Dome and CUP Complex Civil Works

Specifications & Tender Documents

Project location:
Summerside, PE

July 6, 2021
Issued for Tender

Bellcor Engineering Inc.
149 Industrial Cres. Summerside, PEI
T: 902-303-1333
E: info@bellcor.ca

INTRODUCTORY INFORMATION

DIV 00 - PROCUREMENT AND CONTRACTING REQUIREMENTS

DIV 01 - PROCUREMENT AND CONTRACTING REQUIREMENTS

DIV 31 - EARTHWORK

DIV 32 – EXTERIOR IMPROVEMENTS

DIV 33 – UTILITIES

DRAWINGS

- DOME CIVIL DRAWINGS
- CUP NEW PARKING LOT
- HOTEL CIVIL WORKS (BY THIRD PARTY)

1. BID CALL

.1 Offers signed under seal, executed, and dated will be received by the City of Summerside

City of Summerside – City Hall
Financial Services, First Floor
275 Fitzroy St.
Summerisde, PEI
C1N 1H9

.2 Bid shall be submitted in person to the City Hall Tender Deposit Box on or before July 22, 2021, at 1:59:59 PM local time (AST)

.3 Potential bidders are advised that they are under no obligation to submit an offer (bid), and those who do, do so at their own economic risk.

2. SUMMARY

.1 Intent of this bid call is to solicit and receive formal offers from supplier to complete the work for the following project:

DOME and CUP COMPLEX CIVIL WORKS
Summerside PEI

.2 Bids shall be prepared and submitted, and the bidding process administered in accordance with these bidding requirements

3. CONTRACT TIME

.1 Contract Time: To be Determined based on submitted project schedule

4. CUT-OFF TIME FOR REQUESTS FOR INFORMATION

.1 Last day and time for bidders' questions is 72 hours prior to tender closing time.

5. DEFINITIONS

.1 The definitions specified in CCDC 2-2008 and the National Building Code of Canada 2015 and referenced documents apply to this project and all bid documents issued.

.2 Section: "Section" means specification section as developed in accordance with CSI/CSC MasterFormat®, PageFormat® and SectionFormat®.

6. BID SUBMISSION

.1 Submit offers in an opaque envelope marked "**BID FORM DOME and CUP COMPLEX CIVIL WORKS, SUMMERSIDE, PE**" and with bidder's name clearly shown:

BID SUBMISSION BOX
Attention: JP DESROSIERS
CITY OF SUMMERSIDE

.2 Submit completed Section 00 45 00 – Information Submittal Forms

.3 Submit the following documents:

.1 Bid security.

.2 Completed Bid Form (Section 00 40 50 - Bid Form).

.3 Completed Section 00 45 00 - Information Submittal Forms:

.1 Information Submittal Form A - List of Subcontractors and Itemized Prices.

.2 Information Submittal Form B - Contractor Proposed Substitutions.

.3 Information Submittal Form C - Breakout Prices.

.4 Information Submittal Form D - Alternate Prices

.4 Proof of insurance.

.5 Certificate of account with PEI Workers Compensation (WCB).

.4 Fill in all blank spaces on Bid Form in ink, typewritten or printed, providing the information requested therein and ensure that all forms are signed by an authorized person or persons of the company. Incorporated companies must affix their corporate seal under the signature of their proper officers.

.5 Information provided by bidders on Bid Form may be amended, if required, provided corrections are initialed by person authorized by bidder. Other modifications, erasures, additions, conditions or qualifications may cause a bid to be declared non-compliant and returned to bidder without further consideration.

.6 Bid price shall be provided in written and numeric form. In case of discrepancy the written form shall govern.

.7 Oral, telephoned, telegram, fax, or email bids will not be accepted nor acknowledged.

.8 Phones and space will not be available for use by the Contractors and Subcontractors at place of bid closing.

.9 Late of incomplete submissions will not be accepted.

7. SITE LOGISTICS LAYOUT DRAWING

.1 Successful general contractor shall submit within 14 calendar days of notification of award a proposed 'Site Logistic Layout Drawing'. The following items are to be included in the layout:

.1 Site trailer.

.2 Contractor parking.

.3 Garbage/recycling bins.

.4 Temporary toilet facilities.

.5 Material layout and staging area.

.6 Temporary hoarding.

.7 Proposed access routes.

8. EVALUATION OF BIDS

.1 Bids will be opened and evaluated in private.

.2 The Owner may, in its sole discretion, request clarification from a Bidder during the evaluation process. In responding to a request for clarification, the Bidder shall not revise, amend, or otherwise alter its Bid.

.3 The owner will evaluate Bids considering stipulated price (base Bid Price).

9. OWNER'S DISCRETION

.1 The Owner intends to evaluate Bids in the manner and based on the criteria set forth in these Instructions to Bidders, and the lowest or any Bid will not necessarily be accepted.

.2 The Owner may, in its sole discretion without explanation, retain for consideration Bids that are non-conforming because they fail to comply with a strict interpretation of these Instructions to Bidders with regard to content, form, submission process or any other matter. The Owner

may waive any defects, informalities or irregularities in a Bid and accept a Bid that contains any such defects, irregularities or informalities.

10. BID ACCEPTANCE

.1 Bids must remain open for acceptance and be irrevocable for a period of 60 (sixty) calendar days after the Bid submission deadline.

.2 Acceptance of bids will be subject to financial and budgetary approvals. The owner may, at their sole discretion, reject bids due to budgetary restrictions.

.3 Once a successful bidder has been chosen, the Owner reserves the right based on their sole discretion to proceed with the work contained in Part A, and/or Part B, and/or Part C of the successful tender (and/or any combination of the three parts).

.4 The Consultant will notify the selected Bidder in writing that its Bid has been accepted. The Consultant will then prepare the Contract Documents based on the selected Bid and will deliver the Contract Documents to the selected Bidder for execution. **The selected Bidder will be obligated to execute the Contract Documents within 5 working days** after receipt of the Contract Documents for execution. Failure to do so may result in the forfeiture of the selected Bidder's Bid Security. Retaining the Bid Security in such cases shall not constitute waiver of any additional rights and remedies that the Owner may have against the Bidder.

.5 The Bid Security will be returned to the selected Bidder upon execution of the Contract Documents and delivery of the required performance security.

11. QUALIFIED BIDS EXCEEDING BUDGET

.1 If all qualified Bids (as determined by the Owner in its sole discretion) exceed the amount that the Owner has budgeted for this project, the Owner may reject all bids and **enter** negotiations with one or more qualified Bidders **to** obtain a lower price that is within the Owner's construction budget, with or without adjusting the scope of work.

12. BID DOCUMENTS

.1 The following documents issued by the Owner form the basis of this bid and shall be examined by bidders:

- .1 Section 00 21 13 - Instructions to Bidders.
- .2 Section 00 40 50 - Bid Form.
- .3 Section 00 45 00 - Information Submittal Forms.
  - .1 Information Submittal Form A - List of Subcontractors and Itemized Prices.
  - .2 Information Submittal Form B - Contractor Proposed Substitutions.
  - .3 Information Submittal Form C - Breakout Prices.
  - .4 Information Submittal Form D - Alternate Prices
- .4 Section 00 70 00 - General Conditions.
  - .1 Standard Construction Document CCDC 4 (included by reference).
- .5 Section 00 80 00 - Supplementary General Conditions.
- .6 Specifications, Divisions 01 and following.
- .7 Drawings bound separately from the Specifications.
- .8 Addenda Issued prior to bid closing.

.2 Bid documents will be supplied electronically to bidders.

.3 For a hard copy version, the Bid Documents can be obtained from the Consultant’s office by

General Contractor bidders upon receipt of a 50% refundable deposit in the amount of $400 per set.

.4 Unsuccessful bidders are required to return their drawings, project manuals, and any CDs provided to the Consultant within 1 week of bid award. PDF files shall not be saved, reproduced, or distributed for any reason other than to complete the bid process.

.5 Deposit for hard copies of the Bid Documents will be refunded if Bid Documents are returned complete, undamaged, **unmarked,** and reusable within 10 days of Bid submission. Failure to comply will result in forfeiture of deposit.

13. ELIGIBILITY OF BIDDERS

.1 In addition to the requirements of GC 3.7 - SUBCONTRACTORS AND SUPPLIERS, and prior to the closing date and time of bids, the Owner reserves the right to restrict the companies bidding the Work to those they may select. Furthermore, they may, in like manner, specifically exclude certain companies from bidding at their sole discretion without explanation.

14. SCHEDULE OF VALUES

.1 Bidders, if successful, agree to provide a general analysis of their Bid Price, prior toward of contract, in whatever form the Consultant on behalf of the Owner may reasonably request. This analysis will form part of the "Schedule of Values" referred to in GC 5.2 - APPLICATIONS FOR PROGRESS PAYMENT.

15. SITE CONDITIONS

.1 In submitting a bid, it is mandatory that the bidder carefully examines the site of the proposed work and fully informs themselves regarding existing conditions and limitations and included in the Bid Price the complete cost of the work contemplated by the Drawings and Specifications.

16. ADDENDA

.1 Bidders finding discrepancies, ambiguities or omissions in the drawings, specifications, or both, or having doubt regarding the meaning or intent thereof, shall immediately notify the Consultant, who may issue instructions, clarifications, or both, in the form of addenda to all bidders. Bidders may also, during the bidding period, be advised by addenda of any additions, deletions or alterations to the drawings, specifications, or both. All such addenda are part of the bid documents.

17. ENQUIRIES

.1 Direct enquiries by email during the bid period as follows (telephone enquiries not accepted):

Nick Sharkey, P.Eng.

Bellcor Engineering Inc.

149 Industrial Cres., Summerside, PEI C1N 5P8

T: 902-303-1333

E: nick.sharkey@bellcor.ca

18. OWNER

.1 The Owner is hereby identified as:

City of Summerside

275 Fitzroy Street

Summerside, PE

C1N 1H9

.2 Direct communication to the Owner by any bidder will not be answered. All correspondence and communication will be through the Project Manager identified above unless instructed otherwise. Any questions must be submitted in writing.

19. CONTRACTS

.1 The successful Bidder shall enter into a formal contract with the Owner based on the terms and conditions of the Bid Form, the instructions to bidders and all other bid documents described therein. The bidder shall sign, execute and seal triplicate copies of the contract documents.

20. LIST OF SUBCONTRACTORS

.1 The bidder shall list in Section 00 45 00 - Information Submittal Forms: Information Submittal Form A - List of Subcontractors and Itemized Prices, the names of all subcontractors proposed to employ along with itemized prices.

.2 No deviation from this list will be permitted after the acceptance of the Bid without the approval of both the Owner and the Consultant.

.3 No names, either of subcontractors or own forces, may be changed after submission of Section 00 45 00 - Information Submittal Forms, unless written approval is received from Owner. Such approval will only be considered upon submission by contractor of a letter requesting a change with full explanations or reasons for change and accompanied by a letter from named subcontractor agreeing to withdraw with no consequence to the Owner.

21. SECURITY DEPOSIT

.1 Bids shall be accompanied by security deposit as follows: Bid Bond in an amount not less than 10 percent of Bid Price; or a certified cheque in amount equivalent to 10% of Bid Price

.2 Endorse Bid Bond or certified cheque in name of Owner as oblige, signed, and sealed by principal (Contractor) and surety.

.3 Use latest edition CCDC approved bond forms.

.4 Security deposit will be returned after delivery to Owner of required Post Award Submittals by accepted bidder.

.5 If no contract is awarded, all security deposits will be returned.

22. BID OPENING AND ACCEPTANCE

.1 It shall be understood by all bidders that the bid, including submissions under Section 00 40 50 - Bid Form and Section 00 45 00 - Information Submittal Forms shall be valid and subject to acceptance by the Owner and that no adjustment shall be made to the Bid Price for a period of up to and including sixty (60) calendar days from the date of closing of bids.

.2 Bid opening is not public; bids will be opened privately.

.3 A bid may not be withdrawn at or after time and date fixed for receiving bids and that bid shall be held irrevocable and open to acceptance by Owner until:

.1 Some other person, firm or corporation has entered into a contract with Owner for performance of the contract or,

.2 Sixty (60) days after time and date fixed for receiving Bids, whichever occurs first.

.1 60-day period referred to above shall commence at 12:00 AM midnight of the day fixed for receiving bids and shall terminate at 12:00 AM midnight of the 60th day thereafter. If the 60th day falls on Saturday or a Sunday, or on a statutory holiday, such day or days shall be omitted from the computation.

23. TAXES

.1 Include in the contract price, all applicable provincial taxes and all other customs duties, excise taxes, excluding harmonized sales tax (HST).

24. PERMITS

.1 The contractor shall obtain all necessary permits for the contract specified, except that the Owner will obtain and pay for the building permit. All other permits required shall be at the expense of the contractor.

25. ALTERNATIVES

.1 If a Bidder desires to submit alternatives to materials or products specified or indicated, bidder may include proposed alternative in Section 00 45 00 –-Information Submittal Forms: Information Submittal Form B - Contractor Proposed Substitutions in the space provided along with supporting documentation. **To** withstanding any proposed substitutions, unless accepted by addendum, the specified materials and products found in the Bid Documents shall be included in the Bid Price and are part of Contract.

26. WORKPLACE SAFETY AND INSURANCE BOARD (WSIB)

.1 Submit certificate of account with Workplace Safety and Insurance Board (WSIB) with bid.

27. INSURANCE

.1 Submit current proof of insurance with bid.

28. POST AWARD SUBMITTALS

.1 The successful general contractor to submit within 14 calendar days from the awarding of the contract the following documents to the Consultant:

.1 Schedule of Values.

.2 Construction Schedule.

.3 Submittals schedule (which shall include shop drawings, samples, mock-ups,etc.) as stipulated by the Specifications.

.4 Site Logistic Layout Drawing.

29. BID PROTEST PROCESS

.1 Pre-award bid disputes.

i. Bidders should seek a resolution of any pre-award dispute by communicating directly with the City Contact as soon as possible from the time when the basis for the dispute became known to them. The City Contact may delay the outcome of the selection process, or any interim stage of this Tender process, pending the acknowledgement and resolution of any pre-award dispute. For more information, see the Pre-Award and Post-Award Bid Dispute Process.

.2 Post award disputes

i. Any dispute to the outcome of this Tender process must be received in writing by the City Contact no later than 10 days after the date of the notification of the outcome of the selection process, or where a debriefing has been requested, no later than five days after such debriefing is received. Any dispute that is not timely received or in writing will not receive further consideration

.3 Any written dispute with a procurement value over $100,000 that cannot be resolved by the City Contact through consultations with the Bidder, shall be referred to the CFO or his designate(s) for an impartial review, based on the following information

i. A specific description of each act or omission alleged to have materially breached the

procurement process;

ii. A specific identification of the provision in the solicitation or procurement procedure that is alleged to have been breached;

iii. A precise statement of the relevant facts;

iv. An identification of the issues to be resolved;

v. The bidders arguments, including any relevant supporting documentation; and

vi. The Bidder's requested remedial action. The CFO or his designate(s), in consultation with the City Solicitor, may:

1. Dismiss the dispute

2. Accept the dispute and direct the City Contact to take appropriate remedial action, including, but not limited to, rescinding the award and any executed contract, and canceling the solicitation.

30. FAILURE OR DEFAULT OF THE BIDDER

.1 If the Bidder, for any reason, fails or defaults in respect of any matter or thing which is an obligation of the Bidder under the terms of the Tender Call, the City may at its sole discretion:

i. Disqualify the Bidder from the Tender Call and/or from competing for future Tender Calls issued by the City for a period of one year; and

ii. Require the Bidder to pay the City the difference between its Bid and any other Bid which the City accepts, if the latter is for a greater amount and, in addition, to pay the City any cost which the City may incur by reason of the Bidder's failure or default.

.2 Bidder shall be ineligible to submit a new Bid for any Call that the City is required to reissue as a result of the Bidder's failure or default or where the City deems that the Bidder has abandoned the Agreement.

31. AWARD OF TENDER

.1 The Tender will be considered Awarded when the successful Bidder has been selected by the City of Summerside, and the decision in relation to the successful bidder has been communicated in writing to the Tenderer by the City.

END OF SECTION

Part 1 General

DEFINITIONS

.1 Information Documents means information of any type and in any form, related to the Project and identified in this Section as such and do not include the Contract Documents.

STATUS OF INFORMATION DOCUMENTS

.1 Information Documents, or any part thereof, are not part of the Contract unless specifically incorporated into Contract Documents by means of copying, transcribing, or referencing.

USE OF AND RELIANCE UPON INFORMATION DOCUMENTS

.1 Information Documents are made available to Bidder by Owner for the purpose of providing Bidder with access to information available to Owner.

.2 Information Documents shall not be considered a representation or warranty that information contained therein is accurate, complete, or appropriate, and do not form a part of the Contract Documents.

.3 Bidder shall interpret and draw its own conclusions about Information Documents and is encouraged to obtain specialist advice with respect thereto. Prime Consultant assumes no responsibility for such interpretations and conclusions.

.4 Information contained in Information Documents may be time sensitive and dates shall be considered when interpreting Information Documents.

.5 Bidder may rely upon the data contained in Information Documents, or parts thereof, which are specifically incorporated into Contract Documents by means of copying, transcribing or referencing, but shall draw his own conclusions from such data and shall not rely on opinions or interpretations contained therein.

INFORMATION DOCUMENTS

.1 Information Documents, in whole or in part, consist of the following (which are available to General Contractors bidding the project electronically upon request):

.2 Geotechnical Investigation: Preliminary Geotechnical Test Pit Investigation, Summerside Multi sport Field Facility, File No: 07-5476, by Fundy Engineering, dated July 25, 2007

END OF SECTION

SUBMIT TO: **City of Summerside – Tender Box**
Financial Services, First Floor
275 Fitzroy Street, Summerside, PE, C1N 1H9

On behalf of the Owner

City of Summerside

PROJECT: **CUP COMPLEX CIVIL WORKS – Credit Union Place**

BIDDER: _____

(Legal Name)

_____

(Street Address)

_____

(City, Province, Postal Code)

1. Bid Price

.1 Having examined the site, the Bid Documents, and addenda numbered_____to_____ issued by the Consultant. Bidder to fill in blanks for addenda received.

.2 Confirming that our Bid Price is based on specified provisions only,

.3 Confirming that our Bid Price excludes HST,

.4 I/We hereby offer to enter into a Contract to perform the Work required by the Bid Documents, and to furnish all materials, plant and labour necessary for the proper completion of the Work for the Bid Price indicated below in lawful money of Canada.

_____ Dollars

BID PRICE: (Bid Price in words, including allowance if any, excluding HST)

($ _____

BID PRICE: (Bid Price in figures, including allowance if any, excluding HST)

.5 Submitted this_____day of_____20____.

2. Declarations

.1 I/We state that no person, firm, or corporation other than the undersigned has any interest, financial or otherwise, in this Bid or in the proposed Contract for which the Bid is made.

.2 I/We hold that this bid shall be held irrevocable and is open to acceptance by the Owner until 60 days after the bid closing date.

.3 In submitting this Bid I/We understand that a Bid Revision will not be called if minor changes to the Bid Documents are contemplated by the Owner, or after, Bid Closing.

.4 I/We agree that all bid form supplements called for by the Bid Documents form an integral part of this Bid.

.5 I/We hold that our Bid Price includes allowance(s) if any, excluding HST.

.6 The Owner reserves the right to request a Bid Revision from any or all Bidders where significant modifications to the Bid Documents become apparent at, or after, Bid Closing.

.7 I/We agree that within 5 working days after notification in writing by the Owner of the acceptance of this Bid, within the time limits of the bid acceptance period stated above, that we will:

.1 Execute the Agreement between Owner and Contractor as specified in Section 00 70 00 – General Conditions.

.8 I/we agree to complete the Work within the following timeframe:

.1 Onsite work to be completed in the following number of consecutive construction _____ days.

3. Declarations

.1 We, the undersigned, agree to submit within 24-hours of this Bid submission, the following forms, filled out as required and signed by the same person(s) whose signature(s) appear(s) on this Bid Form.

.1 Completed Section 00 45 00 – Information Submittal Forms.

.2 Certificate of account with the Workers Compensation Board of Prince Edward Island (WCB).

.3 Current proof of insurance, valid in the Province of Prince Edward Island and issued by an insurance company licensed to carry on such business in the Province of Prince Edward Island.

4. Signatures

SIGNED, SEALED AND SUBMITTED for and on the behalf of:

_____

signature of Bidder's authorized representative

_____ _____

name of Bidder's authorized representative

witness's signature or corporate seal

_____ _____

title or status of person signing above (print or type)

name and title of witness

END OF SECTION

SUBMIT TO: **City of Summerside – Tender Box**
275 Fitzroy Street, Summerside, PE, C1N 1H9

On behalf of the Owner

City of Summerside

PROJECT: **CUP COMPLEX CIVIL WORKS – Credit Union Place**

BIDDER: _____

(Legal Name)

_____

(Street Address)

_____

(Street Address)

_____

(City, Province, Postal Code)

Part 1 Information Submittal Forms

.1 Provide the following Information Submittal Forms to the Owner with Bid Submission:

.1 Information Submittal Form A – List of Subcontractors and Itemized Prices.

