and occupational health and safety.

.3 A pre-approved schedule of values, supplied by the *Contractor*, for Divisions 1 through 14 of the *Work*, aggregating the total amount of the *Contract Price*.

.4 A separate pre-approved schedule of values, supplied by each *Subcontractor*, for each of Division 15, 16, and 17 of the *Work*, aggregating the total amount of the *Contract Price*.

.5 Invoices to support all claims against the cash allowance.

.6 An acceptable construction schedule pursuant to GC 3.5.

5.2.3 Amend paragraph 5.2.3 by adding the following to the end of that paragraph:

No amount claimed shall include *Products* delivered to the *Place of the Work* unless the *Products* are free and clear of all security interests, liens, and other claims of third parties.

5.2.7 Delete existing paragraph 5.2.7:

Add new paragraphs 5.2.7, and 5.2.8 as follows:

5.2.7 The *Contractor* shall prepare and maintain current as-built drawings which shall consist of the *Drawings* and *Specifications* revised by the *Contractor* during the *Work*, showing changes to the *Drawings* and *Specifications*, which current as-built drawings shall be maintained by the *Contractor* and made available to the *Consultant* for review with each application for progress payment. The *Consultant* shall retain a reasonable amount for the value of the as-built drawings not presented for review.

5.2.8 Prior to each application for payment, the *Contractor* and the *Consultant* shall jointly review the progress of the *Work*.

### GC 5.3 PROGRESS PAYMENT

5.3.1.2 In the first sentence amend as follows: After the words “issue to the *Owner*” delete “and copy to the *Contractor*”. After the words “after the receipt of the” add “complete”.

5.3.1.3 Delete subparagraph 5.3.1.3 in its entirety and substitute as follows:

the *Owner* shall make payment to the *Contractor* on account as provided in Article A-5 of the Agreement – PAYMENT no later than 30 calendar days after the date of a complete certificate of payment is issued by the *Consultant*

Add new paragraphs 5.3.2 and 5.3.3 as follows:

5.3.2 If the *Contractor* fails to provide all documentation as required by GC 5.2 – APPLICATIONS FOR PROGRESS PAYMENT, the *Contractor* or *Owner* shall be entitled to return the application for progress payment to the *Contractor* for completion. The 10 day review period by the *Consultant* and 30 day payment period by the *Owner* will commence upon receipt of a complete application for progress payment.

5.3.3 Payment will be mailed to the *Contractor*. The payment date shall be the date the cheque is mailed. Delay resulting from mail shall not be used in calculating payment date.

### GC 5.4 SUBSTANTIAL PERFORMANCE OF THE WORK

5.4.2 Delete paragraph 5.4.2 in its entirety and substitute the following:

The *Consultant* will review the *Work* to verify the validity of the application and shall promptly, and in any event, no later than 30 calendar days after receipt of the *Contractor's* complete deficiency list and application, the *Consultant* shall:

.1 prepare a final deficiency list incorporating all items to be completed or corrected. Each item is to have an indicated value for correction or completion. Determination of the value is defined in GC 5.10 – DEFICIENCY HOLDBACK. The final deficiency list complete with values is to be included with the *Consultant's* draft verification and shall be reviewed with the *Owner* prior to 5.4.2.2.

.2 having completed 5.4.2.1, the *Consultant* shall:

.1 advise the *Contractor* in writing that the *Work* or the designated portion of the *Work* is not substantially performed and give reasons why, or

.2 state the date of *Substantial Performance of the Work* in a certificate and issue a copy of that certificate to each the *Owner* and the *Contractor*.

5.4.3 Delete paragraph 5.4.3 in its entirety and substitute the following:

Following the issuance of the certificate of *Substantial Performance of the Work*, the following shall apply to completing the *Work*:

.1 *Contractor* is to complete the *Work* within sixty (60) calendar days.

.2 No payments will be processed between *Substantial Performance of the Work* and the completion of the *Work*.



- .3 The *Owner* reserves the right to contract out any or all unfinished *Work* if it has not been completed within sixty (60) days of *Substantial Performance of the Work* without prejudice to any other right or remedy and without affecting the warranty period. The cost of completing the *Work* shall be deducted from the *Contract Price*.

Add new paragraphs 5.4.4, 5.4.5 and 5.4.6:

- 5.4.4 Within the time prescribed by the construction/builder’s lien legislation in force at the *Place of the Work*, or where there is no legislation or no time prescribed, within a reasonable time of receiving a copy of the certificate of *Substantial Performance of the Work* signed by the *Consultant*, the *Contractor* shall take whatever steps are required to publish or post a signed copy of the certificate, as is required by such legislation. If the *Contractor* fails to comply with this provision, the *Owner* may take the required steps pursuant to the legislation and charge the *Contractor* for any costs so incurred.
- 5.4.5 Prior to submitting its written application for *Substantial Performance of the Work*, the *Contractor* shall submit to the *Consultant* all:
  - .1 guarantees;
  - .2 warranties;
  - .3 certificates;
  - .4 final testing and balancing reports;
  - .5 distribution system diagrams;
  - .6 spare parts;
  - .7 maintenance manuals;
  - .8 samples;
  - .9 reports and correspondence from authorities having jurisdiction in the *Place of the Work*;
  - .10 shop drawings;
  - .11 inspection certificates;
  - .12 marked-up record or as-built drawings from the construction trailer.

and other materials or documentation required to be submitted under the *Contract*, together with written proof acceptable to the *Owner* and the *Consultant* that the *Work* has been substantially performed in conformance with the requirements of municipal, governmental, and utility authorities having jurisdiction in the *Place of the Work*. The *Consultant* shall refuse to certify *Substantial Performance of the Work* if the submittals referred to in this paragraph 5.4.5 are not provided by the *Contractor*.

- 5.4.6 The *Contractor* shall submit full and complete digital record or as-built drawings to the *Consultant* within forty-five (45) days of the issuance of the certificate of *Substantial Performance of the Work* and the *Owner* shall be at liberty to withhold, from amounts otherwise payable to the *Contractor*, an amount not to exceed one (1) percent of the *Contract Price* as security for the obligation of the *Contractor* to deliver such digital record or as built drawings.

**GC 5.5 PAYMENT OF HOLDBACK UPON SUBSTANTIAL PERFORMANCE OF THE WORK**

5.5.1.1. Add to end of sentence “, and the application by the *Contractor* shall be accompanied by:

- .1 a certificate, issued by an agency or firm providing workers’ compensation insurance to the *Contractor*, verifying that coverage is in force at the time of making application for payment, and that coverage will remain in force for at least sixty (60) days thereafter; and,
- .2 a declaration by the *Contractor*, in a form approved by the *Consultant*, verifying performance of the *Work* in compliance with all applicable regulatory requirements respecting environmental protection, fire safety, public safety and occupational health and safety.

Add new subparagraph 5.5.1.3 as follows

- 5.5.1.3 submit a statement that no written notices of liens have been received by it

5.5.2 Amend paragraph 5.5.2 by adding the following sentence to the end of that paragraph:

A reserve fund may be retained by the *Owner* to secure the correction of deficiencies and/or warranty claims. Included in the reserve fund would be all *Consultant* and *Owner* costs related to the correction of deficiencies and/or warranty claims.

5.5.3 Delete paragraph 5.5.3 in its entirety.

5.5.5 Delete paragraph 5.5.5 in its entirety.

#### **GC 5.6 PROGRESSIVE RELEASE OF HOLDBACK**

Delete GC 5.6 in its entirety.

#### **GC 5.7 FINAL PAYMENT**

5.7.1 Delete paragraph 5.7.1 in its entirety and substitute as follows:

When the *Contractor* considers that the *Work* is completed, as defined in the lien legislation applicable to the *Place of the Work* or if such definition does not exist, in accordance with other applicable legislation, industry practice or provisions which may be agreed to between the parties, the *Contractor* shall submit an application for final payment. The *Contractor's* application for final payment shall be accompanied by any documents or materials not yet delivered pursuant to paragraph 5.4.5, together with complete and final as-built drawings and:

- .1 the *Contractor's* written request for release of the deficiency holdback, including a statement that no written notices of lien have been received by it;
- .2 a Statutory Declaration CCDC 9A-2001;
- .3 the evidence of workers' compensation compliance required by GC 10.4.1.

The *Work* shall be deemed not to be completed until all of the aforementioned documents have been delivered, and the *Owner* may withhold payment in respect of the delivery of any documents in an amount determined by the *Consultant* in accordance with the provisions of GC 5.8 - WITHHOLDING OF PAYMENT.

5.7.2 Delete from the first line of paragraph 5.7.2 the words, "calendar days" and substitute the words "*Working Days*".

5.7.4 Delete from the second line of paragraph 5.7.4 the words, "5 calendar days after the issuance" and substitute the words "30 calendar days after receipt of".

#### **GC 5.8 WITHHOLDING OF PAYMENT**

Delete paragraph 5.8.1 and replace with the following:

5.8.1 If because of conditions reasonably beyond the control of the *Contractor*, there are items of work that cannot be performed, payment in full for that portion of the *Work* which has been performed as certified by the *Consultant* shall not be withheld or delayed by the *Owner* on account thereof, but the *Owner* may withhold, until the remaining portion of the *Work* is finished, only such an amount that the *Consultant* determines is sufficient and reasonable to cover the cost of performing such remaining work.

#### **GC 5.10 DEFICIENCY HOLDBACK**

Add a new General Condition 5.10 as follows:

5.10.1 Notwithstanding any provisions contained in the *Contract Documents* concerning certification and release of monies to the *Contractor*, the *Owner* reserves the right to establish a deficiency holdback, at the time of the review for *Substantial Performance*, based on a 200% dollar value of the deficiencies listed by the *Consultant*. The value of work outstanding for the calculation of *Substantial Performance of the Work* under the *Construction Lien Act* (Ontario) shall utilize the 100% dollar value. No individual deficiency will be valued at less than two hundred dollars (\$200.00). The *Owner* shall retain the entire deficiency holdback amount until completion of all of the deficiencies listed by the *Consultant* to the satisfaction of the *Consultant*.

## GC 6.1 OWNER'S RIGHT TO MAKE CHANGES

Add new paragraphs 6.1.3, 6.1.4, 6.1.5, 6.1.6, 6.1.7 and 6.1.8 as follows:

- 6.1.3 The *Contractor* agrees that changes resulting from construction coordination, including but not limited to, site surface conditions, site coordination, and *Subcontractor and Supplier* coordination are included in the *Contract Price* and the *Contractor* shall be precluded from making any claim for a change in the *Contract Price* as a result of such changes.
- 6.1.4 Labour costs shall be actual, prevailing rates at the *Place of the Work* paid to workers, plus statutory charges on labour including WSIB, unemployment insurance, Canada pension, vacation pay, hospitalization and medical insurance. The *Contractor* shall provide these rates, when requested by the *Consultant*, for review and/or agreement.
- 6.1.5 Quotations for changes to the *Work* shall be accompanied by itemized breakdowns together with detailed, substantiating quotations or cost vouchers from *Subcontractors and Suppliers*, submitted in a format acceptable to the *Consultant* and including any costs associated with extensions in *Contract Time*.
- 6.1.6 When both additions and deletions covering related *Work* or substitutions are involved in a change to the *Work*, payment, including *Overhead* and profit, shall be calculated on the basis of the net difference, if any, with respect to that change in the *Work*.
- 6.1.7 No extension to the *Contract Time* shall be granted for changes in the *Work* unless the *Contractor* can clearly demonstrate that such changes significantly alter the overall construction schedule submitted at the commencement of the *Work*. Extensions of *Contract Time* and all associated costs, if approved pursuant to GC 3.4.2, are to be included in the relevant *Change Order*.
- 6.1.8 When a change in the *Work* is proposed or required, the *Contractor* shall within 10 calendar days submit to the *Consultant* for review a claim for a change in *Contract Price* and/or *Contract Time*. Should 10 calendar days be insufficient to prepare the submission, the *Contractor* shall within 5 calendar days, advise the *Consultant* in writing of the proposed date of submission of the claim. Claims submitted after the dates prescribed herein will not be considered.

## GC 6.2 CHANGE ORDER

- 6.2.1 Add after the last sentence in the paragraph:

The adjustment in the *Contract Time* and the *Contract Price* shall include an adjustment, if any, for delay or for the impact that the change in the *Work* has on the *Work* of the *Contractor*, and once such adjustment is made, the *Contractor* shall be precluded from making any further claims for delay or impact with respect to the change in the *Work*.

Add new paragraph 6.2.3 as follows:

- 6.2.3 The value of a change shall be determined in one or more of the following methods as directed by the *Consultant*.
- .1 by estimate and acceptance of a lump sum;
  - .2 by negotiated unit prices which include the *Contractor's Overhead* and profit, or;
  - .3 by the actual cost to the *Owner*, such costs to be the actual cost after all credits included in the change have been deducted, plus the following ranges of mark-up on such costs:
    - .1 for *Change Orders* with a value of \$0 to \$15,000 the total *Subcontractor/Supplier* mark-up including *Overhead* and profit shall be 10% and the total *Contractor* mark-up including overhead and profit shall be 5%.
    - .2 For *Change Orders* in excess of \$15,000, the total *Subcontractor/Supplier* mark-up including *Overhead* and profit shall be 5% and the total *Contractor* mark-up including *Overhead* and profit shall be 3%.

Add new paragraph 6.2.4 as follows:

6.2.4 All quotations will be submitted in a complete manner listing:

- .1 quantity of each material,
- .2 unit cost of each material,
- .3 man hours involved,
- .4 cost per hour,
- .5 *Subcontractor* quotations submitted listing items 1 to 4 above and item 6 below.
- .6 mark-up

Add new paragraph 6.2.5 as follows:

6.2.5 The *Owner* and the *Consultant* will not be responsible for delays to the *Work* resulting from late, incomplete or inadequately broken down valuations submitted by the *Contractor*.

### GC 6.3 CHANGE DIRECTIVE

6.3.6.1 Amend paragraph 6.3.6.1 by deleting the final period and adding as follows:

- .1 Ten percent (10%) for profit plus five percent (5%) for overhead on work by the *Contractor's* own forces up to the value of \$15,000 and five percent (5%) for profit plus three percent (3%) for *Overhead* on work by the *Contractor's* own forces in excess of \$15,000 and,
- .2 Ten percent (10%) fee on amounts paid to *Subcontractors* or *Suppliers* under subparagraph 6.3.7.9 for changes up to the value of \$15,000 and five percent (5%) on changes over \$15,000.

Unless a *Subcontractor's* or *Supplier's* price has been approved by the *Owner*, the *Subcontractor* or *Supplier* shall be entitled to its actual net cost as determined in accordance with paragraph 6.3.7, plus ten percent (10%) for profit and five percent (5%) for *Overhead* on such actual net cost for changes in the *Work*, up to the value of \$15,000 and five percent (5%) for profit and three percent (3%) for overhead on such actual net cost changes in the *Work* in excess of \$15,000.

6.3.6.2 Delete paragraph 6.3.6.2 and replace it with the following:

If a change in the *Work* results in a net decrease in the *Contract Price* in excess of \$15,000 the amount of the credit shall be the net cost, with deduction for *Overhead* and profit. If a change in the *Work* results in a net decrease in the *Contract Price* of \$15,000 or less, the amount of the credit shall be the net cost, without deduction for *Overhead* or profit.

6.3.7.1 In subparagraph 6.3.7.1 insert “while directly engaged in the work attributable to the change” after the words “in the direct employ of the *Contractor*”.

6.3.7 At the end of paragraph 6.3.7 add the following:

All other costs attributable to the change in the *Work* including the costs of all administrative or supervisory personnel are included in *Overhead* and profit calculated in accordance with the provisions of paragraph 6.1.5 of GC6.1 – OWNER'S RIGHT TO MAKE CHANGES.

### GC 6.4 CONCEALED OR UNKNOWN CONDITIONS

6.4.1 Delete paragraph 6.4.1 and replace with the following:

6.4.1.1 Prior to the submission of the bid on which the *Contract* was awarded, the *Contractor* confirms that it carefully investigated the *Place of the Work* and carried out such tests as it deemed appropriate and, in doing so, applied to that investigation the degree of care and skill required by paragraph 3.14.1.

6.4.1.2 The *Contractor* is deemed to assume all risk of conditions or circumstances now existing or arising in the course of the *Work* which could make the work more expensive or more difficult to perform than was contemplated at the time the *Contract* was executed. No claim by the *Contractor* will be considered by the *Owner* or the *Consultant* in connection with

conditions which could reasonably have been ascertained by such investigation or other due diligence undertaken prior to the execution of the *Contract*.

- 6.4.2 Amend paragraph 6.4.2 by adding a new first sentence as follows:

Having regard to paragraph 6.4.1, if the *Contractor* believes that the conditions of the *Place of the Work* differ materially from those reasonably anticipated, differ materially from those indicated in the *Contract Documents* or were concealed from discovery notwithstanding the conduct of the investigation described in paragraph 6.4.1, it shall provide the *Owner* and the *Consultant* with *Notice in Writing* no later than five (5) *Working Days* after the first observation of such conditions.

Amend the existing second sentence of paragraph 6.4.2 in the second line, following the word “materially” by adding the words “or were concealed from discovery notwithstanding the conduct of the investigation described in paragraph 6.4.1,”

- 6.4.3 Delete paragraph 6.4.3 in its entirety and substitute the following:

If the *Consultant* makes a finding pursuant to paragraph 6.4.2 that no change in the *Contract Price* or the *Contract Time* is justified, the *Consultant* shall report in writing the reasons for this finding to the *Owner* and the *Contractor*.

Add new paragraph 6.4.5 as follows:

- 6.4.5 No claims for additional compensation or for an extension of *Contract Time* shall be allowed if the *Contractor* fails to give *Notice in Writing* to the *Owner* or *Consultant*, as required by paragraph 6.4.2.

## **GC 6.5 DELAYS**

- 6.5.1 Delete the words after the word “for” in the fourth line of paragraph 6.5.1, and add the words “...reasonable direct costs directly flowing from the delay, but excluding any consequential, indirect or special damages (including, without limitation, loss of profits, loss of opportunity or loss of productivity).”

- 6.5.2 Delete the words after the word “for” in the fourth line of paragraph 6.5.2, and add the words “...reasonable direct costs directly flowing from the delay, but excluding any consequential, indirect or special damages (including, without limitation, loss of profits, loss of opportunity or loss of productivity).”

- 6.5.3 Delete paragraph 6.5.3 in its entirety and replace with the following:

If the *Contractor* is delayed in the performance of the *Work* by *Force Majeure*, then the *Contract Time* shall be extended for such reasonable time as the *Consultant* may recommend in consultation with the *Contractor*. The extension of time shall not be less than the time lost as a result of the event causing the delay, unless the *Contractor* agrees to a shorter extension. The *Contractor* shall not be entitled to payment for costs incurred by such delays unless such delays result from the actions of the *Owner*.

Delete paragraph 6.5.4 in its entirety and replace with the following:

- 6.5.4 No extension or compensation shall be made for delay or impact on the *Work* unless notice in writing of a claim is given to the *Consultant* not later than ten (10) *Working Days* after the commencement of the delays or impact on the *Work*, provided however, that, in the case of a continuing cause of delay or impact on the *Work*, only one notice of claim shall be necessary.

Add new paragraphs 6.5.6, 6.5.7 and 6.5.8 as follows:

- 6.5.6 If the *Contractor* is delayed in the performance of the *Work* by an act or omission of the *Contractor* or anyone directly or indirectly employed or engaged by the *Contractor*, or by any cause within the *Contractor’s* control, then the *Contract Time* may be extended for such reasonable time as the *Owner* may decide in consultation with the *Consultant* and the *Contractor*. The *Owner* shall be reimbursed by the *Contractor* for all reasonable costs incurred by the *Owner* as the result of such delay, including, but not limited to, the cost of all additional services required by the *Owner* from the *Consultant* or any sub-consultants, project managers, or others employed or engaged by the *Owner*, and in particular, the costs of the *Consultant’s* services during the period between the date of *Substantial Performance of the Work* stated in Article A-1 herein, as the same may be extended through the provision of these General Conditions, and any later or actual date of *Substantial Performance of the Work* achieved by the *Contractor*.

- 6.5.7 Without limiting the obligations of the *Contractor* described in GC 3.2 – CONSTRUCTION BY OWNER OR OTHER CONTRACTORS or GC 9.4 – CONSTRUCTION SAFETY, the *Owner* or *Consultant* may, by notice in writing, direct the *Contractor* to stop the *Work* where the *Owner* or *Consultant* determines that there is an imminent risk to the safety of persons or property at the *Place of the Work*. In the event that the *Contractor* receives such notice, it shall immediately stop the *Work* and secure the site. The *Contractor* shall not be entitled to an extension of the *Contract Time* or to an increase in the *Contract Price* unless the resulting delay, if any, would entitle the *Contractor* to an extension of the *Contract Time* or the reimbursement of the *Contractor's* costs as provided in paragraphs 6.5.1, 6.5.2 or 6.5.3.
- 6.5.8 No claim for delay shall be made and the *Contract Time* shall not be extended due to climatic conditions or arising from the *Contractor's* efforts to maintain the *Contract* schedule.

**GC 6.6 CLAIMS FOR A CHANGE IN THE CONTRACT PRICE**

Delete GC 6.6 in its entirety.

**GC 7.1 OWNER'S RIGHT TO PERFORM THE WORK, TERMINATE THE CONTRACTOR'S RIGHT TO CONTINUE WITH THE WORK OR TERMINATE THE CONTRACT**

Revise the heading to read **“OWNER'S RIGHT TO PERFORM THE WORK, TERMINATE THE CONTRACTOR'S RIGHT TO CONTINUE WITH THE WORK, SUSPEND THE WORK OR TERMINATE THE CONTRACT”**

Delete paragraph 7.1.2 and replace with the following:

- 7.1.2 If the *Contractor* should neglect to prosecute the *Work* properly, fails or neglects to maintain the latest schedule provided pursuant to GC 3.5, or otherwise fails to comply with the requirements of the *Contract*, and if the *Consultant* has given a written statement to the *Contractor* that sufficient cause exists to justify such action, the *Owner* may notify the *Contractor*, in writing, that the *Contractor* is in default of the *Contractor's* contractual obligations and instruct the *Contractor* to correct the default in the five (5) *Working Days* immediately following the receipt of such notice.

Add a new subparagraph 7.1.3.4 as follows:

- 7.1.3.4 An “acceptable schedule” as referred to in subparagraph 7.1.3.2. means a schedule approved by the *Consultant* and the *Owner* wherein the default can be corrected within the balance of the *Contract Time* and shall not cause delay to any other aspect of the *Work* or the work of other contractors, and in no event shall it be deemed to give a right to extend the *Contract Time*.

- 7.1.4.1 Delete sentence and replace with the following:

Correct such default and deduct the cost, including *Owner's* expenses, thereof from any payment then or thereafter due the *Contractor*.

- 7.1.5.3 In subparagraph 7.1.5.3 delete the words: “however, if such cost of finishing the *Work* is less than the unpaid balance of the *Contract Price*, the *Owner* shall pay the *Contractor* the difference;”

Delete paragraph 7.1.6 in its entirety and add new paragraphs 7.1.6, 7.1.7, 7.1.8, 7.1.9 and 7.1.10 as follows:

- 7.1.6 In addition to its right to terminate the *Contract* set out herein, the *Owner* may terminate this *Contract* at any time for any other reason and without cause upon giving the *Contractor* fifteen (15) *Working Days Notice in Writing* to that effect. In such event, the *Contractor* shall be entitled to be paid for all *Work* performed including reasonable profit, for loss sustained upon *Products* and *Construction Equipment*, and such other damages as the *Contractor* may have sustained as a result of the termination of the *Contract*, but in no event shall the *Contractor* be entitled to be compensated for any loss of profit on unperformed portions of the *Work*, or indirect, special, or consequential damages incurred.
- 7.1.7 The *Owner* may suspend *Work* under this *Contract* at any time for any reason and without cause upon giving the *Contractor Notice in Writing* to that effect. In such event, the *Contractor* shall be entitled to be paid for all *Work* performed to the date of suspension and be compensated for all actual costs incurred arising from the suspension, including reasonable profit, for loss sustained upon *Products* and *Construction Equipment*, and such other damages as the *Contractor*

may have sustained as a result of the suspension of the *Work*, but in no event shall the *Contractor* be entitled to be compensated for any indirect, special, or consequential damages incurred. In the event that the suspension continues for more than thirty (30) calendar days, the *Contract* shall be deemed to be terminated and the provisions of paragraph 7.1.6 shall apply.

- 7.1.8 In the case of either a termination of the *Contract* or a suspension of the *Work* under GC 7.1 - OWNER'S RIGHT TO PERFORM THE WORK, TERMINATE THE CONTRACTOR'S RIGHT TO CONTINUE WITH THE WORK, SUSPEND THE WORK, OR TERMINATE THE CONTRACT or GC 7.2 - CONTRACTOR'S RIGHT TO SUSPEND THE WORK OR TERMINATE THE CONTRACT, the *Contractor* shall use its best commercial efforts to mitigate the financial consequences to the *Owner* arising out of the termination or suspension, as the case may be.
- 7.1.9 Upon the resumption of the *Work* following a suspension under GC 7.1 - OWNER'S RIGHT TO PERFORM THE WORK, TERMINATE THE CONTRACTOR'S RIGHT TO CONTINUE WITH THE WORK, SUSPEND THE WORK OR TERMINATE THE CONTRACT or GC 7.2 - CONTRACTOR'S RIGHT TO SUSPEND THE WORK OR TERMINATE THE CONTRACT, the *Contractor* will endeavour to minimize the delay and financial consequences arising out of the suspension.
- 7.1.10 The *Contractor's* obligations under the *Contract* as to quality, correction, and warranty of the *Work* performed by the *Contractor* up to the time of termination or suspension shall continue after such termination of the *Contract* or suspension of the *Work*.

#### **GC 7.2 CONTRACTOR'S RIGHT TO SUSPEND THE WORK OR TERMINATE THE CONTRACT**

- 7.2.2 Delete paragraph 7.2.2 in its entirety.
- 7.2.3.1 Delete subparagraph 7.2.3.1 in its entirety.
- 7.2.3.2 Delete subparagraph 7.2.3.2 in its entirety
- 7.2.3.3 Delete subparagraph 7.2.3.3 in its entirety.
- 7.2.3.4 In subparagraph 7.2.3.4, delete the words "except for GC 5.1 - FINANCING INFORMATION REQUIRED OF THE OWNER".

Renumber paragraph 7.2.5 as paragraph 7.2.6. Add a new paragraph 7.2.5 as follows:

- 7.2.5 If the default cannot be corrected within the 5 *Working Days* specified in paragraph 7.2.4, the *Owner* shall be deemed to have cured the default if it:
- .1 commences correction of the default within the specified time;
  - .2 provides the *Contractor* with an acceptable schedule for such correction; and,
  - .3 completes the correction in accordance with such schedule.

Delete paragraph 7.2.6 entirely and replace with the following:

- 7.2.6 If the *Contractor* terminates the *Contract* under the conditions described in GC 7.2 – CONTRACTOR'S RIGHT TO SUSPEND THE WORK OR TERMINATE THE CONTRACT, the *Contractor* shall be entitled to be paid for all *Work* performed to the date of termination, as determined by the *Consultant*. The *Contractor* shall also be entitled to recover the direct costs associated with termination, including the costs of demobilization and losses sustained on *Products* and *Construction Equipment*. The *Contractor* shall not be entitled to any recovery for any special, indirect or consequential losses, including loss of profit.

Add new paragraphs 7.2.7, 7.2.8 and 7.2.9 as follows

- 7.2.7 The *Contractor* shall not be entitled to give notice of the *Owner's* default or terminate the *Contract* in the event the *Owner* withholds certificates or payment or both in accordance with the *Contract* because of:

- (a) the *Contractor's* failure to pay all legitimate claims promptly, or
- (b) the failure of the *Contractor* to discharge construction liens which are registered against the title to the *Place of the Work*.

7.2.8 The *Contractor's* obligations under the *Contract* as to quality, correction and warranty of the *Work* performed by the *Contractor* up to the effective date of termination shall continue in force and shall survive termination by the *Contractor* in accordance with paragraph 7.2.4.

7.2.9 If the *Contractor* suspends the *Work* or terminates the *Contract* as provided for in GC 7.2 – CONTRACTOR'S RIGHT TO SUSPEND THE WORK OR TERMINATE THE CONTRACT, the *Contractor* shall ensure the site and the *Work* are left in a safe, secure condition as required by authorities having jurisdiction at the *Place of the Work* and the *Contract Documents*.

#### **GC 8.1 AUTHORITY OF THE CONSULTANT**

Delete paragraph 8.3.1 in its entirety and substitute as follows:

8.1.3 If a dispute is not resolved promptly, the *Consultant* will give such instruction as in the *Consultant's* opinion are necessary for the proper performance of the *Work* and to prevent delays pending settlement of the dispute. The parties shall act immediately according to such instructions, it being understood that by doing so neither party will jeopardize any claim the party may have.

#### **GC 8.2 NEGOTIATION, MEDIATION AND ARBITRATION**

8.2.1 Amend paragraph 8.2.1 by changing part of the second line from "shall appoint a *Project Mediator*" to "may appoint a *Project Mediator*, except that such an appointment shall only be made if both the *Owner* and the *Contractor* agree."

8.2.4 Amend paragraph 8.2.4 by changing part of the second line from "the parties shall request the *Project Mediator*" to "and subject to paragraph 8.2.1 the parties may request the *Project Mediator*".

Delete paragraphs 8.2.6, 8.2.7 and 8.2.8 in their entirety.

Add new paragraph 8.2.6 as follows:

8.2.6 The dispute may be finally resolved by arbitration under the Rules for Arbitration of Construction Disputes as provided in CCDC 40 in effect at the time of bid closing, provided that both the *Contractor* and the *Owner* agree. If the *Contractor* and the *Owner* agree to resolve the dispute by arbitration, the arbitration shall be conducted in the jurisdiction of the *Place of the Work*.

#### **GC 9.1 PROTECTION OF WORK AND PROPERTY**

Delete subparagraph 9.1.1.1 in its entirety and substitute the following:

9.1.1.1 errors in the *Contract Documents* which the *Contractor* could not have discovered applying the standard of care described in paragraph 3.14.1;

Delete paragraph 9.1.2 in its entirety and substitute as follows:

9.1.2 Before commencing any *Work*, the *Contractor* shall determine the locations of all underground or hidden utilities and structures indicated in or inferable from the *Contract Documents*, or that are inferable from an inspection of the *Place of the Work* exercising the degree of care and skill described in paragraph 3.14.1.