.2 Information Submittal Form B – Contractor Proposed Substitutions.

.3 Information Submittal Form C – Separate Prices.

.4 Information Submittal Form D – Alternate Prices.

.2 Information contained on these forms will not be used for assessment of conformity of Bids.

INFORMATION SUBMITTAL FORM A – LIST OF SUBCONTRACTORS AND ITEMIZED PRICES

PROJECT: CUP COMPLEX CIVIL WORKS – Credit Union Place

Note: Where the bidder does not intend to employ a subcontractor, insert "Own Forces" in space provided. Price amounts itemized and totaled DO NOT include HST.

Item of Work	Subcontractor / Supplier	Itemized Price Amount ($)
Part A – Dome Paving		
Parking Lot Paving (including line painting)		$
Parking Lot Line Painting		
Dome Perimeter Paving		$
	PART A Sub-Total	**$**
Part B – New CUP Parking Lot		
Parking Lot Construction		$
New Storm Sewer (including pipe, catch basin, test pit, coring into existing CB, and all similar items for complete installation of storm sewer)		$
	PART B Sub-Total	**$**
Part C – Hotel Civil Works (TO BE PAID AND MANAGED BY HOTEL CONTRACTOR - RCS)		
Preparation for Asphalt and Curbing Areas		$
Services: Electrical trench and preparation for transformer pad c/w bollards. Sanitary and Storm services brought from street connection to within 6 feet of building c/w street patching. Water and sprinkler mains connected at street and brought into the building c/w street patching. All storm catch basins around building and parking lot. All relocated and new parking lot lights		$
Supply and Installation of Curbs, sidewalks and asphalt (with line painting). Garbage enclosure c/w fence. Propane pad c/w bollards line painting. *Note: Sidewalk directly in front of the hotel is not to be included in this tender.*		$
Landscaping		$
	PART C Sub-Total	**$**

BID PRICE	
Total BID PRICE (excluding HST) (Total of All Items Above)	**$**

Abbreviations: M = Lineal Meter M2 = Square Meter M3 = Cubic Meter LS = Lump Sum T = Tonnes Ea = Each

SIGNATURE OF AUTHORIZED REPRESENTATIVE _____

Corporate Seal

INFORMATION SUBMITTAL FORM B – CONTRACTOR PROPOSED SUBSTITUTIONS

PROJECT: TURF FIELD CIVIL WORKS – Credit Union Place

The following are our prices for proposed Substitution Work listed hereunder. Such proposed Substitution Work and amounts are NOT INCLUDED in our Bid Price and DO NOT include HST.

Specification Section Number	Description of Proposed Substitution	Effects on Bid price ($)	
		Addition	Deletion
_____	_____	$ _____	$ _____
_____	_____	$ _____	$ _____
_____	_____	$ _____	$ _____
_____	_____	$ _____	$ _____

Attach additional sheets as necessary to complete Contractor's list of Substitutions.

INFORMATION SUBMITTAL FORM C – BREAKOUT PRICES

PROJECT: CUP COMPLEX CIVIL WORKS – Credit Union Place

Breakout Prices ARE INCLUDED in our Bid Price are provided below to identify our tender Price associated with each of the identified parts of the Work. The sum of all of the tables equals our Bid Price. If there is no cost associated with a particular item, mark 'NIL' or '0.00' in the related Breakout Price column (prices DO NOT include HST).

Breakout Prices		
Division	**Description of Item**	**Breakout Price**
	n/a	

INFORMATION SUBMITTAL FORM D – ALTERNATE PRICES

PROJECT: CUP COMPLEX CIVIL WORKS – Credit Union Place

The following are our prices for Alternate Work listed hereunder. Such Alternate Work and amounts are **NOT INCLUDED** in our Bid Price and **DO NOT** include HST.

Section	Description of Work	Effect on Bid Price ($)	
		Addition	Deletion
00 00 00	n/a.	$ _____	$ _____

END OF SECTION

Bidders' Initials _____

1. GENERAL CONDITIONS

.1 The Form of Agreement and the General Conditions of the Contract are contained in the Canadian Construction Documents Committee CCDC 2-2008: Stipulated Price Contract and as modified by Section 00 80 00 – Supplementary General Conditions.

.2 A copy of the CCDC 2-2008 Stipulated Price Contract may be obtained at the Contractor's expense from any Construction Association or directly from the Canadian Construction Documents Committee Website, located at:

.1 www.ccdc.org

END OF SECTION

REFERENCE

The Canadian Standard Construction Document, CCDC 2-2008, Stipulated Price Contract, consisting of the Agreement between Owner and Contractor, Definitions and the General Conditions of the Stipulated Price Contract, and these Supplementary General Conditions, are part of the Contract Documents.

These Supplementary General Conditions supplement or amend the Agreement, Definitions and General Conditions of the Stipulated Price Contract. Supplementary General Conditions shall be read in conjunction with, and in the case of conflict, take precedence over the Agreement, Definitions and General Conditions. Where any of the Agreement, Definitions and General Conditions are supplemented or amended hereinafter, the unaffected provisions of such Agreement, Definitions and General Conditions shall remain in effect. Supplementary General Conditions to any provisions of the Agreement, Definitions and General Conditions shall be considered as added thereto. Amendments to any provisions of the Agreement, Definitions and General Conditions shall be considered as superseding the affected provision thereof.

ARTICLE A-6 – RECEIPT AND ADDRESSES FOR NOTICES IN WRITING

Delete Article A-6.1 and substitute new article 6.1:

6.1 Notices in Writing between the parties or between them and the Consultant shall be considered to have been received by the addressee on the date of receipt if delivered by hand or by commercial courier or if sent during normal business hours by fax or email and addressed as set out below. Such Notices in Writing will be deemed to be received by the addressee on the next business day if sent by fax or email after normal business hours or if sent by overnight commercial courier. Such Notices in Writing will be deemed to be received by the addressee on the fifth Working Day following the date of mailing, if sent by pre-paid registered post, when addressed as set out below. An address for a party may be changed by Notice in Writing to the other party setting out the new address in accordance with this Article.

DEFINITIONS

Add the following definitions:

19a. Submittals

Submittals are documents or items required by the Contract Documents to be provided by the Contractor, such as:

- Shop Drawings, samples, models, mock-ups to indicate details or characteristics, before the portion of the Work that they represent can be incorporated into the Work; and
- As-built drawings and manuals to provide instructions to the operation and maintenance of the Work.

GENERAL

Where a General Condition or paragraph of the General Conditions of the Stipulated Price Contract is deleted by these Supplementary Conditions, the numbering of the remaining General Conditions or paragraphs shall remain unchanged, and the numbering of the deleted item will be retained, unused.

GC 1.1 CONTRACT DOCUMENTS

.1 Add to the end of subparagraph 1.1.2.2

.1 Except where the Consultant shall be indemnified as a third-party beneficiary as provided in subparagraphs 9.2.7.4, 9.5.3.4 and in 12.1.3.

.2 Add new subparagraph 1.1.7.5:

.1 1.1.7.5 In case of discrepancies, noted materials and annotations shall take precedence over graphic indications in the Contract Documents.

GC 2.2 ROLE OF THE CONSULTANT

.1 Add at the end of paragraph 2.2.9. "The Owner and the Contractor shall waive any claims against the Consultant arising out of the making of such interpretations and findings made in accordance with paragraphs 2.2.7., 2.2.8. and 2.2.9".

.2 Delete the comma after the word "submittals" and add the words "which are provided" before the words "in accordance" in paragraph 2.2.14.

GC 2.4 DEFECTIVE WORK

.1 Add new subparagraphs 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 operation of the Owner.

GC 3.1 CONTROL OF THE WORK

.1 Add new paragraph 3.1.3:

3.1.3 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 contradictions exist, or exact locations are not apparent, the Contractor shall immediately notify the Consultant in writing and obtain written instructions from the Consultant before proceeding with any part of the affected work.

GC 3.4 DOCUMENT REVIEW

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

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 comply 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. 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. If the Contractor does discover any error, inconsistency or omission in the Contract Documents, the Contractor shall not proceed with the work affected until the Contractor has received corrected or missing information from the Consultant.

GC 3.8 LABOUR AND PRODUCTS

.1 Add new paragraph 3.8.4:

3.8.4 The Contractor is responsible for the safe on-site storage of Products and their protection (including Products supplied by the Owner and other contractors to be installed under the Contract) in such ways as to avoid dangerous conditions or contamination to the Products or other persons or property and in locations at the Place of the Work to the satisfaction of the Owner and the Consultant. The Owner shall provide all relevant information on the Products to be supplied by the Owner.

GC 3.10 SHOP DRAWINGS

.1 Add the words "AND OTHER SUBMITTALS" to the Title after SHOP DRAWINGS.

.2 Add "and Submittals" after the words "Shop Drawings" in paragraphs 3.10.1, 3.10.2, 3.10.4, 3.10.7, 3.10.8, 3.10.8.2, 3.10.9, 3.10.10, 3.10.11, and 3.10.12.

.3 Delete 3.10.3 in its entirety and substitute new paragraph 3.10.3

.4 GC.3.10.3 Prior to the first application for payment, the Contractor and the Consultant shall jointly prepare a schedule of the dates for submission and return of Shop Drawings and any Submittals.

.5 Delete the words "with reasonable promptness so as to cause no delay in the performance of the Work" and replace with "within 10 working days or such longer period as may be reasonably required" in paragraph 3.10.12.

GC 3.14 PERFORMANCE BY CONTRACTOR

.1 Add new General Condition 3.14.1

3.14.1 In performing its services and obligations under the Contract, the Contractor shall exercise a 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 Contractor's obligations, duties, and responsibilities shall be interpreted in accordance with this standard. The Contractor shall exercise the same standard of due care and diligence in respect of any Products, personnel, or procedures which it may recommend to the Owner.

.2 Add new General Condition 3.14.2

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 its designated supervisor and project manager, subject to the Owner's approval, in the event of death, incapacity, removal or resignation.

GC 6.4 CONCEALED OR UNKNOWN CONDITIONS

.1 Add new subparagraph 6.4.5:

6.4.5 The Contractor confirms that, prior to bidding the Project, it carefully investigated the Place of the Work and applied to that investigation the degree of care and skill described in paragraph 3.14.1, given the amount of time provided between the issue of the bid documents and the actual closing of bids, the degree of access provided to the Contractor prior to submission of bid, and the sufficiency and completeness of the information provided by the Owner. The Contractor is not entitled to compensation or to an extension of the Contract Time for conditions which could reasonably have been ascertained by the Contractor by such careful investigation undertaken prior to the submission of the bid.

GC 6.5 DELAYS

.1 Delete the period at the end of paragraph 6.5.1, and substitute the following words:

", but excluding any consequential, indirect or special damages."

.2 Add new subparagraph 6.5.6.

6.5.6 If the Contractor is delayed in the performance of the Work by an act or omission of the Contractor or anyone employed or engaged by the Contractor directly or indirectly, or by any cause within the Contractor's control, then the Contract Time shall be extended for such reasonable time as the Consultant may decide in consultation with 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 all services required by the Owner from the Consultant as a result of such delay by the Contractor and, in particular, the cost 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 provisions of these General Conditions and any later, actual date of Substantial Performance of the Work achieved by the Contractor.

GC 6.6 CLAIMS FOR A CHANGE IN CONTRACT PRICE

.1 Add the words "as noted in paragraph 6.6.3" after the words "of the claim" in paragraph 6.6.5 and add the words "and the Consultant", at the end of paragraph 6.6.5.

GC 8.2 NEGOTIATION, MEDIATION AND ARBITRATION

.1 Add the following new paragraphs 8.2.9, 8.2.10, 8.2.11, 8.2.12., 8.2.13., and 8.2.14.

.1 8.2.9 Within five days of receipt of the notice of arbitration by the responding party under paragraph 8.2.6, the Owner and the Contractor shall give the Consultant a written notice containing:

.1 a copy of the notice of arbitration

.2 a copy of supplementary conditions 8.2.9 to 8.2.14 of this Contract, and.

.3 any claims or issues which the Contractor or the Owner, as the case may be, wishes to raise in relation to the Consultant arising out of the issues in dispute in the arbitration

.2 8.2.10 The Owner and the Contractor agree that the Consultant may elect, within ten days of receipt of the notice under paragraph 8.2.9, to become a full party to the arbitration under paragraph 8.2.6 if the Consultant:

.1 has a vested or contingent financial interest in the outcome of the arbitration.

.2 gives the notice of election to the Owner and the Contractor before the arbitrator is appointed.

.3 agrees to be a party to the arbitration within the meaning of the rules referred to in paragraph 8.2.6, and,

.4 agrees to be bound by the arbitral award made in the arbitration.

.3 8.2.11 If an election is made under paragraph 8.2.10, the Consultant may participate in the appointment of the arbitrator and, notwithstanding the rules referred to in paragraph 8.2.6, the time period for reaching agreement on the appointment of the arbitrator shall begin to run from the date the respondent receives a copy of the notice of arbitration.

.4 8.2.12 The arbitrator in the arbitration in which the Consultant has elected under paragraph 8.2.10 to become a full party may:

.1 on application of the Owner or the Contractor, determine whether the Consultant

.2 has satisfied the requirements of paragraph 8.2.10, and.

.3 make any procedural order considered necessary to facilitate the addition of the Consultant as a party to the arbitration.

.5 8.2.13 The provisions of paragraph 8.2.9 shall apply mutatis mutandis to written notice to be given by the Consultant to any sub-consultant.

.6 8.2.14 In the event of notice of arbitration given by the Consultant to a sub- consultant, the sub-consultant is not entitled to any election with respect to the proceeding as outlined in 8.2.10 and is deemed to be bound by the arbitration proceeding.

GC 9.1 PROTECTION OF WORK AND PROPERTY

.1 Delete subparagraph 9.1.1.1 in its entirety and substitute new subparagraph 9.1.1.1:

.1 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.

.2 Delete paragraph 9.1.2 in its entirety and substitute the following new paragraph 9.1.2:

.1 9.1.2 Before commencing any Work, the Contractor shall determine the locations of all underground utilities and structures indicated in the Contract Documents, or that are discoverable by applying to an inspection of the Place of the Work the degree of care and skill described in paragraph 3.14.1.

GC 9.2 TOXIC AND HAZARDOUS SUBSTANCES

.1 Add to paragraph 9.2.6 after the word "responsible", the following new words:

.1 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 damage to the property of the Owner or others,

.2 Add "and the Consultant" after the word "Contractor" in subparagraph 9.2.7.4.

.3 Add to paragraph 9.2.8 after the word "responsible", the following new words:

.1 or that 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 damage to the property of the Owner or others,

GC 9.5 MOULD

.1 Add "and the Consultant" after "Contractor" in subparagraph 9.5.3.4.

GC 10.2 LAWS, NOTICES, PERMITS, AND FEES

.1 Delete from the first line of paragraph 10.2.5 the word, "The" and substitute the words:

"Subject to paragraph 3.14.1, the".

GC 12.1 INDEMNIFICATION

.1 Add new clause 12.1.1.3.

12.1.1. 3. The Contractor shall indemnify and hold harmless the Consultant, its agents and employees from and against claims, demands, losses, costs, damages, actions, suits, or proceedings by third parties that arise out of, or are attributable to, the Contractor's performance of the Contract, provided such claims are attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property, and caused by negligent

acts or omissions of the Contractor or anyone for whose acts the Contractor may be liable, and made in writing within a period of 6 years from the date of Substantial Performance of the Work as set out in the certificate of Substantial Performance of the Work, or within such shorter such period as may be prescribed by any limitation statute or the province or territory of the Place of Work.

GC 12.3 WARRANTY

.1 Delete from the first line of paragraph 12.3.2 the word, “The” and substitute the words:

"Subject to paragraph 3.14.1, the…".

END OF DOCUMENT

Part 1 General

1.1 WORK COVERED BY CONTRACT DOCUMENTS

.1 Work of this project is broken down into three separate and distinct parts.

.1 The parts are the following:

.1 Part A – Dome Paving

(1) Includes: Paving Perimeter of the Dome, Paving New Parking Lot

.2 Part B – New CUP Parking Lot

(1) Full construction of new parking lot to the east of the Credit Union Place

(2) Includes:

(a) new storm service and catch basin, ground preparation work, base gravel, asphalt assembly, line painting, reinstatement of all disturbed areas, grass seeding and sodding.

.3 Part C – Hotel Civil Works

(1) This part will be paid for and managed by the hotel contractor RCS. The City of Summerside will be in no way part of the management of this portion of the work.

(2) All portions of this work shall be completed as per the hotel contractors provided drawings and specifications.

(3) Includes:

(a) Preparation of areas for curbing and asphalt

(b) Services: Electrical trench and preparation for transformer pad c/w bollards. Sanitary and Storm services brought from street connection to within 6 feet of building c/w street patching. Water and sprinkler mains connected at street and brought into the building c/w street patching. All storm catch basins around building and parking lot. All relocated and new parking lot lights

(c) Supply and Installation of Curbs, sidewalks and asphalt (with line painting). Garbage enclosure c/w fence. Propane pad c/w bollards line painting. Note: Sidewalk directly in front of the hotel is not to be included in this tender.

(d) Landscaping

.2 The scope of work is as indicated on the Contract Drawings and in accordance with the Contract Specifications. The Contract Drawings and Specifications shall be read together as a whole to determine the scope of the project and the work required. The most stringent requirements shall apply.

.3 The owner reserves the explicit right to accept any, all, or no portions(parts) of the submitted tenders.

1.2 CONTRACT METHOD

.1 Construct work under single stipulated price contract in accordance with Section 00 70 00 - General Conditions as modified by Section 00 80 00 - Supplementary General Conditions.

1.3 CONTRACT TIME

.1 Perform work within times stated as follows:
.1 Start and Finish Date to be determined.
.2 Required date of Substantial Performance: per item 1.3.1.2.1 below.
.1 'Substantial Performance' means 'Substantial Performance' as defined by the Mechanics'

Lien Act of Prince Edward Island.

.2 The Contractor shall immediately publish the Certificate of Substantial Performance in the Daily Commercial News (DCN) upon issuance.

.3 Required date of **Final Completion**: per item 1.3.1.4.3 below.

.4 Milestone Schedule:

.1 **Award**: July 2021

.2 **Mobilization:**

(1) Part A – Dome Paving – Fall 2021

(2) Part B – New Parking Lot – Summer/Fall 2021

(3) Part C – Hotel Civil Work – Summer 2021 (exact scheduling to be determined with hotel contractor)

.3 **Final Completion**:

(1) Part A – Dome Paving – Fall 2021

(2) Part B – New Parking Lot – Fall 2021

(3) Part C – Hotel Civil Work – Fall 2021 (exact scheduling to be determined with hotel contractor)

1.4 DEFINITIONS

.1 Notwithstanding definitions specified elsewhere, the following definitions take precedence and govern specification Divisions 01 through 32 inclusive of the Contract Documents. In the event of conflict, the following shall govern.

.1 Construction Schedule: as defined in Section 01 32 16 - Construction Schedule.

.2 Consultant: the prime consultant and project manager is Bellcor Engineering Inc., and the term 'Consultant' means Bellcor Engineering Inc. and all of their subconsultants, sub-contractors and specialists engaged by them for this project.

.3 Contractor: the party having entered into and executed a contract with the Owner to complete the total construction of the Project.

.4 Equivalent: means a material or product that has the same or better performance characteristics, physical properties, warranty provisions, and technical support as the specified material or product, and has been approved in accordance with the requirements of Section 01 62 00.

.5 May: 'may' is used to express an option or that which is permissible within the limits of the contract.

.6 Must: 'must' is used in the specifications to indicate a requirement that is contractually binding, meaning it is required to be implemented, and its implementation verified; it has the same contractual purpose as 'shall' in the specifications.

.7 Place of the Work means the location of the Work identified in the Contract Documents.

.8 Product: means material, machinery, equipment, and fixtures forming the Work.

.9 Project Team: all the parties involved in the Project, including Owner, Consultant, Contractor, Subcontractors and Suppliers.

.10 Project: means the total construction contemplated of which the Work may be the whole or a part.

.11 Provide: means to supply and install.

.12 Shall: 'shall' is used in the specifications to indicate a requirement that is contractually binding, meaning it is required to be implemented, and its implementation verified.

.13 Should: 'should' is used in the specifications to indicate a goal that must be addressed by the Contractor but is not formally verified. The Contractor is required to communicate to the Consultant at progress meetings how they are intending to achieve the goal and what progress they have made.

.14 Supplier: means person or entity having direct contract with Contractor, trade contractor or subcontractor, or to supply Products.

.15 Trade Contractor, Subcontractor means person or entity having direct contract with Contractor to perform a part or parts of the Work at the Place of the Work.

.16 Will: 'will' is used in the specifications to indicate a statement of fact.

.17 Work: means the total construction or a part or parts thereof and related services required by the Contract Documents.

.18 Other DEFINITIONS as specified in Contract referenced in 1.1 REFERENCES of this Section.

1.5 USE OF DEFINED TERMS

.1 The parties to the Contract agree that a term found defined in DEFINITIONS of the Contract Documents and used in the Specifications, whether appearing in regular font or in italics or capitalized or not, shall have the meaning of that defined term.

1.6 COORDINATION

.1 Subcontractors, and Suppliers shall cooperate with each other in carrying out their respective works as required to maintain Construction Schedule and eliminate inefficiencies and carry out instructions of Contractor and Consultant.

.2 Subcontractors and Suppliers shall coordinate work with that of other Subcontractors and Suppliers as required to maintain Construction Schedule and eliminate inefficiencies. If any part of the Work subcontracted depends for its proper execution or result upon Work of another subcontract, report promptly in writing any constraints that may interfere with proper and timely execution of the Work contracted to Contractor and Consultant.

.3 Coordination and cooperation between Subcontractors and Suppliers is required.

.4 Coordinate use of worksite and property under direction of Contractor and Consultant.

.5 Obtain and pay for use of additional storage or work areas needed for operations under this Contract.

1.7 CONTRACTOR USE OF PREMISES

.1 Contractor has full access to the site for the purposes of executing the Work of Contract.

.2 Site use must comply with approved Site Logistic Layout drawing.

1.8 RECORDS AND SCHEDULES

.1 Keep a permanent record on site of Work progress, commencement and completion dates, weather conditions, numbers of people engaged on site, and visits to the site by Owner, Consultant, jurisdictional authorities, utilities, and others that may have influence over or impact on the Work.

.2 If a complaint is received from public and/or neighbors, record complaint and actions and remedies taken. Resolvable complaints shall be remedied within 24-hours of notification and communicated to Consultant immediately if not of the resolvable type in Contractor's judgement.

.3 Submit copy of the record upon request by Consultant.

1.9 COMMISSIONING

.1 Cooperate with commissioning processes, and schedule and sequence the Work as required to accommodate commissioning activities in compliance with the Project Schedule.

.2 Contractor shall perform integrated systems commissioning of interconnected systems:

.1 Perform Integrated Systems Tests to confirm that Systems and Subsystems perform and function in concert according to the design intent and requirements of the Contract Documents.

.2 Commission Fire Protection Systems: commission fire alarm system and interaction with other systems such as elevators, pull stations, doors, smoke detectors, heat detectors, combination smoke and heat detectors, and electronically supervised sprinkler system, as required to ensure the proper operation and functional interactions between systems in accordance with ULC S1001-11, Standard for Integrated Systems Testing of Fire Protection and Life Safety Systems.

.3 Make available the original equipment manufacturer's trained certified representatives familiar with the Systems, combination of Systems, or Subsystems being Commissioned to demonstrate their operation in their entirety, including all control sequences. Owner reserves the right to request additional representation, at no cost to Owner. Consultant and Owner reserve the right to request ad hoc testing beyond the Commissioning procedures, the need for which may become evident during Commissioning.

1.10 SITE DOCUMENTS REQUIRED

.1 Maintain at job site, one copy of each document as follows:

.1 Site Logistic Layout.

.2 Project Schedule updated bi-weekly.

.3 6-Week Lookahead Schedule, rolling, updated weekly.

.4 Weekly Work Plans updated weekly.

.5 Schedule of Deliverables: testing, mock-ups, shop drawings, samples.

.6 Mock-Up Lessons Learned – Summary of Findings.

.7 Drawings.

.8 Specifications.

.9 Addenda.

.10 Quality Plan, and record of corrective and preventative actions taken to address non-conforming Work.

.11 Reviewed Shop Drawings.

.12 List of Outstanding Shop Drawings.

.13 Change Directives.

.14 Change Orders.

.15 Field Test Reports.

.16 Test certificates.

.17 Warrantees.

.18 Test and mix designs.

.19 Health and Safety Plan, COVID-19 Plan, and other safety-related documents.

.20 Workplace Hazardous Materials Information System (WHMIS) sheets.

.21 Mechanical and electrical coordination drawings.

.22 Other documents as specified in the technical sections, including datasheets, installation instructions, installation illustrations, manufacturer’s specifications, handling, storage and environmental requirements, and maintenance and operating instructions.

END OF SECTION

1. RELATED REQUIREMENTS SPECIFIED ELSEWHERE

.1 Particular requirements for inspection and testing to be carried out by testing laboratory designated by Consultant are specified under various technical specification Sections of the Contract.

2. COST OF INSPECTION AND TESTING

.1 Cost of specified independent 3rd-party inspections and tests shall be paid by Owner except for the following, the costs of which shall be borne by the Contractor as included in and part of Contract:

.1 Inspection and testing required by laws, ordinances, rules, regulations or orders of authorities having jurisdiction.

.2 Inspection and testing performed exclusively for Contractor's convenience.

.3 Testing, adjustment and balancing of conveying systems, and mechanical and electrical equipment and systems.

.4 Mill tests and certificates of compliance.

.2 Inspection and testing will be ordered by the Contractor and carried out by independent inspection and testing companies or agents hired by the Contractor and accepted by the Owner.

3. RESPONSIBILITIES

.1 Contractor Responsibilities:

.1 Contractor shall supply a set of Drawings, Specifications and Schedules, including all addenda, change directives and change orders, for the use of inspection and testing companies. Subcontractors shall be advised by the Contractor of the inspection and testing appointments.

.2 Contractor shall advise the appropriate inspection and testing companies not less than 48 hours prior to the commencement of any Work to be inspected and tested. Contractor shall ensure that proper facilities are provided and cooperate fully with the respective inspection and testing companies and their field inspectors.

.3 Provide inspectors full access and cooperation to areas of the Work requiring inspection and testing.

.4 Inspector(s) shall be present at commencement of Work pertaining to the inspections and testing for which their services have been engaged. Incorrect procedures shall be corrected immediately and, where necessary, defective work replaced.

.5 It is not the duty or responsibility of inspection and testing personnel to supervise the Work, or instruct in correct methods of application or installation, but merely to examine and make factual science-based reports.

.6 Inspections and tests shall not relieve the Contractor from responsibility but is a precaution against oversight or error. Defective material shall be removed and replaced by the Contractor and their Subcontractor(s) at their own expense and shall also be responsible for all unnecessary delay caused by rejection and for the payment of costs for any additional testing required by the Owner and/or Consultant

.2 Subcontractors:

.1 Subcontractor(s) shall advise the Contractor not less than 72-hours prior to the commencement of any Work to be inspected and tested.

.2 Provide inspectors full access and cooperation to areas of the Work requiring inspection and testing.

.3 Inspection and Testing Companies:

.1 Inspection and testing companies, their personnel, employees and inspectors shall be totally independent and have no affiliations with the Contractor, Subcontractors, fabricators, suppliers or others performing the Work of the Contract. For every testing and inspecting company to be engaged for services, Contractor shall submit to the Owner and Consultant evidence of the testing and inspecting company's previous experience of inspection and testing services acceptable to the Owner and Consultant. Inspectors shall be registered engineers in the Place of the Work, except where otherwise permitted by Owner in writing for selected architectural elements of the Work.

.2 Study the requirements and intent of the Drawings and Specifications, including all addenda, change directives and change orders.

.3 Carry out all inspections and testing as specified and such additional inspections and testing as may be directed by the Owner and Consultant.

.4 The inspection and testing company's representative shall inform the Owner and Consultant of each and every visit to the Place of the Work (Site), plant or mill at the time of the visit.

.5 Supply and distribute copies of all inspection reports and test reports promptly to the Owner, Consultant and also to such other parties as the Owner may designate.

.6 Inform the Contractor and the site superintendent at the Place of the Work immediately of condition, qualities or procedures that do not comply with the requirements or intent of the Drawings and Specifications prepared by the Consultant.

.7 Acceptance or rejection of the materials or workmanship is not the responsibility of the inspections and testing companies / agencies, but that of the Owner and Consultant.

.4 Reports and Distribution:

.1 Inspection and Testing Companies shall report each inspection and/or test individually, comprehensively, in writing and signed by an authorized representative of the applicable inspections and testing company. Inspection and Testing Companies shall distribute reports directly as follows:

.1 Owner's Representative.

.2 Consultant.

.3 Municipal Building Department (where applicable).

.4 Representative of relevant licenced professional consultant of record when inspection and/or testing of the Work is required (e.g., Architectural/ Process Engineering / Structural / Mechanical / Electrical).

.5 Contractor.

.6 Subcontractor(s) performing work being inspected and/or tested.

.5 Report data shall include, but shall not be limited to, the following:

.1 Name of Inspection and testing company.

.2 Project Name and Project Number.

.3 Name of Owner's Representative.

.4 Consultant's Name.

.5 Contractor's Name.

.6 Subcontractor's Name.

.7 Dates of inspections and reports.

.8 Air temperature.

.9 Weather.

.10 General comments on application and workmanship.

.11 Any deviations from accepted procedures, Drawings and Specifications.

END OF SECTION

1.1 ADMINISTRATIVE

.1 Schedule and administer project meetings throughout the progress of the work at the call of Consultant.

.2 Prepare agenda for meetings.

.3 Distribute written notice of each meeting four working days in advance of meeting date to Consultant.

.4 Provide physical space and make arrangements for meetings.

.5 Preside at meetings.

.6 Record the meeting minutes. Include significant proceedings and decisions. Identify actions by parties.

.7 Reproduce and distribute copies of minutes within three working days after meetings and transmit to meeting participants, affected parties not in attendance, and Consultant.

.8 Representative of Contractor, Subcontractor and suppliers attending meetings will be qualified and authorized to act on behalf of party each represents.

1.2 CONSTRUCTION START-UP WORKSHOP

.1 Within 10-days after award of Contract, or as otherwise specified in Owner's procurement documents, a meeting of project parties shall be called to discuss and resolve administrative procedures and responsibilities.

.2 Key representatives of the Consultant team, Owner team, and Contractor team shall be in attendance. Attendees shall be authorized to make agreements on behalf of the team they represent.

.3 Coordinate time and location of the meeting and notify the parties concerned a minimum of 10-days before the meeting.

.4 Agenda to include:

.1 Appointment of official representative of participants in the Work.

.2 Health and safety responsibilities and strategy.

.3 Electrical and mechanical coordination (interferences) drawings.

.4 Schedule of Work: in accordance with Construction Progress Schedules.

.5 Schedule of submission of shop drawings, samples, color chips. Submit submittals as specified.

.6 Development and implementation strategies of Project six-week look-ahead schedules, trade cross-referenced and coordinated weekly work plans, trade tool-box meetings, and project flow visualizations to maximize production in realizing Owner objectives.

.7 Requirements for temporary facilities, site sign, offices, storage sheds, utilities, fences.

.8 Delivery schedule of specified equipment.

.9 Site security and fencing.

.10 Sustainable construction and material selection strategies.

.11 Proposed changes, change orders, procedures, approvals required, mark-up percentages permitted, time extensions, overtime, administrative requirements.

.12 As-built drawings and record documents.

.13 Maintenance manuals.

.14 Take-over procedures, acceptance, and warranties.

.15 Monthly progress claims, administrative procedures, photographs, hold backs.

.16 Appointment of inspection and testing agencies or firms.

.17 Insurances, transcript of policies.

.18 Commissioning requirements.

.19 Demonstration and training requirements.

1.3 PROGRESS MEETINGS

.1 During course of Work schedule progress meetings bi-weekly (middle of month and end of month).

.2 Contractor, major Subcontractors involved in Work and Consultant are to be in attendance.

.3 Notify parties a minimum 10-days prior to meetings.

.4 Record minutes of meetings and circulate to attending parties and affected parties not in attendance within 10-days after meeting.

.5 Agenda to include the following:

.1 Review, approval of minutes of previous meeting.

.2 Review of Work progress since previous meeting.

.3 Six-week look-ahead schedule.

.4 Project Coordination.

.5 Review opportunities to maximize production through coordinated weekly work plans, trades cross-referencing to enable visualization of potential bottlenecks, and respective solution-finding.

.6 Field observations, problems, conflicts.

.7 Problems which impede construction schedule.

.8 Review of off-site fabrication delivery schedules.

.9 Corrective measures and procedures to regain project schedule.

.10 Revision to construction schedule.

.11 Progress schedule, during succeeding work period.

.12 Review submittal schedules: expedite as required.

.13 Maintenance of quality standards.

.14 Review proposed changes for effect on construction schedule and on completion date.

.15 Other business.

1.4 CONTRACTOR'S PRODUCTION PLANNING PROCESSES

.1 Contractor's field superintendent and trade field supervisors shall meet regularly as needed for the following purposes:

.1 To develop internal phase schedules pertaining to the next milestone in the Master Schedule; updated weekly.

.2 Six-Week Lookahead Schedule: meet weekly to develop and update a rolling six-week lookahead schedule, together with a rolling Constraint Registry. The Constraint Registry shall capture and present an assessment of how to best remove constraints to what "should" be done over the next six weeks to establish what "can" be done week with a high degree of confidence, which in turn will be incorporated into each trade's Weekly Work Planning. Each constraint shall be assigned to the relevant party to remedy and report back to the Contractor's

field superintendent. Update weekly.

.3 Weekly Work Schedules (trade- specific): meet each week to develop a list of assignments to be completed by each trade active at the site; that is, work that is going to take place on the first week of the rolling six-week look-ahead schedule and pre-screened for constraints to determine what can be done in the target week with a high degree of confidence. At the end of each week, measure Percent Project Complete (PPC), and identify reasons why tasks were not completed as scheduled to encourage proactive changes to overcome obstacles to performance.

END OF SECTION

1 DEFINITIONS

.1 Activity: element of Work performed during course of Project. Activity normally has expected duration and expected cost and expected resource requirements. Activities can be subdivided into tasks.

.2 Bar Chart (GANTT Chart): graphic display of schedule-related information. In typical bar chart, activities or other Project elements are listed down left side of chart, dates are shown across top, and activity durations are shown as date-placed horizontal bars. Generally, Bar Chart should be derived from commercially available computerized project management system.

.3 Baseline: original approved plan (for project, work package, or activity), plus or minus approved scope changes.

.4 Construction Schedule: shall mean Project Schedule.

.5 Construction Work Week: Monday to Friday, inclusive, will provide 5-day work week and define schedule calendar working days as part of Bar (GANTT) Chart submission.

.6 Duration: number of work periods (not including holidays or other nonworking periods) required to complete activity or another project element. Usually expressed as workdays or workweeks.

.7 Master Plan: summary-level schedule that identifies major activities and key milestones.

.8 Milestone: significant event in project, usually completion of major deliverable.

.9 Project Schedule: planned dates for performing activities and the planned dates for meeting milestones. Dynamic, detailed record of tasks or activities that must be accomplished to satisfy Project objectives. Monitoring and control process involves using Project Schedule in executing and controlling activities and is used as basis for decision making throughout project life cycle.

.10 Project Planning, Monitoring and Control System: overall system operated by Consultant to enable monitoring of project work in relation to established milestones.

2 REQUIREMENTS

.1 Ensure Master Plan and Detail Schedules are practical and remain within specified Contract duration.

.2 Plan to complete Work in accordance with prescribed milestones and time frame.

.3 Limit activity durations to maximum of approximately 10 working days, to allow for progress reporting.

.4 Ensure that it is understood that Award of Contract or time of beginning, rate of progress, Interim Certificate and Final Certificate as defined times of completion are of essence of this contract.

.5 Submit Detail Schedules to Construction Manager and Consultant within 15 working days of Award of Contract in the form of a Bar (GANTT) Chart for purposes of creation of a Master Plan, and Project planning, coordinating, monitoring and reporting Work progress.

3 ACTION AND INFORMATIONAL SUBMITTALS

.1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.

.2 Submit a preliminary project Master Plan during the Bid period in accordance with Section 00 21 13 – Instructions to Bidders.

.3 Submit Project Schedule to Consultant within 15 working days of Award of Contract, including project Master Plan. Update weekly as required for duration of project.

4 PROJECT SCHEDULE

.1 Develop detailed Project Schedule derived from Master Plan.

.2 Ensure detailed Project Schedule includes, as minimum, the milestone and activity types as follows (or similar as it pertains to the scope of work for the project):

- .1 Award.
- .2 Shop Drawings, Samples.
- .3 Permits.
- .4 Mobilization.
- .5 Inspections by authorities having jurisdiction.
- .6 Exterior Site:
  - .1 Soil stripping and stockpiling, rough grading.
  - .2 Excavation and backfill.
  - .3 Site services.
  - .4 Foundations, and concrete pads.
  - .5 Site finishes (asphalt, concrete, sod).
- .7 Exterior construction:
  - .1 Slab-on-grade.
  - .2 Structural steel.
  - .3 Exterior walls.
  - .4 Roofing and roof hatches.
  - .5 Exterior windows and doors.
- .8 Interior Construction:
  - .1 Partitions.
  - .2 Interior Doors and Screens.
  - .3 Fittings.
- .9 Interior Finishes:
  - .1 Wall Finishes.
  - .2 Floor Finishes.
  - .3 Ceiling Finishes.
- .10 Services:
  - .1 Plumbing.
  - .2 HVAC.
  - .3 Fire Protection.
  - .4 Electrical.
  - .5 IT and Security.
- .11 Fixed Furnishings: millwork and cabinetry.
- .12 Specialties.
- .13 Commissioning.

.14 Demobilization.

.15 Closeout submissions.

.16 Supplied equipment long delivery items.

.17 Required dates for supplied equipment.

5 PROJECT SCHEDULE REPORTING

.1 Update Project Schedule every two weeks reflecting activity changes and completions, as well as activities in progress.

.2 Include as part of Project Schedule, narrative report identifying Work status to date, comparing current progress to baseline, presenting current forecasts, defining problem areas, anticipated delays and impact with possible mitigation.

6 PROJECT MEETINGS

.1 Discuss Project Schedule at regular site meetings, identify activities that are behind schedule and provide measures to regain slippage. Activities considered behind schedule are those with projected start or completion dates later than current approved dates shown on baseline schedule.

.2 Weather related delays with their remedial measures will be discussed and negotiated.

END OF SECTION

1.1 ADMINISTRATIVE

.1 Submit to relevant Consultant submittals listed for review using online document management system.

.2 Submit promptly and in orderly sequence to not cause delay in Work. Failure to submit in ample time is not considered sufficient reason for extension of Contract Time and no claim for extension by reason of such default will be allowed.

.3 Do not proceed with Work affected by submittal until review is complete.

.4 Present shop drawings, product data, samples, and mock-ups in same unit of measure as the Contract Drawings.

.5 Review submittals prior to submission to Consultant. This review represents that necessary requirements have been determined and verified, or will be, and that each submittal has been checked and coordinated with requirements of Work and Contract Documents. Submittals not stamped, signed, dated, and identified as to specific project will be returned without being examined and considered rejected.

.6 Notify Consultant in writing at time of submission, identifying deviations from requirements of Contract Documents, stating reasons for deviations.

.7 Verify field measurements and affected adjacent Work are coordinated.

.8 Contractor's responsibility for errors and omissions in submission is not relieved by Consultant's review of submittals.

.9 Contractor's responsibility for deviations in submission from requirements of Contract Documents is not relieved by Consultant review.

.10 Keep one reviewed copy of each submission on site.

1.2 SHOP DRAWINGS AND PRODUCT DATA

.1 The term "shop drawings" means drawings, diagrams, illustrations, schedules, performance charts, brochures and other data which are to be provided by Contractor to illustrate details of a portion of Work.

.2 Submit shop drawings bearing stamp and signature of qualified professional engineer registered or licensed in Province of Prince Edward Island, Canada.

.3 Indicate materials, methods of construction and attachment or anchorage, erection diagrams, connections, explanatory notes, and other information necessary for completion of Work. Where articles or equipment attach or connect to other articles or equipment, indicate that such items have been coordinated, regardless of Section under which adjacent items will be supplied and installed. Indicate cross references to design drawings and specifications.

.4 Allow 10 working days for Consultant's review of each submission.

.5 Adjustments made on shop drawings by Consultant are not intended to change Contract Price. If adjustments affect value of Work, state such in writing to Consultant prior to proceeding with Work.

.6 Make changes in shop drawings as Consultant may require, consistent with Contract Documents. When resubmitting, notify Consultant in writing of revisions other than those requested.

.7 Accompany submissions with transmittal letter containing:

.1 Date.

.2 Project title and number.

.3 Contractor's name and address.

.4 Identification and quantity of each shop drawing, product data and sample.

.5 Other pertinent data.

.8 Submissions include:

.1 Date and revision dates.

.2 Project title and number.

.3 Name and address of:

.1 Subcontractor.

.2 Supplier.

.3 Manufacturer.

.4 Contractor's stamp, signed by Contractor's authorized representative, certifying approval of submissions, verification of field measurements and compliance with Contract Documents.

.5 Details of appropriate portions of Work as applicable:

.1 Fabrication.

.2 Layout, showing dimensions, including identified field dimensions, and clearances.

.3 Setting or erection details.

.4 Capacities.

.5 Performance characteristics.

.6 Standards.

.7 Operating weight.

.8 Wiring diagrams.

.9 Single line and schematic diagrams.

.10 Relationship to adjacent work.