Add new paragraph 9.1.5 as follows:

9.1.5 With respect to any damage to which paragraphs 9.1.3 or 9.1.4 apply, the *Contractor* shall neither undertake to repair or replace any damage whatsoever to the work of other contractors, or to adjoining property, nor acknowledge that the same was caused or occasioned by the *Contractor*, without first consulting the *Owner* and receiving written instructions as to the course of action to be followed from either the *Owner* or the *Consultant*. Where, however, there is danger to life, the environment, or public safety, the *Contractor* shall take such emergency action as it deems necessary to remove the danger.



## GC 9.2 TOXIC AND HAZARDOUS SUBSTANCES

Add a new subparagraph 9.2.5.5 as follows:

9.2.5.5 in addition to the steps described in subparagraph 9.2.5.3, take any further steps it deems necessary to mitigate or stabilize any conditions resulting from encountering toxic or hazardous substances or materials.

9.2.6 Add the following to paragraph 9.2.6, after the word “responsible” in the second line:

...or whether any toxic or hazardous substances or materials already at the *Place of the Work* (and which were then harmless or stored, contained or otherwise dealt with in accordance with legal and regulatory requirements) were dealt with by the *Contractor* or anyone for whom the *Contractor* is responsible in a manner which does not comply with legal and regulatory requirements, or which threatens human health and safety or the environment, or material damages to the property of the *Owner* or others,...

9.2.8 Add the following to paragraph 9.2.8, after the word “responsible” in the second line:

...or whether any toxic or hazardous substances or materials already at the *Place of the Work* (and which were then harmless or stored, contained or otherwise dealt with in accordance with legal and regulatory requirements) were dealt with by the *Contractor* or anyone for whom the *Contractor* is responsible in a manner which does not comply with legal and regulatory requirements, or which threatens human health and safety or the environment, or material damages to the property of the *Owner* or others,...

Add new paragraphs 9.2.10 and 9.2.11 as follows:

9.2.10 The *Contractor*, *Subcontractors* and *Suppliers* shall not bring on to the *Place of the Work* any toxic or hazardous substances and materials except as required in order to perform the *Work*. If such toxic or hazardous substances or materials are required, storage in quantities sufficient to allow work to proceed to the end of any current work week only shall be permitted. All such toxic and hazardous materials and substances shall be handled and disposed of only in accordance with all laws and regulations that are applicable at the *Place of the Work*.

9.2.11 The *Contractor* shall indemnify and hold harmless the *Owner*, its parent, subsidiaries and affiliates, the *Consultant* and their respective partners, officers, directors, agents and employees from and against any and all liabilities, costs, expenses, and claims resulting from bodily injury, including death, and damage to property of any person, corporation or other body politic, that arises from the use by the *Contractor*, *Subcontractors* and *Suppliers* of any toxic or hazardous substances or materials at the *Place of the Work*.

## GC 9.4 CONSTRUCTION SAFETY

Delete paragraph 9.4.1 in its entirety and substitute as follows:

9.4.1 The *Contractor* shall be solely responsible for construction safety at the *Place of the Work* and for compliance with the rules, regulations, and practices required by the applicable construction health and safety legislation and shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the performance of the *Work*.

Add new paragraphs 9.4.2 to 9.4.10 as follows:

9.4.2 Prior to the commencement of the *Work*, the *Contractor* shall submit to the *Owner*:

- .1 the evidence of workers’ compensation compliance required by GC 10.4.1;
- .2 copies of the *Contractor’s* insurance policies having application to the *Project* or certificates of insurance, at the option of the *Owner*;
- .3 documentation setting out the *Contractor’s* in-house safety programs;
- .4 copies of any documentation or notices to be filed or delivered to the authorities having jurisdiction for the regulation of occupational health and safety at the *Place of the Work*.

- 9.4.3 The *Contractor* shall indemnify and save harmless the *Owner*, its agents, trustees, officers, directors, employees, consultants, successors, appointees, and assigns from and against the consequences of any and all safety infractions committed by the *Contractor* under the occupational health and safety legislation in force at the *Place of the Work* including the payment of legal fees and disbursements on a substantial indemnity basis.
- 9.4.4 The *Owner* undertakes to include in its contracts with other contractors and in its instructions to its own forces the requirement that the other contractor or its own forces, as the case may be, comply with the policies and procedures of and the directions and instructions from the *Contractor* with respect to occupational health and safety and related matters.
- 9.4.5 If the *Owner* is of the reasonable opinion that the *Contractor* has not taken such precautions as are necessary to ensure compliance with the requirements of paragraph 9.4.1, the *Owner* may take any remedial measures which it deems necessary, including stopping the performance of all or any portion of the *Work*, and the *Owner* may use its employees, the *Contractor*, any *Subcontractor* or any other contractors to perform such remedial measures.
- 9.4.6 The *Contractor* shall file any notices or any similar document required pursuant to the *Contract* or the safety regulations in force at the *Place of the Work*. This duty of the *Contractor* will be considered to be included in the *Work* and no separate payment therefore will be made to the *Contractor*.
- 9.4.7 Unless otherwise provided in the *Contract Documents*, the *Contractor* shall develop, maintain and supervise for the duration of the *Work* a comprehensive safety program that will effectively incorporate and implement all required safety precautions. The program shall, at a minimum, respond fully to the applicable safety regulations and general construction practices for the safety of persons or property, including, without limitation, any general safety rules and regulations of the *Owner* and any workers' compensation or occupational health and safety statutes or regulations in force at the *Place of the Work*.
- 9.4.8 The *Contractor* shall provide a copy of the safety program described in paragraph 9.4.7 hereof to the *Consultant* for delivery to the *Owner* prior to the commencement of the *Work*, and shall, ensure, as far as it is reasonably practical to do so, that every employer and worker performing work in respect of the *Project* complies with such program.
- 9.4.9 The *Contractor* shall arrange regular safety meetings, and shall supply and maintain, at its own expense, at its office or other well-known place at the job site, safety equipment necessary to protect the workers and general public against accident or injury as prescribed by the authorities having jurisdiction at the *Place of the Work*, including, without limitation, articles necessary for administering first-aid to any person and an emergency procedure for the immediate removal of any injured person to a hospital or a doctor's care.
- 9.4.10 The *Contractor* shall promptly report in writing to the *Owner* and the *Consultant* all accidents of any sort arising out of or in connection with the performance of the *Work*, whether on or adjacent to the job site, giving full details and statement of witnesses. If death or serious injuries or damages are caused, the accident shall be promptly reported by the *Contractor* to the *Owner* and the *Consultant* by telephone or messenger in addition to any reporting required under the applicable safety regulations.

#### **GC 9.5 MOULD**

Delete subparagraph 9.5.3.3 and replace with the following:

- 9.5.3.3 extend the *Contract Time* for such reasonable time as the *Consultant* may recommend in consultation with the *Contractor* and the *Owner*. If, in the opinion of the *Consultant*, the *Contractor* has been delayed in performing the *Work* and/or has incurred additional costs under paragraph 9.5.1.2, the *Owner* shall reimburse the *Contractor* for the reasonable costs incurred as a result of the delay and as a result of taking those steps, and

#### **GC 10.1 TAXES AND DUTIES**

- 10.1.2 Amend paragraph 10.1.2 by adding the following sentence to the end of the paragraph:

For greater certainty, the *Contractor* shall not be entitled to any mark-up for overhead or profit on any increase in such taxes and duties and the *Owner* shall not be entitled to any credit relating to mark-up for overhead or profit on any decrease in such taxes. The *Contractor* shall provide a detailed breakdown of additional taxes if requested by the *Owner* in a form satisfactory to the *Owner*.

Add new paragraph 10.1.3 as follows:

- 10.1.3 Where the *Owner* is entitled to an exemption or a recovery of sales taxes, customs duties, excise taxes or *Value Added Taxes* applicable to the *Contract*, the *Contractor* shall, at the request of the *Owner*, assist with the application for any exemption, recovery or refund of all such taxes and duties and all amounts recovered or exemptions obtained shall be for the sole benefit of the *Owner*. The *Contractor* agrees to endorse over to the *Owner* any cheques received from the federal or provincial governments, or any other taxing authority, as may be required to give effect to this paragraph.

#### **GC 10.2 LAWS, NOTICES, PERMITS, AND FEES**

- 10.2.5 Amend paragraph 10.2.5 by addition the words “Subject to paragraph 3.4” at the beginning of the paragraph. Add the following to the end of the second sentence:

...and no further *Work* on the affected components of the *Contract* shall proceed until these directives have been obtained by the *Contractor* from the *Consultant*.

- 10.2.6 Amend paragraph 10.2.6 by adding the following sentence to the end of the paragraph:

In the event the *Owner* suffers loss or damage as a result of the *Contractor's* failure to comply with paragraph 10.2.5 and notwithstanding any limitations described in paragraph 12.1.1, the *Contractor* agrees to indemnify and to hold harmless the *Owner* and the *Consultant* from and against any claims, demands, losses, costs, damages, actions suits or proceedings resulting from such failure by the *Contractor*.

Add new paragraph 10.2.8 as follows:

- 10.2.8 The *Contractor* shall furnish all certificates that are required or given by the appropriate governmental authorities as evidence that the *Work* as installed conforms with the laws and regulations of authorities having jurisdiction, including certificates of compliance for the *Owner's* occupancy or partial occupancy. The certificates are to be final certificates giving complete clearance of the *Work*, in the event that such governmental authorities furnish such certificates.

#### **GC 10.4 WORKERS' COMPENSATION**

- 10.4.1 Delete paragraph 10.4.1 and replace with the following:

Prior to commencing the *Work*, and with each and every application for payment thereafter, including the *Contractor's* application for payment of the holdback amount following *Substantial Performance of the Work* and again with the *Contractor's* application for final payment, the *Contractor* shall provide evidence of compliance with workers' compensation legislation in force at the *Place of the Work*, including payments due thereunder.

#### **GC 11.1 INSURANCE**

Delete entirety of general condition and CCDC 41 and replace with the following:

- 11.1** Without restricting the generality of GC 12 – INDEMNIFICATION, the *Contractor* shall provide, maintain, and pay for the insurance coverages specified in GC 11.1 – INSURANCE. Unless otherwise stipulated, the duration of each insurance policy shall be from the date of commencement of the *Work* until the expiration of the warranty periods set out in the *Contract Documents*. Prior to commencement of the *Work* and upon the placement, renewal, amendment, or extension of all or any part of the insurance, the *Contractor* shall promptly provide the *Owner* with confirmation of coverage and, if required, a certified true copy of the policies certified by an authorized representative of the insurer together with copies of any amending endorsements.

##### **.1 General Liability Insurance**

General liability insurance shall be in the name of the *Contractor*, with the *Owner* and the *Consultant* named as additional insureds, with limits of not less than \$5,000,000.00 inclusive per occurrence for bodily injury, death, and damage to property, including loss of use thereof, for itself and each of its employees, *Subcontractors* and/or agents. The insurance coverage shall not be less than the insurance required by IBC Form 2100, or its equivalent replacement, provided that IBC Form 2100 shall contain the latest edition of the relevant CCDC endorsement form. To achieve the desired limit, umbrella,

or excess liability insurance may be used. All liability coverage shall be maintained for completed operations hazards from the date of *Substantial Performance of the Work*, as set out in the certificate of *Substantial Performance of the Work*, on an ongoing basis for a period of 6 years following *Substantial Performance of the Work*. Where the *Contractor* maintains a single, blanket policy, the addition of the *Owner* and the *Consultant* is limited to liability arising out of the *Project* and all operations necessary or incidental thereto. The policy shall be endorsed to provide the *Owner* with not less than 30 days' notice, in writing, in advance of any cancellation and of change or amendment restricting coverage.

**.2 Automobile Liability Insurance**

Automobile liability insurance in respect of licensed vehicles shall limits of not less than \$2,000,000.00 inclusive per occurrence for bodily injury, death and damage to property, covering all licensed vehicles *owned* or leased by the *Contractor*, and endorsed to provide the *Owner* with not less than 30 days' notice, in writing, in advance of any cancellation, change or amendment restricting coverage. Where the policy has been issued pursuant to a government-operated automobile insurance system, the *Contractor* shall provide the *Owner* with confirmation of automobile insurance coverage for all automobiles registered in the name of the *Contractor*.

**.3 Aircraft and Watercraft Liability Insurance [NTD: This can come out if N/A]**

Where determined necessary by the *Contractor*, acting reasonably, aircraft and watercraft liability insurance will be obtained in accordance with the provisions of paragraph 11.1.3. Aircraft and watercraft liability insurance with respect to owned or non-owned aircraft and watercraft if used directly or indirectly in the performance of the *Work*, including use of additional premises, shall be subject to limits of not less than \$2,000,000.00 inclusive per occurrence for bodily injury, death and damage to property, including loss of use thereof and limits of not less than \$2,000,000.00 for aircraft passenger hazard. Such insurance shall be in a form acceptable to the *Owner*. The policies shall be endorsed to provide the *Owner* with not less than 30 days' notice, in writing, in advance of cancellation, change or amendment restricting coverage.

**.4 Property and Boiler and Machinery Insurance**

(1) Builder's Risk property insurance shall be in the name of the *Contractor* with the *Owner* and the *Consultant* named as additional insureds. The policy shall insure against all risks of direct physical loss or damage to the property insured which shall include all property included in the *Work*, whether owned by the *Contractor* or the owner or owned by others, so long as the property forms part of the *Work*. The property insured also includes all materials and supplies necessary to complete the work, whether installed in the work temporarily or permanently, in storage on the project site, or in transit to the project site, as well as temporary buildings, scaffolding, falsework forms, hoardings, excavation, site preparation and similar work. The insurance shall be for not less than the sum of the amount of the contract price and the full value of products that are specified to be provided by the owner for incorporation into the work, if applicable, with the deductible of \$10,000.00 payable by the contractor. The insurance shall include the foregoing and, otherwise, shall not be less than the insurance required by IBC Form 4042 or its equivalent replacement provided that the IBC Form 4042 shall include the latest addition of the relevant CCDC endorsement form. The coverage shall be based on a completed value form and shall be maintained continuously until ten (10) days after the date of the final certificate of payment.

(2) Boiler and machinery insurance shall be in the name of the *Contractor*, with the *Owner* and the *Consultant* named as additional insureds, for not less than the replacement value of the boilers, pressure vessels and other insurable objects forming part of the *Work*. The insurance provided shall not be less than the insurance provided by the "Comprehensive Boiler and Machinery Form" and shall be maintained continuously from commencement of use or operation of the property insured and until 10 days after the date of the final certificate for payment.

(3) The policies shall allow for partial or total use or occupancy of the *Work*.

(4) The policies shall provide that, in the case of a loss or damage, payment shall be made to the *Owner* and the *Contractor* as their respective interests may appear. The *Contractor* shall act on behalf of the *Owner* for the purpose of adjusting the amount of such loss or damage payment with the insurers. When the extent of the loss or damage is determined, the *Contractor* shall proceed to restore the *Work*. Loss or damage shall not affect the rights and obligations of either party under the *Contract* except that the *Contractor* shall be entitled to such reasonable extension of the *Contract Time*, relative to the extent of the loss or damage, as determined by the *Owner*, in its sole discretion.

(5) The *Contractor* shall be entitled to receive from the *Owner*, in addition to the amount due under the *Contract*, the amount at which the *Owner's* interest in restoration of the *Work* has been appraised, such amount to be paid as the restoration of the *Work* proceeds and as provided in GC 5.2 – APPLICATIONS FOR PROGRESS PAYMENT and GC 5.3

– PROGRESS PAYMENT. In addition, the *Contractor* shall be entitled to receive from the payments made by the insurer the amount of the *Contractor's* interest in the restoration of the *Work*.

(6) In the case of loss or damage to the *Work* arising from the work of other contractors, or the *Owner's* own forces, the *Owner*, in accordance with the *Owner's* obligations under paragraph 3.2.2.4 of GC 3.2 – CONSTRUCTION BY OWNER OR OTHER CONTRACTORS, shall pay the *Contractor* the cost of restoring the *Work* as the restoration of the *Work* proceeds and as provided in GC 5.2 – APPLICATIONS FOR PROGRESS PAYMENT and GC 5.3 – PROGRESS PAYMENT.

#### **.5 Contractors' Equipment Insurance**

“All risks” contractors' equipment insurance covering construction machinery and equipment used by the *Contractor* for the performance of the *Work*, excluding boiler insurance, shall be in a form acceptable to the *Owner* and shall not allow subrogation claims by the insurer against the *Owner*. The policies shall be endorsed to provide the *Owner* with not less than 30 days' notice, in writing, in advance of cancellation, change or amendment restricting coverage. Subject to satisfactory proof of financial capability by the *Contractor* for self-insurance of his equipment, the *Owner* agrees to waive the equipment insurance requirement.

- 11.1.2 The *Contractor* shall be responsible for deductible amounts under the policies except where such amounts may be excluded from the *Contractor's* responsibility by the terms of GC 9.1 - PROTECTION OF WORK AND PROPERTY and GC 9.2 - DAMAGES AND MUTUAL RESPONSIBILITY.
- 11.1.3 Where the full insurable value of the *Work* is substantially less than the *Contract Price*, the *Owner* may reduce the amount of insurance required to waive the course of construction insurance requirement.
- 11.1.4 If the *Contractor* fails to provide or maintain insurance as required by the *Contract Documents*, then the *Owner* shall have the right to provide and maintain such insurance and provide evidence of same to the *Contractor*. The *Contractor* shall pay the costs thereof to the *Owner* on demand, or the *Owner* may deduct the amount that is due or may become due to the *Contractor*.
- 11.1.5 All required insurance policies shall be with insurers licensed to underwrite insurance in the jurisdiction of the *Place of the Work*.

#### **GC 11.2 CONTRACT SECURITY**

- 11.2.2 Delete paragraph after the word “provided” and replace with the following:

Such bonds shall be issued by a duly licensed surety company, which has been approved by the *Owner*, authorized to transact a business of suretyship in the province or territory of the *Place of the Work* and shall be maintained in good standing until the fulfillment of the *Contract*, including all warranty and maintenance periods set out in the *Contract Documents*.

Add new paragraph 11.2.3 as follows:

- 11.2.3 It is the intention of the parties that the performance bond shall be applicable to all of the *Contractor's* obligations in the *Contract Document* and, wherever a performance bond is provided with language which conflicts with this intention, it shall be deemed to be amended to comply. The *Contractor* represents and warrants to the *Owner* that it has provided its surety with a copy of the *Contract Documents* prior to the issuance of such bonds.

#### **GC 12.1 INDEMNIFICATION**

Delete General Condition 12.1 – INDEMNIFICATION in its entirety and substitute as follows:

- 12.1.1 The *Contractor* shall indemnify and hold harmless the *Owner*, its parent, subsidiaries and affiliates, the *Consultant* and their respective partners, trustees, officers, directors, agents and employees from and against any and all claims, liabilities, expenses, demands, losses, damages, actions, costs, suits, or proceedings (hereinafter called “claims”), whether in respect of claims suffered by the *Owner* or in respect of claims by third parties, that directly or indirectly arise out of, or are attributable to, the acts or omissions of the *Contractor*, its employees, agents, *Subcontractors*, *Suppliers* or any other persons for whom it is in law responsible (including, without limitation, claims that directly or indirectly arise out of, or are

attributable to, loss of use or damage to the *Work*, the *Owner's* property or equipment, the *Contractor's* property or equipment or equipment or property adjacent to the *Place of the Work* or death or injury to the *Contractor's* personnel).

12.1.2 The provisions of GC 12.1 - INDEMNIFICATION shall survive the termination of the *Contract*, howsoever caused and no payment or partial payment, no issuance of a final certificate of payment and no occupancy in whole or in part of the *Work* shall constitute a waiver or release of any of the provisions of GC 12.1.

## GC 12.2 WAIVER OF CLAIMS

12.2.1 In the fourth line, add the words “claims for delay pursuant to GC 6.5 DELAYS” after the word “limitation”. Add the words “(collectively “Claims”)” after “*Substantial Performance of the Work*” in the sixth line.

12.2.1.1 Change the word “claims” to “Claims” and change the word “claim” to “Claim”.

12.2.1.2 Change the word “claims” to “Claims”.

12.2.1.3 Delete paragraph in its entirety.

12.2.1.4 Change the word “claims” to “Claims”.

12.2.2 Change the words “in paragraphs 12.2.1.2 and 12.2.1.3” to “in paragraph 12.2.1.2”. Change the word “claims” to “Claims” in both instances and change the word “claim” to “Claim”.

12.2.3 Delete paragraph in its entirety.

12.2.4 Delete paragraph in its entirety.

12.2.5 Delete paragraph in its entirety.

12.2.6 Change the word “claim” to “Claim” in all instances in the paragraph.

12.2.7 Change “The party” to “The *Contractor*”. Change the word “claim” to “Claim” in all instances in the paragraph.

12.2.8 Change “under paragraphs 12.2.1 or 12.2.3” to “under paragraph 12.2.1”. Change both instances of the words “the party” to “the *Contractor*”. Change the word “claim” to “Claim” in all instances in the paragraph.

12.2.9 Delete paragraph 12.2.9 in its entirety.

12.2.10 Delete paragraph 12.2.10 in its entirety.

## GC 12.3 WARRANTY

12.3.2 Delete from the first line of paragraph 12.3.2 the word, “The” and substitute the words “Subject to paragraph 3.4.1, the...”

Add new paragraphs 12.3.7 to 12.3.12 as follows:

12.3.7 Where required by the *Contract Documents*, the *Contractor* shall provide a maintenance bond as security for the performance of the *Contractor's* obligations as set out in GC 12.3 WARRANTY.

12.3.8 The *Contractor* shall provide fully and properly completed and signed copies of all warranties and guarantees required by the *Contract Documents*, containing:

- .1 the proper name of the *Owner*;
- .2 the proper name and address of the *Project*;
- .3 the date the warranty commences, which shall be at the “date of *Substantial Performance of the Work*” unless otherwise agreed upon by the *Consultant* in writing.
- .4 a clear definition of what is being warranted and/or guaranteed as required by the *Contract Documents*; and
- .5 the signature and seal (if required by the governing law of the *Contract*) of the company issuing the warranty, countersigned by the *Contractor*.

- 12.3.9 Should any *Work* be repaired or replaced during the time period for which it is covered by the specified warranty, a new warranty shall be provided under the same conditions and for the same period as specified herein before. The new warranty shall commence at the completion of the repair or replacement.
- 12.3.10 The *Contractor* shall ensure that its *Subcontractors* are bound to the requirements of GC 12.3 – WARRANTY for the *Subcontractor's* portion of the *Work*.
- 12.3.11 The *Contractor* shall ensure that all warranties, guarantees or other obligations for *Work*, services or *Products* performed or supplied by any *Subcontractor*, *Supplier* or other person in connection with the *Work* are obtained and available for the direct benefit of the *Owner*. In the alternative, the *Contractor* shall assign to the *Owner* all warranties, guarantees or other obligations for *Work*, services or *Products* performed or supplied by any *Subcontractor*, *Supplier* or other person in connection with the *Work* and such assignment shall be with the consent of the assigning party, where required by law, or by the terms of that party's contract. Such assignment shall be in addition to, and shall in no way limit, the warranty rights of the *Owner* under the *Contract Documents*.
- 12.3.12 The *Contractor* shall commence or correct any deficiency within 2 Working Days after receiving a notice from the *Owner* or the *Consultant*, and shall complete the *Work* as expeditiously as possible, except in the case where the deficiency prevents maintaining security or where basic systems essential to the ongoing business of the *Owner* and/or its tenants cannot be maintained operational as designed. In those circumstances all necessary corrections and/or installations of temporary replacements shall be carried out immediately as an emergency service. Should the *Contractor* fail to provide this emergency service within 8 hours of a request being made during the normal business hours of the *Contractor*, the *Owner* is authorized, notwithstanding GC 3.1, to carry out all necessary repairs or replacements at the *Contractor's* expense.

## **PART 13 OTHER PROVISIONS**

Add new Part 13 OTHER PROVISIONS as follows:

### **GC 13.1 OWNERSHIP OF MATERIALS**

- 13.1.1 Unless otherwise specified, all materials existing at the *Place of the Work* at the time of execution of the *Contract* shall remain the property of the *Owner*. All *Work* and *Products* delivered to the *Place of the Work* by the *Contractor* shall be the property of the *Owner*. The *Contractor* shall remove all surplus or rejected materials as its property when notified in writing to do so by the *Consultant*.

### **GC 13.2 CONSTRUCTION LIENS**

- 13.2.1 In the event that a claim for lien is registered against the *Project* by a *Subcontractor*, *Sub-subcontractor* or *Supplier*, and provided the *Owner* has paid all amounts properly owing under the *Contract*, the *Contractor* shall, at its own expense:
- .1 within 10 calendar days, ensure that any and all claims for lien and certificates of action are discharged, released, or vacated by the posting of security or otherwise; and
  - .2 in the case of written notices of lien, ensure that such notices are withdrawn, in writing.
- 13.2.2 In the event that the *Contractor* fails to conform with the requirements of paragraph 13.2.1, the *Owner* may fulfil those requirements without *Notice in Writing* to the *Contractor* and set off and deduct from any amount owing to the *Contractor*, all costs and associated expenses, including the costs of posting security and all legal fees and disbursements associated with discharging or vacating the claim for lien or certificate of action and defending the action. If there is no amount owing by the *Owner* to the *Contractor*, then the *Contractor* shall reimburse the *Owner* for all of the said costs and associated expenses.
- 13.2.3 Notwithstanding any other provision in the *Contract*, the *Consultant* shall not be obligated to issue a certificate and the *Owner* shall not be obligated to make payment to the *Contractor* if, at the time such certificate or payment was otherwise due:
- .1 a claim for lien has been registered against the *Project* lands, or

- .2 if the *Owner* or mortgagee of the *Project* lands has received written notice of a lien or
  - .3 the *Owner* or *Consultant* reasonably believe that any party has purported to retain title to *Products* or materials in respect of which an application for payment has been made.
- 13.2.4 Without limiting the foregoing, the *Contractor* shall, if requested by the *Owner*, defend, indemnify and save the *Owner* harmless from the amount of all such claims and the costs of defending any and all actions commenced against the *Owner* pursuant to the construction/builder's lien legislation in force at the *Place of the Work*, including the legal costs of the *Owner*, unless the lien was a direct result of a breach of the *Contract* by the *Owner* or the non-payment by the *Owner* of a valid charge or claim under the *Contract*.
- 13.2.5 GC 13.2 – CONSTRUCTION LIENS does not apply to construction/builder's liens claimed by the *Contractor*.

**END OF AMENDMENTS TO CCDC 2 - 2008**



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## **PART 1 - GENERAL**

### **1.1. Related Work**

- 1.1.1. Hoarding and Protection due to Excavation, included in this Section.

### **1.2. Shop Drawings**

- 1.2.1. Indicate and describe in detail complete perimeter hoarding and sidewalk protection. Include all means of access/vehicular entrances.
- 1.2.2. Provide Shop Drawings to and obtain from, approval from both the Consultant and the authorities having jurisdiction. Make all revisions as required by these authorities at no additional cost to the Owner.

### **1.3. Permits and Fees**

- 1.3.1. Apply for, obtain and pay for all necessary permits required by authorities having jurisdiction for the Work of this Section.

### **1.4. By-laws**

- 1.4.1. Comply with the By-laws of the Municipality of Chatham-Kent, and all others having jurisdiction over the Work of this Section including Occupational Health and Safety Act and Regulations for Construction Projects.

## **PART 2 - PRODUCTS**

### **2.1. Materials – for Internal Barriers**

- 2.1.1. Plywood 13 mm minimum thickness Douglas Fir exterior grade plywood “B” or better for paint finish.
- 2.1.2. Structural Lumber: Rafters, posts, planking and bracing, N.L.G.A. No 2 grade minimum.
- 2.1.3. Waterproof Membrane: “Bituthene” Regular by W.R. Grace Materials Ltd., or approved alternative.
- 2.1.4. Exterior alkyd paint to approved manufacturer.
- 2.1.5. Interior fire retardant paint to approved manufacturer.
- 2.1.6. Steel Studs: 0.55 mm thick, wipe coated galvanized, having knurled flanges 32 mm wide with edges doubled back at least 4.8 mm, with girts are required.
- 2.1.7. Gypsum Board: To meet specified requirements of CAN/CSA-A82.27-M91: **fire rated board classified for hazard by ULC and labelled as such.**

### **2.2. Chain-Link Fencing: For Exterior Site Enclosures**

- 2.2.1. Galvanized Link Fabric: 50mm mesh, No. 9 gauge woven steel wire, zinc coated after weaving, to meet specified requirements of ASTM A392.
- 2.2.2. Tube: 90mm diameter for end posts, 45mm for top rail, 60mm for line posts, standard, butt welded steel, galvanized, Schedule 40, to meet specified

requirements of ASTM A120. Hollow metal structural steel tubing with minimum wall thickness of 0.100" and meeting specified requirements of CSA G40.21, Grade 50W.

- 2.2.3. Tension Wire: No. 6 gauge single strand, finished to match fabric.
- 2.2.4. Fabric Bands: Galvanized steel to fit tubing.
- 2.2.5. Rail Fittings: Galvanized steel for caps, top tails guides
- 2.2.6. Galvanizing: Galvanize fittings, accessories and steel tube by hot dip method after fabrication to meet specified requirements of CSA Standard G164.
- 2.2.7. Approved manufacturers: Frost Fencing, Lundy Steel Fencing, Donald Greening or other approved alternate. Materials need not be new, however, they must be able to remain in place and perform as required for the duration of the Project.
- 2.2.8. Fence Height: 1830mm high unless noted otherwise.
- 2.2.9. Commercially available temporary construction fencing may be approved at the discretion of the architect.

### **PART 3 - EXECUTION**

#### **3.1. Fabrication and Installation**

##### **3.1.1. Hoarding**

- 3.1.1.1. Install hoarding, fencing and sidewalk protection to the exterior of the building in accordance with approved Shop Drawings and By-laws of the Municipality of Chatham-Kent, and in accordance with documents.
- 3.1.1.2. Provide posts, planking and plywood.
- 3.1.1.3. Provide pedestrian and vehicular entrances as required, complete with swing or sliding gates, screened openings and all necessary hardware including locks.
- 3.1.1.4. Paint complete hoarding in colour selected by Consultant.
- 3.1.1.5. Maintain hoarding in good condition at all times.
- 3.1.1.6. Repair any hoarding removed or damaged, to satisfaction of the Consultant and authorities.
- 3.1.1.7. Wash all hoarding at least every two months.
- 3.1.1.8. Remove hoarding and fencing from site only when authorized by the Consultant.