.9 Each shop drawing must be accompanied by a completed “CONTRACTOR’S SHOP DRAWING REVIEW FORM, attached following this Section, one form per shop drawing. The forms must be executed by the Contractor’s senior project manager assigned to the project and who has authority to sign on behalf of the Contractor. Submissions shall be made electronically in pdf format.

.10 After Consultant's review, distribute copies.

.11 Submit electronic copy of shop drawings for each requirement requested in specification Sections and as Consultant may reasonably request.

.12 Submit electronic copies of product data sheets or brochures for requirements requested in specification Sections and as requested by Consultant where shop drawings will not be prepared due to standardized manufacture of product.

.13 Submit electronic copies of test reports for requirements requested in specification Sections and as requested by Consultant.

.1 Report signed by authorized official of testing laboratory that material, product, or system identical to material, product or system to be provided has been tested in accord with specified requirements.

.2 Testing must have been within 3 years of date of contract award for project.

.14 Submit electronic copies of certificates for requirements requested in specification Sections and as requested by Consultant.

.1 Statements printed on manufacturer's letterhead and signed by responsible officials of

manufacturer of product, system or material attesting that product, system or material meets specification requirements.

.2 Certificates must be dated after award of project contract complete with project name.

.15 Submit electronic copies of manufacturer's instructions for requirements requested in specification Sections and as requested by Consultant.

.1 Pre-printed material describing installation of product, system, or material, including special notices and Material Safety Data Sheets concerning impedances, hazards, and safety precautions.

.16 Submit electronic copies of Manufacturer's Field Reports for requirements requested in specification Sections and as requested by Consultant.

.1 Documentation of the testing and verification actions taken by manufacturer's representative to confirm compliance with manufacturer's standards or instructions.

.17 Submit electronic copies of Operation and Maintenance Data for requirements requested in specification Sections and as requested by Consultant.

.18 Delete information not applicable to project.

.19 Supplement standard information to provide details applicable to project.

.20 If upon review by Consultant, no errors or omissions are discovered or if only minor corrections are made, copies will be returned, and fabrication and installation of Work may proceed. If shop drawings are rejected, noted copy will be returned and resubmission of corrected shop drawings, through same procedure indicated above, must be performed before fabrication and installation of Work may proceed.

.21 The review of shop drawings by the Consultant is for sole purpose of ascertaining conformance with general design concept.

.1 This review shall not mean that Consultant approves detail design inherent in shop drawings, responsibility for which shall remain with Contractor submitting same, and such review shall not relieve Contractor of responsibility for errors or omissions in shop drawings or of responsibility for meeting requirements of construction and Contract Documents.

.2 Without restricting generality of foregoing, Contractor is responsible for dimensions to be confirmed and correlated at job site, for information that pertains solely to fabrication processes or to techniques of construction and installation and for coordination of Work of sub-trades.

1.3 SAMPLES

.1 Submit for review samples in duplicate as requested in respective specification Sections. Label samples with origin and intended use.

.2 Deliver samples prepaid to Consultant's business address.

.3 Notify Consultant in writing, at time of submission of deviations in samples from requirements of Contract Documents.

.4 Where color, pattern or texture is criterion, submit full range of samples.

.5 Adjustments made on samples by Consultant are not intended to change Contract Price. If adjustments affect value of Work, state such in writing to Consultant prior to proceeding with Work.

.6 Make changes in samples which Consultant may require, consistent with Contract Documents.

.7 Reviewed and accepted samples will become standard of workmanship and material against which installed Work will be verified.

1.4 MOCK-UPS

.1 Erect mock-ups as specified.

1.5 CERTIFICATES AND TRANSCRIPTS

.1 Prior to Contract start-up and commencement of work onsite, submit Workers' Compensation Board status.

.2 Prior to Contract start-up and commencement of work onsite, submit transcription of insurance.

END OF SECTION

1.1 SUMMARY

.1 Delegated Design Submittals shall account for professional engineering responsibility for design, review, and acceptance of components of Work forming a part of permanent Work in accordance with National Building Code of Canada 2015 (NBC) and that has been assigned to a design entity other than Consultant including, but not limited to, the following:

.1 Design requiring structural analysis of load bearing components and connections.

.2 Design requiring compliance with fire safety regulations.

.3 Design requiring compliance with life or health safety regulations.

.2 Delegated Design Submittals are not required for components of Work requiring engineering for temporary Work (e.g., crane hoisting, engineered lifts, falsework, shoring, concrete formwork, etc.) that would normally form a part of Contractor's scope of Work.

.3 The requirements of this section do not change or diminish responsibilities of Consultant of Record. Submittals will be used by the Consultant of Record to establish that Work meets or exceeds the requirements of NBC 2015.

1.2 DELEGATED DESIGN

.1 Performance and Design Criteria: Provide products and systems complying with specific performance and design criteria indicated where professional design services or certifications by a design professional are specifically required of Contractor by Contract Documents.

.2 If criteria indicated are not sufficient to perform services or certification required, submit a written request for additional information to Consultant.

.3 Delegated design will be required for elements designed by a specialty professional, all loads as determined in accordance with NBC requirements, which may include but are not necessarily limited to the following:

.1 Elements normally fabricated off-site.

.2 Elements that require specialized fabrication equipment or a proprietary fabrication process not usually available at job site.

.3 Elements requiring civil engineering not normally a part of scope of services performed by architectural, structural, mechanical, or electrical disciplines of Consultant.

.4 Specification Sections requiring engineered shop drawings,

1.3 LETTER OF COMMITMENT

.1 Submit a signed and sealed Letter of Commitment on company letterhead addressed to Consultant in accordance with format in Appendix A attached to the end of this Section prior to starting Work requiring design and seal of a professional engineer.

1.4 LETTER OF COMPLIANCE

.1 Submit a signed and sealed Letter of Compliance on company letterhead addressed to Consultant in accordance with format in Appendix B attached to the end of this Section on completion of Work requiring design and seal of a professional engineer.

1.5 IMPLEMENTATION

.1 Include summary of Work described in relevant technical specification section as a part of the required Letter of Commitment.

.2 Prepare required submittals and present to Consultant within sufficient time to allow for

Consultant's detailed review and acceptance.

END OF SECTION

APPENDIX A

LETTER OF COMMITMENT

Submit a signed and sealed letter of commitment on company letterhead in the form as follows:

[Date]

[Consultant]
[Consultant's Address]

Attention: [Consultant's Registered Professional of Record]

Re: Letter of Commitment for Delegated Design of [System of Component of Work]
Air Supported Structure
City of Summerisde – Credit Union Place
Wildon Ave. Summerside PEI
[**Date of applicable tender package**]

As the retained registered professional engineer for design and field review of the above-named component of Work and project, I hereby give assurance I am qualified to perform the following Work as required by Contract Documents:

.1 [List appropriate design services for System or Component of Work];

.2 Preparation of shop and erection documents.

.3 Review fabrication of [structural] [fire rated] [life and health safety] components.

.4 Review erection of [structural] [fire rated] [life and health safety] components.

.5 [Modify list to suit System of Component of Work.]

I hereby give assurance that I will be responsible for above noted Work as described in Section [?????] – [Name of Section] of Project Manual, including requirements of addenda, change orders and change directives.

I also undertake to be responsible for field review of fabrication and erection of [structural] [fire rated] [life and health safety] components as required to ascertain substantial compliance with the Contract Documents.

I will notify you in writing if my responsibility is terminated at any time during the course of Work covered by this Letter of Commitment.

Retained Professional Engineer

_____
Signature

_____
Date

(Apply seal)

APPENDIX B

LETTER OF COMPLIANCE

[Date]

[Consultant]

[Consultant's Address]

Attention: [Consultant's Registered Professional of Record]

Re: Letter of Commitment for Delegated Design of [System of Component of Work]
Air Supported Structure
City of Summerisde – Credit Union Place
Wildon Ave. Summerside PEI
[**Date of applicable tender package**]

I hereby give assurance that I have fulfilled my obligations for field review as outlined by previously submitted Letter of Commitment.

I hereby give assurance that aspects of [structural] [life and health safety] Work as defined by previously submitted Letter of Commitment substantially comply with the Contract Documents.

Retained Professional Engineer

_____
Signature

_____
Date

(Apply seal)

1.1 REFERENCES

.1 Observe construction safety measures of the following, including applicable Regulations made under the referenced documents whether expressly listed or otherwise applying to any aspect of the Contract:

.2 Federal Legislation:

.1 National Building Code 2015, Part 8.

.2 National Fire Code of Canada.

.3 Dangerous Goods Transportation Act.

.4 Other Acts and Regulations applicable to the Work.

.3 P.E.I. Provincial Legislation:

.1 Provincial Building Code Act.

.2 Latest edition of the Occupational Health & Safety Act Statutes of Prince Edward Island (including any amendments to and regulations).

.3 Occupational Health and Safety Act Scaffolding Regulations.

.4 Occupational Health and Safety Act Fall Protection Regulations.

.5 Workers' Compensation Act.

.6 Fire Prevention Act.

.7 Dangerous Goods Transportation Act.

.8 Industrial Best Practices for Equipment Isolation and Lockout Policy.

.9 Prince Edward Island Environmental Protection Act.

.10 Other Acts and Regulations applicable to the Work.

.4 Standards:

.1 CSA S269.1-16, Falsework and Formwork.

.2 CSA S269.2-16, Access Scaffolding for Construction Purposes.

.3 CAN/CSA S269.3-M92 (R2013), Concrete Formwork.

.4 Other safety standards applicable to the Work.

.5 In case of conflict or discrepancy within the cited references above, the more stringent requirement shall apply.

.6 Where reference is made to jurisdictional authorities or authorities having jurisdiction, it shall mean all authorities who have within their constituted powers the right to enforce the laws of the place of the building.

.7 Where reference is made to an Act, Regulations made under the Act applicable to the Work apply to this Contract.

.8 Maintain clear emergency exit paths.

.9 Ensure that employees working on this specific project have met training requirements as legislated by the Prince Edward Island Occupational Health and Safety Act and its regulations.

1.2 CONSTRUCTOR

.1 Responsibility for Work Site Safety - this Contractor Is "Constructor":

.1 The Contractor shall, for the purposes of the Occupational Health and Safety Act (Province of Prince Edward Island), and for the duration of the Work of this Contract:

.1 Be the "Constructor" for the "Work Site", and

.2 Meet all requirements of the Occupational Health and Safety Act and Regulations, Workers Compensation Board legislation, the Fire Code legislation and all other applicable laws that govern workplace safety.

.2 The Contractor shall employ or engage the services of a safety officer who has one of the recognized safety certifications or designations listed in "Guide to OH&S Certifications & Designations", produced by the Canadian Society of Safety Engineering. The safety officer shall oversee site safety on behalf of the Contractor, and shall have the authority to stop dangerous work, direct the correction of safety deficiencies, offer site-specific safety training, and manage the Contractor's safety procedures for the duration of the Contract

1.3 ACTION AND INFORMATIONAL SUBMITTALS

.1 Make submittals in accordance with Section 01 33 00 - Submittal Procedures.

.2 Submit site-specific Health and Safety Plan: Within 7 days after date of Notice to Proceed and prior to commencement of Work. Health and Safety Plan must include:

.1 Results of site-specific safety hazard assessment.

.2 Results of safety and health risk or hazard analysis for site tasks and operation found in work plan.

.3 Submit 2 copies of Contractor’s authorized representative's work site health and safety inspection reports to Consultant and authority having jurisdiction, weekly.

.4 Submit copies of reports or directions issued by Federal and Provincial health and safety inspectors.

.5 Submit copies of incident and accident reports.

.6 Submit WHMIS MSDS - Material Safety Data Sheets.

.7 Consultant will review Contractor’s site-specific Health and Safety Plan and provide comments to Contractor within 7 days after receipt of plan. Revise plan as appropriate and resubmit plan to Consultant within 7 days after receipt of comments from Consultant.

.8 Consultant's review of Contractor’s final Health and Safety plan should not be construed as approval and does not reduce the Contractor’s overall responsibility for construction Health and Safety.

.9 Medical Surveillance: where prescribed by legislation, regulation, or safety program, submit certification of medical surveillance for site personnel prior to commencement of Work, and submit additional certifications for any new site personnel to Consultant

.10 On-site Contingency and Emergency Response Plan: address standard operating procedures to be implemented during emergency situations.

1.4 OVERLOADING

.1 Ensure no part of Work is subjected to loading that will endanger its safety or will cause permanent deformation.

1.5 FALSEWORK AND FORMWORK

.1 Design and construct falsework and formwork in accordance with CSA S269.1 and CAN/CSA S269.3.

1.6 HOISTS AND CRANES

.1 Operate such equipment only by qualified hoist or crane operators, and maintain current inspection certificate.

1.7 SCAFFOLDING AND FALL ARREST

.1 Design and Construct Scaffolding in accordance with CSA S269.2.

.2 Each user of scaffolding shall examine scaffolding for sufficiency before using it. He or she shall make it secure or shall notify the Contractor in Writing that he or she will not commence work until it is made secure.

.3 Comply with the requirements of Province of Prince Edward Island OHSA Fall Protection and Scaffolding Regulations.

1.8 EQUIPMENT AND TOOLS

.1 Each user of equipment or tools shall be appropriately trained and be responsible to examine for sufficiency before use. Make equipment and tools safe if necessary or notify the Contractor in writing that user will not commence work with such tools until it is made safe.

1.9 WHMIS

.1 Comply with the requirements of Workplace Hazardous Materials Information System (WHMIS) regarding use, handling, storage, and disposal of hazardous materials; and comply regarding labeling and provision of material safety data sheets.

.2 Have a copy of WHMIS data sheets available at the workplace on delivery of materials.

1.10 HAZARDOUS MATERIALS

.1 Should materially resembling hazardous materials [other than those identified with the Contract Documents], including but not limited to spray or trowel applied asbestos, be encountered in course of work; stop work immediately. Do not proceed until written instructions have been received from Consultant.

.2 Any material which contains asbestos that is disturbed or removed during construction work (see Asbestos content Report), shall be removed in accordance with the regulations set out by the Occupational Health and Safety Act. All costs for proper cutting, removal, and disposal of all asbestos on this contract shall be included in Tender.

.3 Where work entails use, storage, or disposal of toxic or hazardous materials, chemicals and/or explosives, or otherwise creates a hazard to life, safety, health, or the environment; work shall be in accordance with the Jurisdictional Authority.

1.11 SITE CLEANING

.1 Maintain public right-of -ways, easements, paths, sidewalks, roads, and the like, free of construction debris, dirt and any harmful material originating from construction activities.

.2 Protect sewerage from accumulation of dirt and other material. Clean sewers walk and roads as frequently as required to ensure that they are clear of materials, debris and excavated material.

.3 Remove snow and ice from public rights-of way within the boundaries of the construction site.

1.12 FIRE SAFETY REQUIREMENTS

.1 Enforce fire protection methods, good housekeeping and adherence to local and underwriter's fire regulations including, but not limited to, Fire Protection Act and the Provincial Building Code Act. Provide UL approved fire extinguishers, and other firefighting services and equipment, except where more explicit requirements are specified as the responsibility of individual Sections.

.2 Hot Work will not be permitted on or within the building structure, tanks, or confined spaces, except as outlined herein. Prior to conducting hot work, a hot work permit shall be prepared and submitted. An example format for a hot work permit shall be included in the Safety document submission. The permit shall describe compliance with the following procedures. After tank or confined space interiors or building areas have been decontaminated, hot work may be conducted only when the tank or confined space is inverted. Hot work shall not be performed unless monitoring indicates atmospheres within and immediately surrounding are less than eight percent (8%) oxygen inside less than ten percent (10%) of the LFL outside; continuous monitoring shall continue until the hot work is completed. The hot work prohibition includes welding, cutting, grinding, sawing, or other similar operations which could be expected to potentially generate combustion- producing temperatures or sparks, or which could produce potentially hazardous fumes or vapours. An individual at each hot work site shall be designated as a fire watch. This person's sole responsibility shall be to monitor the hot work and have immediate access to at least two (2) twenty (20) pound fire extinguishers located at each hot work site. All extinguishers shall be currently inspection tagged, approved safety pin and tamper resistant seal. A new permit shall be obtained at the start of each work shift during which hot work will be conducted.

.3 Smoking permitted in designated areas only. Exercise care in the use of smoking materials.

.4 Advise the Fire Chief in Work of any work that would impede fire apparatus response, including but not limited to violation of minimum overhead clearance prescribed by the fire chief, erecting of barricades and digging of trenches.

.5 Fire Separations:

.1 Ensure that fire separations are installed to maintain total integrity and that they are not breached by Work following their installation.

.2 Replace fire separations which have suffered a lessening of their required rating during construction.

.6 Ensure nothing subverts the integrity of fire protection provided for the building structure.

.7 Coordinate work of all sections so that they do not encroach on space required for fire protection and its installation. Ensure that fire protection damage during construction is totally replaced.

1.13 REPORTING FIRES

.1 Know the location of the nearest fire alarm box and telephone, including the emergency phone number.

.2 Report immediately all fire incidents to the fire department as follows:

.3 Activate nearest fire alarm box, or Telephone 911.

.4 Where fire alarm box is exterior to building, the person activating the fire alarm box shall remain at the box to direct Fire Department to scene of the fire.

.5 When reporting a fire by telephone, give location of fire, name or number of building and be prepared to verify the location.

1.14 ENVIRONMENTAL PROTECTION

.1 Ensure that pollution and environmental control of construction activities are exercised during the Work to requirements of the federal and provincial environmental acts; including, but not limited to, the Prince Edward Island Environmental Protection Act.

1.15 SAFETY DOCUMENT SUBMISSION

.1 Ensure Safety Document Submission applies to Work of this specific project and site.

.2 Submit two copies of Safety Document at the Pre-Construction Meeting. Do not commence Work nor deliver material on-site prior to submission.

.3 Included in Safety Document submission specific information detailing the methods and procedures to be implemented ensuring adherence to the acts, regulations, codes and policies specified in this section and to:

.4 Ensure the health and safety of persons at or near the Work; including, but not limited to, the Public.

.5 Ensure the measures and procedures of the regulatory agencies specified are carried out.

.6 Ensure every employee, self-employed person and employer performing Work under this contract complies with the regulatory agencies specified.

.7 Where changes to the methods and procedures in the execution of work change submitted safety methods and procedures, modify submitted Safety Documentation and submit modifications, in writing to the Consultant prior to implementation.

1.16 SAFETY DOCUMENT ORGANIZATION

.1 Organize information in the form of an instructional manual as follows:

.2 Place in binders of commercial quality, 8-1/2" x 11" x 3" maximum ring size.

.3 Cover: Identify binder with typed or printed title "Project Safety Document" and list the title of the project.

.4 Provide tabbed fly leaf for each separate heading, with typed heading on tab.

.5 Where drawings are within the safety document, provide with reinforced punched binder tab. Bind in with text, fold in larger drawings to size text pages.

.6 Arrange content under Safety Document headings specified herein.

1.17 SAFETY DOCUMENT ORGANIZATION

.1 Employee Safety Training:

.1 Place, under this heading, a statement indicating employees working on this specific project have met specified training requirements.

.2 Company Safety Policy:

.1 Place, under this heading, information pertaining to the company's policy and commitment to Occupational Health and Safety, including the responsibilities of management, supervisors and works.

.3 Company Safety Rules in General Terms:

.1 Place, under this heading, information of a general, global nature, applying to every work environment where the company has staff pertaining to rules directing compliance to policy. For example, state company safety rules with respect to use of hard hats, safety glasses, safety footwear, CSA approval on such items, use of alcohol or non-prescription drugs.

.4 Hazard Assessment:

.1 Place, under this heading, information identifying possible hazards specific to this project and identify safe methods and procedures for the execution of work to ensure safety in the workplace.

.2 Arrange contents of this heading by technical section number on the project manual.

.5 COVID-19 Action Plan:

.1 Methods and processes for keeping workers and visitors safe.

.6 Emergency Action Plan:

.1 Place, under this heading, information detailing action to be taken in the event of various emergencies.

.2 Arrange content under the following sub-headings:

.1 First Aid:

(1) Include information concerning establishment of a First Aid Station, related supplies, staff awareness of location and staff training in First Aid Care of Casualties.

.2 Contact Emergency Support Groups:

(1) Include relative information including phone location for emergency use, the emergency telephone numbers (and their location) for the various organizations which must be contacted in case of an emergency, and staff training in procedures.

.3 Cessation of Work:

(1) Include relative information how work cessation during emergencies is handled and communicated to persons present on site.

.4 Joint Occupational Health and Safety Committee Representative:

(1) Place under this heading information detailing membership and terms of reference.

END OF SECTION

1.1 REFERENCES AND CODES

.1 The following documents are part of Contract and Work must meet or exceed the requirements specified by each:

.2 Perform Work in accordance with Charlottetown Building Code, National Building Code of Canada (NBC) 2015, NECB, and the provisions of the Building Code Act and Regulations of Prince Edward Island, including amendments up to tender closing date, and other Codes of federal, provincial, or local jurisdiction that govern the Work of this Project, latest editions including amendments.

.3 Building must meet the requirements of the National Energy Code of Canada for Buildings 2017 (NECB).

.4 Building Bylaws as identified by Authority Having Jurisdiction (AHJ)

.5 Contract Documents.

.6 Specified standards, codes, and referenced documents found in individual specification sections.

.7 City of Summerside., by-laws, ordinances, regulations, and directives that apply to the contracted work and place of the work.

1.2 HAZARDOUS MATERIAL DISCOVERY

.1 Asbestos: Demolition of friable, or spray or trowel-applied, asbestos is hazardous to health. Should material resembling friable, or spray or trowel-applied, asbestos be encountered in course of demolition work, immediately stop work and notify Consultant.

1.3 BUILDING SMOKING ENVIRONMENT

.1 No smoking of any kind is permitted on or immediately adjacent to the building under construction.

.2 Smoking restrictions always apply to all persons without exception.

1.4 NOISE

.1 Comply with Noise and Nuisance Bylaw.

1.5 OFFENSIVE LANGUAGE AND HARASSMENT POLICY

.1 Contractor shall ensure all workers are made aware of this policy. Individuals not abiding by this policy will be dismissed from the property.

.1 Foul language is not tolerated on the property.

.1 Foul language is language that is strongly impolite, rude, or offensive by the average person, and includes bad language, strong language, coarse language, bad words, vulgar language, lewd language, swearing, cursing, cussing, or use of expletives.

.2 Harassment of anyone on the property is not tolerated.

.1 Harassment includes physical and emotional abuse. Freedom from abuse is a fundamental human right, and any form of discomfort or discrimination perpetrated upon another by any means or method is prohibited.

1.6 LABOUR STANDARDS

.1 Comply with the provisions of the P.E.I. Employment Standards Act and Regulations.

1.7 WORKERS' COMPENSATION

.1 Comply with the provisions of the P.E.I. Workers Compensation Act and Regulations.

END OF SECTION

ASSOCIATIONS AND ORGANIZATIONS (LATEST EDITIONS SHALL GOVERN)

.1 Refer to the National Building Code of Canada, 2015: abbreviations and acronyms found in that document apply to this Project.

.2 The following are typical abbreviations and acronyms frequently used in the Contract Documents when referencing associations and organizations.

.1 AA - Aluminum Association, 900 19th Street N.W., Washington, D.C., U.S.A. 20006 URL http://www.aluminum.org.

.2 ACEC Association of Consulting Engineers of Canada, 130 Albert Street, Suite 616, Ottawa, ON. K1P 5G4 URL http://www.acec.ca.

.3 AHA - American Hardboard Association, 1210W Northwest Hwy., Palatine, Illinois, U.S.A. 60067 URL: http://www.hardboard.org

.4 AITC - American Institute of Timber Construction, 7012 S. Revere Parkway, Suite 140, Englewood, Colorado, U.S.A. 80112 URL http://www.aitc-glulam.org.

.5 AMCA - Air Movement and Control Association Inc., 30 West University Drive, Arlington Heights, Illinois, U.S.A. 60004-1893 URL http://www.amca.org.

.6 ANSI - American National Standards Institute, 25 West 43rd Street, 4th Floor, New York, New York, U.S.A. 10036 URL http://www.ansi.org.

.7 APA - The Engineered Wood Association, P.O. Box 11700, Tacoma, Washington, U.S.A. 98411-0700 URL http://www.apawood.org.

.8 ARI - Air Conditioning and Refrigeration Institute, 4100 N Fairfax Drive, Suite 200, Arlington, Virginia, U.S.A. 22203 URL http://www.ari.org.

.9 ASHRAE - American Society of Heating, Refrigeration and Air-Conditioning Engineers, 1791 Tullie Circle NE, Atlanta, Georgia, U.S.A. 30329 URL http://www.ashrae.org.

.10 ASME - American Society of Mechanical Engineers, ASME Headquarters, 3 Park Avenue, New York, New York, U.S.A. 10016-5990 URL http://www.asme.org

.11 ISAP - International Society for Asphalt Paving, 400 Selby Avenue, Suite 1, St. Paul, MN 55102 U.S.A. URL http://www.asphalt.org.

.12 ASTM - American Society for Testing and Materials, 100 Barr Harbor Drive West, Conshohocken, Pennsylvania 19428-2959 URL http://www.astm.org.

.13 AWMAC - Architectural Woodwork Manufacturers Association of Canada, 516-4 Street West, High River, Alberta T1V 1B6 URL http://www.awmac.com.

.14 AWPA - American Wire Producer's Association, 801 N Fairfax Street, Suite 211, Alexandria, VA U.S.A. 22314-1757 URL http://www.awpa.org.

.15 AWPA - American Wood Preservers' Association, P.O. Box 5690, Granbury Texas, U.S.A. 76049-0690 URL http://www.awpa.com.

.16 AWS - American Welding Society, 550 N.W. LeJeune Road, Miami, Florida

.17 U.S.A. 33126 URL http://www.amweld.org.

.18 CCA Canadian Construction Association, 75 Albert St., Suite 400 Ottawa, Ontario, K1P 5E7 URL http://www.cca-acc.com.

.19 CCDC Canadian Construction Documents Committee, Refer to ACEC, CCA, CSC or RAIC.

.20 CGA - Canadian Gas Association, 20 Eglinton Avenue West, Suite 1305, Toronto, Ontario M4R 1K8 URL http://www.cga.ca.

.21 CGSB - Canadian General Standards Board, Place du Portage, Phase III, 6B1, 11 Laurier Street, Hull, Quebec K1A 0S5 URL http://w3.pwgsc.gc.ca/cgsb.

.22 CISC - Canadian Institute of Steel Construction, 201 Consumers Road, Suite 300, Willowdale, Ontario M2J 4G8 URL http://www.cisc-icca.ca.

.23 CLA - Canadian Lumbermen's Association, 27 Goulburn Avenue, Ottawa, Ontario, K1N 8C7 URL http://www.cla-ca.ca.

.24 CNLA - Canadian Nursery Landscape Association, RR #4, Stn. Main, 7856 Fifth Street, Milton, Ontario. L9T 2X8 URL http://www.canadanursery.com.

.25 CRCA - Canadian Roofing Contractors Association, 155 Queen Street, Suite 1300, Ottawa, Ontario K1P 6L1 URL http://www.roofingcanada.com.

.26 CSA - Canadian Standards Association International, 178 Rexdale Blvd., Toronto, Ontario M9W 1R3 URL http://www.csa-international.org.

.27 CSC - Construction Specifications Canada, 120 Carlton Street, Suite 312, Toronto, Ontario M5A 4K2 URL http://www.csc-dcc.ca.

.28 CSDMA - Canadian Steel Door Manufacturers Association, One Yonge Street, Suite 1801, Toronto, Ontario M5E 1W7.

.29 CSPI - Corrugated Steel Pipe Institute, 652 Bishop Street N, Unit 2A, Cambridge, Ontario N3H 4V6 URL http://www.cspi.ca.

.30 CSSBI - Canadian Sheet Steel Building Institute, 652 Bishop St. N., Unit 2A, Cambridge, Ontario N3H 4V6 URL http://www.cssbi.ca.

.31 CUFCA Canadian Urethane Foam Contractor's Association, Box 3214, Winnipeg, Manitoba, R3C 4E7 URL http://www.cufca.ca.

.32 CWC - Canadian Wood Council, 1400 Blair Place, Suite 210, Ottawa, Ontario K1J 9B8 URL http://www.cwc.ca.

.33 EC - Environment Canada, Conservation and Protection, Inquiry Centre, 351 St. Joseph Blvd, Hull, Québec KIA 0H3 URL http://www.ec.gc.ca.

.34 EFC - Electro Federation of Canada, 5800 Explorer Drive, Suite 200, Mississauga, Ontario L4W 5K9 URL http://www.electrofed.com

.35 EIMA EIFS Industry Manufacturer's Association, 3000 Corporate Center Drive, Suite 270, Morrow, Georgia U.S.A. 30260 URL http://www.eima.com

.36 FCC - Fire Commissioner of Canada, Place du Portage, Phase II, 165 rue Hotel de Ville, Hull, Quebec K1A 0J2 http://info.load-otea.hrdc-drhc.gc.ca/fire-prevention/standards/commissioner.shtml.

.37 IEEE - Institute of Electrical and Electronics Engineers, IEE Corporate Office, 3 Park Avenue, 17th Floor, New York, New York U.S.A. 10016-5997

.38 URL http://www.ieee.org.

.39 MPI - The Master Painters Institute, 4090 Graveley Street, Burnaby, BC V5C 3T6 URL http://www.paintinfo.com.

.40 MSS - Manufacturers Standardization Society of the Valve and Fittings Industry, 127 Park Street, N.E., Vienna, Virginia U.S.A. 22180-4602 URL http://www.mss- hq.com.

.41 NAAMM - National Association of Architectural Metal Manufacturers, 8 South Michigan Avenue, Suite 1000, Chicago, Illinois U.S.A. 60603 URL http://www.naamm.org.

.42 NABA - National Air Barrier Association, PO Box 2747, Winnipeg, Manitoba R3C 4E7 URL http://www.naba.ca.

.43 NBC - National Building Code of Canada 2015, including errata and amendments.

.44 NEMA - National Electrical Manufacturers Association, 1300 N. 17th Street, Suite 1847,

Rosslyn, Virginia 22209 URL http://www.nema.org

.45 NFPA - National Fire Protection Association, 1 Batterymarch Park, P.O. Box 9101 Quincy, Massachusetts, U.S.A. 02269-9101 URL http://www.nfpa.org

.46 NFSA - National Fire Sprinkler Association, P.O. Box 1000, Patterson, New York, U.S.A. 12563 URL http://www.nfsa.org.

.47 NHLA - National Hardwood Lumber Association, 6830 Raleigh-La Grange Road, Memphis, TN, U.S.A 38184-0518 URL http://www.natlhardwood.org

.48 NLGA - National Lumber Grades Authority, 406-First Capital Place, 960 Quayside Drive, New Westminster, B.C. V3M 6G2.

.49 NRC - National Research Council, Building M-58, 1200 Montreal Road, Ottawa, Ontario K1A 0R6 URL http://www.nrc.gc.ca.

.50 NSPE National Society of Professional Engineers, 1420 King Street, Alexandria, VA U.S.A. 22314-2794 URL http://www.nspe.org.

.51 PCI - Prestressed Concrete Institute, 209 W. Jackson Blvd., Suite 500, Chicago, Illinois, U.S.A. 60606-6938 URL http://www.pci.org.

.52 PEI - Porcelain Enamel Institute, PO Box 920220, Norcross, GA U.S.A. 30010, URL http://www.porecelainenamel.com.

.53 QPL - Qualification Program List, c/o Canadian General Standards Board, Place du Portage, Phase III, 6B1, 11 Laurier Street, Hull, Quebec K1A 1G6 URL http://www.pwgsc.gc.ca/cgsb.

.54 RAIC Royal Architectural Institute of Canada, 55 Murray Street, Suite 330, Ottawa, Ontario, K1N 5M3 URL http://www.raic.org.

.55 SCC - Standards Council of Canada, 270 Albert Street, Suite 2000, Ottawa, Ontario K1P 6N7 URL http://www.scc.ca.

.56 SSPC - The Society for Protective Coatings, 40 24th Street, 6th Floor, Pittsburgh, Pennsylvania 15222-4656 URL http://www.sspc.org.

.57 TPI - Truss Plate Institute, 583 D'Onofrio Drive, Suite 200, Madison, WI, U.S.A. 53719 URL http://www.tpinst.org.

.58 TTMAC - Terrazzo, Tile and Marble Association of Canada, 30 Capston Gate, Unit 5 Concord, Ontario L4K 3E8 URL http://www.ttmac.com.

.59 UL - Underwriters' Laboratories, 333 Pfingsten Road, Northbrook, Illinois, U.S.A. 60062-2096 URL http://www.ul.com.

.60 ULC - Underwriters' Laboratories of Canada, 7 Crouse Road, Toronto, Ontario M1R 3A9 URL http://www.ulc.ca.

END OF SECTION

1.1 TERMS AND DEFINITIONS

.1 Corrective Actions: Steps that are taken to remove the causes of an existing non- conformity or undesirable situation. The Corrective Action Process is designed to prevent the recurrence of non-conformities or undesirable situations. It tries to make sure that existing non-conformities and situations do not happen again. It tries to prevent recurrence by eliminating causes. Corrective Actions address actual problems. Because of this, the corrective action Process can be thought of as a problem-solving Process.

.2 Hold Point: A mandatory verification point beyond which a Work Process shall not proceed without authorization by Consultant. Hold Points may be nominated by Consultant. The issuance of a Non-Conformance or Corrective Action report by Consultant automatically creates a Hold Point for the Work Processes affected.

.3 Inspection and Testing Plan (ITP): A document that records the inspection and testing requirements of the Contract. The Inspection and Testing Plan identifies the items of materials and Work to be inspected or tested, by whom and at what stage or frequency, Hold and Witness Points, references to relevant standards, acceptance criteria, and the records to be maintained.

.4 Mock-up: a full-size model of a portion of the Work made with the same construction techniques and materials that will be used to meet the requirements of the Contract Documents and constructed by the same personnel that will be performing the Work at the Site.

.5 Non-conforming Product: When one or more characteristics of a Product fail to meet specified requirements, it is referred to as a Non-Conforming Product. When a Product deviates from specified Product requirements, it fails to conform. Non-conforming Products must be identified and controlled to prevent unintended use or delivery.

.6 Preventative Actions: Steps that are taken to remove the causes of potential non- conformities or potential undesirable situations. The preventive action Process is designed to prevent the occurrence of non-conformities or situations that do not yet exist. It tries to prevent occurrence by eliminating causes. While Corrective Actions prevent recurrence, Preventive Actions prevent occurrence. Both types of actions are intended to prevent non-conformities. In general, the preventive action Process can be thought of as a risk analysis Process.

.7 Process: An integrated set of activities that uses resources to transform inputs into outputs. A system exists whenever several Processes are interconnected using such input-output relationships. Processes are interconnected because the output from one Process becomes the input for another Process.

.8 Product: A Product is the output of a Process. Products can be tangible or intangible.

.9 Quality: Is a set of features or properties of a Product, Process, or system compared with a set of requirements. If those features or properties meet all requirements, 'High Quality' is achieved; if those features or properties do not meet all requirements, 'Low Quality' is achieved.

.10 Quality Assurance (QA): Proactive activities used to provide confidence that Quality requirements will be fulfilled. Quality Assurance activities are determined before Work begins and these activities are performed while the Work is being executed. Examples of Quality Assurance include, but are not limited to, the following:

.1 Process checklists.

.2 Quality system audits.

.3 Methodology and standards development.

.11 Quality Control (QC): Activities used to evaluate Products for conformance to Contract requirements. Example of Quality Control activities include, but are not limited to, inspection and testing.

.12 Quality Management (QM): Includes all the activities used to direct, control, and coordinate Quality. These activities include formulating a Quality policy and setting Quality objectives. They also include Quality planning, Quality Control, Quality Assurance, and Quality improvement.

.13 Quality Management System (QMS): Is a set of interrelated or interacting elements used to direct and control how Quality policies are implemented, and Quality objectives are achieved.

.14 Quality Plan: A document that is used to specify the procedures and resources that will be needed to carry out a specific contract, perform a Process, realize a Product, or manage a contract. Quality Plans also specify who will do what and when.

.15 Witness Point: An identified point in a Process where Consultant may review, witness, inspect or undertake tests on any component, method, or Process of the Work. Consultant may or may not take the opportunity. Notification of Witness Points must be provided to Consultant no less than 7 calendar days in advance so that attendance may be scheduled if elected.

1.2 CONTRACTOR'S QUALITY MANAGEMENT SYSTEM

.1 The Contractor shall establish, document, implement and maintain a Quality Management System in a manner consistent with the ISO 9001:2008 Quality Management System Requirements, using a Process approach.

.2 The Contractor shall provide a Quality Plan describing the Quality Management System as it applies to this Contract. The Contractor shall attach, at minimum, the following procedures to the Quality Plan:

.1 Control of documents: A documented procedure shall be established to define the controls needed:

.1 To approve documents for adequacy prior to issue.

.2 To review and update as necessary and re-approve documents.

.3 To ensure that changes and the current revision status of documents are identified.

.4 To ensure that relevant versions of applicable documents are available at points of use.

.5 To ensure that documents remain legible and are readily identifiable.

.6 To ensure that documents of external origin necessary for the planning and operation of the QMS are identified and distribution controlled.

.7 To prevent the unintended use of obsolete documents, and to apply suitable identification to them if they are retained for any purpose.

.2 Control of records: A documented procedure to define the controls needed for the identification, storage, protection, retrieval, retention, and disposition of records. Records shall remain legible, readily identifiable, and retrievable.

.3 Internal audit: A documented procedure to define the responsibilities and requirements for planning and conducting audits, establishing, and maintaining records, and reporting results.

.4 Control of Non-Conforming Product: A documented procedure to define the controls and related responsibilities and authorities for dealing with Non-Conforming Product.

.5 Corrective Actions: Establish a documented procedure to define requirements for:

.1 Reviewing non-conformities (including Owner or Consultant complaints).

.2 Determining the causes of non-conformities.

.3 Evaluating the need for action to ensure that non-conformities do not recur.

.4 Determining and implementing the actions needed.

.5 Recording the results of the actions taken.

.6 Reviewing the effectiveness of the Corrective Actions taken.

.6 Preventive Actions: Establish a documented procedure to define requirements for:

.1 Determining potential non-conformities and their causes.

.2 Evaluating the need for action to prevent occurrence of non-conformities.

.3 Determining and implementing the actions needed.

.4 Recording the results of the actions taken.

.5 Reviewing the effectiveness of the Preventative Actions taken

.3 Submit Quality Plan to Consultant for review and approval in accordance with the requirements of Section 01 33 00; submit within 15-days of award of Contract and allow 10-days for Consultant's review.

1.3 REVIEW AND INSPECTION

.1 Do not cover work by other work until inspected and accepted. Generally, no Work shall be covered or otherwise made difficult or impossible to review prior to review.

.2 Notify Consultant minimum 1 week in advance of Hold Points and Witness Points, or in ample time as required to maintain Construction Schedule, whichever period is longer.

.3 Allow Owner and Consultants access to Work. If part of Work is in preparation at locations other than Place of Work, allow access to such Work whenever it is in progress.

.4 Give timely notice requesting inspection if Work is designated for special tests, inspections or approvals by Consultant instructions, or law of Place of Work.

.5 If Contractor covers or permits to be covered Work that has been designated for special tests, inspections, or approvals before such is made, uncover such Work, have inspections or tests satisfactorily completed and make good such Work.

.6 Consultant may order any part of Work to be examined if Work is suspected to be not in accordance with Contract Documents. If, upon examination such work is found not in accordance with Contract Documents, correct such Work and pay cost of examination and correction.

1.4 INDEPENDENT INSPECTION AGENCIES

.1 Independent Inspection/Testing Agencies will be engaged by Owner for purpose of inspecting and/or testing portions of Work. Cost of such services will be borne by Owner.

.2 Employment of inspection/testing agencies does not relax responsibility to perform Work in accordance with Contract Documents.

.3 If defects are revealed during inspection and/or testing, appointed agency will request additional inspection and/or testing to ascertain full degree of defect. Correct defect and irregularities as advised by Consultant at no cost to Owner. Pay costs for retesting and re-inspection.

1.5 ACCESS TO WORK

.1 Allow inspection/testing agencies access to Work, off site manufacturing and fabrication plants.

.2 Cooperate to provide reasonable facilities for such access.

1.6 PROCEDURES

.1 Notify appropriate agency and Consultant in advance of requirement for tests, in order that attendance arrangements can be made.

.2 Submit samples and/or materials required for testing, as specifically requested in specifications. Submit with reasonable promptness and in an orderly sequence so as not to cause delay in Work.

.3 Provide labour and facilities to obtain and handle samples and materials on site. Provide sufficient space to store and cure test samples.

1.7 REJECTED WORK

.1 Remove defective Work, whether result of poor workmanship, use of defective products or damage and whether incorporated in Work or not, which has been rejected by Consultant as failing to conform to Contract Documents. Replace or re-execute in accordance with Contract Documents.

.2 Make good other Contractor's work damaged by such removals or replacements promptly.

.3 If in opinion of Consultant it is not expedient to correct defective Work or Work not performed in accordance with Contract Documents, Owner may deduct from Contract Price difference in value between Work performed and that called for by Contract Documents, amount of which shall be determined by Consultant.

1.8 REPORTS

.1 Submit 4 copies of inspection and test reports to Consultant.

.2 Provide copies to Subcontractor of work being inspected or tested, or manufacturer or fabricator of material being inspected or tested.

1.9 TESTS AND MIX DESIGNS

.1 Furnish test results and mix designs as directed by Consultant, as specified in the technical Sections, and/or as required by authorities having jurisdiction; refer to Section 01 29 83 - Payment Procedures Testing Laboratory Services.

1.10 MOCK-UPS

.1 Prepare mock-ups for Work specifically requested in specification Sections. Include for Work of all Sections required to provide mock-ups.

.2 Construct in all locations acceptable to Consultant and as specified in specific Section.