##### **3.1.2. Barrier**

- 3.1.2.1. Install barrier within the existing building to separate a work area from the remainder of the building.
- 3.1.2.2. Barrier shall be erected such that it is self-supporting and braced on work area side.
- 3.1.2.3. Erect a barrier of one hour fire rated drywall construction and to meet the requirements of Section 09250 and ULC Design No.W408 or W409.
- 3.1.2.4. Maintain minimum clearance for exits and access to exits.
- 3.1.2.5. Relocate, temporarily any existing life safety devices which may become hidden or obscure due to the erection of barrier.
- 3.1.2.6. Maintain barriers in good stable condition at all times.

##### **3.1.3. Chain Link Fencing**

- 3.1.3.1. Posts shall be spaced at 3000mm on centre maximum and shall be driven into the ground a minimum of 1200mm deep.
- 3.1.3.2. Install at 40mm above grade, a single strand of tension wire with turnbuckles at each end.
- 3.1.3.3. Install at top of fabric, a 45mm diameter top rail with appropriate caps and holders.
- 3.1.3.4. Install fabric under tension under anchor to the posts, top rail and

- bottom tension wire at 450mm on centre.
- 3.1.3.5. At end post, attach fabric and 6mm x 19mm tension bands at 300mm on centre.
- 3.1.3.6. Provide a 45mm diameter brace between end posts at mid height.
- 3.1.3.7. At completion of project, completely remove temporary fencing and patch all disturbed areas to match existing.
- 3.1.3.8. All fencing and components will remain the property of the Contractor.

**3.2. Exception**

- 3.2.1. Temporary/movable perimeter fencing barriers for site work may be approved by the consultant where construction activities require staged construction perimeters.
- 3.2.2. Where permanent hoarding is not specifically indicated, provide safety fencing at perimeter of property adjacent of streets and adjacent residential properties, separating public access areas from the work site, where no other barrier is present.

**End of Section**

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**PART 1 - GENERAL**

**1.1. General**

- 1.1.1. Remove or save all trees, shrubs, plants designated on plans. Preserve all vegetation and objects not designated for removal.
- 1.1.2. Observe requirements for handling and transporting of regulated articles in quarantine areas as defined by the Canadian Food Agency (<http://www.inspection.gc.ca>).
- 1.1.3. The following are considered regulated articles and are subject to the quarantine established by the Canadian Food Agency:

Should the Contractor elect to hire a Certified Arborist to distinguish between ash wood (*Fraxinus* spp.) and other deciduous wood, then only ash wood will be considered regulated articles.

- 1.1.3.1. Deciduous trees of any size
- 1.1.3.2. Deciduous limbs and branches
- 1.1.3.3. Any cut non-coniferous (non-evergreen) firewood
- 1.1.3.4. Deciduous tree bark and deciduous tree wood chips larger than 50mm
- 1.1.3.5. Deciduous logs and lumber with the bark, outer inch of sapwood, or both attached
- 1.1.3.6. Any item made from or containing deciduous tree wood capable of spreading Emerald Ash Borer
- 1.1.3.7. Any means or conveyance capable of spreading Emerald Ash Borer.

**1.2. Related Work**

- 1.2.1. Tree preservation – Section 02951

**1.3. Definitions**

- 1.3.1. Clearing consists of cutting off trees and brush vegetative growth to not more than a specified height above ground and disposing felled trees, previously uprooted trees and stumps, and surface debris.
- 1.3.2. Close-cut clearing consists of cutting off standing trees, brush, scrub, roots, stumps and embedded logs.
- 1.3.3. Clearing isolated trees consists of cutting off to not more than specified height above ground of designated trees, and disposing of felled trees and debris.
- 1.3.4. Underbrush clearing consists of removal from trees area of undergrowth, deadwood, and trees smaller than 50mm trunk diameter and disposing of all fallen timber and surface debris.
- 1.3.5. Grubbing consists of excavation and disposal of stumps and roots boulders and rock fragments of specified size to not less than a specified depth below existing ground surface.

**1.4. Protection**

- 1.4.1. Prevent damage to fencing, trees, landscaping, natural features, bench marks, existing pavement, utility lines, site appurtenances, watercourses, root systems of trees which are to remain.
- 1.4.2. Replace any trees designated to remain, if damaged, as directed by Consultant.

## **PART 2 - EXECUTION**

### **2.1. Preparation**

- 2.1.1. Inspect site and verify with Consultant, items designated to remain.
- 2.1.2. Locate and protect utility lines. Preserve in operating condition active utilities traversing site.
- 2.1.3. Notify utility authorities before starting clearing and grubbing.

### **2.2. Clearing**

- 2.2.1. Clear and grub all trees and stumps marked for removal and all surface objects, brush, roots, and other protruding obstructions not designated to remain, except for special treatments listed below:  
Clear as indicated or as directed by the Consultant, by cutting at a height of not more than 300mm above ground. In areas to be subsequently grubbed, height of stumps left from clearing operations to be not more than 0mm above ground surface.
- 2.2.2. Remove low hanging, unsound, or unsightly branches on trees or shrubs designated to remain.
- 2.2.3. Cut off unsound branches on trees designated to remain as directed by Consultant.

### **2.3. Isolated Trees**

- 2.3.1. Cut off isolated trees as indicated or as directed by Consultant at height of not more than 300mm above ground surface.
- 2.3.2. Grub out isolated tree stumps.

### **2.4. Underbrush Clearing**

- 2.4.1. Clear underbrush from areas as indicated at ground level.

### **2.5. Grubbing**

- 2.5.1. Grub out stumps and roots to not less than 600mm below ground surface and 300mm below the ground surface at embankment sites and other designated areas.

### **2.6. Removal and Disposal**

- 2.6.1. Materials removed during the clearing and grubbing operations will be disposed of as per the Canadian Food Agency directorate D-03-08E.

**End of Section**

**PART 1 - GENERAL**

**1.1. General Requirements**

1.1.1. Conform to requirements specified under Division 1.

**1.2. Scope of the Work**

**1.2.1. Work Included**

1.2.1.1. Provide all plant, labour, equipment and materials to carry out the work of this section. The work includes, but is not limited to, the following:

Grubbing, stripping and stockpiling of topsoil  
Excavation and disposal  
Backfill and compaction  
Rough grading to make ready for application of topsoil for seed or sod  
Removal and disposal of existing foundations  
Dewatering

**1.2.2. Related Work Specified Elsewhere**

1.2.2.1. Cast-in-Place Concrete - Division 3

1.2.2.2. Excavations and Backfill for Mechanical & Electrical Services - Division 15 & 16.

1.2.2.3. Asphalt, curbs - Division 2

1.2.2.4. Site Services - Division 2

1.2.2.5. Finish Grading and Landscaping - Division 2

**1.3. Applicable Standards**

1.3.1. Ontario Building Code

1.3.2. The Construction Safety Act, local by-laws and all other regulations of the Ontario Ministry of Labour relating to the work of this Section.

1.3.3. OPSS Forms 1010, and 1010, Material Specification for Aggregates-General and Granular A, B, M, and Select respectively.

**1.4. Drawings**

1.4.1. Examine the drawings forming a part of this Contract and conform to the requirements of all such drawings.

**1.5. Coordination and Cooperation**

1.5.1. Co-ordinate the work of this Section with the work of all other Sections in accordance with the General Conditions.

1.5.2. Co-ordination and co-operation is particularly important with Landscaping, Asphalt Paving, Cast-in-Place Concrete, and excavation for Electrical trades.

**1.6. Examination**

1.6.1. Examine the site for the purpose of determining the conditions prevailing there, which may affect the work of this Section, including available access to the site, existing contours, existing services, etc.

- 1.6.2. Determine the nature and locations of all existing services below and above ground, which may affect the work of this Section.

**1.7. Special Conditions**

- 1.7.1. The Contractors attention is drawn to existing grade elevations in the vicinity of the new building. After removal of topsoil, soft spots, and otherwise unsuitable material the Contractor must manage existing site excavated materials, and imported materials, to bring grades up to finished elevations shown Architectural and/or Site Service drawings.

**1.8. Prices**

1.8.1. Unit Prices

- 1.8.1.1. Provide unit prices for items listed in tender form
- 1.8.1.2. Include all costs as outlined in Division 1
- 1.8.1.3. Additional payment will not be made for accidental over-excavation by the Contractor.

**PART 2 - PRODUCTS**

**2.1. Materials**

- 2.1.1. Granular Fills - Class 'A' and Class 'B':
  - 2.1.1.1. Imported in accordance with current OPSS Form 1010, with the added requirement that material to be deposited within the building must be clean with no asphalt or other contaminates on or mixed with the soil.
- 2.1.2. Granular Fill - Class PR:
  - 2.1.2.1. Imported, well-graded, compactable stony pit-run granular material with a maximum 8% silt fraction as approved by the soils consultant.
- 2.1.3. Crushed Stone:
  - 2.1.3.1. Clean, screened crushed stone, well graded in size between 10mm and 25mm, with sufficient angular particles rather than round, to ensure proper compaction.
- 2.1.4. Approved Site Excavated Materials:
  - 2.1.4.1. Site excavated lower level till material for use as general construction backfill on the exterior of the building. (Note that the moisture content and compactability of this material may have to be adjusted by drying out the material and /or mixing with other material prior to its use as backfill.)
- 2.1.5. Granular materials shall be free draining and not susceptible to frost action as determined by current M.T.C. Standards. All granular materials to be used within the building shall also be free of asphalt or other contaminates on or mixed with the soil
- 2.1.6. Submit representative samples of each class of proposed material to the Geotechnical Inspection Company for testing and approval for use on this project. Mark samples as to source of supply, including pit locations.
- 2.1.7. Supply only those materials approved for use on this project by the Inspection Company.
- 2.1.8. Lean Concrete Fill: - 15 MPa with 125mm slump
- 2.1.9. Weeping Tile: – 100mm diameter perforated Big-O, or approved equal.
- 2.1.10. Geotextile Fabric: - Terrafix 270R or equal.

**2.2. Fabrication**

- 2.2.1. Mixing, transportation, placing, curing, and protection of concrete in accordance with Division 3

**2.3. Source Quality Control**

- 2.3.1. All materials shall be subject to test and inspection by a Testing and Inspection Company appointed by the Owner.  
2.3.2. Cost of testing will be paid by the Owner.  
2.3.3. Provide access to pits or quarries for the personnel of the Inspection Company.  
2.3.4. Provide representative samples of materials as may be required by the Inspection Company at no additional cost to the Owner.

**PART 3 - EXECUTION**

**3.1. Grubbing and Clearing**

- 3.1.1. Grub and clear the site of trees, shrubs, existing foundations to be removed, debris and obstructions, unless clearly noted elsewhere to be retained.  
3.1.2. Remove and dispose of all material away from the site.

**3.2. Stripping and Storage of Topsoil**

- 3.2.1. Carefully strip the topsoil from areas affected by new construction.  
3.2.2. Stockpile the topsoil on the site at a location or locations approved by the Architect and General Contractor for later use on this project. At the completion of construction, excess material is to be removed from site at the Contractor's expense. Note that because of the 'tight' nature of the site, temporary removal off site of top soil material may be required if storage areas designated by the Architect are used by the General Contractor for other purposes.  
3.2.3. Maintain topsoil stockpiles separate from any other stockpiles and protect from contamination.  
3.2.4. Prevent silt runoff from stockpiles and site with the use of silt fences and/or straw bale barricades.

**3.3. Excavation**

- 3.3.1. Footings are designed for a maximum safe allowable bearing pressure of 145 KPa.  
3.3.2. Notify the Engineer of any unusual soil conditions encountered during excavation so that corrective action may be taken, if necessary.  
3.3.3. Where excavations for footings are accidentally over-excavated, fill the over-excavated portion with lean concrete fill to the founding elevation shown on the plans, at no additional cost to the Owner.  
3.3.4. Provide excavations for footings of sufficient width for the construction and inspection of formwork and the satisfactory and safe execution of the work. In general, provide not less than 450 clear of all construction.  
3.3.5. Trim the bottom of all excavations true to line and grade, and remove all loose, wet, soft or unsatisfactory material.  
3.3.6. Install footings at lower elevations prior to installing adjacent footings at higher elevations to ensure that bearing capacity of upper levels is not adversely disturbed.



- 3.3.8. Notify the Testing Company when each phase of the excavation is completed so that bearing surfaces may be inspected.
- 3.3.9. All excavations into native subsoil are to be carried out using a smooth-blade bucket to preclude disturbance of the subgrade by normal bucket teeth.
- 3.3.10. Protect all soils supporting footings and slab on grade against penetration of frost and rain before, during and after placement of concrete.
- 3.3.11. Unless noted otherwise on plan the drawings indicate footings bearing down onto the approved undisturbed sand layer at elevation bubbles indicated on the foundation Plan.
- 3.3.12. Below slab-on-grade areas excavate down a minimum of 300 below slab-on-grade or as required to remove topsoil or otherwise unsuitable material and proof roll subgrade with a heavy roller. Sub-excavate any soft or wet spots as identified by the Geotechnical Engineer and replace with granular 'B' material or approved 'PR' material compacted to 98% standard proctor maximum dry density.
- 3.3.13. After construction of forms minimize disturbance of subgrade within footing forms. If soils within footings become disturbed remove all loose material with hand shovels down to sound soil.

3.3.14.

#### **3.4. Pumping and Dewatering**

- 3.4.1. Keep all excavations, pits and trenches free from accumulations of water from all sources, including ground water, perched groundwater, rain and surface water, at all times by pumping or other methods satisfactory to the Geotechnical Engineer. Refer to Soils Report for surface water and ground water control methods.
- 3.4.2. Conduct dewatering operations, when required, in such a manner as to avoid damage to work under construction or existing adjacent structures and so as not to weaken the strength of bearing soils or to endanger the stability of banks or slopes.

#### **3.5. Backfill and Compaction**

- 3.5.1. After the construction of footings, walls or piers, and the approval of the work by the Consultant, backfill and compact interior side of foundation walls with granular 'B' material to the elevations shown on the drawings.
- 3.5.2. Backfill and compact in equal lifts on each side of walls below grade. Maximum grade difference on opposite sides of non-retaining or basement walls is not to exceed 450. Do not backfill basement walls that are to be laterally supported at the top of the wall until such lateral support, in the form of the first floor framing, is cast and cured.
- 3.5.3. Deposit and spread granular materials in uniform layers not exceeding 300 (loose measurement) in depth.
- 3.5.4. Compact all granular materials to not less than 98% of Standard Proctor Density, except as noted on drawings or specifications. Maintain optimum water content for proper compaction by the addition of water as required.
- 3.5.5. Compact using approved vibratory plate tampers or vibratory rollers, except when working close to silt or other materials which may be adversely affected by vibration; in which case, use approved non-vibratory rollers to avoid disturbance of the sub-grade.
- 3.5.6. Immediately below sidewalks, place a 150 layer of Granular 'A' compacted to 98% of Standard Proctor Density.
- 3.5.7. Backfill below landscaped areas on the exterior side of the wall exclusive of the basement area can consist of approved site excavated materials compacted in 300 lifts to 96% standard proctor maximum dry density. Slope grade away from the building as shown on Architectural site plan and building sections.

- 3.5.8. Backfill exterior side of all foundation walls below sidewalks and paved areas, exclusive of areas adjacent to basement walls, can consist of approved site excavated materials, or imported granular 'B', compacted in 300 deep lifts to 98% standard proctor maximum dry density. Backfill to extend up to the underside of a 150 granular 'A' layer below the sidewalk.
- 3.5.9. Backfill on the interior side of all foundation walls up to the underside of the 200 stone layer to consist of approved pit-run, or granular 'B' material placed and compacted in 300 deep loose lifts to 98% standard proctor maximum dry density.
- 3.5.10. Refer to typical details for backfill adjacent to basement and retaining walls below landscaped areas for minimum width of free draining granular material. This material can consist of free draining pit run or granular 'B' material placed and compacted in 300 deep lifts to 98% maximum standard proctor dry density. Materials directly adjacent to wall to be free of large boulders that may damage waterproofing. Backfill outside of the free drainage zone can be consist of approved site excavated materials placed as indicated in typical details and compacted to 98% standard proctor maximum dry density.
- 3.5.11. Backfill below asphalt or concrete paved areas directly adjacent to basement walls to consist approved pitrun or granular 'B' materials up to the underside of the paving subgrade layer compacted in 300 deep loose lifts to 98% standard proctor density. Fills directly adjacent to wall to be free of large boulders that may damage waterproofing.
- 3.5.12. Use hand operated compaction equipment within the lesser of 3m or the height of the wall, for pit walls and retaining walls.
- 3.5.13. Protect all fill materials supporting slab on grade against penetration of frost and rain before, during and after placement of concrete.
- 3.5.14. Place weeping tile behind all basement, and retaining walls as indicated in on drawings or typical detail. Completely wrap geotextile fabric around stone cover and lap a minimum of 400mm.

**3.6. Sub-Floor Granular Fill**

- 3.6.1. Proof roll all existing fill materials with a heavy roller and subexcavate any soft or wet spots.
- 3.6.2. Provide a minimum of 200mm of 19mm crushed stone material under the slab-on-grade compacted to 100% standard proctor dry maximum density.
- 3.6.3. Fill below 200 crushed stone layer to consist of approved pit run or granular 'B' material down to approved subgrade for footings bearing on undisturbed soil. Compact Granular materials in 300 maximum loose lifts to 98% standard proctor dry density.
- 3.6.4. Take care not to damage any under-floor mechanical and electrical systems.
- 3.6.5. Remove clay, silt, dirt, and construction debris from the granular layers.
- 3.6.6. Ensure all electrical and mechanical piping runs in granular layers below the underside of the floor slab.

**3.7. Grading**

- 3.7.1. Rough grade outside the foundation walls (where applicable) to the lines and grades shown on the final site plan.
- 3.7.2. Rough grade to within 150 below the underside of exterior sidewalks and place layer of Granular 'A'

**3.8. Field Quality Control**

- 3.8.1. All materials and workmanship shall be subject to test and inspection by a Testing and Inspection Company appointed by the Consultant.

- 3.8.2. The cost of testing, except as noted in paragraph 3.08.C will be paid through a cash allowance.
- 3.8.3. Material or workmanship which fails to achieve the specified standards shall be re-compacted or replaced as directed by the Consultant and additional tests made. The cost of such additional testing and the cost of remedial action shall be at no additional cost to the Owner.
- 3.8.4. The foundation subgrade will be inspected by the Inspection Company immediately following final preparation of the excavation by the Contractor. The Inspection Company may direct that the depth of excavation be increased to reach a competent bearing stratum if existing soil conditions at the specified elevation are not satisfactory.

**3.9. Clean up**

- 3.9.1. At the completion of the work in this Section, remove from the site any excess materials, debris and equipment.

**END OF SECTION**

## **PART 1 - GENERAL**

### **1.1. General Requirements**

- 1.1.1. Conform to General Requirements specified under Division 1.
- 1.1.2. Refer also to related Sections of the Division.
- 1.1.3. This Section specifies the supply and spreading of topsoil in planting beds and sodded areas.

### **1.2. Scope of Work**

- 1.2.1. Work included: Furnish all labour, materials, equipment and tools necessary to complete the work in this Section.
- 1.2.2. Related Work Specified Elsewhere:  
Sodding – Section 02822

### **1.3. Quality Assurance**

- 1.3.1. Obtain approval of the topsoil in writing from the Architect before work begins.

### **1.4. Product Delivery, Storage and Handling**

- 1.4.1. Do not spread topsoil in a frozen or muddy condition.

### **1.5. Job Condition**

- 1.5.1. Report in writing to the Architect prior to commencing work any conditions or defects encountered on site, upon which the work of this Section depends, and which may adversely affect the performance of the work.
- 1.5.2. Do not commence work until such conditions or defects have been investigated and corrected.
- 1.5.3. Commencement of work implies acceptance of surface conditions and on claims for damages or extra work will be accepted, except where conditions cannot be determined prior to construction.

### **1.6. Protection**

- 1.6.1. Protect all trees and structures in the construction area as required. Make good all damage caused by construction activity at no extra cost in full.

## **PART 2 - PRODUCTS**

### **2.1. Materials**

- 2.1.1. Topsoil: A fertile, friable, natural loam, consisting of neither a heavy clay nor a very light sandy nature. The soil shall be comprised of approximately 45% sand, 35% silt, 20% clay and pH value of between 6 and 7 capable of sustaining vigorous plant growth. To be free of all debris over 25mm diameter and reasonably free of weeds (as determined by Architect).

**2.2. Soil Testing**

- 2.2.1. All topsoil from stockpile and additional product supplied by the contractor shall be tested to the approval of the Architect before commencing work.
- 2.2.2. Test all topsoil, native and imported, for nitrogen, phosphorous magnesium, soluble salt content, texture, organic matter content, pH and chemical residues through accredited laboratory with recommendations for improvement for intended use. Make improvements in accordance with analysis.
- 2.2.3. Topsoil may be taken from existing stockpile provided it meets specified requirements.
- 2.2.4. The contractor shall submit a new soil analysis report for approval by the Architect, if the previous source of topsoil is exhausted.
- 2.2.5. Inspection and testing of imported topsoil will be carried out by testing laboratory designated by Owner. Owner will pay for costs of test if material tested is satisfactory. Contractor will pay for tests if material tested fails.
- 2.2.6. The contractor shall be prepared to supply and apply all necessary fertilizers and amendments to eliminate any deficiencies as indicated by the Soil Analysis Report of imported soil.
- 2.2.7. The contractor is to test topsoil from source prior to stripping and stockpiling, for N, P, K, Mg, Ca, Fe, soluble salt content, soil texture, pH value growth inhibitors and soil sterilant.

**PART 3 - EXECUTION**

**3.1. Preparation**

- 3.1.1. Fine grade the subgrade, eliminating uneven areas and filling low spots. Remove all debris and all subsoil that has been contaminated with toxic materials. Dispose of removed materials as directed by the Architect.
- 3.1.2. Compact finished subgrade to 95% Standard Proctor Dry Density for areas under planting.

**3.2. Spreading of Topsoil**

- 3.2.1. Spread dry topsoil during dry weather over approved, dry, unfrozen subgrade.
- 3.2.2. Keep topsoil 50mm below finished grade of building veneer.
- 3.2.3. Fine grade and loosen topsoil. Eliminate rough spots and low areas to ensure positive drainage. Prepare loose friable bed by means of cultivation and subsequent raking.
- 3.2.4. Make good all damages caused by topsoil spreading activities.
- 3.2.5. Topsoil depths: sodded area – 4” – 100mm minimum

**End of Section**

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**PART 1 - GENERAL**

**1.1. General Requirements**

- 1.1.1. This section specifies the supply and placement of cultivated sod.
- 1.1.2. Related work specified elsewhere: Topsoil, Section 02245.

**1.2. Quality Assurance**

- 1.2.1. The contractor must have five (5) years of experience in sodding work. All crew members must be under the direction of a skilled foreman.
- 1.2.2. Submit a topsoil test report with adjustment recommendation to Consultant prior to sod installation.

**1.3. Product Delivery, Storage and Handling**

- 1.3.1. Cut sod by approved methods in accordance with recommendations of the Nursery Sod Growers Association (N.S.G.A.) of Ontario. Cut in pieces approximately 1,000 square metres in area with a minimum soil thickness of 20mm.
- 1.3.2. Roll or fold sod prior to lifting in such a manner as to prevent tearing or breaking.
- 1.3.3. Protect sod during transportation to prevent drying and ensure that it arrives at the site in a fresh and healthy condition.
- 1.3.4. Install sod immediately after arrival. If there is a delay in installation, keep sod moist and cool and protected from direct exposure to the sun until installation.
- 1.3.5. Provide fertilizer in standard manufacturer's containers, clearly marked with the name of the manufacturer, weight, and analysis.
- 1.3.6. Store fertilizer in a weatherproof storage area until use.

**1.4. Job Conditions**

- 1.4.1. Proceed with sodding operations only during suitable weather conditions and in accordance with good horticultural practice.

**1.5. Inspection**

- 1.5.1. Obtain approval from the Architect of the finished topsoil surface before proceeding with sodding.
- 1.5.2. Give timely notice, in writing, to the Architect when final acceptance is required.

**1.6. Maintenance**

- 1.6.1. Maintain sodded areas from the time of installation, until final acceptance by the Architect.
- 1.6.2. Maintenance shall include all measures necessary to establish and maintain all sodded areas in vigorous and healthy growing condition, including but not limited to:
  - 1.6.2.1. Mowing at regular intervals to maintain a maximum height of 60mm. Do not cut more than one third (1/3) of the grass height at any one mowing. Trim and clip edges. Remove clippings after mowing and clipping.
  - 1.6.2.2. Watering when required and in sufficient quantities to prevent sod from drying out.

- 1.6.2.3. Weed control when required and/or directed. Use herbicide only in accordance with the manufacturer's recommendations, federal, provincial, and local bylaws or ordinances. Make good all damage resulting from the use of herbicides at no extra cost.
- 1.6.2.4. Make good any erosion that results from faulty workmanship and/or material at no extra cost.
- 1.6.2.5. Replace with new sod any dead, deteriorated, or bare spots.

### **3.3. Guarantee**

- 3.2.1. Guarantee all sodded areas for a period of six months from the date of acceptance.
- 3.2.2. During the guarantee period replace all material that is dead or not in satisfactory, healthy growing state or which does not meet the requirements of the specifications, at no extra cost to the contract. Final determination of the acceptability of the sod will be made by the Architect.

## **PART 2 - PRODUCTS**

### **2.1. Materials**

- 2.1. Grass Sod
  - 2.1.1. Certified No. 1 grade cultivated turf grass sod with a composition of 50% Kentucky Blue Grass and 50% Merion Blue Grass or as specified on the drawings, grown and sold in accordance with the N.S.G.A. classifications. At the time of sale, the sod must have a strong, fibrous root system and be free of stone and burned or bare spots. Mosses and clover shall not be apparent in the turf with no more than 2 broadleaf weeds or 10 other weeds per 40 square meters.
  - 2.1.2. Wooden Pegs: 25mm x 25mm x 230mm minimum length hardwood pegs.

### **2.2. Topsoil**

- 2.2.1. Topsoil: fertile and friable sandy loam with a minimum 2% organic matter content with acidity values between pH 6.0 and 7.5, free from admixtures of subsoil, clay lumps, stones or roots over 50mm in diameter, toxic chemicals or any other foreign matter.
- 2.2.2. Test all topsoil, native and imported, for nitrogen, phosphorous, magnesium, soluble salt content, texture, organic matter content, pH and chemical residues through accredited laboratory with recommendations for improvement for intended use. Make improvements in accordance with analysis.
- 2.2.3. Topsoil may be taken from existing stockpile provided it meets specified requirements.
- 2.2.4. At no extra cost to the Contract, provide topsoil from another source if quantity of suitable stockpiled material is not sufficient.

## **PART 3 - EXECUTION**

### **3.1. Preparation**

- 3.1.1. Provide a finished topsoil surface that is smooth and firm against footprints, with a fine loose texture, before sod is placed. Finished topsoil surface is to be free of rocks or other deleterious material.

**3.2. Installation of Plant Material**

- 3.2.1. Lay sod with tight butt joints. Do not leave any open joints or overlap adjacent pieces of sod.
- 3.2.2. Ensure finished sod surface is flush with adjoining grass area, pavement, or top surface of curbs.
- 3.2.3. On slopes steeper than 3:1, lay sod perpendicular to the slope and peg each row at intervals of not more than 600mm on each side of the sod strip. Drive pegs flush with the surface of the sod.
- 3.2.4. Immediately after installation, water the sod with sufficient quantities of water to penetrate the sod and top 50mm of the underlying topsoil.
- 3.2.5. When the sod has dried sufficiently to prevent damage, roll all sodded areas to ensure a good bond between topsoil and sod.
- 3.2.6. Ensure that topsoil is amended as recommended by the soil analysis.

**3.3. Clean Up**

- 3.3.1. At the completion of sodding operations remove all excess material from the site at no extra cost.
- 3.3.2. Make good all damage resulting from work carried out under this contract, at no extra cost.

**END OF SECTION**



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## **PART 1 - GENERAL**

### **1.1. General Requirements**

- 1.1.1. This section specifies the supply and placement of mechanical seeding in all areas indicated as such on the drawings to the satisfaction of the specifications.
- 1.1.2. Related work elsewhere: Topsoil and Finished Grading, Section 02212.

### **1.2. Quality Assurance**

- 1.2.1. Obtain approval of seed mixture in writing from the Consultant before work commences.
- 1.2.2. The contractor must have five (5) years of experience in mechanical seeding work. All crew members must be under the direction of a skilled foreman.

### **1.3. Scheduling**

- 1.3.1. Schedule mechanical seeding to coincide with preparations of soil surface.
- 1.3.2. Recommended schedule for mechanical seeding using grass mixtures to be performed only during the periods of March 1 to June 30 and August 1 to December 31.
- 1.3.3. No work shall be performed when the ground is frozen, wet or otherwise untillable, or when even distribution of materials cannot be obtained.

## **PART 2 - PRODUCTS**

### **2.1. Delivery and Storage**

- 2.1.1. The seed mixture shall be mixed and supplied by a recognized seed house with tested rates for purity and germination of not less than government standard rates.
- 2.1.2. All grass seed specified shall be mixed and supplied by a recognized seed house with tested rates for purity and germination of not less than government standard rates.
- 2.1.3. Seed shall be packed in a bag clearly showing the name of the supplier and indicating the certified quantities of different types of the mixture. The Consultant may request a test for purity and germination.

### **2.2. Materials**

- 2.2.1. Seed: "Canada pedigreed grade" in accordance with Government of Canada Seeds Act and Regulations, having minimum germination of 75% and minimum purity of 97%.
- 2.2.2. Mixture: "Certified," "Canada No. 1 Lawn Grass Mixture" in accordance with Government of Canada Seeds Act and Regulations with the following mixture composition at a rate of 185kg/Ha:

- 20% Kentucky Bluegrass
- 50% Creeping Red Fescue
- 20% Barry or Pinnacle Ryegrass
- 10% Annual Ryegrass

- 2.2.3. Water: Potable and free of impurities that would inhibit germination and growth.
- 2.2.4. Fertilizer: To Canada “Fertilizers Act” and “Fertilizers Regulations.”