.3 Prepare mock-ups for Consultant's review with reasonable promptness and in an orderly sequence, so as not to cause any delay in Work.

.1 Allow 10 working days in construction schedule for the review of mock-ups after they have been prepared.

.2 Provide 10 working days' notice for mock-up review to Consultant in advance of preferred review date(s).

.4 Failure to prepare mock-ups in ample time is not considered sufficient reason for an extension of Contract Time and no claim for extension by reason of such default will be allowed.

.5 Mock-Ups Required by Specific Technical Specification Sections:

.1 If noted in the technical section, remove mock-up at conclusion of Work, or when acceptable to Consultant.

.2 Mock-up(s) may remain as part of Work if so stated in the technical specification section.

.3 Specification sections identify whether mock-up may remain as part of Work or if it is to be removed and when.

1.11 MILL TESTS

.1 Submit mill test certificates as required of specification Sections.

1.12 EQUIPMENT AND SYSTEMS

.1 Submit adjustment and balancing reports for mechanical, electrical, and building equipment systems.

.2 Refer to technical Sections for requirements.

END OF SECTION

1.1 SECTION INCLUDES

.1 Temporary utilities.

1.2 INSTALLATION AND REMOVAL

.1 Provide temporary utilities controls in order to execute work expeditiously.

.2 Remove from site all such work after use.

1.3 DEWATERING

.1 Provide temporary drainage and pumping facilities to keep excavations and site free from standing water.

1.4 WATER SUPPLY

.1 Arrange for connection with appropriate utility company and pay all costs for installation, maintenance, and removal.

.2 Pay for utility charges at prevailing rates.

1.5 TEMPORARY HEATING AND VENTILATION

.1 Execute implementation of Indoor Air Quality Management Plan.

.2 Provide temporary heating required during construction period, including attendance, maintenance, and fuel.

.3 Construction heaters used inside building must be vented to outside or be non-flameless type specifically designed for indoor use. Solid fuel salamanders are not permitted.

.4 Provide temporary heat and ventilation in enclosed areas as required to:

.1 Facilitate progress of Work.

.2 Protect Work and products against dampness and cold.

.3 Prevent moisture condensation on surfaces.

.4 Provide ambient temperatures and humidity levels for storage, installation and curing of materials.

.5 Provide adequate ventilation to meet health regulations for safe working environment.

.5 Maintain temperatures of minimum 10 degrees C in areas where construction is in progress.

.6 Ventilating:

.1 Meet Indoor Air Quality requirements.

.2 Prevent accumulations of dust, fumes, mists, vapours or gases in areas occupied during construction.

.3 Provide local exhaust ventilation to prevent harmful accumulation of hazardous substances into atmosphere of occupied areas.

.4 Dispose of exhaust materials in manner that will not result in harmful exposure to persons.

.5 Ventilate storage spaces containing hazardous or volatile materials.

.6 Ventilate temporary sanitary facilities.

.7 Continue operation of ventilation and exhaust system for time after cessation of work process to assure removal of harmful contaminants.

.7 Permanent heating system of building may be used when available. Be responsible for damage to heating system if use is permitted.

.8 On completion of Work for which permanent heating system is used, replace filters, and vacuum clean ducts. Thoroughly clean permanent equipment used during construction.

.9 Ensure Date of Substantial Performance and Warranties for heating system do not commence until entire system is in as near original condition as possible and is certified by Consultant.

.10 Pay costs for maintaining temporary heat.

.11 Maintain strict supervision of operation of temporary heating and ventilating equipment to:

.1 Meet specified Indoor Air Quality.

.2 Conform with applicable codes and standards.

.3 Enforce safe practices.

.4 Prevent abuse of services.

.5 Prevent damage to finishes.

.6 Vent direct-fired combustion units to outside.

.12 Be responsible for damage to Work due to failure in providing adequate heat and protection during construction.

1.6 TEMPORARY POWER AND LIGHT

.1 Provide and pay for temporary power during construction for temporary lighting and operating of power tools.

.2 Arrange for connection with appropriate utility company and installation of temporary meters. Pay costs for installation, maintenance and removal.

.3 Provide and maintain temporary lighting throughout project. Ensure level of illumination on all floors and stairs is not less than 162 lx.

.4 Electrical power and lighting systems installed under this Contract may be used for construction requirements only with prior approval of Owner, provided that guarantees are not affected. Make good damage to electrical system caused by use under this Contract. Replace lamps that have been used for more than 3 months.

1.7 TEMPORARY COMMUNICATION FACILITIES

.1 Provide and pay for temporary telephone, fax, computer, Wi-Fi system (password secured), data lines and equipment necessary for own use and use of Consultant.

.2 Ensure that there is a computer on site for own use and use of Consultant, with connection to the internet available and functional, and capable of viewing PDF documents and CAD drawings, with copy of current edition of Microsoft Office installed.

1.8 FIRE PROTECTION

.1 Provide and maintain temporary fire protection equipment during performance of Work required by insurance companies having jurisdiction and governing codes, regulations, and bylaws.

.2 Burning rubbish and construction waste materials is not permitted on site.

END OF SECTION

1.1 INSTALLATION AND REMOVAL

.1 Prepare site plan indicating proposed location and dimensions of area to be fenced and used by Contractor, avenues of ingress/egress to fenced area and details of fence installation.

.2 Indicate use of supplemental or other staging area.

.3 Provide construction facilities in order to execute work expeditiously.

.4 Provide perimeter site fencing as required for security of site works, and safety of the project team (Owner, Consultant and Contractor), and the general public, including both adults and children.

.5 Remove from site all such work after use.

1.2 SCAFFOLDING

.1 Scaffolding in accordance with CAN/CSA S269.2-16.

.2 Provide and maintain scaffolding, ramps, ladders, platforms, temporary stairs and other means as necessary to expedite work safely.

1.3 HOISTING

.1 Provide, operate, and maintain hoists cranes as required for moving of workers, materials and equipment.

.2 Hoists cranes shall be operated by qualified operator.

1.4 SITE STORAGE, LOADING, AND PARKING

.1 Refer to CCDC 4, GENERAL CONDITIONS

.2 Confine work and operations of employees by Contract Documents. Do not unreasonably encumber premises with products.

.3 Do not load or permit to load any part of Work with weight or force that will endanger Work.

1.5 CONSTRUCTION PARKING

.1 Parking is permitted on site provided it does not disrupt performance of Work.

.2 Provide and maintain adequate access to project site.

1.6 SECURITY

.1 Maintain security of construction area by control of access through enclosing fences, barricades, and hoardings during time Work is in progress and by locking hardware otherwise.

.2 After building is enclosed, maintain its security by adequate barriers to entry, and by temporary doors equipped with locking hardware.

.3 Maintain security at all times construction is shut down because of a strike or a lockout.

1.7 OFFICES

.1 Provide office heated to 22 degrees C, lighted 750 lx and ventilated, of sufficient size to accommodate site meetings and furnished with drawing laydown table.

.2 Provide marked and fully stocked first-aid case in a readily available location.

.3 The site has limited space available for staging area and offices. Subcontractors to Provide their own offices as necessary offsite.

.4 Contractor's Site office:

.1 Provide temporary site office for own use and Consultant's use.

.2 Inside dimensions minimum 3.6 m long x 3 m wide x 2.4 m high, with floor 0.3 m above grade, complete with 4 - 50% opening windows and one lockable door.

.3 Insulate building and provide heating system to maintain 22 degrees C inside temperature at -20 degrees C outside temperature.

.4 Finish inside walls and ceiling with plywood, hardboard or wallboard and paint in selected colours. Finish floor with 19 mm thick plywood.

.5 Install electrical lighting system to provide min 750 lx using surface mounted, shielded commercial fixtures with 10% upward light component.

.6 Provide private washroom facilities adjacent to office complete with flush or chemical type toilet, lavatory and mirror and maintain supply of paper towels and toilet tissue.

.7 Equip office with 1 x 2 m table, 4 chairs, 6 m of shelving 300 mm wide, one - 3 drawer filing cabinet, one plan rack and one coat rack and shelf.

.8 Maintain in clean condition.

1.8 EQUIPMENT, TOOL AND MATERIALS STORAGE

.1 Provide and maintain, in a clean and orderly condition, lockable weatherproof sheds for storage of tools, equipment and materials.

.2 Locate materials not required to be stored in weatherproof sheds on site in a manner to cause least interference with work activities.

1.9 SANITARY FACILITIES

.1 Provide sanitary facilities for workforce in accordance with governing regulations and ordinances. Existing washrooms may not be used.

.2 Post notices and take such precautions as required by local health authorities. Keep area and premises in sanitary condition.

.3 Once operational, permanent facilities may not be used.

1.10 CONSTRUCTION SIGNAGE

.1 Provide and erect a project sign within three weeks of signing Contract in a location designated by Consultant.

.2 Provide project identification site sign comprising foundation, framing, and one1200 x 400 mm signboard painted with exhibit lettering produced by a professional sign painter, as detailed and described below.

.1 Foundations: 15 MPa concrete to Division 03 Cast-in-Place Concrete, minimum 200 mm x 900 mm deep.

.2 Framework and battens: SPF, pressure treated minimum 89 x 89 mm to Section 06 10 10 – Rough Carpentry.

.3 Signboard: 19 mm Medium Density Overlaid Douglas Fir Plywood to Section 06 10 10 – Rough Carpentry.

.4 Paint: alkyd enamel to Section 09 91 00 – Painting over exterior alkyd primer to Section 09 91

00 – Painting.

.5 Fasteners: hot-dip galvanized steel nails and carriage bolts.

.6 Vinyl sign face: printed project identification, self-adhesive, vinyl film overlay, supplied by Consultant.

.7 Indicate on sign, name of Owner, Consultant, and Contractor, of a design style established by Consultant.

.3 No other signs or advertisements, other than access, building entry, and warning signs are permitted on site.

.1 Locate project identification sign as directed by Consultant and construct as follows:

.2 Build concrete foundation, erect framework, and attach signboard to framing.

.3 Paint surfaces of signboard and framing with one coat primer and two coats enamel. Color white on signboard face, black on other surfaces.

.4 Apply vinyl sign face overlay to painted signboard face in accordance with installation instruction supplied.

.4 Direct requests for approval to erect a Consultant/Contractor signboard to Consultant. For consideration general appearance of Consultant/Contractor signboard must conform to project identification site sign. Wording shall be in English.

.5 Signs and notices for safety and instruction shall be in English; Graphic symbols shall conform to CAN/CSA Z321-96(R2006), Signs and Symbols for the Occupational Environment.

.6 Maintain approved signs and notices in good condition for duration of project and dispose of offsite on completion of project or earlier if directed by Consultant.

1.11 PROTECTION AND MAINTENANCE OF TRAFFIC

.1 Provide access and temporary roads as necessary to maintain traffic.

.2 Maintain and protect traffic on affected roads during construction period except as otherwise specifically directed by Consultant.

.3 Provide measures for protection and diversion of traffic, including provision of watchpersons and flag-persons, erection of barricades, placing of lights around and in front of equipment and work, and erection and maintenance of adequate warning, danger, and direction signs

.4 Protect travelling public from damage to person and property.

.5 Contractor's traffic on roads selected for hauling material to and from site to interfere as little as possible with public traffic.

.6 Verify adequacy of existing roads and allowable load limit on these roads. Contractor: responsible for repair of damage to roads caused by construction operations.

.7 Construct access and haul roads necessary.

.8 Haul roads: constructed with suitable grades and widths; sharp curves, blind corners, and dangerous cross traffic shall be avoided.

.9 Provide necessary lighting, signs, barricades, and distinctive markings for safe movement of traffic.

.10 Dust control: adequate to ensure safe operation at all times.

.11 Location, grade, width, and alignment of construction and hauling roads: subject to approval by Consultant.

.12 Lighting: to assure full and clear visibility for full width of haul road and work areas during night work operations.

.13 Provide snow removal during period of Work.

.14 Remove, upon completion of work, haul roads designated by Consultant.

1.12 CLEAN-UP

.1 Remove construction debris, waste materials, packaging material from work site daily.

.2 Clean dirt or mud tracked onto paved or surfaced roadways.

.3 Store materials resulting from demolition activities that are salvageable.

.4 Stack stored new or salvaged material not in construction facilities.

END OF SECTION

1.1 INSTALLATION AND REMOVAL

.1 Provide temporary controls in order to execute Work expeditiously.

.2 Remove from site all such work after use.

1.2 TEMPORARY SITE ENCLOSURE

.1 Erect temporary site enclosure using minimum 1.8 m to 2.4 m high fence, or as otherwise indicated on Drawings. Provide lockable truck and personnel gates, as necessary. Maintain fence in good repair.

.1 Provide Modu-Loc perimeter site fencing, or equivalent, with anti-climb rails, security clamps and locking hardware.

.2 Anchor securely in place as required to resist loads and prevent toppling, falling or collapsing in the event that one or more parties try to scale the fence.

.3 Site Security fencing shall be provided as required to secure the site. Contractor shall estimate the quantity and extents required to reasonably secure and enclose site, materials, equipment and prevent public access.

.2 Provide barriers around trees and plants designated to remain. Protect from damage by equipment and construction procedures.

1.3 GUARD RAILS AND BARRICADES

.1 Provide secure, rigid guard rails and barricades around deep excavations, open shafts, open stair wells, open edges of floors and roofs, and at all locations where a vertical fall of more than 1.2 m is possible.

.2 Coordinate with the City for the temporary closure of the sidewalks to increase safety of pedestrians.

1.4 WEATHER ENCLOSURES

.1 Provide weather tight closures to unfinished door and window openings, tops of shafts and other openings in floors and roofs.

.2 Close off floor areas where walls are not finished; seal off other openings; enclose building interior work for temporary heat.

.3 Design enclosures to withstand wind pressure and snow loading.

1.5 DUST TIGHT SCREENS

.1 Provide dust tight screens or partitions, fire rated as required, to localize dust-generating activities, and for protection of workers, finished areas of Work and public.

.2 Maintain and relocate protection until such work is complete.

1.6 ACCESS TO SITE

.1 Provide and maintain access roads, sidewalk crossings, ramps, and construction runways as may be required for access to Work.

1.7 PUBLIC TRAFFIC FLOW

.1 Provide and maintain competent signal flag operators, traffic signals, barricades and flares, lights, or lanterns as required to perform Work and protect the public.

1.8 FIRE ROUTES

.1 Maintain access to property including overhead clearances for use by emergency response vehicles.

1.9 PROTECTION FOR OFF-SITE AND PUBLIC PROPERTY

.1 Protect adjacent private and public property from damage during performance of Work.

.2 Be responsible for damage incurred.

1.10 PROTECTION OF BUILDING FINISHES

.1 Provide protection for finished and partially finished building finishes and equipment during performance of Work.

.2 Provide necessary screens, covers, and hoardings.

.3 Confirm with Consultant locations and installation schedule 3 days prior to installation.

.4 Be responsible for damage incurred due to lack of or improper protection.

END OF SECTION

1.1 SECTION INCLUDES

.1 Product quality, availability, storage, handling, protection, and transportation.

.2 Manufacturer's instructions.

.3 Quality of Work, coordination, and fastenings.

.4 Existing facilities.

1.2 REFERENCE STANDARDS

.1 Within text of each specifications section, reference may be made to reference standards. Conform to these reference standards, in whole or in part as specifically requested in specifications.

.2 If there is question as to whether any product or system is in conformance with applicable standards, Consultant reserves right to have such products or systems tested to prove or disprove conformance.

.3 Cost for such testing will be borne by Owner in event of conformance with Contract Documents or by Contractor in event of non-conformance.

.4 Conform to latest date of issue of referenced standards in effect on date of submission of Tenders, except where specific date or issue is specifically noted.

1.3 QUALITY

.1 Products, materials, equipment and articles (referred to as products throughout specifications) incorporated in Work shall be new, not damaged or defective, and of best quality (compatible with specifications) for purpose intended. If requested, furnish evidence as to type, source, and quality of products provided.

.2 Defective products, whenever identified prior to completion of Work, will be rejected, regardless of previous inspections. Inspection does not relieve responsibility but is precaution against oversight or error. Remove and replace defective products at own expense and be responsible for delays and expenses caused by rejection.

.3 Should any dispute arise as to quality or fitness of products, decision rests strictly with Consultant based upon requirements of Contract Documents.

.4 Unless otherwise indicated in specifications, maintain uniformity of manufacture for any particular or like item throughout building.

.5 Permanent labels, trademarks and nameplates on products are not acceptable in prominent or easily noticeable locations, except where required for operating instructions, or when located in mechanical or electrical rooms.

1.4 AVAILABILITY

.1 Immediately upon signing Contract, review product delivery requirements and anticipate foreseeable supply delays for any items. If delays in supply of products are foreseeable, notify Consultant of such, in order that substitutions or other remedial action may be authorized in ample time to prevent delay in performance of Work.

.2 In event of failure to notify Consultant at commencement of Work and should it subsequently appear that Work may be delayed for such reason, Consultant reserves right to substitute more readily available products of similar character, at no increase in Contract Price or Contract Time.

1.5 STORAGE, HANDLING AND PROTECTION

.1 Handle and store products in manner to prevent damage, adulteration, deterioration, and soiling and in accordance with manufacturer's instructions when applicable.

.2 Store packaged or bundled products in original and undamaged condition with manufacturer's seal and labels intact. Do not remove from packaging or bundling until required in Work.

.3 Store products subject to damage from weather in weatherproof enclosures.

.4 Store cementitious products clear of earth or concrete floors, and away from walls.

.5 Keep sand, when used for grout or mortar materials, clean and dry. Store sand on wooden platforms and cover with waterproof tarpaulins during inclement weather.

.6 Store sheet materials, lumber on flat, solid supports and keep clear of ground. Slope to shed moisture.

.7 Store and mix paints in heated and ventilated room. Remove oily rags and other combustible debris from site daily. Take every precaution necessary to prevent spontaneous combustion.

.8 Remove and replace damaged products at own expense and to satisfaction of Consultant.

.9 Touch-up damaged factory finished surfaces to Consultant's satisfaction. Use touch-up materials to match original. Do not paint over nameplates.

1.6 TRANSPORTATION

.1 Pay costs of transportation of products required in performance of Work.

.2 Transportation cost of products supplied by Owner will be paid for by Owner. Unload, handle and store such products.

1.7 MANUFACTURER'S INSTRUCTIONS

.1 Unless otherwise indicated in specifications, install or erect products in accordance with manufacturer's instructions. Do not rely on labels or enclosures provided with products. Obtain written instructions directly from manufacturers.

.2 Notify Consultant in writing, of conflicts between specifications and manufacturer's instructions, so that Consultant may establish course of action.

.3 Improper installation or erection of products, due to failure in complying with these requirements, authorizes Consultant to require removal and re-installation at no increase in Contract Price or Contract Time.

1.8 QUALITY OF WORK

.1 Ensure Quality of Work is of highest standard, executed by workers experienced and skilled in respective duties for which they are employed. Immediately notify Consultant if required Work is such as to make it impractical to produce required results.

.2 Do not employ anyone unskilled in required duties. Consultant reserves right to require dismissal from site, workers deemed incompetent or careless.

.3 Decisions as to standard or fitness of Quality of Work in cases of dispute rest solely with Consultant, whose decision is final.

1.9 COORDINATION

.1 Ensure cooperation of workers in laying out Work. Maintain efficient and continuous supervision.

.2 Be responsible for coordination and placement of openings, sleeves, and accessories.

1.10 CONCEALMENT

.1 In finished areas, conceal pipes, ducts and wiring in floors, walls, and ceilings, except where indicated otherwise.

.2 Before installation, inform Consultant if there is interference. Install as directed by Consultant.

1.11 REMEDIAL WORK

.1 Perform remedial work required to repair or replace parts or portions of Work identified as defective or unacceptable. Coordinate adjacent affected Work as required.

.2 Only specialists familiar with the materials affected shall perform remedial work. Perform in a manner to neither damage nor put at risk any portion of Work.

1.12 LOCATION OF FIXTURES

.1 Consider location of fixtures, outlets, and mechanical and electrical items indicated as approximate.

.2 Inform Consultant of conflicting installation. Install as directed.

1.13 FASTENINGS

.1 Provide metal fastenings and accessories in same texture, colour, and finish as adjacent materials, unless indicated otherwise.

.2 Prevent electrolytic action between dissimilar metals and materials.

.3 Use non-corrosive hot dip galvanized steel fasteners and anchors for securing exterior work, unless stainless steel or other material is specifically requested in affected specification Section.

.4 Space anchors within individual load limit or shear capacity and ensure they provide positive permanent anchorage. Wood, or any other organic material plugs are not acceptable.

.5 Keep exposed fastenings to a minimum, space evenly and install neatly.

.6 Fastenings which cause spalling or cracking of material to which anchorage is made are not acceptable.

1.14 FASTENINGS - EQUIPMENT

.1 Use fastenings of standard commercial sizes and patterns with material and finish suitable for service.

.2 Use heavy hexagon heads, semi-finished unless otherwise specified. Use No. 304 stainless steel for exterior areas.

.3 Bolts may not project more than one diameter beyond nuts.