### **PART 3 - EXECUTION**

#### **3.1. Workmanship**

- 3.1.1. Protect areas from trespass until grass is established.
- 3.1.2. Keep site well drained.
- 3.1.3. Perform work under optimum field conditions. Do not undertake seeding operation under adverse conditions including moisture, temperature, wind or scheduling related work.
- 3.1.4. Clean up immediately soil or debris spilled onto pavement and dispose of deleterious materials.

#### **3.2. Preparation of Surfaces**

- 3.2.1. Rough grade soil shall be scarified to a minimum depth of 75mm to produce an even, loose textured surface, free of all stones, roots, branches, etc. larger than 25mm.
- 3.2.2. Fine grade areas to be seeded free of humps and hollows. Ensure all areas are free of deleterious and refuse materials. The finished grade shall be smooth, loose textured and free of all stones, roots, branches, etc. larger than 25mm diameter and shall be inspected by the Consultant prior to commencing seeding operations.
- 3.2.3. Areas to be seeded are to be cultivated to a minimum depth of 25mm.

#### **3.3. Fertilizing Program**

- 3.3.1. Fertilizer shall be applied by means of an approved mechanical spreader immediately prior to seeding. The fertilizer shall be well worked into the upper 50mm of soil by discing or harrowing.

#### **3.4. Installation**

- 3.4.1. Obtain Consultant’s approval of topsoil grade and depth before starting seeding.
- 3.4.2. Sow during calm weather (winds less than 6mph) using equipment suitable for the area involved to the approval of the Consultant. Sow half of the required seed in one direction and the remainder at right angles. Incorporate the seed into the soil a minimum depth of 6mm simultaneously or within one half hour after seeding operation. Mix carefully with light chain harrow or wire rake and roll area immediately afterward with water ballast type lawn or agricultural type roller.
- 3.4.3. Water with fine spray, avoiding washing out seed. Apply enough water to ensure penetration of minimum of 50mm.
- 3.4.4. Re-seed at 2 week intervals where germination has failed.
- 3.4.5. Protect seeded areas from trespass satisfactory to the Consultant.

#### **3.5. Maintenance During Establishment Period**

- 3.5.1. Perform the following maintenance operations from the time of the seed application until acceptance by Consultant. Such maintenance shall include all measures necessary to establish and maintain grass in a vigorous growth condition.

- 3.5.2. Grass Mixture:
  - 3.5.2.1. Repair and reseed dead or bare spots to allow establishment of seed prior to acceptance.
  - 3.5.2.2. Mow grass to 40mm whenever it reaches a height of 60mm.
  - 3.5.2.3. Fertilize seeded areas after the first cutting to the specified rates. Spread half of the fertilizer in one direction, and the remainder at right angles.
  - 3.5.2.4. Eliminate weeds by mechanical means.
  - 3.5.2.5. Water seeded area to maintain optimum soil moisture level for germination and continued growth of grass. Control watering to prevent washouts.
  - 3.5.2.6. Erosion resulting from contractor's faulty workmanship and/or materials shall be repaired and reseeded at his expense.

### **3.6 Inspection**

- 3.6.1. Acceptance inspection will be conducted within sixty (60) days after completion.
- 3.6.2. Where the contractor requests inspection for partial acceptance of mechanical seeding work, the contractor will notify the Consultant in writing at least two (2) days in advance.
- 3.6.3. Partial acceptance will be given when mechanical seeding work has been delayed due to circumstances beyond the control of the Contractor or when further mechanical seeding work would be in accordance with good horticultural practice and would jeopardize the performance of work and materials.
- 3.6.4. At the time of inspection for acceptance, all mechanical seeded areas shall have a healthy and even stand of grass, free of thin, poor, or burned out patches.

### **3.7. Acceptance**

- 3.7.1. Seeded areas will be accepted by the Architect provided that:
  - 3.7.1.1. Plants are uniformly established and seed areas are free of rutted, eroded, bare or dead spots and free of weeds.
  - 3.7.1.2. Seeded areas have been mown at least twice.
  - 3.7.1.3. Seeded areas have been fertilized.
- 3.7.2. Areas seeded in the fall will be accepted in the following spring, one month after the start of the growing season, provided that acceptance conditions are fulfilled.

### **3.8. Maintenance During Warranty Period**

- 3.8.1. Perform the following operations from time of acceptance until the end of warranty period:
  - 3.8.1.1. Repair and reseed dead or bare spots to the satisfaction of the Consultant.

**End of Section**

## **PART 1 - GENERAL**

### **1.1. Description**

- 1.1.1. This section specifies the quality and placement of topsoil and finish grading operations.
- 1.1.2. Related work specified elsewhere: Trees, Shrubs, and Groundcover - Section 02951

### **1.2. Source Quality Control**

- 1.2.1. Advise Architect of sources of topsoil to be utilized seven (7) days in advance of starting work.
- 1.2.2. Contractor is responsible for soil analysis and requirements for amendments to supply topsoil as specified.
- 1.2.3. Topsoil may be taken from existing stockpile provided it meets specified requirements.

### **1.3. Measurement for Payment**

- 1.3.1. Supplying, placing and spreading topsoil will be measured in cubic metres as determined from actual surface area covered and depth of topsoil specified. Specified depth of topsoil shall be measured and approved by the Architect after settlement and consolidation as specified.
- 1.3.2. Finish grading will be measured in square metres from actual surface measurements as determined by the Architect.

## **PART 2 - PRODUCTS**

### **2.1. Topsoil**

- 2.1.1. Topsoil for seeded areas: mixture of mineral particulates, micro-organisms, and organic matter which provides a suitable medium for supporting intended plant growth.
  - 2.1.1.1. Soil texture based on the Canadian System of Soil Classification, to consist of 20 - 70% sand and contain 2 - 10% organic matter by weight.
  - 2.1.1.2. Fertility: major soil nutrients present in the following ratios:
    - Nitrogen (N): 20 - 40 micrograms of available N per gram of topsoil.
    - Phosphorus (P): 10 - 20 micrograms of phosphate per gram of topsoil.
    - Potassium (K): 80 - 120 micrograms of potash per gram of topsoil.
    - Calcium, magnesium, sulfur and micro-nutrients present in balanced ratios to support germination and / or establishment of intended vegetation.
  - 2.1.1.3. Ph value: 6.5 - 8.0
  - 2.1.1.4. Contain no toxic elements or growth inhibiting materials.
  - 2.1.1.5. Free from debris and stones over 50mm diameter and coarse vegetative material, 10mm diameter and 100mm length, occupying more than 2% of soil volume.
  - 2.1.1.6. Consistence: friable when moist.

**2.2. Soil Amendments**

- 2.2.1. Peatmoss:
  - 2.2.1.1. Derived from partially decomposed species of Sphagnum Mosses.
  - 2.2.1.2. Elastic and homogeneous, brown in colour.
  - 2.2.1.3. Free of wood and deleterious material which could prohibit growth.
  - 2.2.1.4. Shredded particle minimum size: 15mm
- 2.2.2. Sand: washed coarse silica sand, medium to coarse textured.
- 2.2.3. Limestone:
  - 2.2.3.1. Ground agricultural limestone containing minimum calcium carbonate equivalent of 85%.
  - 2.2.3.2. Gradation requirements: percentage passing by weight, 90% passing 1.0mm sieve, 50% passing 0.125mm sieve.
- 2.2.4. Fertilizer: complete, commercial, with 35% soluble nitrogen.

**PART 3 - EXECUTION**

**3.1. Preparation of Existing Grade**

- 3.1.1. Verify that grades are correct. If discrepancies occur, notify the Architect or Engineer and do not commence work until instructed to by the Architect or Engineer.
- 3.1.2. Grade soil, eliminating uneven areas and low spots, ensuring positive drainage.
- 3.1.3. Remove debris, roots, branches, stones in excess of 50mm diameter and other deleterious materials. Remove soil contaminated with calcium chloride, toxic materials and petroleum products. Remove debris which protrudes more than 75mm above ground surface. Dispose of removed material off site.

**3.2. Placing and Spreading Topsoil**

- 3.2.1. Place topsoil after Architect has accepted subgrade.
- 3.2.2. Spread topsoil in uniform layers not exceeding 150mm, over unfrozen subgrade free of standing water.
- 3.2.3. Spread topsoil to the following minimum depth after settlement and 80% compaction.
- 3.2.4. Manually spread topsoil around any obstacles.

**3.3. Soil Amendments**

- 3.3.1. Amendment to topsoil for use in planting beds and turf areas to be determined upon receipt of the required soils test.

**3.4. Finish Grading**

- 3.4.1. Grade to eliminate rough spots and low areas and ensure positive drainage. Prepare loose friable bed by means of cultivation and subsequent raking.
- 3.4.2. Consolidate topsoil to required bulk density using equipment approved by Architect. Leave surfaces smooth, uniform, and firm against deep footprinting.

**3.5. Acceptance**

- 3.5.1. Architect will inspect and test topsoil in place and determine acceptance of material, depth of topsoil, and finish grading. Approval of topsoil material subject to soil testing and analysis.

3.5.2. Testing of topsoil will be carried out by a testing laboratory designated by the Architect. Soil sampling, testing and analysis to be in accordance with Provincial regulations and standards.

**3.6. Surplus Material**

3.6.1. Dispose of materials not required, as directed by the Architect, off site.

**END OF SECTION**

**PART 1 - GENERAL**

**1.1. Related Work**

- 1.1.1. This section specifies the supply and implementation of maintenance for completed landscape construction, **up to Final Acceptance**.
- 1.1.2. Related work elsewhere,
  - Topsoil, Section 02245
  - Seeding, Section 02486
  - Sodding, Section 02822

**1.2. Quality Assurance**

- 1.2.1. Maintenance is to be carried out by the installing contractor or an approved Landscape Maintenance Contractor using only experienced personnel under the direction of a skilled foreman.
- 1.2.2. The Landscape Maintenance Contractor will be responsible to the installing Landscape Contractor to ensure acceptance of the landscape contract for the one year final acceptance.
- 1.2.3. Use experienced, qualified personnel under the direction and supervision of a foreman with at least 5 years of Landscape Horticultural experience and a superintendent with at least 10 years of Landscape Horticultural maintenance experience.
- 1.2.4. Pesticides personnel shall be licensed.
- 1.2.5. Submit a written report if adjustments to the site are recommended/required for approval by the owner and/or architect.

**1.3. Standards**

- 1.3.1. All workmanship, materials, maintenance and maintenance techniques shall be in accordance with, or exceed the minimum applicable standards of the requirements of this Section, the Pesticides Act 1984, the Ontario Ministry of the Environment, the Ontario Ministry of Health, and the Ontario Pesticides Advisory Committee. Latest edition at Tender closing date and most stringent conditions apply.
- 1.3.2. All workmanship shall be first- class and materials new and of best quality. The Contractor shall pay due regard to the crisp, neat, clean, attractive appearance of the finished work. Have regard to local by-laws and regulations concerning the application of pesticides.

**1.4. Requirements of Regulatory Agencies**

- 1.4.1. Work of this section shall include protection measures consisting of materials, construction, and methods required by the Occupational Health and Safety Act, O-R, 213/91, of the Province of Ontario, and as otherwise imposed by Jurisdictional Authorities to save persons and property from harm.

**1.5. Product Delivery, Storage and Handling**

- 1.5.1. Supply manufactured items such as fertilizer, bonemeal, mulch, etc., in standard containers, clearly indicating contents, weight, component analysis, and the name of the manufacturer.

**1.6. Job Conditions**

1.6.1. Proceed with maintenance operations during appropriate weather conditions.

**1.7. Inspection**

1.7.1. The Architect reserves the right to undertake periodic inspections to ensure quality of maintenance.

1.7.2. An inspection of the landscape contract will be made to provide Final Acceptance one year from the date of Provisional Acceptance. All related specifications must be satisfactorily addressed to meet Final Acceptance.

**PART 2 - PRODUCTS**

**2.1. Fertilizer**

2.1.1. Complete commercial slow release sulphur-coated urea fertilizer of approved manufacturer for April fertilizer application and complete commercial fertilizer for June and October fertilizer applications

2.1.2. Fertilizer: slow release 21-7-7

2.1.3. Water soluble 20-20-20 all-purpose fertilizer in a diluted solution may be used alternately upon written approval by the Consultant. Supply rate schedule for Consultant approval.

**2.1.4. RECOMMENDED RATES OF FERTILIZER FOR TREES**

Measure trunk diameter at 1.0 or 1.5m above the ground.

Rates are based on a complete fertilizer containing 10% nitrogen. Water thoroughly after fertilizing.

TREE TRUNK DIAMETER	QUANTITY OF FERTILIZER PER TREE
50 to 100 mm	0.5 kg
100 to 150 mm	1.5 kg
150 to 200 mm	2.0 kg
over 200 mm	3.0 kg



2.1.5. **RECOMMENDED RATES OF FERTILIZER FOR SHRUBS**

Type of Shrub	Grouped in Beds	Large Specimen
Deciduous	0.5-1.0 kg/10 sq.m	0.25-0.5 kg/plant
Broadleaf Evergreen	0.5-1.0 kg/10 sq.m	0.25 kg/plant
Narrow Leaf Evergreen	0.5-1.0 kg/10 sq.m	0.25-0.5 kg/plant

\* Rates are based on a complete fertilizer containing 10% nitrogen. Water thoroughly after fertilizing.

Take soil samples for chemical soil tests and leaf samples for foliar analysis and have the testing done. Based on test results and within the minimum and maximum rates indicated above, adjust fertilization rates to meet plant nutrient requirements. As requested and as directed by the Owner, apply foliar spray or implant capsules to correct chlorosis.

**2.2. Insect and Disease Control**

- 2.2.1. For trees, shrubs and other planting, address specific diagnosed problems with currently recommended treatments as requested and as indicated by the owner.
- 2.2.2. Undertake regular site inspections and report in writing any problems to the Store Manager, Project Manager and or Architect.
- 2.2.3. The contractor is to provide, together with their tender, a copy of their Proposed Sustainable Pest Management and Monitoring Program for the site.
- 2.2.4. Applications or sprays will be done following authorization by the Owner.
- 2.2.5. Include an annual allowance of \$2000.00 in the tender for the above work. Expenditures of this allowance will be authorized by the Owner.
- 2.2.6. Dormant oil spray in late April/early May and before leaf buds break. Insure that only tolerant plants receive this application.

**2.3. Mulch**

- 2.3.1. >Gro-Bark= or approved alternate.
- 2.3.2. The use of mulch, supplied in bulk, will not be permitted unless approved by the Consultant upon submission of sample and locations of source of supply.

**2.4. Rodent Control**

- 2.4.1. Clay tile, mouse bait stations baited with zinc phosphate - treated cracked corn.
- 2.4.2. Repellents containing Hiram.
- 2.4.3. Trunk wrap and guards

**2.5. Water**

- 2.5.1. Potable and capable of sustaining plant growth.

**PART 3 - EXECUTION**

**3.1. Plant Material Maintenance**

3.1.1. Trees, Shrubs and Other Planting

3.1.1.1. All plant materials shall be maintained by the Contractor immediately after planting has been installed and shall continue until the date of final acceptance.

3.1.1.2. Maintain all vegetation within the limit of contract work. Include both newly planted - young planted materials and well established older trees and shrubs. Instruct in writing any corrective or preventative measures necessary to ensure healthy plant growth. Report in writing any damage to plant materials, however caused.

3.1.1.3. The Contractor shall arrange through the landscape subcontractor for a reputable landscape maintenance contractor and meet on site jointly with the Consultant to review ongoing landscape requirements for the duration of the warranty period. The subcontractor shall have available his recommended maintenance schedule for this meeting. At the end of the warranty period, the landscape contractor shall advise the Contractor and the Consultant in writing and arrange a final acceptance site meeting.

3.1.1.4. Maintenance shall include all measures necessary to establish and maintain plants in an acceptable, vigorous and healthy growing condition including, but not limited to:

3.1.2. Landscape Maintenance Schedule

ACTIVITY	Apr	May	June	July	Aug	Sept	Oct	Nov
Spring Clean Up								
Fertilizers								
Weed Control								
Insect and Disease Control								
Pruning								
Watering								
Mulching								
Accessories								
Removals (Dead Material Only)								
Winter Preparation								

	Specified Schedule
	Schedule as Required

3.1.3. Planting Maintenance: Trees, Shrubs & Ground Covers

ACTIVITY	APR	MA Y	JUN E	JUL Y	AU G	SEP	OC T	NO V
Deciduous Trees								
Coniferous Trees								
Deciduous Shrubs								
Coniferous Shrubs								

3.1.4. Maintenance Activity

**Spring - April, May**

- 3.1.4.1. Remove all debris from landscaped areas and dispose of off-site.
- 3.1.4.2. Cultivate and neatly trim shrub beds and tree well saucers and dispose of debris off-site
- 3.1.4.3. Remove all dead/dying branches from trees, shrubs and ground covers and replace any dead/dying trees, shrubs or ground covers and dispose of debris off-site
- 3.1.4.4. Fertilize trees, shrubs and ground covers with a soluble soil drench fertilizer (20-20-20) or all-purpose organic commercial fertilizer.
- 3.1.4.5. Fertilize grassed areas with a high nitrogen organic commercial fertilizer (21-7-7 or equal). A combined weed and feed, commercially available fertilizer may be used. Follow manufacturer=s instructions utilizing a rotary fertilizer spreader.
- 3.1.4.6. If grassed areas are thin, aerate, spread sterilized (weed free) topsoil 25cm thick and evenly distribute grass seed with a rotary grass seed spreader. Water evenly, thoroughly and until seed has taken to grass, visually. Sod and water any significant bare spots. Do not apply herbicides to freshly seeded areas.
- 3.1.4.7. Mow grassed areas weekly, including edge trimming. Maintain a maximum height of 60mm. Do not cut more than one third (1/3) of the grass height at any one mowing. Trim and clip edges. Remove clippings after mowing and clipping.
- 3.1.4.8. Apply crab grass prevention prior to seed germination and herbicides monthly as required for general control of weed growth.

- 3.1.4.9. Applications of liquid herbicides, insecticides and fungicides should be undertaken by a licensed practitioner. Apply pesticides in accordance with Federal, Provincial and Municipal regulations as and when required to control insects, fungus and disease.
- 3.1.4.10. Planting of annual flowers in shrub beds and planters if specified is to be undertaken during the period between May 24<sup>th</sup> and June 15<sup>th</sup>.
- 3.1.4.11. Add a fresh layer of mulch to match existing mulch in shrub beds to insure a minimum depth of 75mm.

**Summer – June, July, August**

- 3.1.4.12. Watering of grassed areas to commence on a regular basis and continue with intensity depending on amount of rainfall.
- 3.1.4.13. Mow grassed areas weekly, including edge trimming. Maintain a maximum height of 60mm. Do not cut more than one third (1/3) of the grass height at any one mowing. Trim and clip edges. Remove clippings after mowing and clipping.
- 3.1.4.14. Prune trees when full leaf growth is achieved, removing irregular or obscuring branch growth. Do not remove tree tops / leaders. Dispose of all pruning debris off-site.
- 3.1.4.15. Do not prune Municipal owned trees. If pruning or removal is required, contact Municipality.
- 3.1.4.16. Prune shrubs and ground covers as required, maintaining natural growth habit and form.
- 3.1.4.17. Fertilize trees, shrubs, ground covers and flowers with water soluble organic fertilizer or commercial 20-20-20 or equal. Tree fertilizer spikes are encouraged. Follow manufacturer's instructions. Do not over fertilize!
- 3.1.4.18. Apply organic fertilizer 21-7-7 to all grassed areas using a commercial fertilizer spreader.
- 3.1.4.19. Applications of liquid herbicides, insecticides, fungicides are to be undertaken by a licensed herbicide/insecticide practitioner only and only as required. This applies generally for all plantings and lawns.
- 3.1.4.20. Remove and dispose of debris on a regular basis.
- 3.1.4.21. Major problems related to planting condition or mortalities should be immediately reported in writing to the Store Manager, Project Manager and or Architect.

**Fall – September, October, November**

- 3.1.4.22. Continue watering as required. Deep water evergreen trees.
- 3.1.4.23. Continue light pruning of shrubs if required, remove and dispose of dead or diseased branches.
- 3.1.4.24. Continue to mow grassed areas weekly, including edge trimming. Maintain a maximum height of 60mm. Do not cut more than one third (1/3) of the grass height at any one mowing. Trim and clip edges. Remove clippings after mowing and clipping.
- 3.1.4.25. After flowers have stopped blooming, remove and dispose of off-site.
- 3.1.4.26. Commence clean-up of all fallen leaves and continue until trees are bare. Note: All fallen leaf material is recyclable and is to be disposed of off-site.

- 3.1.4.27. Winter burlap wrap protection is recommended for all upright formed evergreens, evergreen trees and fragile shrubs less than 2 years old against salt spray and winter desiccation. **This is mandatory during fall planting.**
- 3.1.4.28. Clean and remove any fallen leaves from all catch basin grates and, where possible, lift grates and clean out catch basins.
- 3.1.4.29. Apply winterizer fertilizer to all grassed areas.

### **3.2. General Irrigation Maintenance**

- 3.2.1. Watering should take place during the early morning hours (12:00 am to 6:00 am)
- 3.2.2. Irrigation controller (if provided) should be set station to station for the above watering hours (refer to Owner's Manual)
- 3.2.3. Verify all sprinkler settings, overlap, nozzle sizes and operating pressures.
- 3.2.4. Adjust the flow control on automatic valves where necessary.
- 3.2.5. Program the controller into a logical sequence, to maintain a heavy infrequent water cycles as opposed to light frequent settings.
- 3.2.6. Contractor to note and document irrigation activity and report any dry areas, wet areas or damaged hardware to Store Manager, Project Manager and or Architect.
- 3.2.7. Damage caused by maintenance contractor will be repaired immediately at the cost of the contractor.
- 3.2.8. Contractor to monitor rain sensor hardware and report any problems immediately to the Store Manager, Project Manager and or Architect.
- 3.2.9. If no automated irrigation system has been provided, utilize hose bibs on the building in conjunction with buried yard hydrants (quick couplers) for watering operations.
- 3.2.10. Manual watering should ensure deep watering of trees, shrubs, ground covers and grassed areas.
- 3.2.11. Critical watering months are June, July, August.

### **Spring Start Up and Fall Winterization**

- 3.2.12. Flush all lines and ensure that all water is expelled from the system as per manufacture=s specifications.
- 3.2.13. Inspect all visible piping, and walk all buried lines for any leakage.
- 3.2.14. Report all repairs necessary to render the system in good working order shall be completed at this time. Contractor to submit any documentation and or cost estimates of repairs for written approval.
- 3.2.15. Verify all sprinkler settings, overlap, nozzles and operating pressures.
- 3.2.16. Contractor to replace battery and check electrical connections.

### **3.3. Final Acceptance**

- 3.3.1. Prior to final acceptance the Contractor shall provide the Architect with a complete written maintenance schedule for all plant materials, unless provided for otherwise in the Contract Documents. Include documentation of all dates when maintenance took place during maintenance period, including time and duration.

- 3.3.2. Notwithstanding any provisions in the Contract Documents, the Contractor shall be responsible for making monthly inspections of all planting during the warranty period and submit a written report of each inspection to the Store Manager, Project Manager and Architect. Written Reports may include:
  - 3.3.2.1. Maintenance work carried out.
  - 3.3.2.2. Development and condition of plant materials.
  - 3.3.2.3. Preventative or corrective measures required which are outside of Contractor's responsibility.
- 3.3.3. The Contractor shall instruct the Store Manager, Project Manager and Architect in writing of any corrective or preventive measures necessary to ensure healthy plant growth. Any damage or theft to plant materials from any source whatsoever shall be reported in writing to the Architect.
- 3.3.4. Contractor to remove all Tree Stakes and Hardware after the second growing season.

**3.4. Guarantee**

- 3.4.1. Guarantee all plant material for a period of one year commencing on the date of provisional acceptance.
- 3.4.2. During the guarantee period replace all material that is dead or not in satisfactory, healthy growing state or which does not meet the requirements of the specifications, at no extra cost to the contract. The replaced plant does not have an extended guarantee. Final determination of the acceptability of the plants will be made by the Architect.
- 3.4.3. All replacements must be plants of the same size and species as shown on the plant list, supplied and planted in accordance with the drawings and specifications.

**END OF SECTION**



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**MARCH 2018**

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- 1 General
- 1.1 **GENERAL PROVISIONS**
- 1.1.1 This Section and Division 1 - General Requirements apply to and govern the work of all Sections of Division 16.
- 1.2 **VISITING SITE**
- 1.2.1 Visit the site and be familiar with working conditions and work involved before submitting Bids. **NO EXTRAS WILL BE GRANTED DUE TO LACK OF A THOROUGH PRELIMINARY INVESTIGATION.**
- 1.2.2 Remove and replace existing ceiling tiles to inspect ceiling for existing Mechanical, Electrical and Structural obstructions. Include cost of all necessary changes in Bid Price. No extras will be granted due to lack of a thorough preliminary investigation of accessible ceiling spaces.
- 1.3 **CONTRACT DRAWINGS**
- 1.3.1 Electrical Drawings show Electrical work only and are not intended to show Structural details, Mechanical details or Architectural features. Take building dimensions and details from Architectural or Structural Drawings or from job measurements only.
- 1.3.2 Electrical Drawings indicate only the general locations of equipment and outlets. Wiring requirements are shown diagrammatically. Responsibility for the detailed layout of equipment, outlets, raceways and wiring is part of the work of this Division. Specific outlet locations are detailed on elevations.
- 1.3.3 If shown, only the general location and route of conduit, cable trays and communication hooks are shown. Install all services neatly to conserve headroom. All conduit, cable trays and communication hooks are to be accessible after work by other trades is complete. Install all services parallel to building lines unless shown otherwise.
- 1.3.4 The Consultant reserves the right to revise the locations of equipment and outlets within any given room without altering the Contract Price provided Notice of Change is given prior to roughing-in.
- 1.3.5 In case of conflict between work of other trades and work of this Division, clarify the location of these items with the Consultant before roughing-in.
- 1.3.6 In the event of any discrepancies or ambiguity of any symbol, note, abbreviation, etc., used in this Specification or on the Contract Drawings, obtain clarification, in writing, from the Consultant prior to submitting Bid. No allowance will be made for additional costs arising from failure to obtain proper clarification of conflicting information before Bid.
- 1.3.7 All dimensions and sizes are in SI units, Generally units are in millimetres. All exceptions to this are noted. **Metric Products Only**

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**CONDUIT SIZES**

Imperial (Inches)	½	¾	1	1-¼	1-½	2	2-½	3	3-½	4	4-½	5	6
S.I.(metri c) (mm)	16	21	27	35	41	53	63	78	91	103	116	129	155

**1.4 SHOP DRAWINGS**

- 1.4.1 Submit Manufacturers' Shop Drawings, Electrical Wiring Diagrams and Control System Drawings to the Consultant. Provide title sheet for Shop Drawing submitted. Include project name, Shop Drawing item (including Specification paragraph reference) and approval stamps. The Consultant reserves the right to have samples submitted of any specified products.
- 1.4.2 Before submitting shop drawings, provide a complete list of shop drawings to be submitted in Microsoft Excel format. List all shop drawings and approximate date of submission.
- 1.4.3 Submit all shop drawings electronically in Adobe® Acrobat® PDF format. File attachments to an email must total no more than 5 MB and must be submitted unzipped. If multiple items are submitted in single PDF file, each individual piece of equipment must be "book marked" using equipment labels as per Design Drawings. All shop drawings submitted electronically must be checked and stamped by Contractor as specified below.
- 1.4.4 Catalogues, manuals or price lists will not be accepted as Shop Drawings. Before submission, check Shop Drawings, make necessary corrections, apply stamp "Checked and Certified Correct", sign and date.
- 1.4.5 Submit one reviewed set of Shop Drawings with each set of Maintenance and Operating Instructions.
- 1.4.6 The review of Shop Drawings by Chorley + Bisset Ltd. is for the sole purpose of ascertaining conformance with the general design concept. This review does not mean that Chorley + Bisset Ltd. approves the detail design inherent in the Shop Drawings, responsibility for which remains with the Contractor. Such review does not relieve the Contractor of his responsibility for errors or omissions in the Shop Drawings or of his responsibility for meeting all requirements of the Construction and Contract Documents. The Contractor is responsible for dimensions to be confirmed and correlated at the job site, for information that pertains solely to fabrication processes or to techniques of construction and installation, and for coordination of the work of all subtrades.
- 1.4.7 The Contractor is to review each shop drawing and document the differences between the shop drawing submission and the description listed in the specification. If there are no differences listed, the Contractor implicitly declares the shop drawing meets all requirements of the Specification.
- 1.4.8 Ensure at least one copy of the reviewed Shop Drawings is kept on site at all times for reference.

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- 1.4.9 Prepare all Drawings in SI units.
  - 1.4.10 Shop Drawings to include the following:
    - 1.4.10.1 Indicate details of construction, dimensions, capacities, weight and electrical performance characteristics of equipment or material.
    - 1.4.10.2 Where applicable, include wiring, single line and schematic diagram including interconnect with work of other sections.
    - 1.4.10.3 Include manufacturer's special installation instructions where applicable.

## 1.5 FIELD DRAWINGS

- 1.5.1 Submit, to the General Contractor, Drawings accurately showing all openings for busducts, conduits, etc. Drawings must include the size of openings and their locations by dimensions, including the location of the structural members framing these openings. Each trade will be responsible for detail layout of their own work.
- 1.5.2 Assume full responsibility for the detailed coordination of all Division 16 work. Prepare Field Drawings to determine the exact location of each service. On these drawings, include all mechanical and electrical services, architectural features, and structural details. If a conflict becomes apparent after the installation of services, pay all costs associated with removing and reinstalling these services.
- 1.5.3 If the General Contractor separates the Communication, Security or similar work from the other work of Division 16, the General Contractor assumes full responsibility for this coordination work including the preparation of the Field Drawings.