.4 Use plain type washers on equipment, sheet metal, and soft gasket lock type washers where vibrations occur. Use resilient washers with stainless steel.

1.15 PROTECTION OF WORK IN PROGRESS

.1 Prevent overloading of any part of building. Do not cut, drill, or sleeve any load bearing structural member, unless specifically indicated without written approval of Consultant.

1.16 EXISTING UTILITIES

.1 When breaking into or connecting to existing services or utilities, execute Work at times directed by local governing authorities, with minimum of disturbance to Work and pedestrian and vehicular traffic.

.2 Protect, relocate, or maintain existing active services. When services are encountered, cap off in manner approved by authority having jurisdiction. Stake and record location of capped service.

END OF SECTION

1.1 DEFINITIONS

.1 Acceptable Materials: The term ‘Acceptable Materials’ (or ‘Acceptable materials’) is used to specify products by trade name, manufacturer, catalogue number, model number, or similar reference, and is used within the Project Manual as follows:

.1 Acceptable Materials listings are based on Consultant’s determination that materials meet specified requirements and opinion of applicability to the project requirements.

.2 Acceptable Materials listings are deemed to establish the standard of acceptance that Consultant will consider appropriate for the Work.

.3 Any product listed in the Acceptable Materials listing may be used to establish the Bid Price.

.2 Basis-of-Design: The term ‘Basis-of-Design’ is used to specify a specific material name, manufacturer, catalogue number, model number or similar reference and is used as follows:

.1 Basis-of-Design establish the minimum criteria for acceptance and any product submitted as a substitution or alternate must at the very least match or exceed the physical properties and performance characteristics of the basis-of-design product. The onus of proof lies with the Contractor who must submit ample evidence of compliance with these criteria; any application for a substitution or alternate may be rejected by the Owner and/or Consultant at their sole discretion without explanation.

.2 Basis-of-Design are used to establish Consultant’s preference for a single source product listing based on performance, physical properties, appearance, warranty, and/or configuration.

.3 Use the Basis-of-Design to establish the Bid Price unless an Addendum is issued adding additional Acceptable Materials.

.4 Schedules or labels on the Drawings that indicate materials or products by proprietary name or manufacturer, and possibly also listing a specific color or finish, are Basis-of-Design, and subject to the requirements of this specification Section 01 62 00.

.3 Standard of Acceptance: ‘Standard of Acceptance’ means ‘Basis-of-Design’.

.4 Non-proprietary specification means a specification that includes descriptive, reference standard or performance requirements, or any combination thereof, but does not include proprietary names of products or manufacturers.

.5 Substitution means a proposal from Contractor to provide a product, material, or item of equipment not specified in the Contract documents but functionally equivalent and readily exchangeable to a specified item; for consideration by Consultant.

1.2 ACTION AND INFORMATIONAL SUBMITTALS

.1 When requested by Consultant, submit complete data substantiating compliance of a product with requirements of Contract Documents. Include the following:

.1 Product identification, including manufacturer's name and address.

.2 Written verification that the substitute products can be obtained, meet the performance required for the project, and meet requirements of the Building Code.

.3 Manufacturer's literature providing product description, applicable reference standards, and performance and test data.

.4 Samples, as applicable.

.5 Name and address of projects on which product has been used and date of each installation.

.6 For substitutions and requests for changes to accepted products, include in addition to the above, the following:

.1 Itemized comparison of substitution with named product(s). List significant variations.

.2 Designation of availability of maintenance services and sources of replacement materials.

.2 Submit requests for review by filling out and submitting the attached “Substitution Request Form” (attached following this Section), together with all required technical datasheets and other information that supports and clarifies the request for a substitution or alternate product to that specified.

1.3 PRODUCT OPTIONS

.1 For products specified by non-proprietary specification:

.1 Select any product, assembly, or material that meets or exceeds the specified standards for products specified only by referenced standards and performance criteria.

.2 Acceptable Materials: Select any named product, assembly, or material contained in the listing of Acceptable Materials.

.3 Basis-of-Design: Use the named product contained in the Basis-of-Design listing unless an addendum is issued indicating acceptance of additional Acceptable Materials.

1.4 SUBSTITUTIONS

.1 Contractor will assemble requests for substitutions requested by subcontractors and submit to Consultant for review.

.2 Consultant will review proposed substitute products for acceptability only when submitted by Contractor; Consultant will not review requests submitted independently by Subcontractors.

.3 No substitutions will be permitted without Consultant's written acceptance; Contractor will be required to remove products and replace with specified materials or provide a credit to the value of the contract at Consultant’s joint discretion where substitutions are found in the Work that have not been formally accepted by Consultant.

.4 Consultants are not obliged to accept any Proposed Substitution offered by Contractor and reserves the right to dismiss any item with no further explanation.

.5 Substitute Products: Where substitute products are permitted, unnamed products may be accepted by Consultant, subject to the following:

.1 Substitute products shall be the same type as, be capable of performing the same functions as, and meet or exceed the standards of quality and performance of the named product(s). Substitutions shall not require revisions to Contract Documents nor to work of Other Contractors.

.6 Substitute Manufacturers: Where substitute manufacturers are permitted, unnamed manufacturers may be accepted by Consultant, subject to the following:

.1 Substitute manufacturers shall have capabilities comparable to those of the named manufacturer(s). Substitutions shall not require revisions to Contract Documents nor to work of Other Contractors.

.7 In making a proposal for substitution the Contractor represents:

.1 That they have investigated the proposal and (unless the proposal explicitly states otherwise) determined that it performs in a similar way or is superior to the product or method specified and does not have a negative impact on other trades.

.2 That the same guaranty / warranty will be furnished as for the originally specified product or construction method.

.3 That they will coordinate installation of the accepted substitute into the Work, making such changes in the Work as may be required to accommodate the change.

.4 That they will bear costs and waives claims for additional compensation for costs and time that subsequently become apparent arising out of the substitution.

.8 All requests for substitutions must be made using the Substitution Request Form attached following this Section, and accompanied with a comparison chart listing physical properties, warranty, and other pertinent data allowing an applies-to-apples assessment of the information presented to confirm that the proposed substitution is in fact equivalent or better. Unless there is a significant advantage to the Contract in Contract time, price, or product quality in accepting proposed substitution, the proposed substation will be rejected. All proposed substitutions must be equivalent to or better than the specified product to be considered, and not have an adverse impact on the project schedule or downstream Work.

END OF SECTION

1.1 REFERENCES

.1 Owner's identification of existing survey control points and property limit.

1.2 QUALIFICATIONS OF SURVEYOR

.1 Contractor shall contract the services of a Professional Land Surveyor licensed to practice in Prince Edward Island.

.2 Surveyor shall be a member in good standing of The Association of Prince Edward Island Land Surveyors and have a current Certificate of Authorization.

1.3 SURVEY REFERENCE POINTS

.1 Existing base horizontal and vertical control points are designated on drawings.

.2 Locate, confirm, and protect control points prior to starting site work. Preserve permanent reference points during construction.

.3 Make no changes or relocations without prior written notice to Consultant.

.4 Report to Consultant when reference point is lost or destroyed or requires relocation because of necessary changes in grades or locations.

.5 Require surveyor to replace control points in accordance with original survey control.

1.4 SURVEY REQUIREMENTS

.1 Establish two permanent benchmarks on site, referenced to established benchmarks by survey control points. Record locations, with horizontal and vertical data, in Project record and as-built documents.

.2 Establish lines and levels, locate, and lay out, by instrumentation.

.3 Stake for grading, fill and topsoil placement and landscaping features.

.4 Stake slopes and berms.

.5 Establish pipe invert elevations.

.6 Stake batter boards for foundations.

.7 Establish foundation column locations and floor elevations.

.8 Establish lines and levels for mechanical and electrical work.

1.5 EXISTING SERVICES

.1 Before commencing work, establish location and extent of service lines in area of Work and notify Consultant of findings.

.2 Remove abandoned service lines within 2 m of structures. Cap or otherwise seal lines at cut-off points as directed by Consultant.

1.6 LOCATION OF EQUIPMENT AND FIXTURES

.1 Location of equipment, fixtures and outlets indicated or specified are to be considered as approximate.

.2 Locate equipment, fixtures and distribution systems to provide minimum interference and maximum usable space and in accordance with manufacturer's recommendations for safety, access and maintenance.

.3 Inform Consultant of impending installation and obtain approval for actual location.

.4 Submit field drawings to indicate relative position of various services and equipment when required by Consultant.

1.7 RECORDS

.1 Maintain a complete, accurate log of control and survey work as it progresses.

.2 On completion of foundations and major site improvements, prepare a certified survey showing dimensions, locations, angles and elevations of Work.

.3 Record locations of maintained, re-routed and abandoned service lines.

1.8 SURVEYOR'S REAL PROPERTY REPORT (SRPR)

.1 At Substantial Performance have Surveyor complete and certify a Real Property Report and submit original to Owner with copy to Consultant.

.2 Submit an electronic copy of SRPR to Owner and Consultant on USB Flashdrive in Revit, AutoCAD and SketchUp formats.

1.9 ACTION AND INFORMATIONAL SUBMITTALS

.1 Submit name and address of Surveyor to Consultant.

.2 On request of Consultant, submit documentation to verify accuracy of field engineering work.

.3 Submit certificate signed by surveyor certifying and noting elevations and locations of completed as-built Work, identifying elements not in conformance with Contract Documents.

.4 Submit final as-built survey on USB Flashdrive in Revit, AutoCAD and SketchUp formats.

1.10 SUBSURFACE CONDITIONS

.1 Promptly notify Consultant in writing if subsurface conditions at Place of Work differ materially from those indicated in Contract Documents, or a reasonable assumption of probable conditions based thereon.

.2 After prompt investigation, should Consultant determine that conditions do differ materially, instructions will be issued for changes in Work as provided in Changes and Change Orders.

END OF SECTION

1.1 ACTION AND INFORMATION SUBMITTALS

.1 Submittals: in accordance with Section 01 33 00 - Submittal Procedures.

.2 Submit written request in advance of cutting or alteration which affects:

.1 Structural integrity of elements of project.

.2 Integrity of weather-exposed or moisture-resistant elements.

.3 Efficiency, maintenance, or safety of operational elements.

.4 Visual qualities of sight-exposed elements.

.5 Work of Owner or separate contractor.

.3 Include in request:

.1 Identification of project.

.2 Location and description of affected Work.

.3 Statement on necessity for cutting or alteration.

.4 Description of proposed Work, and products to be used.

.5 Alternatives to cutting and patching.

.6 Effect on Work of Owner or separate contractor.

.7 Written permission of affected separate contractor.

.8 Date and time work will be executed.

1.2 MATERIALS

.1 Required for original installation.

.2 Change in Materials: Submit request for substitution in accordance with Section 01 62 00 - Product Options and Substitutions.

1.3 PREPARATION

.1 Inspect existing conditions, including elements subject to damage or movement during cutting and patching.

.2 After uncovering, inspect conditions affecting performance of Work.

.3 Beginning of cutting or patching means acceptance of existing conditions.

.4 Provide supports to assure structural integrity of surroundings; provide devices and methods to protect other portions of project from damage.

.5 Provide protection from elements for areas which are to be exposed by uncovering work; maintain excavations free of water.

1.4 EXECUTION

.1 Execute cutting, fitting, patching, excavation and fill as required to complete Work.

.2 Fit several parts together, to integrate with other Work.

.3 Uncover Work to install ill-timed Work.

.4 Remove and replace defective and non-conforming Work.

.5 Remove samples of installed Work for testing.

.6 Provide openings in non-structural elements of Work for penetrations of mechanical and electrical

Work.

.7 Execute Work by methods to avoid damage to other Work, and which will provide proper surfaces to receive patching and finishing.

.8 Employ original installer to perform cutting and patching for weather-exposed and moisture-resistant elements, and sight-exposed surfaces.

.9 Cut rigid materials using masonry saw or core drill. Pneumatic or impact tools not allowed on masonry work without prior approval.

.10 Restore work with new products in accordance with requirements of Contract Documents.

.11 Fit Work airtight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.

.12 At penetration of fire rated wall, ceiling, or floor construction, completely seal voids with firestopping material in accordance with Section 07 84 00 - Firestopping and Smoke Seals, full thickness of the construction element.

.13 Refinish surfaces to match adjacent finishes: Refinish continuous surfaces to nearest intersection. Refinish assemblies by refinishing entire unit.

.14 Conceal pipes, ducts and wiring in floor, wall and ceiling construction of finished areas except where indicated otherwise.

END OF SECTION

1.1 ENVIRONMENTAL CONTROLS

.1 Conduct cleaning and disposal operations to comply with local ordinances and anti-pollution laws.

.2 Store volatile wastes in covered metal containers and remove from Place of the Work daily.

.3 Prevent accumulation of wastes which create hazardous conditions.

.4 Provide adequate ventilation during use of volatile or noxious substances.

1.2 MATERIALS

.1 Use only cleaning materials recommended by manufacturer of surface to be cleaned and as recommended by cleaning material manufacturer.

1.3 CLEANING DURING CONSTRUCTION

.1 Maintain Work in tidy condition, free from accumulation of waste products and debris.

.2 Remove waste materials from site at regularly scheduled times or dispose of as directed by Consultant. Do not burn waste materials on site.

.3 Clear snow and ice from access to building, bank/pile snow in designated areas only.

.4 Make arrangements with and obtain permits from authorities having jurisdiction for disposal of waste and debris.

.5 Provide on-site containers for collection of waste materials and debris.

.6 Provide and use clearly marked separate bins for recycling.

.7 Remove waste material and debris from site and deposit in waste container at end of each working day.

.8 Dispose of waste materials and debris off site.

.9 Clean interior areas prior to start of finishing work and maintain areas free of dust and other contaminants during finishing operations.

.10 Store volatile waste in covered metal containers and remove from premises at end of each working day.

.11 Provide adequate ventilation during use of volatile or noxious substances. Use of building ventilation systems is not permitted for this purpose.

.12 Use only cleaning materials recommended by manufacturer of surface to be cleaned, and as recommended by cleaning material manufacturer.

.13 Schedule cleaning operations so that resulting dust, debris and other contaminants will not fall on wet, newly painted surfaces nor contaminate building systems.

1.4 FINAL CLEANING

.1 When Work is Substantially Performed, remove surplus products, tools, construction machinery and equipment not required for performance of remaining Work.

.2 Remove waste products and debris other than that caused by others and leave Work clean and suitable for occupancy.

.3 Prior to final review, remove surplus products, tools, construction machinery and equipment.

.4 Remove waste products and debris.

.5 Remove waste materials from site at regularly scheduled times or dispose of as directed by Consultant. Do not burn waste materials on site.

.6 Make arrangements with and obtain permits from authorities having jurisdiction for disposal of waste and debris.

.7 Clean and polish glass, mirrors, hardware, wall tile, stainless steel, chrome, porcelain enamel, baked enamel, plastic laminate, and mechanical and electrical fixtures. Replace broken, scratched, or disfigured glass.

.8 Remove stains, spots, marks, and dirt from decorative work, electrical and mechanical fixtures, furniture fitments, walls, floors and ceilings.

.9 Clean lighting reflectors, lenses, and other lighting surfaces.

.10 Vacuum clean and dust building interiors, behind grilles, louvres and screens.

.11 Wax, seal, shampoo, or prepare floor finishes, as recommended by manufacturer.

.12 Inspect finishes, fitments, and equipment and ensure specified workmanship and operation.

.13 Broom clean and wash exterior walks, steps, and surfaces; rake clean other surfaces of grounds.

.14 Remove dirt and other disfiguration from exterior surfaces.

.15 Clean and sweep roofs, gutters, areaways, and sunken wells.

.16 Sweep and wash clean paved areas.

.17 Clean equipment and fixtures to a sanitary condition; clean or replace filters of mechanical equipment.

.18 Clean roofs, downspouts, and drainage systems.

.19 Remove debris and surplus materials from crawl areas and other accessible concealed spaces.

.20 Remove snow and ice from access to building.

END OF SECTION

1.1 WASTE MANAGEMENT REQUIREMENTS

.1 Construction Waste Management Requirements: comply with Province of Prince Edward Island and City of Charlottetown requirements for construction waste diversion, transportation and management.

.2 Reduce solid waste produced by Work in accordance with CCA 81-2001: A Best Practices Guide to Solid Waste Reduction.

.3 Comply with applicable City of Charlottetown Bylaws and Regulations.

1.2 STORAGE, HANDLING AND PROTECTION

.1 Store, materials to be reused, recycled and salvaged in locations as directed by Consultant.

.2 Unless specified or indicated on Drawings otherwise, materials for removal become Contractor's property.

.3 Protect, stockpile, store and catalogue salvaged items.

.4 Separate non-salvageable materials from salvaged items. Transport and deliver non-salvageable items to licensed disposal facility.

.5 Protect structural components not removed for demolition from movement or damage.

.6 Support affected structures. If safety of building is endangered, cease operations and immediately notify Consultant.

.7 Protect surface drainage, mechanical and electrical from damage and blockage.

.8 Separate and store materials produced during dismantling of structures in designated areas.

.9 Prevent contamination of materials to be salvaged and recycled and handle materials in accordance with requirements for acceptance by designated facilities.

.1 On-site source separation is recommended.

.2 Remove comingled materials to off-site processing facility for separation.

.3 Provide waybills for separated materials.

1.3 DISPOSAL OF WASTES

.1 Do not bury rubbish or waste materials.

.2 Do not dispose of waste, volatile materials, mineral spirits, oil, and paint thinner into waterways, storm, or sanitary sewers.

.3 Remove materials from deconstruction as deconstruction/disassembly Work progresses.

1.4 USE OF SITE AND FACILITIES

.1 Execute work with least possible interference or disturbance to normal use of premises.

.2 Maintain security measures established by existing facility, and also provide temporary security measures approved by Consultant when required to assure continuity of security.

1.5 SCHEDULING

.1 Coordinate waste management activities with other activities at site to ensure timely and orderly progress of Work, and lawful collection, transportation, recycling and disposal and construction/demolition waste product.

1.6 APPLICATION

.1 Handle waste materials not reused, salvaged, or recycled in accordance with governing regulations and codes.

1.7 CLEANING

.1 Remove tools and waste materials on completion of Work and leave work area in clean and orderly condition.

.2 Clean-up work area as work progresses.

.3 Source separate materials to be reused/recycled into specified sort areas.

END OF SECTION

1.1 INSPECTIONS AND DECLARATIONS

.1 Contractor's Inspection: Contractor and all Subcontractors shall conduct an inspection of Work, identify deficiencies and defects, and repair as required to conform to Contract Documents.

.1 Notify Consultant in writing of satisfactory completion of Contractor's Inspection and that corrections have been made.

.2 Request Consultant's Inspection.

.2 Consultant's Inspection: Consultant and Contractor will perform inspection of Work to identify defects or deficiencies. Correct defective and deficient Work accordingly.

.3 Completion: Submit written certificate that following have been performed:

.1 Work has been completed and inspected for compliance with Contract Documents.

.2 Defects have been corrected and deficiencies have been completed.

.3 Certificates required by authorities having jurisdiction have been submitted.

.4 Work is complete and ready for Final Inspection.

.4 Final Inspection: When items noted above are completed, request final inspection of Work by Owner, Consultant, and Contractor. If Work is deemed incomplete by Owner and or Consultant, complete outstanding items and request reinspection.

.5 Declaration of Substantial Performance: When Consultant consider deficiencies and defects have been corrected and it appears requirements of Contract have been substantially performed, make application for Substantial Performance of the Work.

.6 Commencement of Warranty Periods: The date of Substantial Performance of the Work shall be the date for commencement of the warranty period.

.7 Commencement of Lien Periods: The date of publication of the certificate of Substantial Performance of the Work shall be the date for commencement of the lien period, unless required otherwise by the lien legislation applicable at the Place of the Work.

.8 Final Payment: When Consultant consider final deficiencies and defects have been corrected and it appears requirements of Contract have been completed, make application for final payment.

.9 Payment of Hold-back: After issuance of certificate of Substantial Performance of the Work, submit an application for payment of hold-back amount.

1.2 CLOSEOUT SUBMITTALS

.1 Prepare instructions and data using personnel experienced in maintenance and operation of described Products.

.2 Copy will be returned after final inspection, with Consultant's comments.

.3 Revise content of documents as required prior to final submittal.

1.3 RECORDING ACTUAL SITE CONDITIONS

.1 Record information on set of black line opaque drawings provided by Consultant.

.2 Annotate with colored felt tip marking pens, maintaining separate colors for each major system, for recording changed information.

.3 Record information concurrently with construction progress. Do not conceal Work of the Project until required information is accurately recorded.

.4 Contract drawings and shop drawings: legibly mark each item to record actual construction, including:

.1 Measured depths of elements of foundation in relation to finish first floor datum.

.2 Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.

.3 Measured locations of internal utilities and appurtenances, referenced to visible and accessible features of construction.

.4 Field changes of dimension and detail.

.5 Changes made by change orders.

.6 Details not on original Contract Drawings.

.7 References to related shop drawings and modifications.