## 1.6 AS-BUILT DRAWINGS

- 1.6.1 The Contractor will be provided with the Electrical Drawings in AutoCAD Version 2010 compatible electronic format. The Contractor is to plot and print Drawings from the disc.
- 1.6.2 Revise and maintain the prints as work progresses. Show all revisions, relocations and changes, to scale. Use colour markings.
- 1.6.3 Contractor shall take as-built measurements, prior to backfill, of all buried ductbanks and conduits under floor slab. Show routing, depths and dimensions from fixed points on as-built drawings.
- 1.6.4 Transfer information from the marked prints to AutoCAD format on a monthly basis. Have the marked prints and updated AutoCAD prints on site for review by the Consultant at all times. Monthly draws will not be approved unless all changes have been shown.
- 1.6.5 Prior to testing and final commissioning, complete the transfer of all information to the AutoCAD Drawings. The Drawing format is to match exactly the layering system of the Consultant. Mark Drawings "As-Built Drawings" and insert name and logo of Contractor. Bind all xrefs. Submit one set of As-Built Drawing prints for review by the Consultant. Remove Engineers Stamp. Include Contractors Name and Logo.

1.6.6 Submit completed As-Built Drawings in AutoCAD Version 2010 format and one set of Reproducible Drawings with the Operating and Maintenance Manuals.

1.6.7 For the purposes of Contract payments, As-Built Drawings will be assumed to have a value of \$1,000. This will not be released until As-Built Drawings have been accepted as complete and acceptable by the Consultant. This amount is in addition to the normal 10% holdback required by the Construction Lien Act, 1983.

## 1.7 SIMULTANEOUS PROJECTS

1.7.1 Other projects may be under construction simultaneously on this site during the course of this construction project. The Owner will not be the "constructor" as defined by The Ontario Health & Safety Act & Regulations. This Contractor is to maintain a separation between this project and all other Contractors, by time or space, as defined by The Ontario Health & Safety Act & Regulations.

## 1.8 CONFLICTS AND PRECEDENCE

1.8.1 Immediately upon discovery of any conflict, ambiguity, error or omission in the Contract Documents, request clarification in writing from Consultant prior to starting the work in questions.

1.8.2 Failure to give such written notice will constitute an irrevocable waiver and release of any claim for additional compensation or delays incurred.

1.8.3 Where work fails to conform to Contract Documents, as clarified by Consultant, promptly remove and replace such work as directed, without adjustment to Contract price.

## 1.9 MAINTENANCE AND OPERATING INSTRUCTIONS

1.9.1 For the Electrical Division 16 work only, assemble three sets of equipment literature (cuts), operating instructions, maintenance instructions, voltage test results, certificate, other pertinent data and Letter of Warranty. Place in three ring binders, complete with index pages, indexing tabs and cover identification at front and side. Submit to Consultant for approval.

1.9.2 Make changes or submit additional information as required to obtain approval. Final Certificate of Completion will not be issued until the Consultant possesses approved sets. Include copies of reviewed Shop Drawings and name and address of Spare Parts' Suppliers with manuals.

1.9.3 The following information is to be contained within the Sections:

1.9.3.1 **Section 1:** A list of names, addresses and telephone numbers of the Consultants, General Contractor and Electrical Contractor. Written warranty of the Electrical systems.

1.9.3.2 **Section 2:** Electrical Safety Authority Inspection Permit, Fire Alarm Verification Report and Certificate, Emergency Lighting Verification Letter.

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**1.9.3.3 Remaining Sections - By Specification Section**

- 1.9.3.3.1 A list of names, addresses and telephone numbers of all suppliers. A copy of all reviewed Shop Drawings.
- 1.9.3.3.2 A complete and comprehensive maintenance and operating instructions details D (daily), W (weekly), M (monthly), SA (semi-annually), A (annually) for maintenance.
- 1.9.3.3.3 Copies of warranties.
- 1.9.3.3.4 Complete control diagrams, wiring diagrams and description of applicable control systems and the functioning of the system.

**1.10 REGULATIONS AND PERMITS**

- 1.10.1 Carry out the work in accordance with the latest editions of relevant codes, local bylaws, and requirements of local Authority Having Jurisdiction. Apply for and obtain permits and pay all fees. Consultant will submit Drawings to Electrical Safety Authority if required.
- 1.10.2 Enforce all prevailing Provincial and local safety regulations at all times. Abide by all Owner's safety and security policies and procedures and conform to all regulations of the current Occupational Health & Safety Act.
- 1.10.3 After completion of the work, furnish to Consultant a Certificate of Unconditional Approval from Inspecting Authorities.

**1.11 MATERIAL AND EQUIPMENT**

- 1.11.1 Where an item of material or any equipment is specifically identified by a manufacturer's trade name and/or catalogue number, make no substitution except as provided for in paragraphs 3, 4 and 5 below.
- 1.11.2 In the case of some items of equipment, one or more additional names of acceptable equal manufacturers are listed in the Clause describing an item or a group of items. The design, layout, space allocation, connection details, etc., are based on the products named first in the description of each item. The products named first in the description of each item establish the quality of manufacture and design standards for all other manufacturers of that item. The general approval indicated by listing the names of other manufacturers is subject to final review of Shop Drawings, performance data, test reports, production samples (if required) by Consultant, and equipment shipped to site. Ensure that the products used meet the requirements specified and as shown on the Contract Drawings.
- 1.11.3 Suppliers wishing to submit other items of equipment for approval as an equal to those specified must apply to the Consultant at least 8 working days before Bid closing date. Requests must be accompanied by complete description and technical data on the items proposed. Approval for substitution of equipment will only be given on the understanding that all details, accessories, features and performance meet the Specifications unless otherwise stated. Deviations from the Specifications must be stated in writing at time of application for approval.



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- 1.11.4 Include in the Bid, the equipment named in the Specifications or approved as an equal as in paragraph 3 above. This will form the Base Bid. Any number of alternative bids, as defined below, may be included in addition to the Base Bid.
- 1.11.5 Items of equipment by Manufacturers not named in the Specifications may be offered as alternatives to the manufacturers named in the Specifications. The alternative proposals must be accompanied by full descriptive and technical data, together with the statement of amount of addition or deduction from the Base Bid, if the alternative is accepted. Prior approval by the Consultant is not required on items submitted as alternative bids.
- 1.11.6 After execution of the Contract, substitution of equipment will be considered only if equipment accepted cannot be delivered in time to complete the work in proper sequence, or if the manufacturer has stopped production of the accepted item. In such cases, requests for substitution must be accompanied by proof of equality and difference in price and delivery, in the form of Certified Quotations from Suppliers of both specified and proposed equipment. Credit any decrease in price involved in substitution to the Owner by reduction of the Contract Price. The Contractor will not be reimbursed for any such increase in price.
- 1.11.7 Where equipment other than the equipment used as a basis for design, layout and space allocation is used, produce and submit revised layouts of equipment, pipes, ducts, etc., in the areas affected. Submit these Drawings with the Shop Drawings. Failure to produce these Drawings is indication by the Contractor that they are not required and the original space allocations are adequate for the substituted equipment.
- 1.11.8 Name the Subcontractors and Manufacturers in the Bid as indicated in Clause "List of Electrical Subcontractors and Manufacturers".
- 1.12 **INTERPRETATION OF CONTRACT DOCUMENTS**
- 1.12.1 The decision as to which trade provides required labour or materials rests solely with the Contractor. Extra payments will not be considered based on a difference in interpretation of the Contract Documents as to which trade involved provides materials or labour for specific items of work. The Consultant will not enter into such discussions.
- 1.13 **SITE VISITS**
- 1.13.1 The Electrical Contractor shall have an office representative (not site personnel) at each site meeting and deficiency review. Attendance at these meetings is mandatory.
- 1.14 **PROGRESS DRAWS**
- 1.14.1 Electrical Contractor shall review all supplier and subcontractor draws submitted to their office to ensure they are fair and reasonable for the amount of work completed on site to date prior to submitting to the General Contractor. Electrical Contractor will be responsible for the validity of supplier and subcontractor draw claims.

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**1.15 WARRANTY**

1.15.1 Warranty all workmanship, material and equipment supplied by Division 16 for one year after Substantial Completion except where specifically specified otherwise. Make good damage caused due to defects and workmanship.

1.15.2 Where equipment specified in Sections of Division 16 to have an extended warranty period, e.g. five years, the first year of the warranty period will be governed by the terms and conditions of the warranty in the Contract Documents, and the remaining years of the warranty will be direct from the manufacturer and/or supplier to the Owner. Submit signed and dated copies of the extended warranties to the Consultant before applying for a Certificate of Substantial Performance of the Work.

**1.16 DIMENSIONS AND QUANTITIES**

1.16.1 Dimensions shown on Drawings are approximate. Verify dimensions by reference to Shop Drawings and field measurement.

1.16.2 Verify equipment access and coordinate with equipment supplier to ensure equipment can be physically transported to installation location. Under no circumstances will any claim be allowed for extra cost to disassemble and/or assemble equipment at the final location which will be considered as part of equipment installation.

1.16.3 Quantities or lengths indicated in any of the Contract Documents are approximate only and will not be held to gauge or limit the work. No adjustment to the Contract Price will be allowed to complete the work.

1.16.4 Provide labour, products and services specified, but not shown on Drawings and vice versa, and all other labour, products and services necessary for completion of the work.

1.16.5 Make any necessary changes or additions to routing of conduit, cables, cable trays, and the like to accommodate structural, mechanical and architectural conditions, without adjustment to Contract price.

1.16.6 Provide work in accordance with the approved Schedule to meet completion date and specified interim Schedules.

**1.17 COOPERATION BETWEEN TRADES**

1.17.1 Cooperate and coordinate with other trades as required for satisfactory and expeditious completion of work. Take field dimensions relative to work. Fabricate and erect work to suit field dimensions and field conditions. Pay cost of extra work caused by and make up time lost as result of failure to provide necessary cooperation information or items to be fixed to or built-in, in adequate time.

**1.18 COOPERATE WITH OWNER'S STAFF**

1.18.1 Maintain close cooperation with Owner's staff. The Owner will determine the times during which work may be carried out in certain areas. If the work cannot be completed in the allowed time, the Contractor may be required to clean up the area and finish the work at some future time.

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- 1.18.2 Shutdowns will be scheduled during unoccupied times. Include any overtime wages due to conditions stipulated above in the Bid Price.
- 1.18.3 Provide seven day's minimum notice, in writing, prior to any interruptions of service or restriction of use of any service.
- 1.18.4 Provide all phase testing, as required, prior to disconnecting existing and connecting new to avoid damage to equipment.
- 1.18.5 The Owner's operations must take precedence over Contractors' operations at all times. Interruptions due to noise, drilling, etc., will not be allowed without Owner's prior approval.
- 1.18.6 Include any overtime wages due to conditions stipulated above in the Bid Price.
- 1.19 **EXAMINATION OF DAMAGED DEVICES**
- 1.19.1 Report all damaged, defective and non-functioning devices and equipment shown for reinstallation or relocation to the Consultant prior to removal and storage. All devices and equipment will be assumed to be fully functional unless reported otherwise prior to removal.
- 1.19.2 Devices and equipment damaged during removal, storage or reinstallation will be replaced at no cost to the Owner.
- 2 Products
- 2.1 **MATERIALS**
- 2.1.1 Use materials specified herein or approved equal as defined in Clause "Material and Equipment".
- 2.2 **BACKFILL**
- 2.2.1 Use backfill material in accordance with the requirements of Division 2 unless specified or shown otherwise.
- 2.3 **CONCRETE**
- 2.3.1 Use concrete in accordance with the requirements of Division 3 unless specified or shown otherwise. Use red pigmentation when used as mechanical protection for electrical equipment.
- 3 Execution
- 3.1 **GENERAL**
- 3.1.1 Instruct and supervise other Sections doing related work.
- 3.1.2 Supply the measurements of equipment to other Sections to allow for necessary openings to be left in the work of other Sections.
- 3.1.3 Install conduit, which is to be concealed, neatly and close to building structure so that the necessary furring can be kept as small as possible.

3.1.4 Carry out all work in accordance with the latest regulations of the Ontario Electrical Safety Code and all applicable Municipal, Provincial and Federal Codes and Regulations. In no instance, however, is the standard established by the Drawings and Specifications, to be reduced by any of the Codes referred to above.

### 3.2 STORAGE OF MATERIALS

3.2.1 Provide proper weatherproof storage for the protection of materials and equipment on site. Blank off openings in all equipment until required for use. Consultant may require materials which are not properly stored to be discarded and removed from the site.

### 3.3 EXCAVATION AND BACKFILL

3.3.1 Be responsible for any excavation and backfill required for work of Division 16. Slope or shore all trenching in accordance with all current regulations and safety standards. Where any conduits pass under building footings, backfill under footings with lean concrete.

3.3.2 Use materials and standards of compaction for backfill in accordance with Division 2 unless specified otherwise.

3.3.3 If changes are required in locations, depth of excavating or related data, advise the Consultant in reasonable time to avoid disruption of work sequence.

### 3.4 CONCRETE WORK

3.4.1 Arrange for the supply and pouring of all concrete required for the Electrical work. Include the cost of this in the Lump Sum Contract Price for the Electrical work of this project.

3.4.2 Carry out all concrete work in accordance with requirements of Division 3. Provide wire mesh, rebar and all necessary reinforcing.

### 3.5 SUPPORTS AND BASES

3.5.1 Provide structural work required for installation of equipment provided under this Division.

### 3.6 PAINTING

3.6.1 Touch up minor damage to finish on equipment supplied with factory applied baked enamel finish. Completely refinish items suffering damage which, in the opinion of the Consultant, is too extensive to be remedied by touchup.

3.6.2 Include the cost of all painting in the Lump Sum Contract Price for the work of Divisions 16.

### 3.7 IDENTIFICATION

3.7.1 Colour code control wiring consistently throughout the installation and generally match colour coding of internal wiring of pre-wired components. Match existing colour coding in use on site. Verify with Owner prior to installation.

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- 3.7.2 All branch circuits shall be:
- Phase A - red
  - Phase B - black
  - Phase C - blue
- 3.7.3 Identify all disconnects, starters, and other control equipment with lamacoid nameplates indicating the equipment controlled and all panels, transformers, etc identifying equipment name.
- 3.7.4 Lamacoid labels to be mechanically attached with self-tapping screws or rivets. Lamacoid labels attached using adhesive methods are not acceptable.
- 3.7.5 Identify all pull boxes, junction boxes or octagon boxes located in the ceiling cavity with the exact use of the box, including circuits contained within. Felt pen is acceptable.

### 3.8 TESTING

- 3.8.1 All systems must be thoroughly tested before arrangements are made for the final demonstration in the presence of the Owner's staff. Systems to be tested are:
1. Lighting Control Systems

### 3.9 TEMPORARY ELECTRICAL FACILITIES FOR CONSTRUCTION

- 3.9.1 Temporary electrical power is available at the site. Cooperate with owner for use of this power.
- 3.9.2 Tie in at one location only, as directed. Distribute temporary power from this location.
- 3.9.3 Arrange and pay for the cost of inspection of the temporary service.
- 3.9.4 Notify the monitoring company and Owner each and every time a part of the fire alarm system is shut down and reactivated.
- 3.9.5 Completely remove all temporary facilities when they are no longer required.
- 3.9.6 Provide minimum two 120V 20A GFCI receptacles, on dedicated circuits, per 150 m<sup>2</sup> construction area.
- 3.9.7 Temporary power requirements stipulated in this Section, do not include provisions for electric space heating, electric welders, or any other item of equipment which requires either a 3 phase supply or connection to a single phase circuit rated in excess of 20 amperes. Any trade using equipment which falls into above categories is to be responsible for providing additional facilities required for such equipment, including any increased sizing. This Division is responsible to see the connection to the temporary system is safe.
- 3.9.8 Use non-metallic sheathed cable, Type NMW-10, #12 AWG, manufactured in accordance with CSA Spec. C22.2 No. 38, for all temporary lighting branch circuit wiring.

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**3.10 EQUIPMENT SCHEDULE**

- 3.10.1 Equipment Schedules are as shown on Drawings.
- 3.10.2 In general, the motor or item numbers shown in the Equipment Schedules coincide with those numbers shown for Mechanical Trades.

**3.11 GROUNDING**

- 3.11.1 Ground all components of the Electrical system in accordance with the requirements of Section 10 of the Ontario Electrical Safety Code latest edition and the Inspection Authority.
- 3.11.2 Provide a separate green ground conductor in all raceways.
- 3.11.3 Ground secondary neutrals of transformers to building ground conductor.
- 3.11.4 Where attached to equipment, conduits, cabinets, etc., use suitable approved solderless lugs, compression connectors. No soldered or split bolt type connections are to be used on grounding circuits at any point.
- 3.11.5 All compression connectors, lugs, etc., used in grounding circuits in any location are to have bolts, nuts, etc., of silicone bronze alloy equal to "Everdur" metal.
- 3.11.6 Clean all surfaces to which bus or cable are to be bolted, of all paint, rust, etc., and work to a bright, flat surface.
- 3.11.7 Conduit expansion joints and telescoping sections or metal raceways not thoroughly bonded otherwise, are to be provided with approved bonding jumpers or not less than #8 AWG stranded bare copper.
- 3.11.8 Provide a separate #14 green ground wire for all isolated ground receptacles.

**3.12 MAINTENANCE OF EXISTING SERVICES**

- 3.12.1 Take every precaution to locate and protect existing services so that no interruption occurs. If any existing service is damaged due to the work of this Division, arrange and pay for repair. Bear any costs due to interruption of existing services.
- 3.12.2 Be responsible for maintaining continuity of existing services, and for programming work so that the Owners can carry out their normal business uninterrupted, with the exception of scheduled shutdowns for connection to or rerouting of existing services, at a time agreed to by the Owners, on weekdays, over weekends or after normal working hours.
- 3.12.3 Permission from the Owner is required before making any connections to or rerouting of existing services. Give seven days prior notice to the Consultant and Owner.

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**3.13 PROTECTING AND MAKING GOOD**

- 3.13.1 Be responsible for protection of Owner's property, as well as finished and unfinished work, from damage due to execution of work under this Contract. Repair damage resulting from failure to provide such protection to the satisfaction of the Consultant, at no expense to the Owner.
- 3.13.2 Attach and fasten fixture and fittings in place in safe, sturdy, secure manner so that they cannot work loose or fall or shift out of position during occupancy of building, as the result of vibrating or other causes in normal use of building.
- 3.13.3 Coordinate and cooperate with other trades, taking into account existing installations, to assure best arrangement of equipment in available space. For critical locations, prepare interference and installation drawing showing work of various sections as well as existing installations, for approval before commencing work.
- 3.13.4 All new equipment shall be delivered to site wrapped in plastic and removed only after room is thoroughly cleaned and painted, if applicable. Where existing or new equipment must be operational throughout construction in adjacent spaces, ensure door sweeps are installed and mechanical ventilation systems are fully operational. Provide filters with minimum filtration rate of 10 micron (MERV 5) on all make-up air and supply ducts. Ensure filters are regularly changed to maintain adequate airflow.

**3.14 REMOVAL OF EXISTING MATERIAL AND EQUIPMENT**

- 3.14.1 Remove existing material and equipment where shown or specified. Equipment such as Fire Alarm devices, and any other special devices are to be turned over to the Owner. Relocate these items to a designated storage site as directed by Owner. Other material and equipment which is removed becomes the property of the Contractor, and must be immediately removed from the site.

**3.15 PROJECT COMPLETION**

- 3.15.1 All new luminaires, wiring devices, cover plates and other equipment provided by Division 16 shall be thoroughly cleaned at end of construction prior to turning area over to Owner. Items to be cleaned using damp cloth unless noted otherwise in manufacturer literature.
- 3.15.2 All plated surfaces to be polished using manufacturer's recommended cleaning instructions.

**3.16 REBATES AND INCENTIVES**

- 3.16.1 Provide all invoices and proof of purchase documentation to Owner as requested for application by Owner for rebates and incentives. All incentives will be paid to the Owner.

**3.17 DEFICIENCY REVIEW**

- 3.17.1 The Electrical Contractor shall confirm in writing that the work is complete and ready for inspection. The Consultant will schedule a site visit to review the work and provide a written deficiency list. Once deficiencies have been corrected, the Electrical Contractor shall confirm in writing to the Consultant that all deficiencies have been corrected. The Consultant will schedule a second site visit to review the correction

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of noted deficiencies. Should any noted deficiencies be found to be still outstanding, the Electrical Contractor shall correct them and again notify the Consultant in writing. Charges to the Electrical Contractor may result from repeat visits after the second visit.

**3.18 LIST OF ELECTRICAL MANUFACTURERS**

3.18.1 In the Bid documents, name the Manufacturers for the items listed below. Use only one name for each item. See Clause "Material and Equipment". Where the name of a manufacturer is not entered on the Bid Form, the Contractor will be required to use the base specified manufacturer.

**3.18.2 Manufacturers**

Luminaires (by Type)  
Wiring Devices

**END OF SECTION**



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- 1 General
- 1.1 **GENERAL REQUIREMENTS**
- 1.1.1 Conform to the requirements of Section 16001, "Electrical General Provisions".
- 1.2 **DESCRIPTION OF SYSTEM**
- 1.2.1 Provide all new wiring and raceways where noted on plans. Where possible, conceal all wiring and raceways below grade. See Section 16001, "Electrical General Provisions".
- 2 Products
- 2.1 **MATERIALS**
- 2.1.1 Use materials specified herein or approved equal as defined in Clause "Material and Equipment".
- 2.1.2 All outlet boxes, wiring devices, equipment and accessories must be C.S.A. approved and be designed for the application intended.
- 2.2 **RACEWAYS**
- 2.2.1 Use conduit expansion coupling for expansion joint crossing.
- 2.2.2 Use rigid PVC underground and in concrete floors, unless otherwise noted. Provide marking tape for underground installations in accordance with Ontario Electrical Safety Code.
- 2.2.3 For exterior above grade installations, use rigid aluminum conduits and fittings. All boxes and conduit bodies shall be die-cast, copper-free aluminum with aluminum covers and neoprene gaskets.
- 2.2.4 Fasten all raceways with approved supports. Use clamps and all mounting hardware of the same material as the conduit or compatible material to prevent galvanic corrosion.
- 2.3 **CONDUCTORS**
- 2.3.1 Aluminum conductors are NOT permitted on this project.
- 2.3.2 Use minimum copper #10 AWG RWU-90XLPE for below grade branch circuit wiring and copper #12 AWG RWU-90XLPE for pole riser wiring.
- 2.3.3 Use RWU-90XLPE wire in all below grade locations.
- 2.3.4 Use all wire and cable insulation rated 600 volts minimum unless specified otherwise.
- 2.4 **OUTLET BOXES**
- 2.4.1 Use only masonry approved boxes in concrete and masonry construction.

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- 2.4.2 Use weatherproof surface mounted boxes c/w cover and tamper proof fasteners.
- 3 Execution
- 3.1 **GENERAL**
- 3.1.1 Unless shown otherwise, the minimum size of all raceways and conductors to be in accordance with the Ontario Electrical Safety Code.
- 3.2 **CONDUIT INSTALLATION**
- 3.2.1 Run parallel or perpendicular to building lines, where possible.
- 3.2.2 Group conduits wherever possible within same trench.
- 3.2.3 In any case, horizontal runs must be located above level of door or transom frames in area
- 3.2.4 Vertical conduits must be supported at each floor slab and at the top and bottom of each riser.
- 3.2.5 Conduits must be supported from building structure.
- 3.2.6 Maintain continuity of ground through all connection points. Use sealer lubricant on all threaded connections embedded in concrete, buried in ground or exposed outdoors.
- 3.2.7 Leave all conduit systems finished complete with outlet boxes, coverplates, bushings, caps, nylon fish wire, etc. Provide bushings for all sleeves.
- 3.3 **CONDUCTORS**
- 3.3.1 Join #8 AWG and larger conductors with compression connectors properly sized. On #10 AWG and smaller, relaxed wing-nut type connectors may be used. Ideal Industries 451, 452 or 453.
- 3.3.2 Size conductors for a maximum of 2% voltage drop from the supplying panel to the furthest outlet in the circuit. In calculating voltage drop, use 80% of overcurrent rating or design load where known, whichever is less.
- 3.3.3 Draw wiring into raceways only after all other work that may cause injury to the wire is completed. Use only wiring lubricants that do not shorten insulation life. Use continuous lengths for feeders to panels and large equipment. Do not splice without permission from Consultant.
- 3.4 **GROUNDING**
- 3.4.1 Ground all components of the Electrical system in accordance with the requirements of Section 10 of the Electrical Safety Code latest edition and the Inspection Authority.
- 3.4.2 **Provide a separate ground conductor in all raceways.**
- 3.4.3 Ground secondary neutrals of transformers to building ground conductor.

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- 3.4.4 Where attached to equipment, conduits, cabinets, etc., use suitable approved solderless lugs, compression connectors. No soldered or split bolt type connections are to be used on grounding circuits at any point.
- 3.4.5 All compression connectors, lugs, etc., used in grounding circuits in any location are to have bolts, nuts, etc., of silicone bronze alloy equal to "Everdur" metal.
- 3.4.6 Clean all surfaces to which bus or cable are to be bolted, of all paint, rust, etc., and work to a bright, flat surface.
- 3.4.7 Conduit expansion joints and telescoping sections or metal raceways not thoroughly bonded otherwise, are to be provided with approved bonding jumpers or not less than #8 AWG stranded bare copper.
- 3.4.8 Provide a separate #14 green ground wire for all outlets connected to a GFCI circuit breaker.
- 3.5 **OUTLET BOXES**
- 3.5.1 Support all boxes independently of the conduits running to them.
- 3.5.2 Check the Drawings to ensure that no outlets are roughed-in at inaccessible locations, where other equipment is installed or are to be installed.

**END OF SECTION**

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PART 2 - PRODUCTS

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Lighting Poles .....	2.4
LED Luminaires .....	2.2
Luminaire Noise .....	2.3

PART 3 - EXECUTION

Luminaire Schedule .....	3.1
Replacement Luminaires .....	3.2

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- 
- 1 General
- 1.1 **GENERAL REQUIREMENTS**
- 1.1.1 Conform to the requirements of Section 16001, "Electrical General Provisions" and Section 16100, "Basic Materials and Methods".
- 1.2 **DESCRIPTION OF SYSTEMS**
- 1.2.1 **Lighting Systems**
- 1.2.1.1 Nominal 347 volt A.C.
- 1.2.1.2 Branch circuit wiring from 347/600 volt, 3 phase, 4 wire panelboards.
- 2 Products
- 2.1 **GENERAL**
- 2.1.1 Use materials specified herein or approved equal.
- 2.1.2 Use the product of only one manufacturer for each type of luminaire.
- 2.1.3 Refer to Luminaire Schedule on Drawings.
- 2.2 **LED LUMINAIRES**
- 2.2.1 All LED luminaires must bear an approved certification mark as per Ontario Electrical Safety Code Bulletin 2-7-29. A UL certification mark without the 'c' is not an approved certification mark.
- 2.2.2 **Luminaires designed for LED lamps with integral driver** as specified below shall adhere to LED lamp manufacturer guidelines, certification programs, and test procedures for thermal management to guarantee the minimum lamp life and lumen maintenance as specified below.
- 2.2.3 **Luminaires designed with integrated custom LED's.** shall be as specified on drawings or approved equal meeting the following requirements:
- 2.2.3.1 Only products from manufacturers that have been in the lighting manufacturing business for minimum of 10 years will be considered.
- 2.2.3.2 Modularity, shall be designed to allow for replacement of; driver, LED's, without specialized tools and without removing luminaire from the ceiling.
- 2.2.3.3 Performance - LED luminaire with custom lamps must exceed LED lamp parameters specified below for efficacy and lumen maintenance by minimum 15%.
- 2.2.3.4 Lumen Maintenance - at least 70% of initial lumens for at least 50,000 hours.
- 2.2.3.5 Minimum luminous efficacy 50 lumens per watt (lm/W).



2.2.3.6 Luminaires are to be complete with field adjustable light output. Contractor to provide one manual adjustment of each luminaire's output within three months of luminaire's operation.

2.2.3.7 Warranty - Written warranty covering repair or replacement for a minimum of five (5) years from the date of purchase. Warranty must be included with maintenance manuals and have a toll-free (e.g., "800") number, or mailing address, or web site address for consumer complaint resolution and future LED replacement upgrade.

## 2.3 LUMINAIRE NOISE

2.3.1 All ballasted luminaires are to be manufactured to reduce noise below ambient noise level.

2.3.2 Any luminaire or group of luminaires which can be heard above ambient noise are to be quietened or replaced at no additional cost to the Contract.

## 2.4 LIGHTING POLES

2.4.1 Luminaire supplier shall select lighting pole(s) as required to support the weight of the luminaire(s) and to withstand the effect of the maximum velocity winds and wind gusts to which it will be subjected based on the luminaire(s) Effective Projected Area (EPA). Additionally the rigidity of pole must prevent excessive vibration that a wind gust may cause.

2.4.2 The poles selection shall be based on specific wind conditions based on generally available maps that provide maximum expected wind velocities in the area of installation with a 30% gust factor and appropriate pole height factor.

2.4.3 In some locations; areas next to open field and/or low trees and housing, very large parking lots, etc. where wind speeds could be considerably higher than those in the surrounding areas use a greater wind speed value than is shown on the region wind map (Not less than 80 mph + 1.3 gust.) Generally poles higher than 25 ft shall be octagonal in cross section to prevent vibration.

2.4.4 Pole heights are specified in lighting luminaire schedule and the concrete base is not included in the height shown on schedule. Pole material shall be as specified in schedule. If material is not specified assume steel with a minimum five year corrosion warranty. For all base mounted poles include galvanized steel anchor bolts, base cover, one template for every six poles and all required brackets.

2.4.5 Poles to be complete with top cap, hand hole, and ground clip. Hand holes to be secured to pole with tamper resistant screws.

2.4.6 Poles to be complete with base plate cap. Bolt caps will not be accepted in place of base cover. Base cover must not extend beyond pole base.

2.4.7 Poles to be CSA certified

3 Execution

## 3.1 LUMINAIRE SCHEDULE

3.1.1 Refer to Drawings for luminaire type and description.

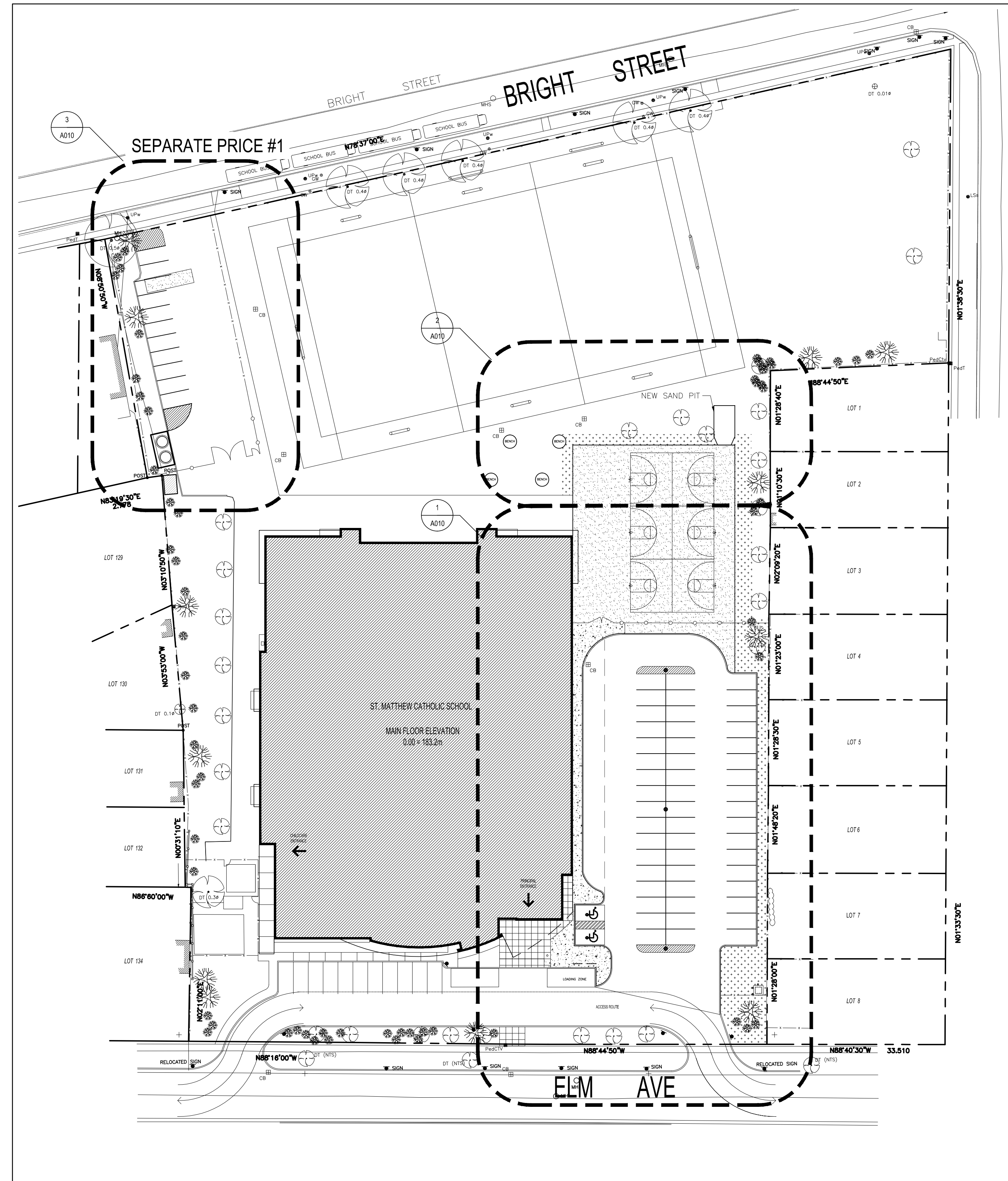
3.2 **REPLACEMENT LUMINAIRES**

3.2.1 Prior to ordering new luminaires to replace existing, Contractor to verify voltage of existing luminaires.

**END OF SECTION**

# ST. MATTHEW CATHOLIC SCHOOL PARKING EXPANSION

720 ELM AVE, SARNIA, ONTARIO



**ARCHITECT**  
**RANDY WILSON ARCHITECT INCORPORATED**  
 280 QUEENS AVE, SUITE 10,  
 LONDON, ONTARIO  
 N6B 1X3  
 T: (519)439-0611  
 F: (519)438-5962

**MECHANICAL AND ELECTRICAL CONSULTANTS**  
**CHORLEY & BISSET**  
 369 YORK STREET, SUITE 2B  
 LONDON, ONTARIO  
 N6B 3R4  
 T: (519) 679-8660  
 F: (519) 679-2145

**CIVIL CONSULTANT**  
**BM ROSS**  
 Box 400  
 2695 Hamilton Road  
 Brights Grove, Ontario  
 N0N 1C0  
 T: (519) 908-9564

**ARCHITECTURAL DRAWINGS**  
 A000 - COVER PAGE, CONSULTANTS, DRAWING LIST,  
 KEY PLAN  
 D010 - PART SITE DEMOLITION PLANS  
 A010 - PART SITE PLANS, ZONING, DETAILS OF  
 DEMOLITION

**CIVIL DRAWINGS**  
 1 OF 3 - SITE PLAN REMOVALS  
 2 OF 3 - SITE PLAN GRADING  
 3 OF 3 - DETAILS

**ELECTRICAL DRAWINGS**  
 E1 - PARTIAL SITE PLAN - LIGHTING

1 KEY PLAN  
SCALE 1:500

**NOTES**

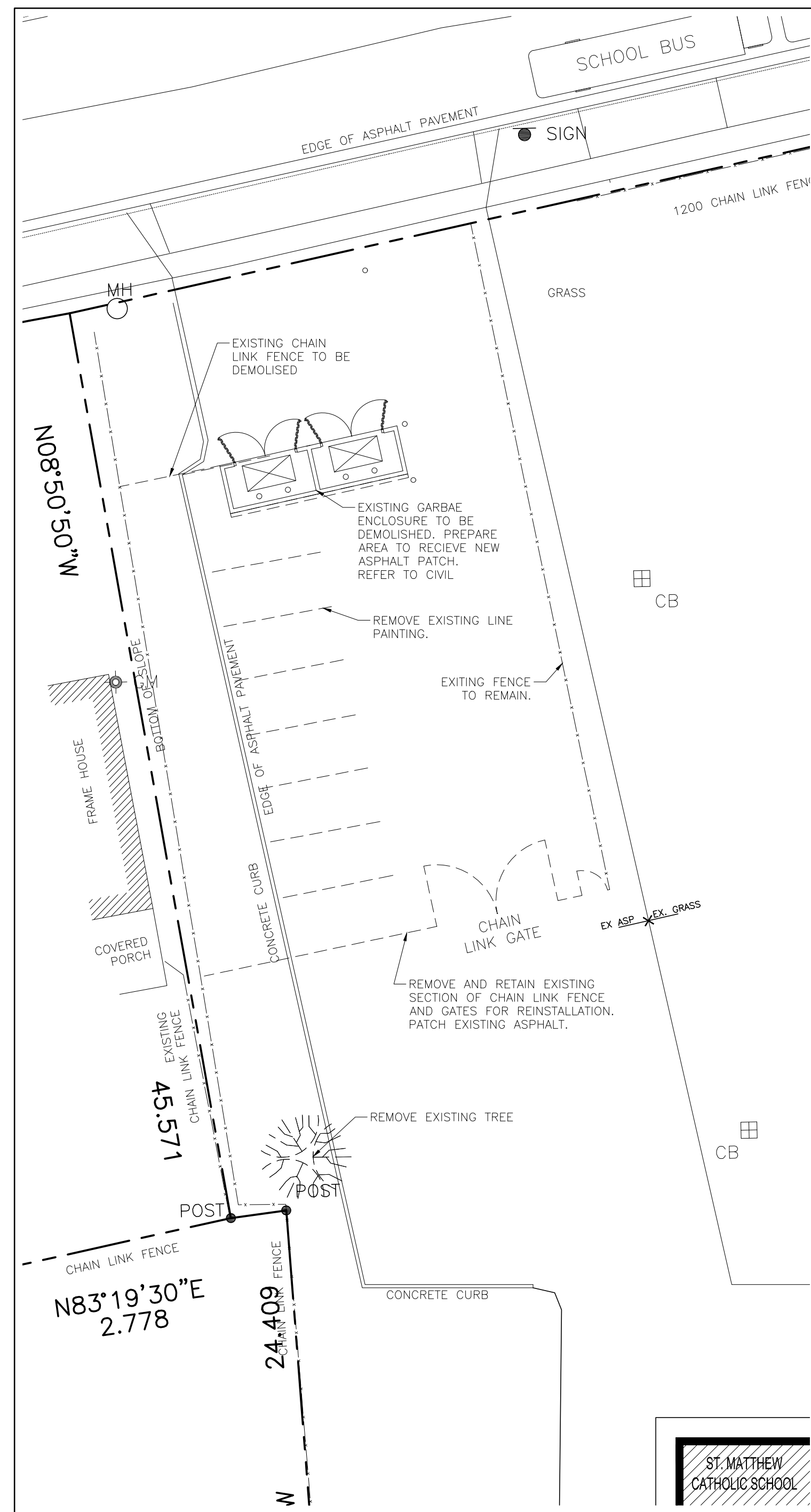
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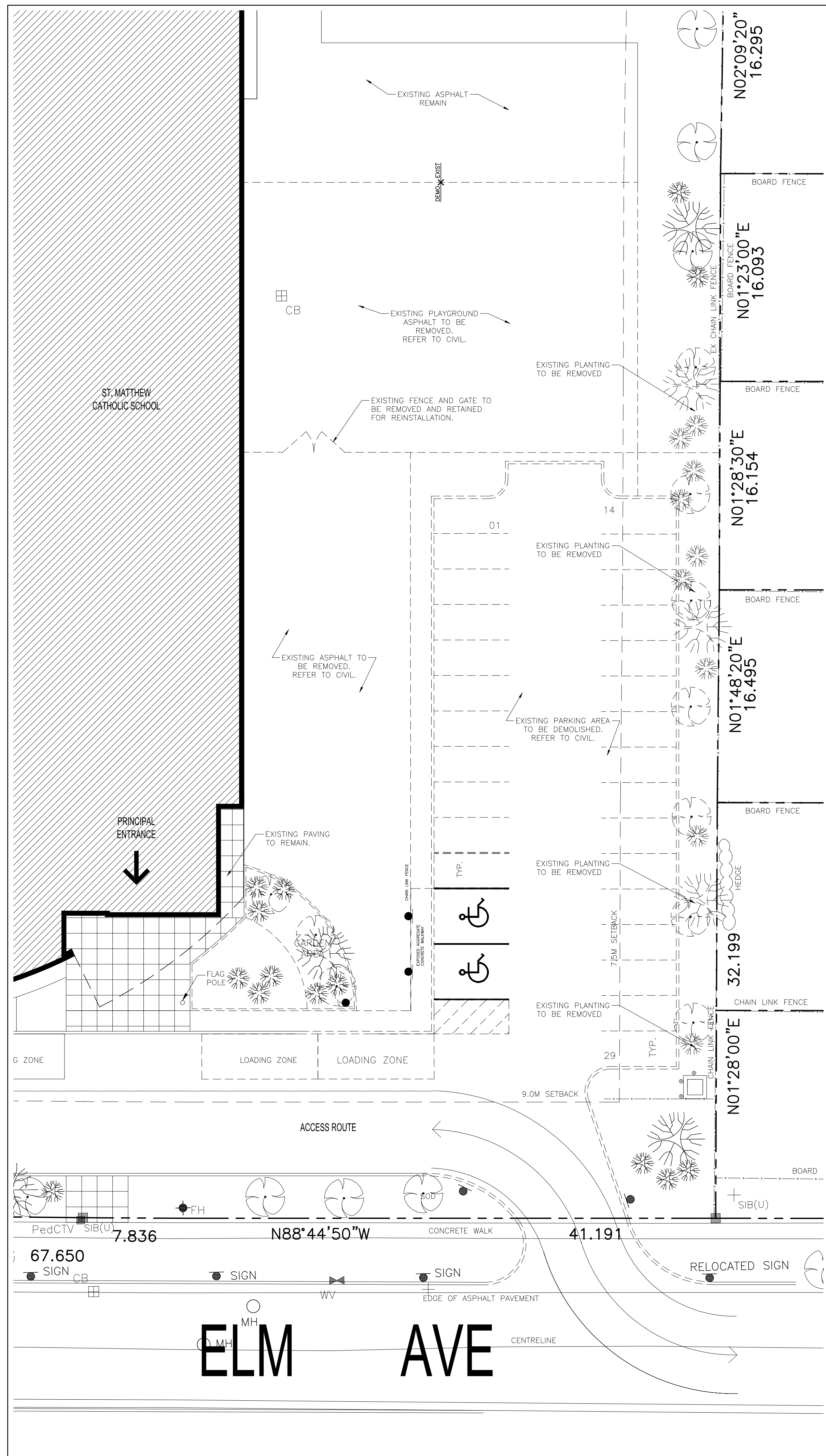
PROJECT TITLE:  
**ST. MATTHEW  
 CATHOLIC SCHOOL  
 PARKING EXPANSION**

DRAWING TITLE:  
**COVER PAGE  
 CONSULTANTS, DRAWINGS LIST  
 KEY PLAN**

DATE PLOTTED: 03/26/2018 4:47 PM	DRAWN: MFP	DRAWING No.:
SCALE: AS NOTED	CHECKED: RRW	<b>A000</b>
PROJECT No.:		1744



2 PART SITE DEMOLITION PLAN  
SCALE 1:200



1 PART SITE DEMOLITION PLAN  
SCALE 1:200

KEY PLAN

NOTES

LEGEND

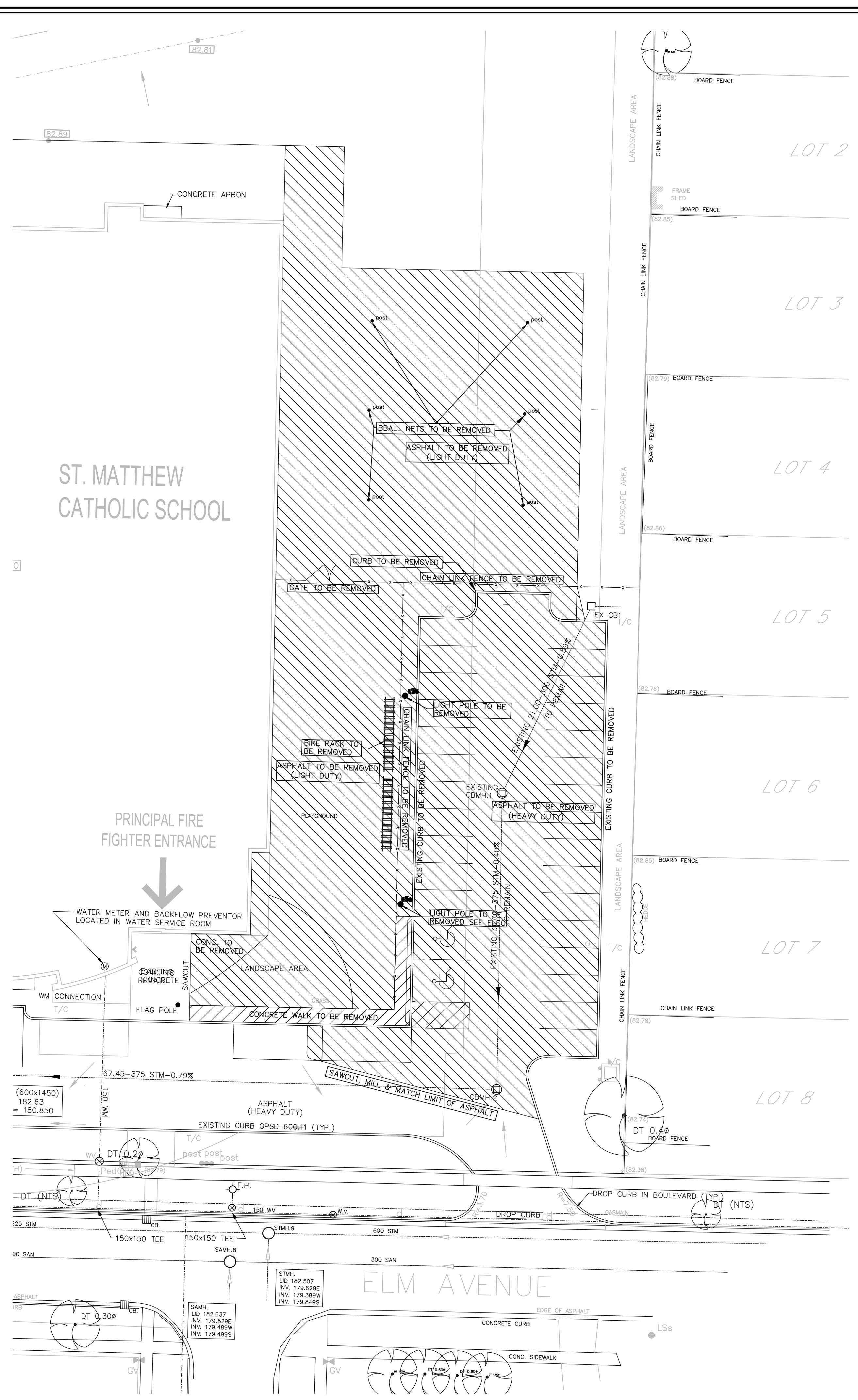
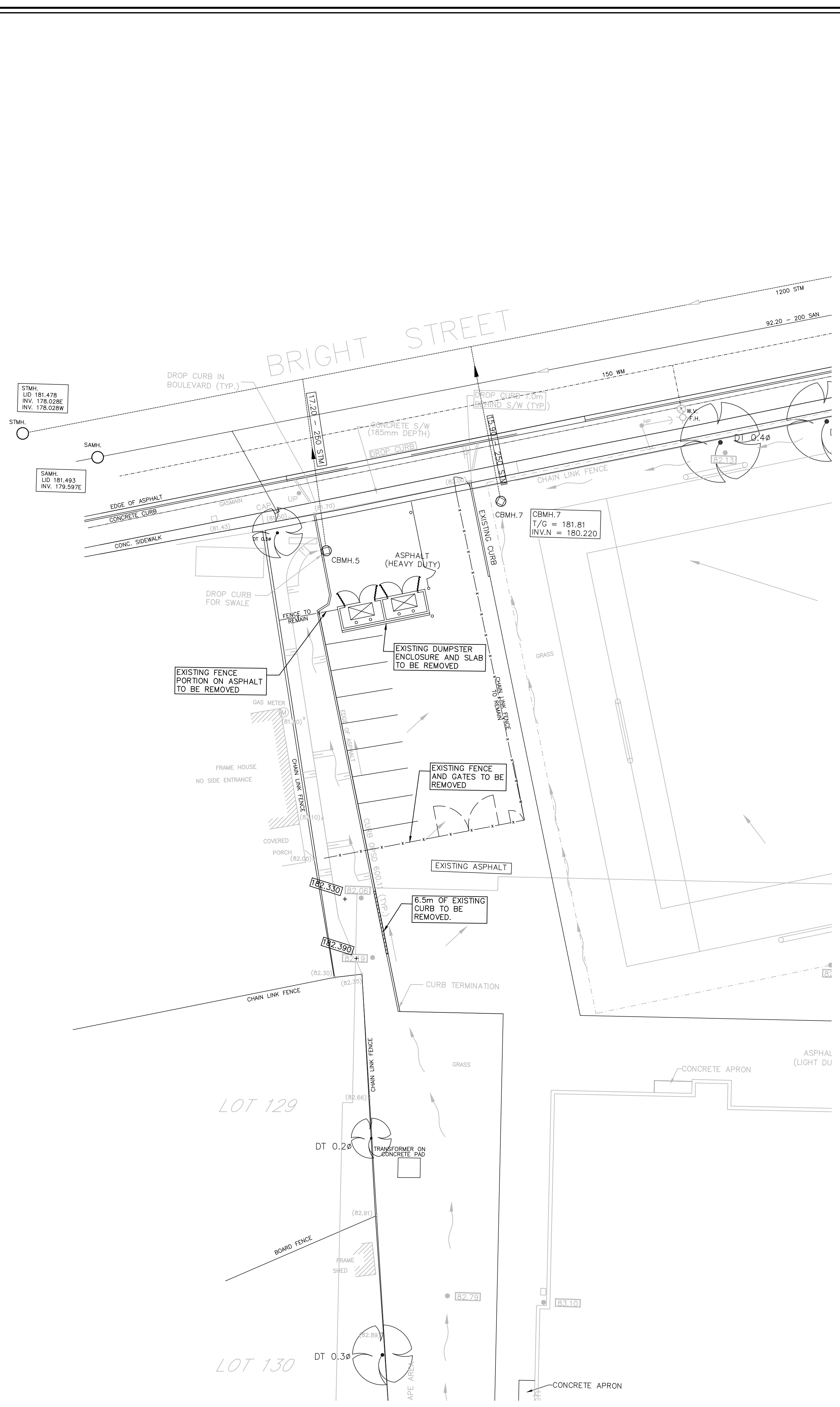
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03/22/2018	ISSUED FOR TENDER	1

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**ST. MATTHEW CATHOLIC SCHOOL PARKING EXPANSION**

DRAWING TITLE:  
**PART SITE DEMOLITION PLANS**

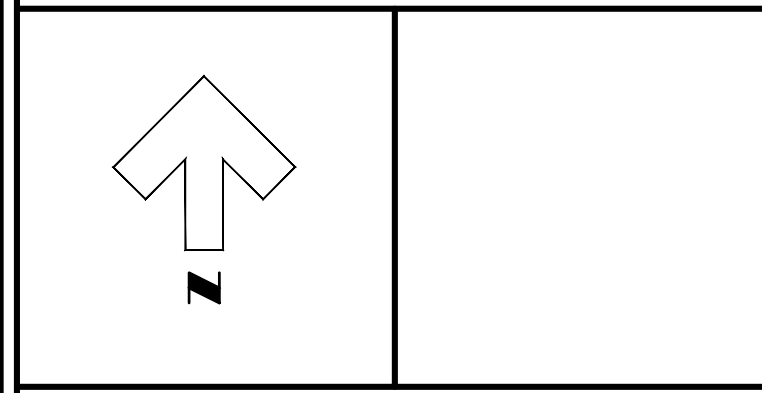
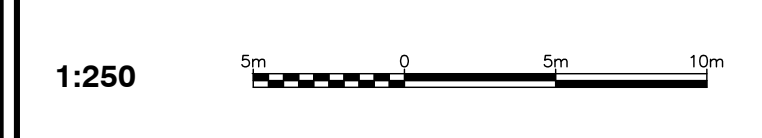
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SCALE: AS NOTED	CHECKED: RRW	<b>D010</b>
PROJECT No.:		1744





**LEGEND**

--- SAN. or STM.	EXISTING SEWERS, SANITARY or STORM
--- MH, CB	MANHOLE and CATCHBASIN
--- W	WATERMAIN
--- G	GASMAIN
--- T	UNDERGROUND TELEPHONE
--- H	UNDERGROUND HYDRO
--- T.V.	UNDERGROUND T.V. CABLE
--- U.P.	UTILITY POLES
--- GRUBBING	GRUBBING
--- REMOVE EXISTING CONC. SIDEWALK AND DRIVES	REMOVE EXISTING CONC. SIDEWALK AND DRIVES
--- PLACE TOPSOIL AND SOG	PLACE TOPSOIL AND SOG
--- PLACE CONC. SIDEWALK AND DRIVES	PLACE CONC. SIDEWALK AND DRIVES
--- REMOVE EXISTING ASPHALT PAVT	REMOVE EXISTING ASPHALT PAVT
--- PLACE HOT MIX ASPHALT	PLACE HOT MIX ASPHALT
--- EXISTING GRANULAR BASE TO REMAIN	EXISTING GRANULAR BASE TO REMAIN

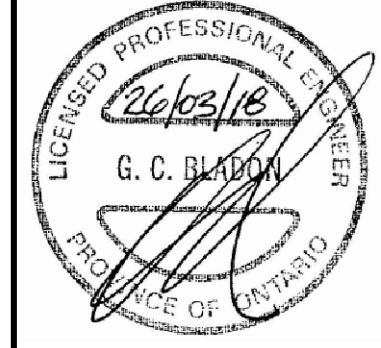


**NOTE**  
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**BENCHMARK INFORMATION**  
B.M. Elevation 183.572  
Top of spindle of fire hydrant in front of principle school entrance.

**BENCHMARK INFORMATION**

Design By: B.K. / D.S. Checked By: G.C.B.



No.	DATE	REVISION
1	Feb. 18	Preliminary
2	March 2018	For Approval
3	March 2018	For Tender



Goderich	Mount Forest	Sarnia
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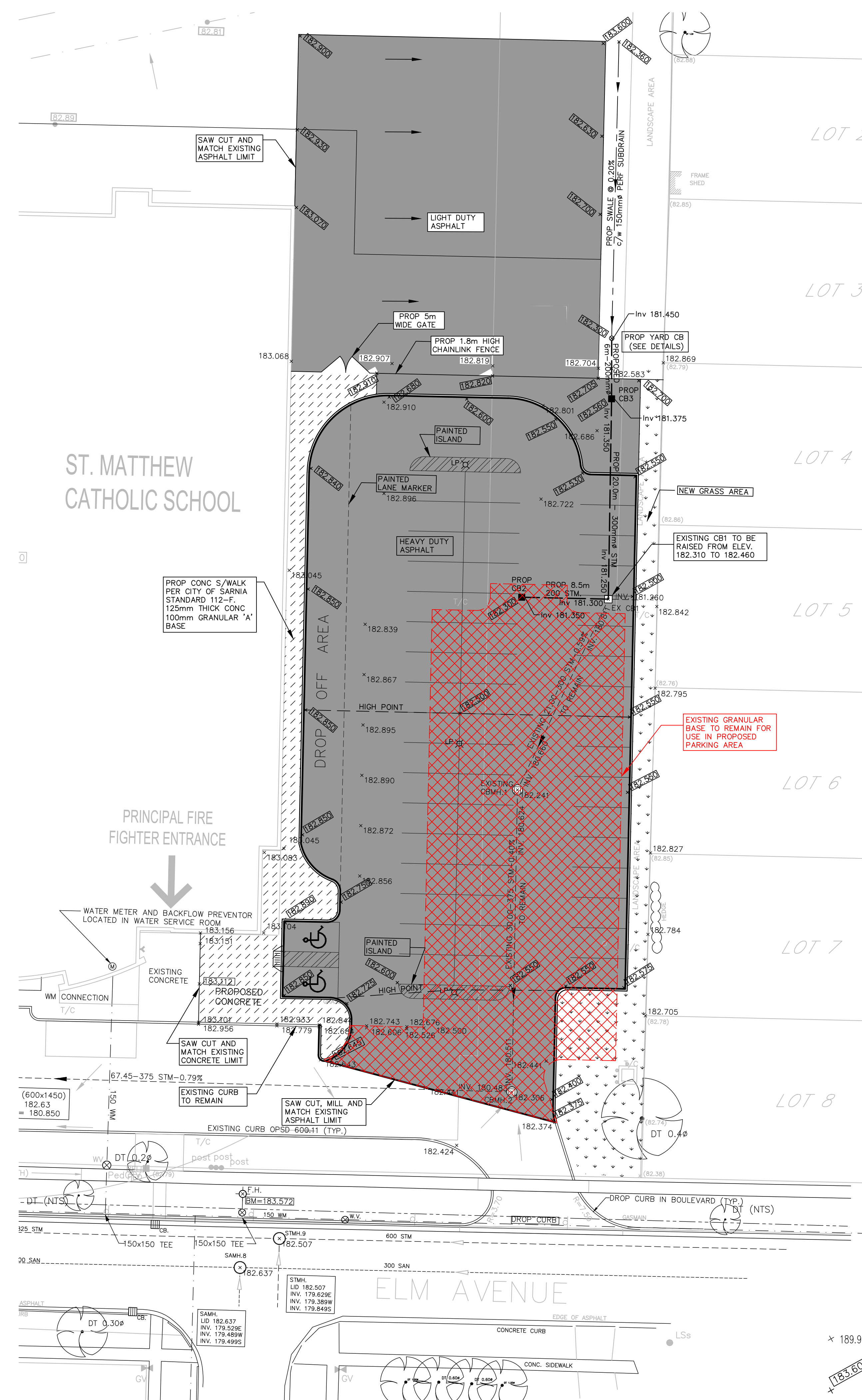
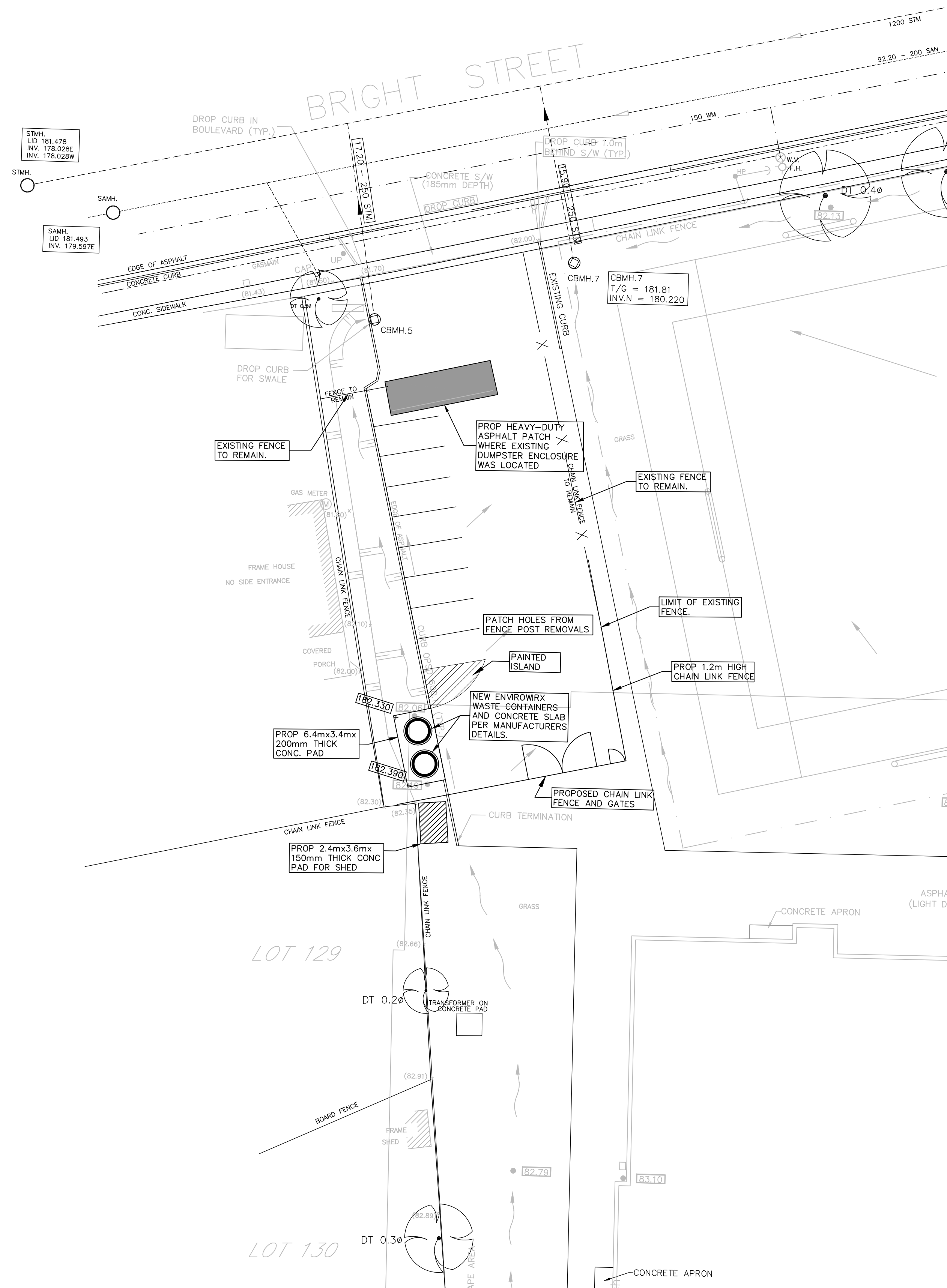
**St. Matthew Catholic School (Sarnia) Site Plan**  
Removals

<b>Contract No.</b>	<b>Project No.</b> 17323
<b>Scale</b> 1:250	<b>Drawing No.</b> 1 of 3

PROPOSED STORM M.H. & C.B. DATA			
No	Desc.	Grate	T/Grate
CB2	705.010	401.081	182.300
CB3	705.010	401.081	182.360
YARD CB	SEE DET.	SEE DET.	182.500
EX CB1	EXIST	EXIST	182.460

PROPOSED STORM SEWER DATA					
No to No	Size	Type	Class	Length	
STM CB2-EX CB1	200	PVC	DR35	8.5m	
EX CB1-STM CB3	300	PVC	DR35	20.0m	
STM CB3-YARD CB	200	PVC	DR35	6.0m	

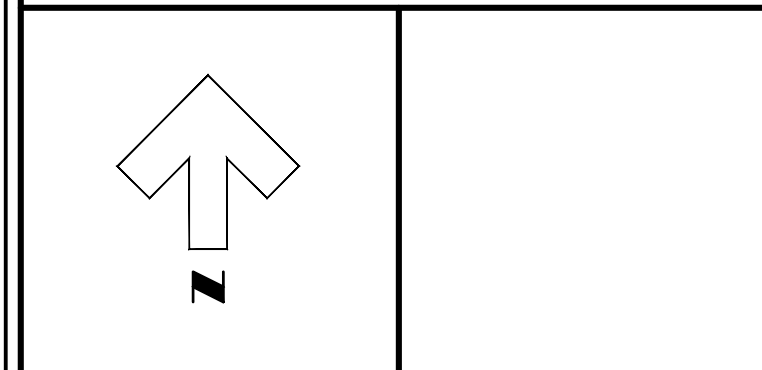
\*\*ALL CB'S ARE SUMPED



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M.H. CB	MANHOLE and CATCHBASIN
---	WATERMAIN
---	GASMAIN
---	UNDERGROUND TELEPHONE
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U	UTILITY POLES
⊕	FIRE HYDRANT
⊗	GRUBBER
⊗	REMOVE EXISTING CONC. SIDEWALK AND DRIVES
⊗	PLACE TOPSOIL AND SOO
⊗	PLACE CONC. SIDEWALK AND DRIVES
⊗	REMOVE EXISTING ASPHALT PAVT
⊗	PLACE HOT MIX ASPHALT
⊗	EXISTING GRANULAR BASE TO REMAIN

1:250

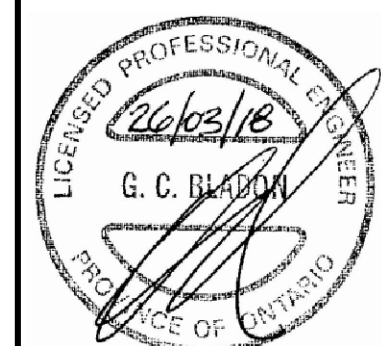


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**BENCHMARK INFORMATION**

Design By: B.K. / D.S. Checked By: G.C.B.



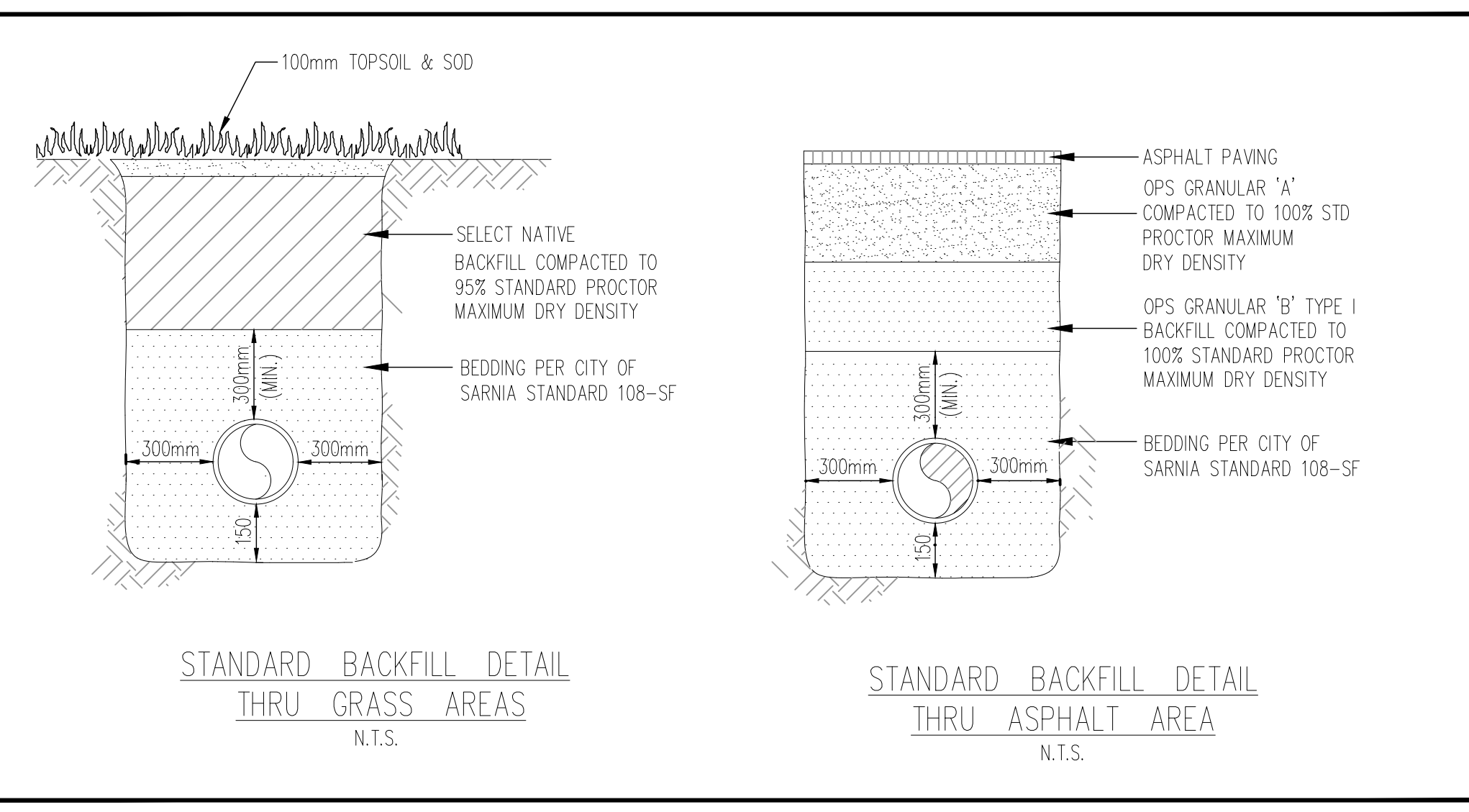
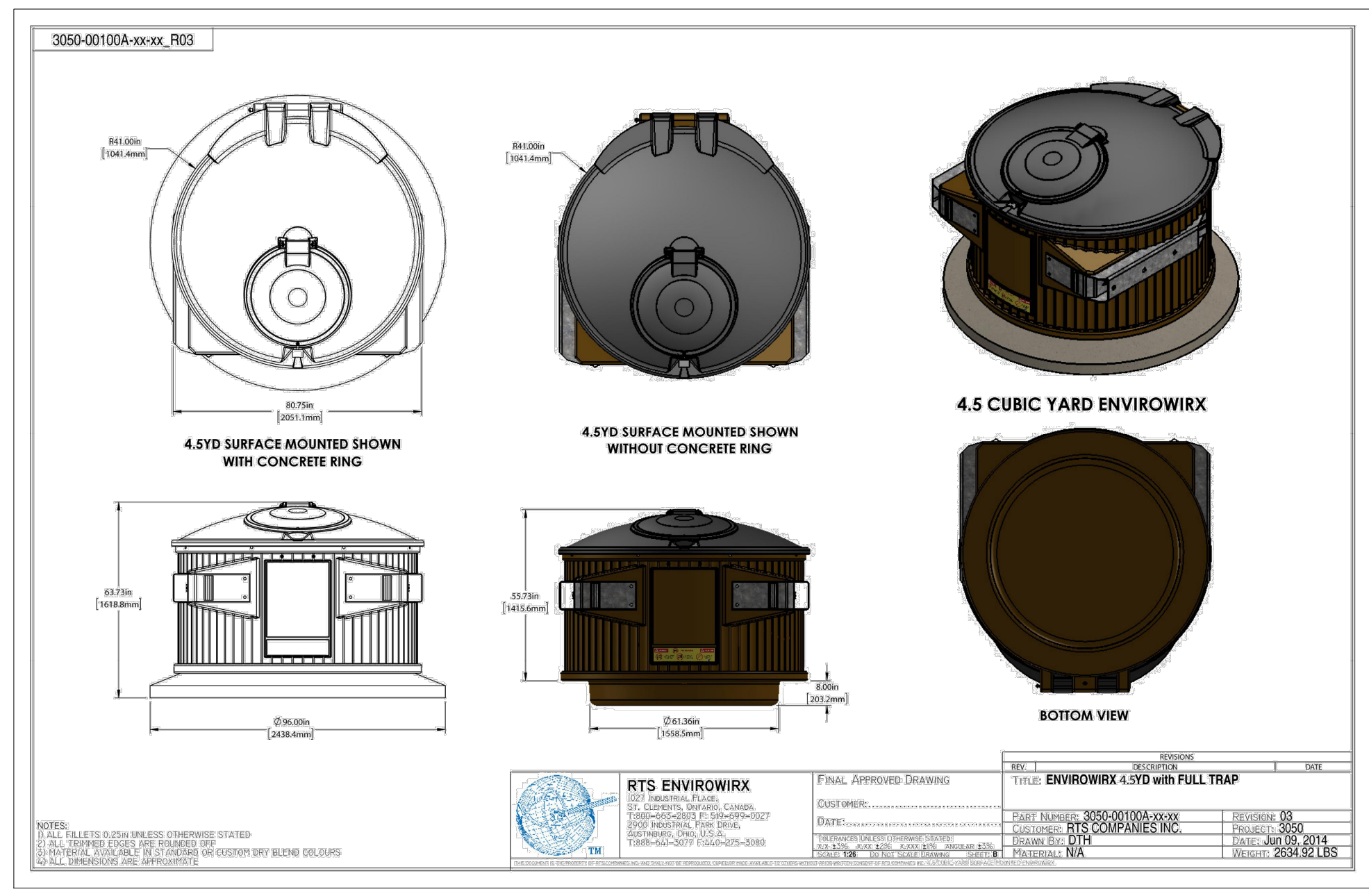
No.	DATE	REVISION
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Goderich Mount Forest Sarnia

**St. Matthew Catholic School (Sarnia) Site Plan**  
Servicing and Grading

<b>Contract No.</b>	<b>Project No.</b>
	17323
<b>Scale</b>	<b>Drawing No.</b>
1:250	2 of 3

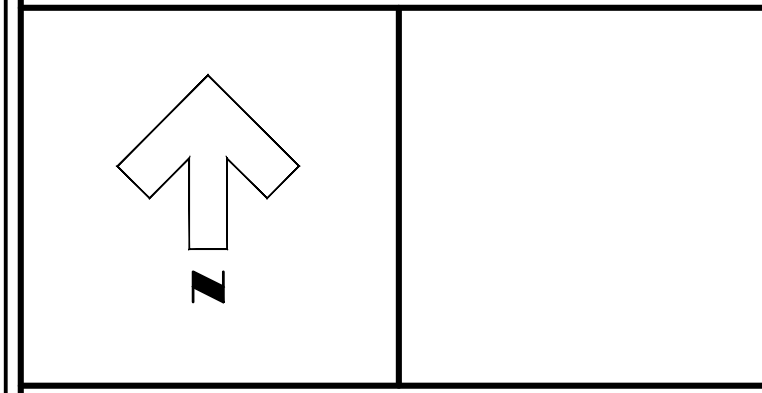


**NOTES:**

- IT IS THE CONTRACTOR'S RESPONSIBILITY PRIOR TO CONSTRUCTION TO INVESTIGATE AND VERIFY FOR HIMSELF THE LOCATIONS OF ALL EXISTING MUNICIPAL AND PRIVATE SERVICES AND UTILITIES WHICH MAY AFFECT THE WORK WHETHER OR NOT INDICATED ON THE DRAWINGS.
- THE CONTRACTOR SHALL REFER TO THE ARCHITECTURAL DRAWINGS FOR ALL BUILDING AND SITE DIMENSIONS
- ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH THE LATEST REVISION OF THE ONTARIO PROVINCIAL STANDARD SPECIFICATIONS AND CITY OF SARNIA SPECIFICATIONS AND DRAWINGS WEBSITE: <http://www.sarnia.ca/doing-business/engineering/2018-standard-specifications>
- GENERAL CONTRACTOR OR APPROPRIATE SUB-TRADE SHALL BE RESPONSIBLE FOR NOTIFYING THE FOLLOWING PEOPLE AT LEAST 2 WORKING DAYS PRIOR TO COMMENCEMENT OF CONSTRUCTION:
  - THE CITY OF SARNIA ENGINEERING DEPARTMENT  
 CONTACT: BRENDA LUPI AT 519-332-0330 ext 3355  
 CONTACT: JAY VANVLYMEN AT 519-332-0330 ext 3282
  - THE ENGINEERING CONSULTANT BM ROSS AT 519-908-9564
- ANY WORK REQUIRED WITHIN THE CITY RIGHT-OF-WAY SHALL CONFORM TO ONTARIO TRAFFIC MANUAL BOOK 7 AND (2) TRAFFIC CONTROL PLANS.
- CONTRACTOR SHALL CONDUCT PRE-CONSTRUCTION MEETING BEFORE STARTING ANY WORK ONSITE.

**LEGEND**

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--- UNDERGROUND HYDRO ---	EXISTING UNDERGROUND HYDRO
--- UNDERGROUND TV. CABLE ---	EXISTING UNDERGROUND TV. CABLE
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--- GRUBBING ---	REMOVE EXISTING CONC. SIDEWALK AND DRIVES
--- PLACE TOPSOIL AND SOD ---	PLACE TOPSOIL AND SOD
--- PLACE CONC. SIDEWALK AND DRIVES ---	PLACE CONC. SIDEWALK AND DRIVES
--- REMOVE EXISTING ASPHALT PAVT ---	REMOVE EXISTING ASPHALT PAVT
--- PLACE HOT MIX ASPHALT ---	PLACE HOT MIX ASPHALT
--- EXISTING GRANULAR BASE TO REMAIN ---	EXISTING GRANULAR BASE TO REMAIN



**NOTE**

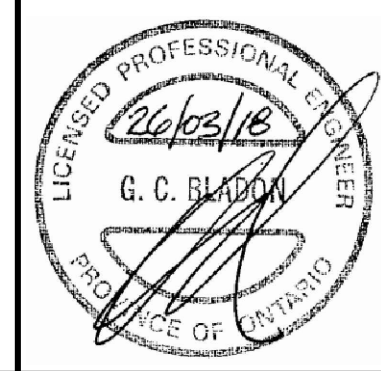
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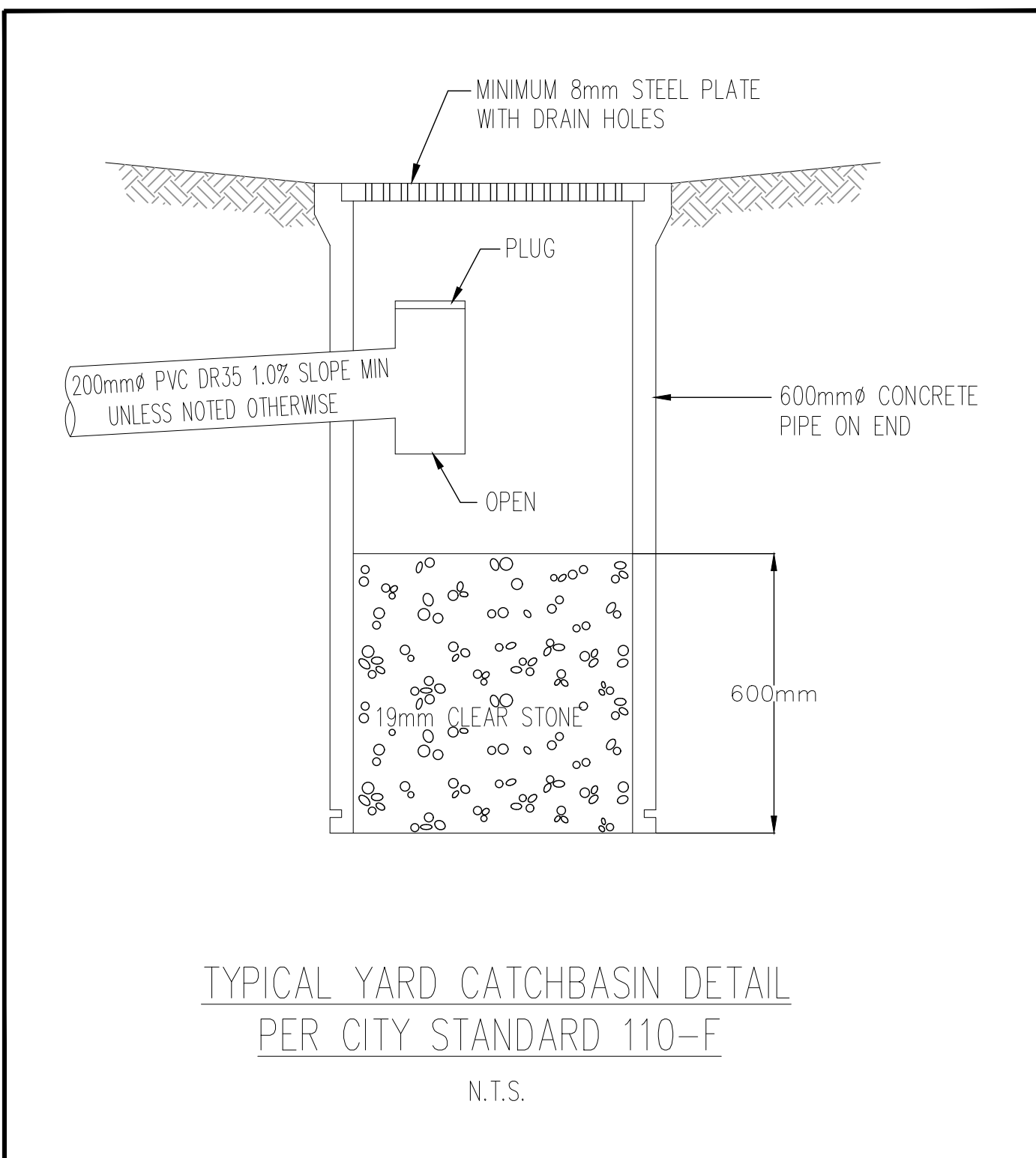
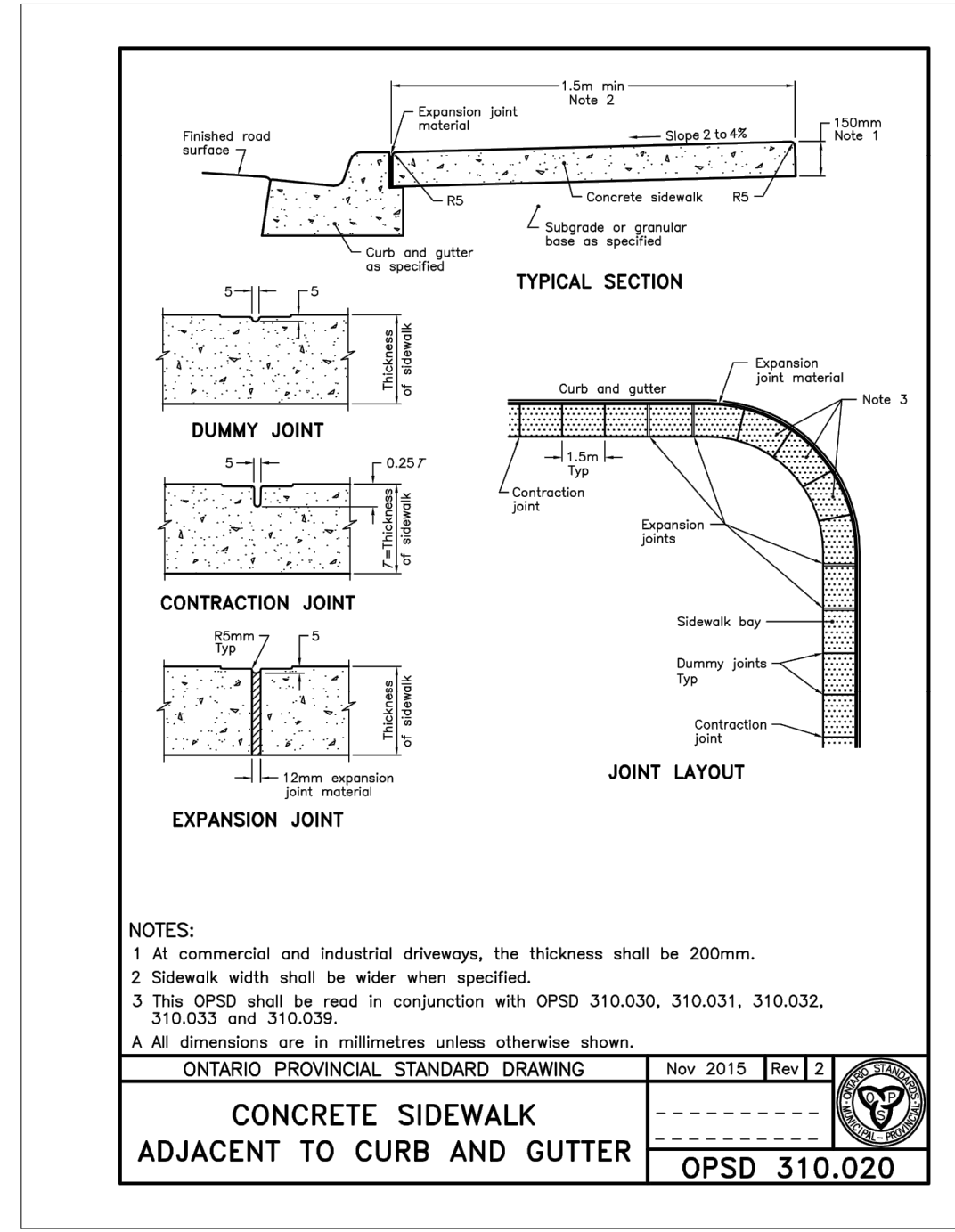
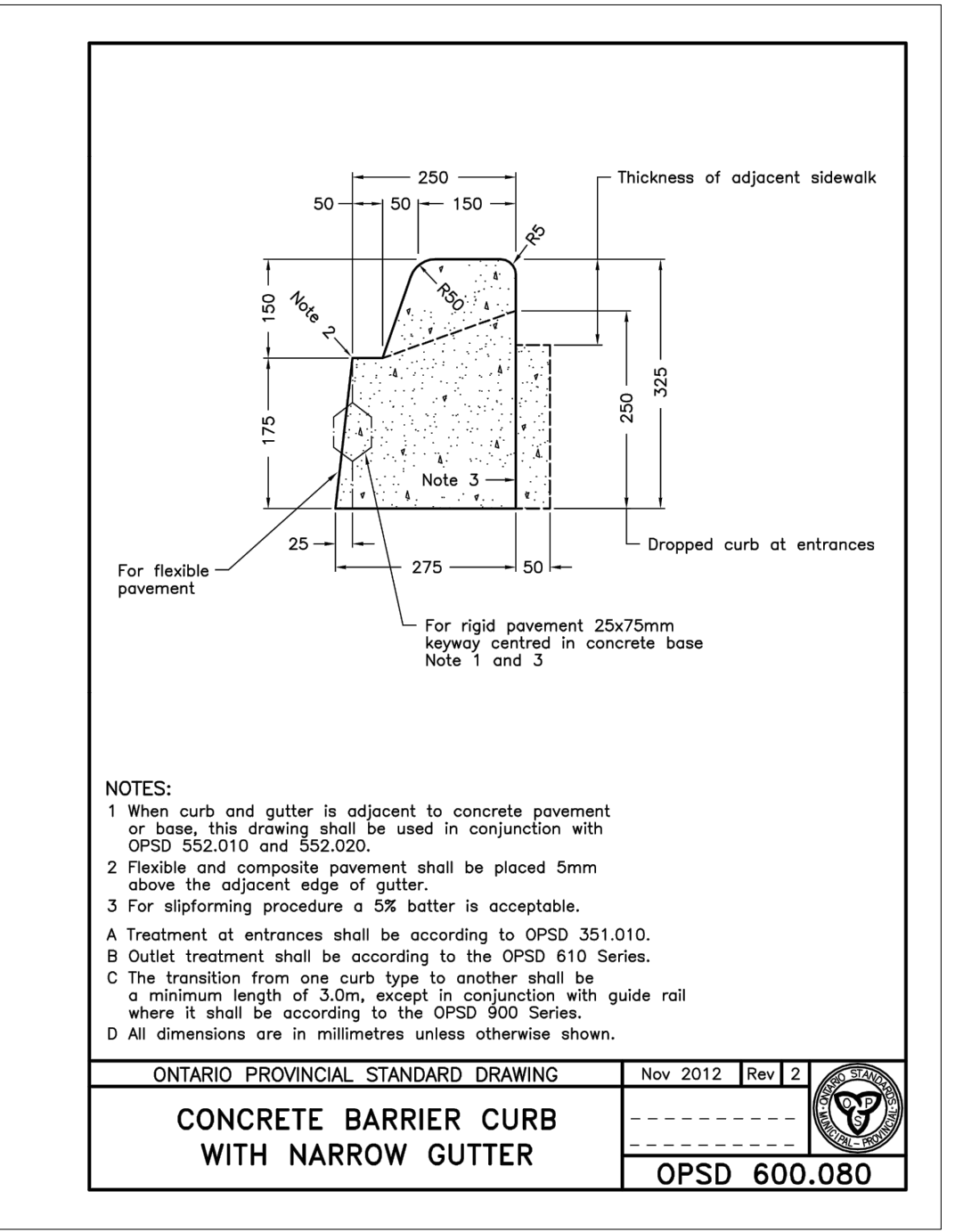


Goderich Mount Forest Sarnia

**St. Matthew Catholic School (Sarnia)**

**Details**

Contract No.	Project No.
N.T.S.	17323
Scale	Drawing No.
N.T.S.	3 of 3



**REMOVALS (SEE REMOVALS PLAN):**

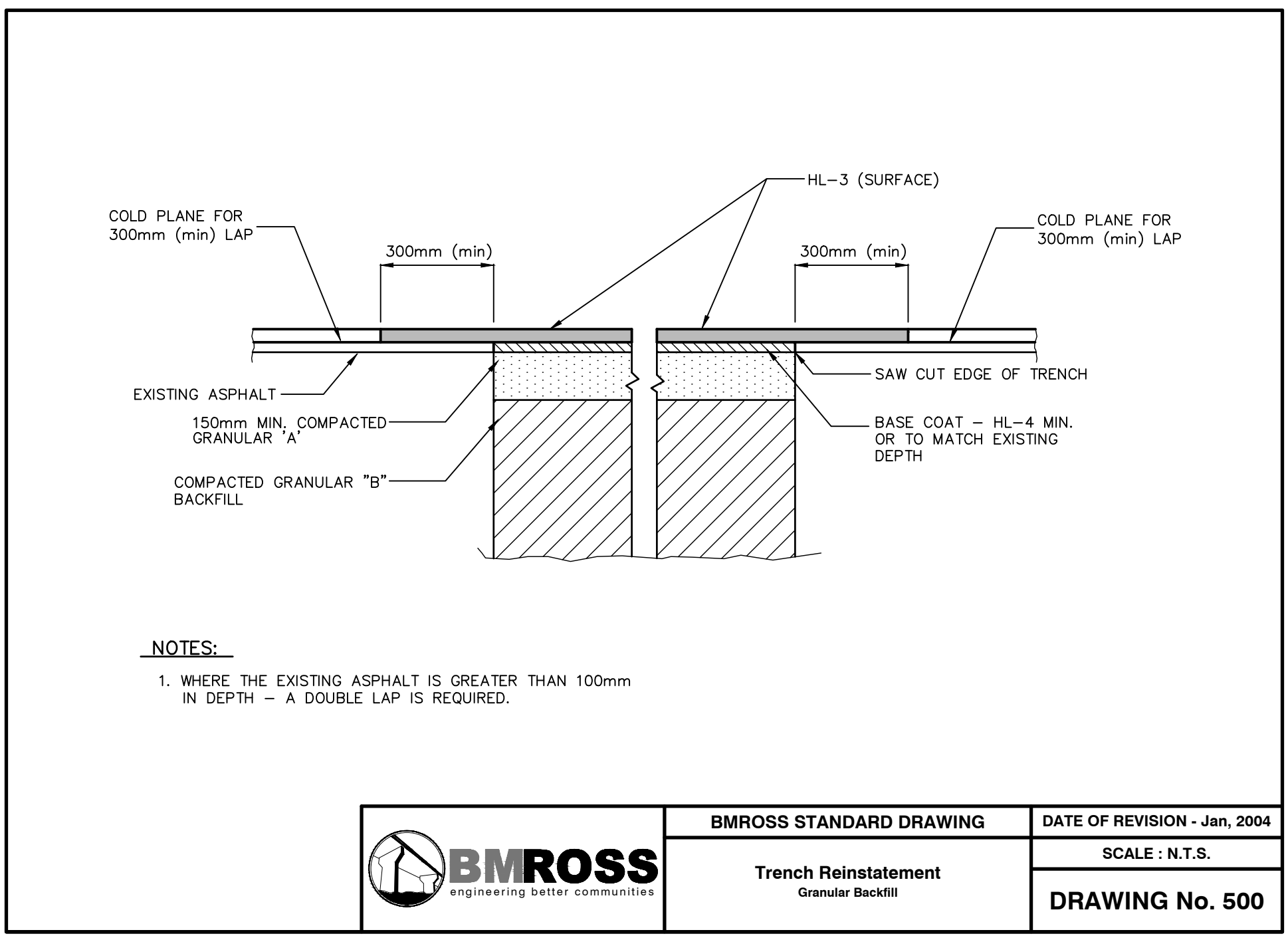
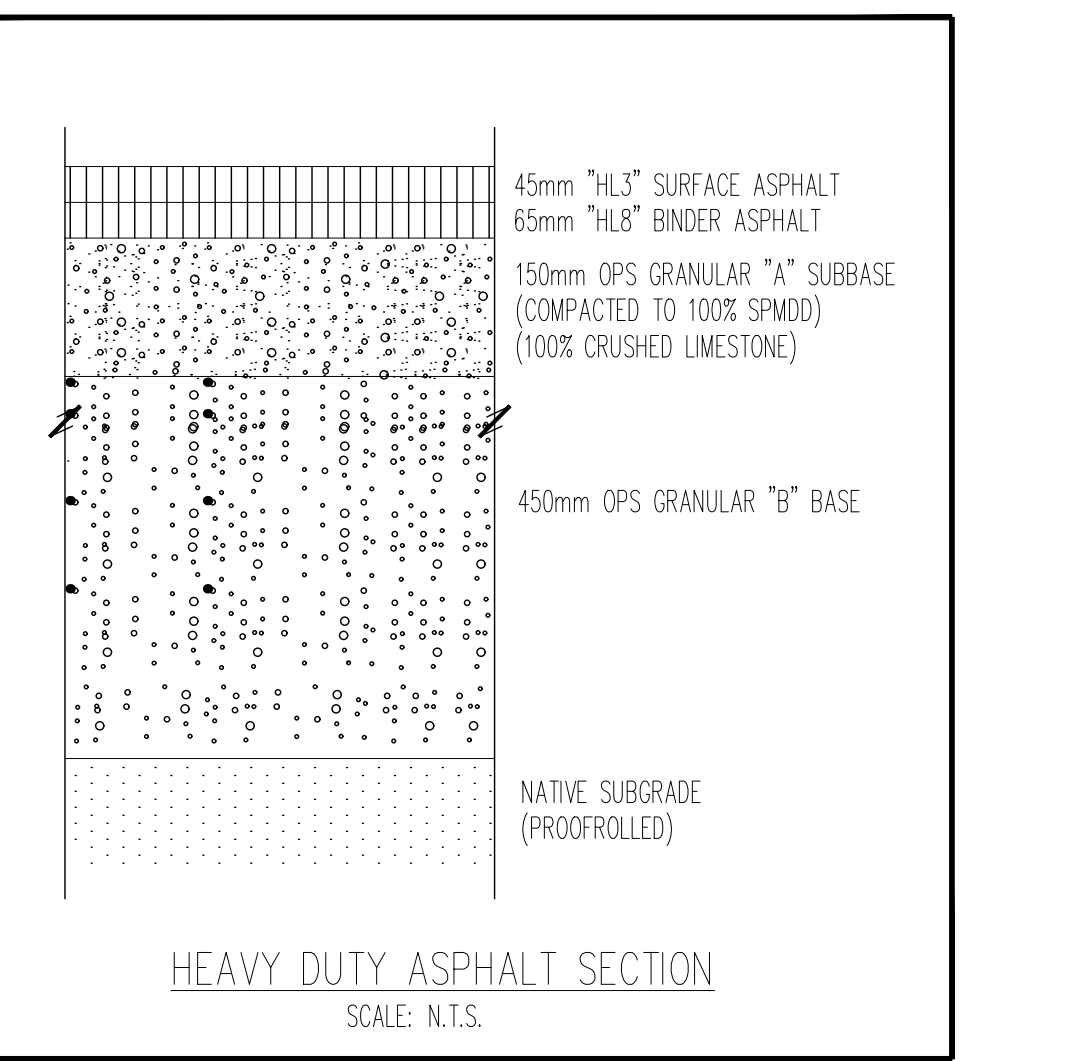
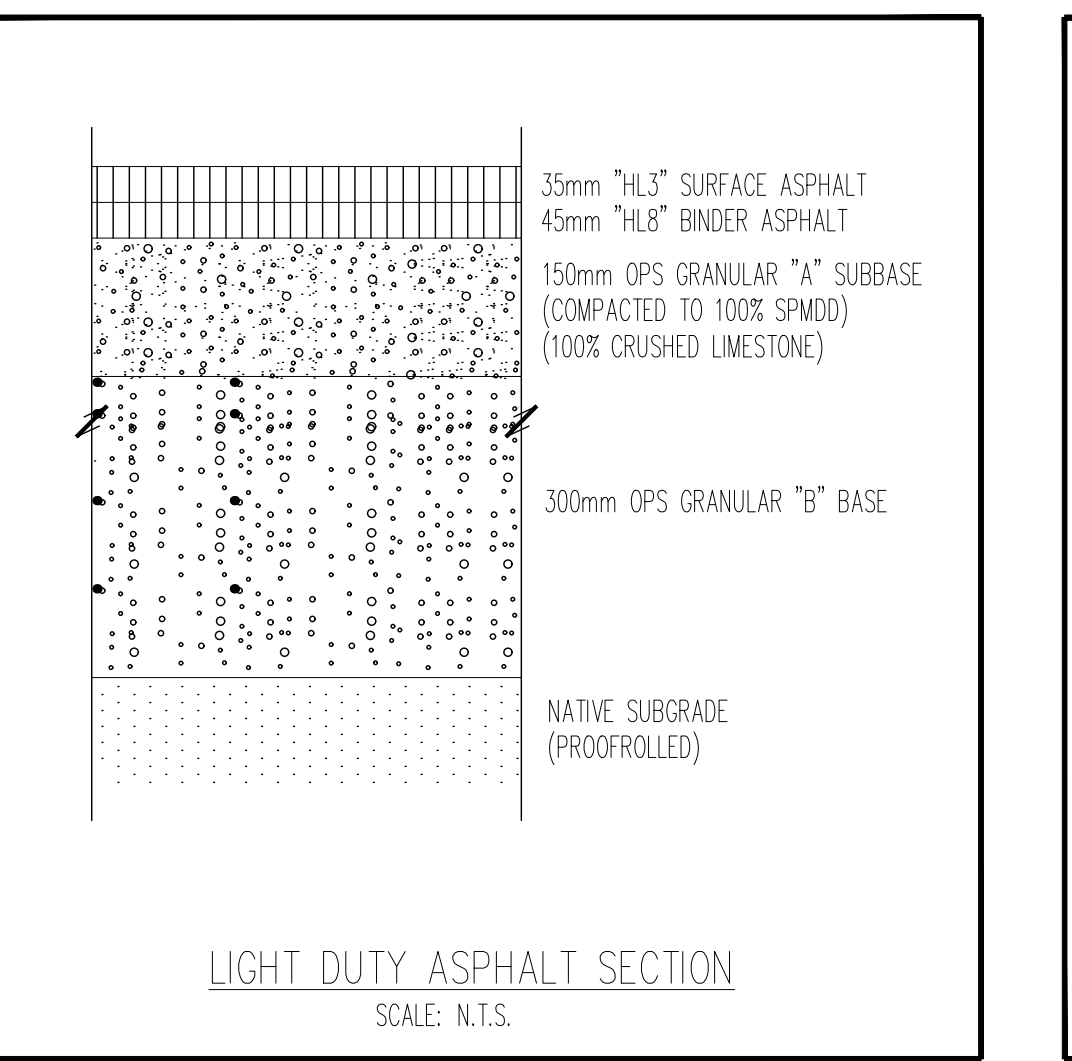
- REMOVE AND DISPOSE OF EXISTING CONCRETE, CURBS AND GRANULAR BASE MATERIALS OFF-SITE.
- REMOVE EXISTING CURB AT PROPOSED ENVIROWIRX DUMPSTER LOCATION.
- SEE DRAWING 1 OF 3 FOR ALL REMAINING REMOVAL ITEMS. ALL REMOVALS SHALL BE DONE IN ACCORDANCE WITH OPSS 510  
 HEAVY-DUTY ASPHALT  
 LIGHT-DUTY ASPHALT
- REMOVE AND DISPOSE OF EXISTING ASPHALT FROM HEAVY-DUTY PAVEMENT AREA IN EXISTING PARKING LOT. HEAVY-DUTY GRANULAR BASE TO REMAIN. RESHAPE SURFACE TO PROPOSED GRADES.
- REMOVE AND DISPOSE OF EXISTING ASPHALT FROM LIGHT-DUTY PAVEMENT AREA IN EXISTING PLAYGROUND AREA. LIGHT-DUTY GRANULAR BASE TO BE REMOVED AND DISPOSED OF OFF SITE.

**STORM SEWER NOTES:**

- STORM SEWERS SHALL BE PVC DR35 AND INSTALLED IN ACCORDANCE WITH OPSS 410.
- STORM CATCH BASINS SHALL BE INSTALLED IN ACCORDANCE WITH OPSS 407.
- PROVIDE NEW CATCHBASINS IN PAVED AREAS PER OPSD-705.010 WITH FRAME AND GRATE PER OPSD-400.020 WITH 'FISH' STYLE COVER PER OPSD-401.081. YARD CATCHBASIN IN LANDSCAPED SWALE SHALL BE AS PER CITY OF SARNIA STANDARD 110-F.
- PROVIDE (2)-3m LONG 150mm PERFORATED SUBDRAINS c/w FILTER SOCK AT ALL CATCHBASINS IN PAVED AREAS.
- PIPE BEDDING FOR SEWERS AS PER CITY OF SARNIA STD. 108-SF.
- TRENCH BACKFILL IN ASPHALT AND GRASS AREAS AS PER DETAIL THIS PAGE.
- SWALE SHALL BE SHAPED ALONG EAST SIDE OF PLAYGROUND ASPHALT c/w 150mm PERFORATED SUBDRAIN INSTALLED 300mm BELOW CENTER OF SWALE GRADE. 150mm PERFORATED SUBDRAIN SHALL CONNECT TO NEW YARD CATCH BASIN. SWALE SURFACE SHALL BE 150mm TOPSOIL AND SOD.

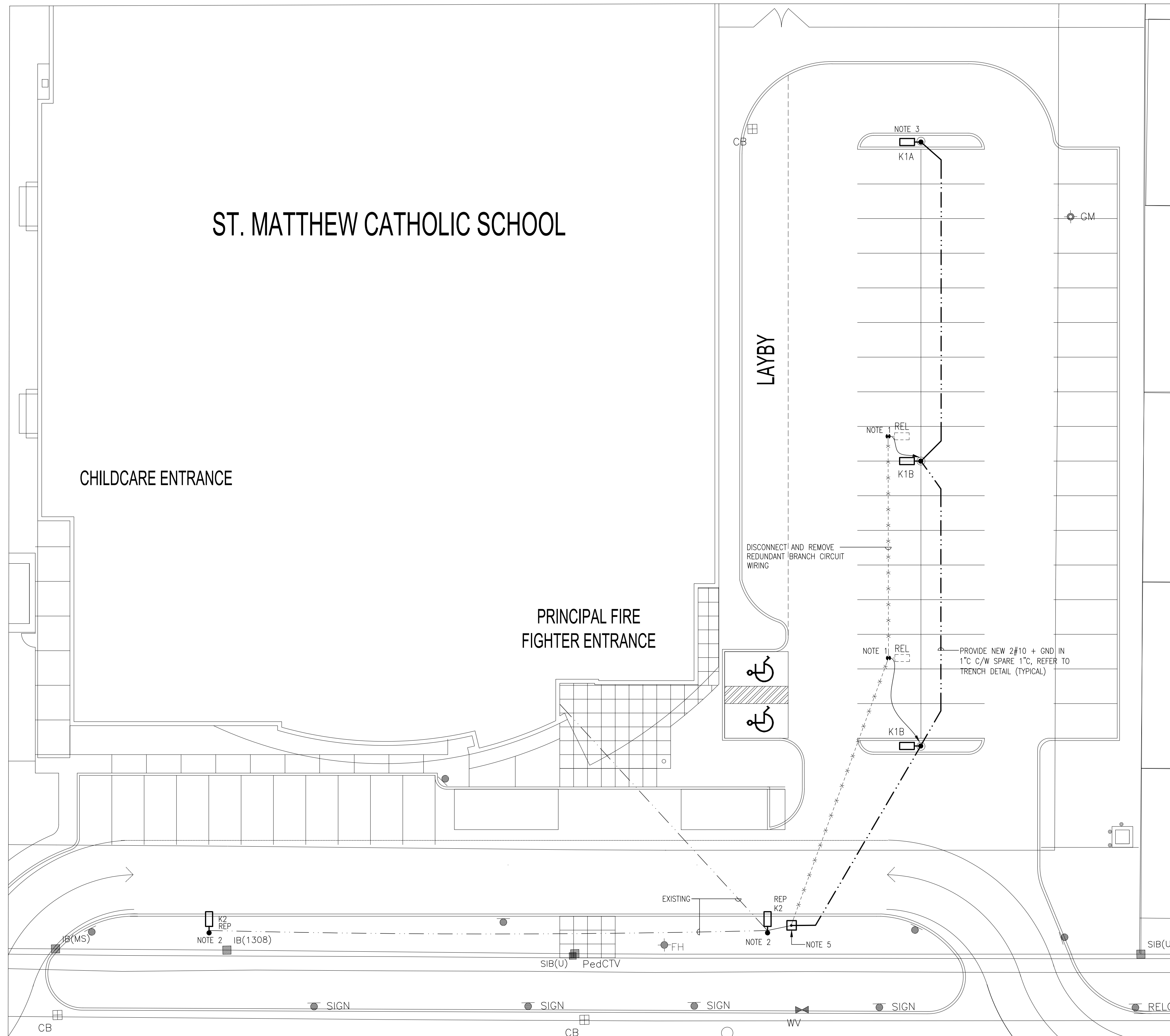
**PAVEMENTS, CURBS, SIDEWALKS, AND MISC ITEMS:**

- PAVEMENT OVER APPROVED SUBGRADE SHALL BE AS PER HEAVY-DUTY AND LIGHT-DUTY DETAILS ON THIS DRAWING.
- SAWCUT AND MILL STEPPED JOINT AT ALL TIE-IN LOCATIONS PER BMROSS DETAIL No. 500
- ALL SITE CURBING SHALL BE AS PER OPSD-600.080
- GRASS AREAS SHALL BE RESTORED WITH MIN. 150mm TOPSOIL AND SOD.
- BARRIER FREE PARKING SIGNS & POSTS TO BE INSTALLED IN THE MIDDLE OF PARKING SPACES INCLUDING PARKING LINES & PAVEMENT PAINTED BLUE c/w GLASS BEADS AND BARRIER FREE SYMBOL.
- CONTRACTOR SHALL SUBMIT MIX DESIGN FOR ASPHALT FOR REVIEW AND APPROVAL BY GEOTECHNICAL ENGINEER PRIOR TO CONSTRUCTION.
- EXISTING CONCRETE DUMPSTER AREA IN BRIGHT STREET PARKING AREA SHALL BE REMOVED AND EXCAVATED TO DESIGN SUBGRADE AND REPLACED WITH HEAVY DUTY ASPHALT AS PER DETAIL THIS PAGE.
- ANY DAMAGE TO ASPHALT CAUSED BY REMOVAL OF FENCE POSTS IN BRIGHT STREET PARKING AREA SHALL BE REPAIRED TO MATCH EXISTING.
- EXCAVATE FOR AND INSTALL ENVIROWIRX DUMPSTERS PER MANUFACTURERS SPECIFICATIONS
- PLACE 6.4m x 3.4m x 200mm THICK CONCRETE PAD AROUND ENVIROWIRX DUMPSTERS
- BACKFILL AND RESTORE GRASS AROUND ENVIROWIRX DUMPSTERS AND GRADE TO EXISTING SWALE
- CONCRETE SIDEWALKS ALONG DROP OFF LANE AND BARRIER FREE PARKING SHALL BE 125mm THICK CONCRETE ON MIN. 100mm GRANULAR 'A' BASE AS PER CITY OF SARNIA SPEC DIV 4.3 AND CITY OF SARNIA STANDARD DRAWING 112-F.
- SAWCUT AND MATCH EXISTING CONCRETE ENTRANCE SLAB AT TIE-IN POINT.
- CHAINLINK FENCE AND GATES SHALL BE INSTALLED IN ACCORDANCE WITH OPSS 772, OPSD-972.102, AND OPSD-972.130 AT 1.2m AND 1.8m HIGH c/w TOP RAIL.
- PROVIDE PAVEMENT MARKINGS FOR PARKING SPACES AND HATCHED TRAFFIC ISLANDS WHERE INDICATED IN ACCORDANCE WITH OPSS-710 AND CITY OF SARNIA STANDARDS.





# ST. MATTHEW CATHOLIC SCHOOL



## PARTIAL SITE PLAN - LIGHTING

SCALE: 1:200

### NOTES:

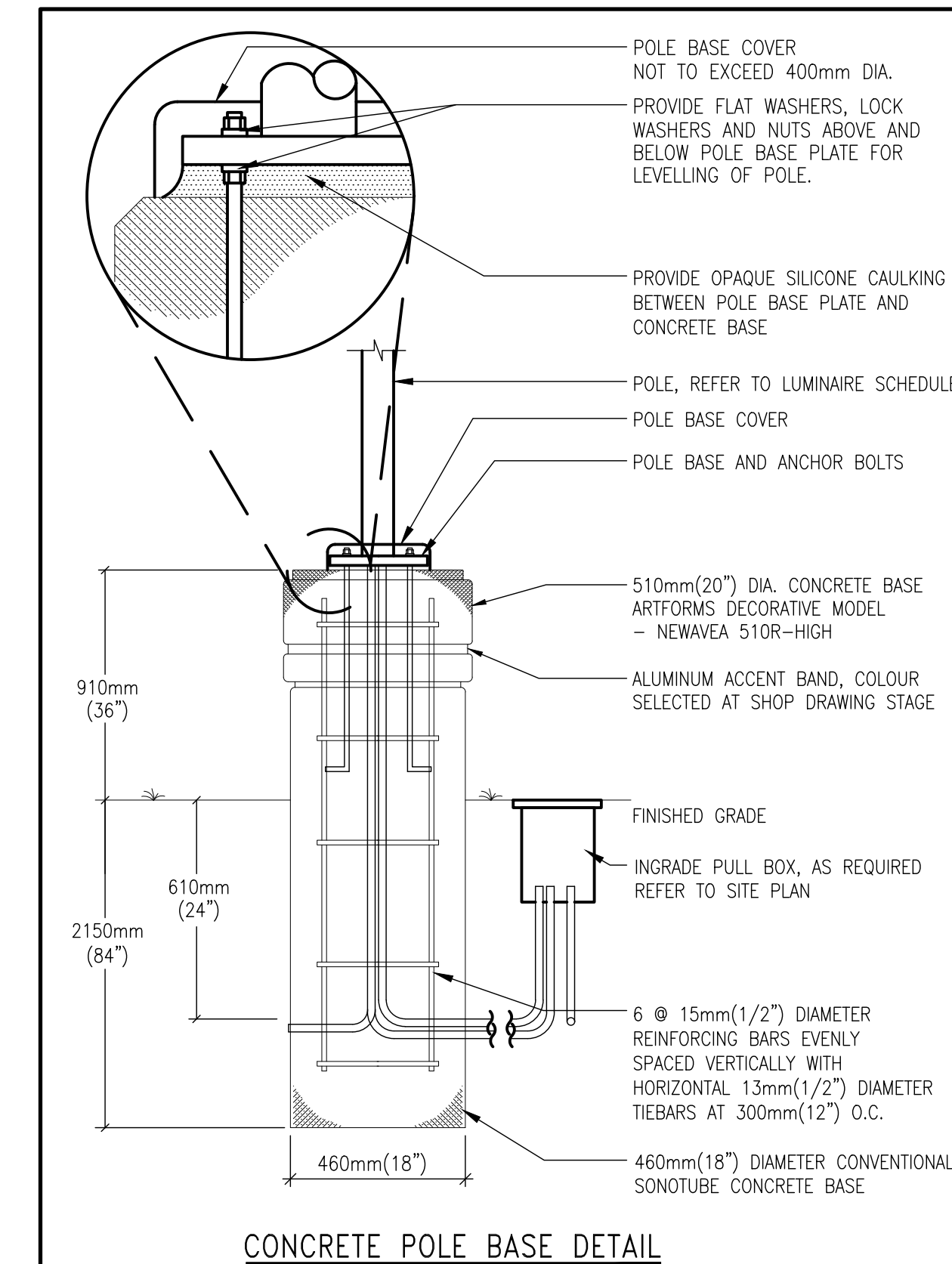
- DISCONNECT AND REMOVE EXISTING SITE LIGHTING LUMINAIRE, POLE, AND CONCRETE BASE. EXISTING 7.0m POLE TO BE REUSED FOR NEW LOCATION.
- EXISTING SITE LIGHTING LUMINAIRE TO BE REPLACED WITH NEW LUMINAIRE, TYPE AS SHOWN. EXISTING POLE AND BASE TO REMAIN.
- PROVIDE NEW LUMINAIRE, POLE, AND BASE IN NEW LOCATION. REWORK AND EXTEND EXISTING BRANCH CIRCUIT WIRING TO NEW LUMINAIRE LOCATION AS SHOWN ON PLANS.
- EXISTING BELOW GRADE WIRING AS PER ORIGINAL DRAWINGS. CONTRACTOR TO CONFIRM EXISTING WIRING AND CIRCUIT DETAILS ON SITE. CONTRACTOR TO OBTAIN ALL LOCATES FOR SITE WORK.
- INTERSECT AND CONNECT TO EXISTING WIRING BELOW GRADE, COORDINATE LOCATION ON SITE. PROVIDE IN-GRADE JUNCTION BOX SYNERTECH MODEL 1212-18 OR APPROVED EQUAL C/W FLUSH COVER AND VANDAL RESISTANT FASTENERS. FLUSH COVER TO HAVE ETCHED MARKING STATING "SITE LIG". PROVIDE UL/C RATED WEATHERPROOF COMPRESSION CONNECTORS FOR SPLICING OF WIRING WITHIN IN-GRADE JUNCTION BOXES AND REWORKING OF EXISTING WIRING AS REQUIRED. PROVIDE 200mm OF CRUSHED STONE BENEATH JUNCTION BOX FOR DRAINAGE.

LUMINAIRE SCHEDULE								
TYPE	MANUFACTURER	MOUNTING		LUMENS	VOLTS	SYSTEM WATTS	EQUAL MANUFACTURERS	NOTES
		TYPE	HEIGHT					
K1A	LITHONIA CAT # DSX1 LED-P3-40K-T5M-347-SPUMBA-FAO-DNAXD C/W SSA-23-6G ARM MOUNT LED AREA LUMINAIRE, DIE CAST ALUMINUM HOUSING, TYPE 5 MEDIUM DISTRIBUTION, ACRYLIC LENS, FIELD ADJUSTABLE OUTPUT, C/W 7.0M SQUARE ALUMINUM POLE	POLE MOUNTED	7.0M	13,000 LU LED	347	102	PHILIPS	PROVIDE CONCRETE POLE BASE AS PER DETAIL
K1B	LITHONIA CAT # DSX1 LED-P3-40K-T5M-347-SPUMBA-FAO-DNAXD ARM MOUNT LED AREA LUMINAIRE, DIE CAST ALUMINUM HOUSING, TYPE 5 MEDIUM DISTRIBUTION, ACRYLIC LENS, FIELD ADJUSTABLE OUTPUT (LUMINAIRE AND MOUNTING ARM ONLY - MOUNTING ON EXISTING POLE)	POLE MOUNTED	7.0M	13,000 LU LED	347	102	PHILIPS	PROVIDE CONCRETE POLE BASE FOR RELOCATED POLE REFER TO BASE DETAIL
K2	LITHONIA CAT # DSX1 LED-P3-40K-T2M-347-SPUMBA-FAO-DNAXD ARM MOUNT LED AREA LUMINAIRE, DIE CAST ALUMINUM HOUSING, TYPE II DISTRIBUTION, ACRYLIC LENS, FIELD ADJUSTABLE OUTPUT (LUMINAIRE AND MOUNTING ARM ONLY - MOUNTING ON EXISTING POLE)	POLE MOUNTED	7.0M	12,600 LU LED	347	102	PHILIPS	

NOTES:  
\* NOT ALL ACCESSORIES OR CATEGORIES HAVE BEEN INCLUDED IN MODEL NUMBERS, DEPENDENT ON DESIGN REQUIREMENTS.

ELECTRICAL LEGEND		
SYMBOL	DESCRIPTION	MOUNTING
	SITE LUMINAIRE - SINGLE LUMINAIRE	POLE MOUNTED
	IN-GRADE PULL BOX	
	GENERAL CIRCUIT CONDUIT	

ABBREVIATIONS			
REM	EXISTING TO BE REMOVED	REP	EXISTING TO BE REPLACED WITH NEW
EX	EXISTING TO REMAIN	P	POLE
AFG	ABOVE FINISHED GRADE	PH	PHASE
C	CONDUIT	WG	WIRE GUARD
CL	CEILING	WP	WEATHERPROOF

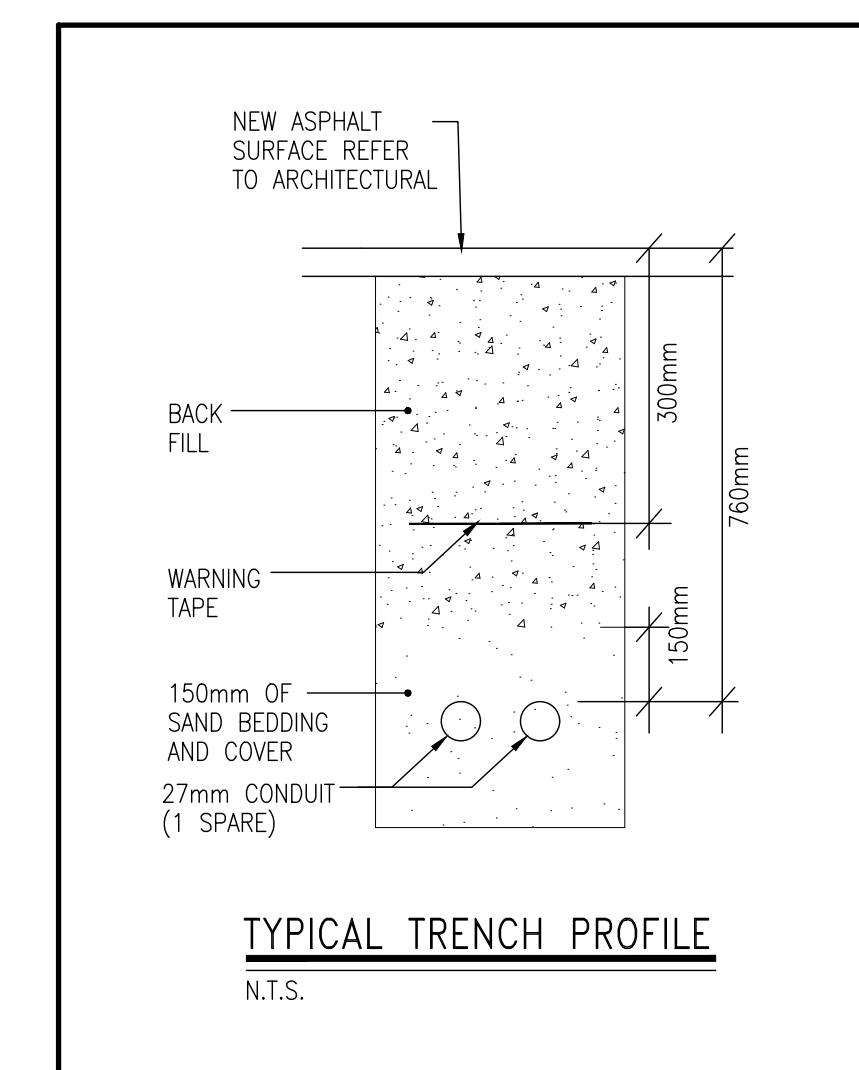


### CONCRETE POLE BASE DETAIL

N.T.S.

### NOTES:

- POLE BASE TO BE SET 910mm (36") FROM CURB.
- BASE CONCRETE TO HAVE 2800PSI COMPRESSION STRENGTH AFTER 28 DAYS.
- EXTEND CONDUITS 305mm (12") UP INTO POLE.
- CONTRACTOR TO SANDBLAST CONCRETE POLE BASES TO REMOVE IMPERFECTIONS PRIOR TO INSTALLING POLES.
- PROVIDE INSTALLATION ACCORDING TO THE ONTARIO ELECTRICAL SAFETY CODE, LOCAL SOIL CONDITIONS, AND MANUFACTURER RECOMMENDATIONS.



### TYPICAL TRENCH PROFILE

N.T.S.

DATE	ISSUED FOR TENDER	No.
MM/DD/YYYY	DESCRIPTION	
03/22/2018	ISSUED FOR TENDER	1



PROJECT TITLE:  
**ST. MATTHEWS PARKING EXPANSION**

DRAWING TITLE:  
**PARTIAL SITE PLAN LIGHTING**

DATE PLOTTED: 03/22/2018 4:34 PM  
DRAWN: JMA  
CHECKED: RDZ

DRAWING No.  
**E1**

PROJECT No. 8437