.5 Specifications: legibly mark each item to record actual construction, including:

.1 Manufacturer, trade name, and catalogue number of each product actually installed particularly optional items and substitute items.

.2 Changes made by Addenda and change orders.

.6 Other Documents: maintain inspection certifications, field-test records required by individual specifications sections.

1.4 RECORD (AS-BUILT) DOCUMENTS AND SAMPLES

.1 In addition to requirements in General Conditions, maintain at the site for Consultant one record copy of:

.1 Contract Drawings.

.2 Specifications.

.3 Addenda.

.4 Change Orders and other modifications to the Contract.

.5 Reviewed shop drawings, product data, and samples.

.6 Field test records.

.7 Inspection certificates.

.2 Store as-built documents and samples in field office apart from documents used for construction. Provide files, racks, and secure storage.

.3 Label as-built documents and file in accordance with section number listings in List of Contents of the Project Manual. Label each document AS-BUILT DOCUMENTS in neat, large, printed letters.

.4 Maintain as-built documents in clean, dry and legible condition. Do not use as-built documents for construction purposes.

.5 Keep as-built documents and samples available for inspection by Consultant.

1.5 FINAL SURVEY

.1 Submit final site survey certificate, performed by a Professional Land Surveyor who is a member in good standing of APEILS, certifying that elevations and locations of completed Work are in conformance or non-conformance with Contract Documents.

.2 Inaccurate or neglectful information shall be the liability of the Contractor.

1.6 EQUIPMENT AND SYSTEMS

.1 Each Item of Equipment and Each System: include description of unit or system, and component parts. Give function, normal operation characteristics, and limiting conditions. Include performance curves, with engineering data and tests, and complete nomenclature and commercial number of replaceable parts.

.2 Panel board circuit directories: provide electrical service characteristics, controls, and communications.

.3 Include installed color-coded wiring diagrams.

.4 Operating Procedures: include start up, break in, and routine normal operating instructions and sequences. Include regulation, control, stopping, shut down, and emergency instructions. Include summer, winter, and any special operating instructions.

.5 Maintenance Requirements: include routine procedures and guide for trouble shooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.

.6 Provide servicing and lubrication schedule, and list of lubricants required.

.7 Include manufacturer's printed operation and maintenance instructions.

.8 Include sequence of operation by controls manufacturer.

.9 Provide original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.

.10 Provide installed control diagrams by controls manufacturer.

.11 Provide Contractor's co-ordination drawings, with installed color-coded piping diagrams.

.12 Provide charts of valve tag numbers, with location and function of each valve, keyed to flow and control diagrams.

.13 Provide list of original manufacturer's spare parts, current prices, and recommended quantities to be maintained in storage.

.14 Include test and balancing reports as specified in Section 01 45 00 - Quality Control and Section 01 91 00 Commissioning.

.15 Additional requirements: as specified in individual specification sections.

1.7 MATERIALS AND FINISHES

.1 Building Products, Applied Materials, and Finishes: include product data, with catalogue number, size, composition, and color and texture designations. Provide information for reordering custom manufactured products.

.2 Instructions for cleaning agents and methods, precautions against detrimental agents and methods, and recommended schedule for cleaning and maintenance.

.3 Moisture Protection and Weather Exposed Products: include manufacturer's recommendations for cleaning agents and methods, precautions against detrimental agents and methods, and recommended schedule for cleaning and maintenance.

.4 Additional Requirements: as specified in individual specifications sections.

1.8 SPARE PARTS

.1 Provide spare parts, in quantities specified in individual specification sections.

.2 Provide items of same manufacture and quality as items in Work.

.3 Deliver to site, location as directed, place and store.

.4 Receive and catalogue items. Submit inventory listing to Consultant. Include approved listings in Maintenance Manual.

.5 Obtain receipt for delivered products and submit prior to final payment.

1.9 MAINTENANCE MATERIALS

.1 Provide maintenance and extra materials, in quantities specified in individual specification sections.

.2 Provide items of same manufacture and quality as items in Work.

.3 Deliver to site, location as directed, place and store.

.4 Receive and catalogue items. Submit inventory listing to Consultant. Include approved listings in Maintenance Manual.

.5 Obtain receipt for delivered products and submit prior to final payment.

1.10 SPECIAL TOOLS

.1 Provide special tools, in quantities specified in individual specification section.

.2 Provide items with tags identifying their associated function and equipment.

.3 Deliver to site, location as directed, place and store.

.4 Receive and catalogue items. Submit inventory listing to Consultant. Include approved listings in Maintenance Manual.

1.11 STORAGE, HANDLING AND PROTECTION

.1 Store spare parts, maintenance materials, and special tools in manner to prevent damage or deterioration.

.2 Store in original and undamaged condition with manufacturer's seal and labels intact.

.3 Store components subject to damage from weather in weatherproof enclosures.

.4 Store paints and freezable materials in a heated and ventilated room.

.5 Remove and replace damaged products at own expense and to satisfaction of Consultant.

1.12 WARRANTIES AND BONDS

.1 Develop warranty management plan to contain information relevant to Warranties.

.2 Submit warranty management plan, 30 days before planned pre-warranty conference, to Consultant approval.

.3 Warranty management plan to include required actions and documents to assure that Owner receives warranties to which it is entitled.

.4 Provide plan in narrative form and contain sufficient detail to make it suitable for use by future maintenance and repair personnel.

.5 Submit, warranty information made available during construction phase, to Consultant for approval prior to each monthly pay estimate.

.6 Assemble approved information in binder and submit upon acceptance of work. Organize binder as follows:

.1 Separate each warranty or bond with index tab sheets keyed to Table of Contents listing.

.2 List subcontractor, supplier, and manufacturer, with name, address, and telephone number of responsible principals.

.3 Obtain warranties and bonds, executed in duplicate by subcontractors, suppliers, and manufacturers, within ten days after completion of applicable item of work.

.4 Verify that documents are in proper form, contain full information, and are notarized.

.5 Co-execute submittals when required.

.6 Retain warranties and bonds until time specified for submittal.

.7 Except for items put into use with Owner's permission, leave date of beginning of time of warranty until Date of Substantial Performance is determined.

.8 Conduct joint 4 month and 9-month warranty inspection, measured from time of acceptance, by Consultant.

.9 Include information contained in warranty management plan as follows:

.1 Roles and responsibilities of personnel associated with warranty process, including points of contact and telephone numbers within the organizations of Contractors, subcontractors, manufacturers or suppliers involved.

.2 Listing and status of delivery of Certificates of Warranty for extended warranty items, to include roofs, HVAC balancing, pumps, motors, transformers, and commissioned systems such as fire protection, alarm systems, sprinkler systems, lightning protection systems.

.3 Provide list for each warranted equipment, item, feature of construction, or system indicating:

.1 Name of item.

.2 Model and serial numbers.

.3 Location where installed.

.4 Name and phone numbers of manufacturers or suppliers.

.5 Names, addresses and telephone numbers of sources of spare parts.

.6 Warranties and terms of warranty: include one-year overall warranty of construction. Indicate items that have extended warranties and show separate warranty expiration dates.

.7 Cross-reference to warranty certificates as applicable.

.8 Starting point and duration of warranty period.

.9 Summary of maintenance procedures required to continue warranty in force.

.10 Cross-Reference to specific pertinent Operation and Maintenance manuals.

.11 Organization, names, and phone numbers of persons to call for warranty service.

.12 Typical response time and repair time expected for various warranted equipment.

.10 Contractor's plans for attendance at 4-month and 9-month post-construction warranty inspections.

.11 Procedure and status of tagging of equipment covered by extended warranties.

.12 Post copies of instructions near selected pieces of equipment where operation is critical for warranty and/or safety reasons.

.13 Respond in a timely manner to oral or written notification of required construction warranty repair work.

.14 Written verification will follow oral instructions. Failure to respond will be cause for the Consultant to proceed with action against Contractor.

1.13 PRE-WARRANTY CONFERENCE

.1 Meet with Consultant, to develop understanding of requirements of this section. Schedule meeting prior to contract completion, and at time designated by Consultant.

.2 Consultant will establish communication procedures for:

.1 Notification of construction warranty defects.

.2 Determine priorities for type of defect.

.3 Determine reasonable time for response.

.3 Provide name, telephone number and address of licensed and bonded company that is authorized to initiate and pursue construction warranty work action.

.4 Ensure contact is located within local service area of warranted construction, is continuously available, and is responsive to inquiries for warranty work action.

1.14 EQUIPMENT WARRANTY TAGS

.1 Tag, at time of installation, each warranted item. Provide durable, oil and water-resistant tag approved by Consultant.

.2 Attach tags with copper wire and spray with waterproof silicone coating.

.3 Leave date of acceptance until project is accepted for occupancy.

.4 Indicate following information on tag:

.1 Type of product/material.

.2 Model number.

.3 Serial number.

.4 Contract number.

.5 Warranty period.

.6 Inspector's signature.

.7 Contractor.

END OF SECTION

1.1 DESCRIPTION

.1 Demonstrate operation and maintenance of equipment and systems to Owner's personnel two weeks prior to date of substantial performance.

.2 Owner will provide list of personnel to receive instructions and will coordinate their attendance at agreed-upon times.

.3 The requirements of this Section govern the technical Sections and take precedence; whether a technical Section expressly specifies training and demonstration or not, training and demonstration is a requirement of the Contract and shall be delivered in accordance with this Section.

1.2 QUALITY CONTROL

.1 When specified in individual Sections require manufacturer to provide authorized representative to demonstrate operation of equipment and systems, instruct Owner's personnel, and provide written report that demonstration and instructions have been completed.

1.3 ACTION AND INFORMATIONAL SUBMITTALS

.1 Submit schedule of time and date for demonstration of each item of equipment and each system two weeks prior to designated dates, for Consultant's approval. Submit reports within one week after completion of demonstration, that demonstration and instructions have been satisfactorily completed.

.2 Give time and date of each demonstration, with list of persons present.

1.4 CONDITIONS FOR DEMONSTRATIONS

.1 Equipment has been inspected and put into operation.

.2 Testing, adjusting, and balancing has been performed, and equipment and systems are fully operational.

.3 Provide copies of completed operation and maintenance manuals for use in demonstrations and instructions.

1.5 PREPARATION

.1 Verify that conditions for demonstration and instructions comply with requirements.

.2 Verify that designated personnel are present.

1.6 DEMONSTRATION AND INSTRUCTIONS

.1 Demonstrate start-up, operation, control, adjustment, troubleshooting, servicing, and maintenance of each item of equipment at scheduled times, at the designated location.

.2 Instruct personnel in phases of operation and maintenance using operation and maintenance manuals as basis of instruction.

.3 Review contents of manual in detail to explain aspects of operation and maintenance.

.4 Prepare and insert additional data in operations and maintenance manuals when need for additional data becomes apparent during instructions.

1.7 INSTRUCTION OF OPERATING STAFF

.1 Provide trained personnel to instruct operating staff on maintenance, adjustment, and operation of mechanical equipment. Instruct staff on changes or modification in equipment made under terms of guarantee.

.2 Timing and Objective of Training: training should be scheduled for after the Owner's tenants have moved into their respective spaces and are nearing readiness to begin operations; coordinate with Owner to determine the dates applicable. Train each tenant's designated staff as required in accordance with the requirements of this Section.

.3 Provide instruction during regular work hours prior to acceptance and turnover to operating staff for regular operation.

.4 Use operation and maintenance data manual for instruction purposes. On completion of instruction, turn one manual over to chief operating engineer, the balance to Consultant.

.5 Time allocated for Instruction:

.1 Repair of air support structure membrane and materials: 2-hours

.2 Exterior wall panels and siding: 1/2-hour each type.

.3 Roofing: 1-hour.

.4 Doors with automatic operators: 1-hour.

.5 Finishes (floor, wall, ceiling): ½-hour per finish.

.6 Division 10: 2-hours overall.

.7 Pumps: 1-hour.

.8 Tanks: 1-hour.

.9 Plumbing: 2-hours.

.10 Chemical: 1-hour plus monthly visits.

.11 Fire Protection: 1-hour.

.12 Boilers: 1-hour.

.13 Heat pumps and Condensing Units: 20 hrs (overall) instruction and support as required during the first year following certificate of Substantial Performance.

.14 Glycol: ½-hour.

.15 Air Handling: 1-hour.

.16 Controls: 40 hours (overall) instruction and support as required during the first year following certificate of Substantial Performance.

END OF SECTION

Part 1 General

1.1 RELATED REQUIREMENTS

.1 Division 03 Cast-in-Place Concrete.

.2 Section 07 11 10 - Bituminous Dampproofing.

.3 Section 07 21 13 – Board Insulation.

.4 Section 07 26 16 – Underslab Vapour Retarder.

.5 Section 31 11 00 – Clearing and Grubbing.

.6 Section 31 22 13 – Rough Grading.

.7 Section 31 23 33.01 - Excavating, Trenching and Backfilling.

.8 Division 32: Exterior Improvements.

.9 Division 33: Utilities.

1.2 DEFINITIONS

.1 Backfill: Soil material or controlled low strength material used to fill excavations.

.1 Initial Backfill: Backfill placed beside and over pipe in a trench, including haunches to support sides of pipe.

.2 Final Backfill: Backfill placed over initial backfill to fill a trench.

.2 Base Course: Course placed between the subbase course and hot mix asphalt paving.

.3 Bedding Course: Course placed over the excavated sub grade in a trench before laying pipe.

.4 Borrow Soil: Satisfactory soil imported from off site for use as fill or backfill.

.5 Capillary Break: Course supporting slab on grade that also minimizes upward capillary flow of pore water.

.6 Common Excavation:

.1 The excavation of materials, including hardpan, quicksand, and frozen earth; also, rock, concrete or masonry less than 1.0 m^3 in volume shall be classified as common excavation.

.7 Fill: Soil materials used to raise existing grades.

.8 Rock:

.1 The excavation of rock, concrete or masonry exceeding 1.0 m^3 in volume; and solid ledge rock, concrete or masonry that requires for its removal drilling, blasting, wedging, sledging, barring, or breaking with a power operated hand tool shall be classified as rock excavation. Soft or disintegrated rock, concrete or masonry that can be removed with a hand pick, power operated excavator or shovel; and loose, shaken or previously blasted rock will not be classified as rock excavation.

.9 Site Excavated Materials: Site excavated soil is considered as only site material removed by required excavation and grading.

.10 Structures: Buildings, footings, foundations, retaining walls, slabs, tanks, curbs, mechanical and electrical appurtenances, or other man-made stationary features constructed above or below ground surface.

.11 Sub-Base Course: Course placed between the sub-grade and base course for hot mix asphalt pavement, and cement concrete pavement or sidewalk.

.12 Sub-Grade: Surface or elevation remaining after completing excavation, or top surface of a fill or backfill immediately below subbase, drainage fill, or topsoil materials.

.13 Utilities: On site underground pipes, conduits, ducts, and cables including, but not limited to underground services within buildings.

1.3 STANDARDS

.1 Work of this section shall meet or exceed province of Prince Edward Island design and construction standards, shall meet or exceed requirements of this Section, and shall meet or exceed the following:

.1 Section 01 41 00 - Regulatory Requirements.

.2 Section 01 35 29 - Occupational Health and Safety Requirements.

.3 Section 01 35 43 - Environmental Procedures.

1.4 ACTION AND INFORMATIONAL SUBMITTALS

.1 Provide required information in accordance with Section 01 33 00 – Submittal Procedures.

.2 Submit product data for the following:

.1 Geotextile cloth.

.2 Controlled low-strength material, including design mixture.

.3 Conduct condition survey of adjoining construction and site improvements, including finish surfaces, survey benchmarks, and monuments that may be affected by work:

.4 Submit pre-excavation photographs or videotape before starting any earthwork indicating existing conditions of adjoining construction and site improvements, including finish surfaces that may be misconstrued as damage caused by earthwork operations for this Project

.5 Identify any interferences that could affect the Work and notify the Consultant for additional information.

1.5 QUALITY ASSURANCE

.1 Pay costs for testing and inspection as a part of the Contract.

.2 Carry out testing of materials and compaction of backfill, fill and unshrinkable fill using a testing agency acceptable to the Consultant as follows:

.1 Perform testing under the supervision of a registered professional geotechnical engineer.

.2 Have testing results signed, stamped, and sealed by a registered professional geotechnical engineer and submitted to the Consultant and Contractor.

.3 Correct any deficiencies noted in the report as directed by the testing agency.

.3 Notify testing agency no later than one week before backfilling or filling operations; provide a 20 kg sample of backfill, fill and unshrinkable fill material proposed for use to confirm properties; start backfilling or filling operations when material has been accepted by Consultant for intended use.

.4 Notify testing agency no later than 48-hours before backfilling or filling operations so that compaction tests can be carried out by designated testing agency; inspect footing excavations before placing footings; results of compaction tests will be submitted to Consultant and Contractor.

1.6 PROTECTION

.1 The Contractor shall be responsible for locating and protecting all existing underground and surface structures, utility pipelines, overhead lines and poles, fences, water and sewer mains, building services, cables, culverts, sidewalks and other works. All damage incurred shall be repaired by the Contractor at its expense.

Part 2 Products

2.1 GENERAL

.1 Supply all supervision, labour, materials, tools, equipment and plant required to perform the work specified in this Section.

2.2 SOURCE OF SUPPLY

.1 Imported Fill Materials: Consider only fill materials that fully meet specified requirements, including gradations.

2.3 SOIL FILL MATERIALS

.1 General Engineered Fill: Comprised of clean, inorganic granular or clay soils.

.2 Select Engineered Fill: Comprised of clean, well graded granular soils or inorganic low plastic clay soils:

.1 Granular soils used for selecting engineered fill shall consist of relatively clean, well graded, sand or mixture of sand and gravel (maximum size 75 mm).

.2 Low plastic clay used for selecting engineered fill shall have the following range of Atterberg limits:

.1 Liquid Limit = 20 to 40%

.2 Plastic Limit = 10 to 20%

.3 Plasticity Index = 10 to 30%

.3 Structural Fill: Comprised of clean, well graded inorganic granular soils.

.4 Lean Mix Concrete: Self-compacting, low-strength concrete having a minimum 28-day compressive strength of 3.5 MPa.

2.4 GRANULAR FILL MATERIALS

.1 Aggregate quality: sound, hard, durable material free from soft, thin, elongated, or laminated particles, organic material, clay lumps or minerals, or other substances that would act in deleterious manner for use intended. Flat and elongated particles of coarse aggregate: to ASTM D4791.

.2 Source aggregate materials locally to extent possible, meeting requirements.

.3 Rock Borrow: Blasted or crushed rock consisting of durable crushed stones, having 100% by mass pass through a 150mm x 150mm screen, and a maximum 10% by mass pass through a maximum 100mm x 100mm screen. Rock to consist of angular fragments obtained by breaking and crushing solid or natural rock, reasonably free from thin, flat elongated or other objectionable pieces and fines or as otherwise approve by the Consultant.

.4 Fill against structure:

.1 Blasted or crushed rock as approved by Consultant. Gradation to be within following limits:

Sieve Designation	% Passing
112 mm	100
40 mm	60 - 85
5 mm	25 - 50
0.315 mm	5 - 15
0.080 mm	2 - 7

.5 Granular Sub-Base: Class B.

.6 Granular Base: Class A.

.7 Select Backfill Material: from excavations or other sources, approved by Consultant for use intended, dry, unfrozen and free from ricks larger than 80 mm, cinders, ashes, sods, refuse or other deleterious or unsuitable materials.

.8 Unshrinkable Fill: proportioned and mixed to provide:

.1 Maximum compressive strength: 1.0 MPa at 28 days.

.2 Maximum Portland cement content: 25 kg/m3.

.3 Minimum strength of 0.07 MPa at 24 hours.

.4 Concrete aggregates: to CAN/CSA A23.1.

.5 Portland cement: Type GU.

.6 Slump: 150 mm minimum.

.9 Pit Run Gravel: Comprised of crushed stone or gravel, natural stone and sand, having no cobbles larger than 80 mm in diameter and having a maximum organic content of 2%, within the following nominal gradation limits:

Sieve Size (mm)	% Passing by Weight	Comments
80	100	
50	55-100	Total sample
25	38-100	Material passing 50 mm sieve
16	32-85	
5	20-65	
0.4	6-30	
.08	2-15	
0.0	0	

.10 Crushed Gravel: Comprised of crushed stone or gravel having at least two broken faces, crushed or natural sand and having a maximum organic content of 2%, within the following nominal gradation limits:

.1 Liquid limit of material passing 0.4 mm sieve shall not exceed 25%.

.2 Plasticity index of material passing 0.4 mm sieve shall not exceed 6%.

.3 Minimum of 50%, by weight, of material retained on 5 mm sieve shall have at least one face resulting from fracture.

Sieve Size (mm)	% Passing by Weight	Comments
25	100	
20	100	Total sample
10	60-92	Material passing 20 mm sieve
5	37-62	
2	26-44	

Sieve Size (mm)	% Passing by Weight	Comments
0.4	12-27	
0.15	7-18	
0.08	2-8	

.11 Coarse Gravel: Comprised of crushed stone or gravel, natural stone, crushed or natural sand and having a maximum organic content of 2%, within the following nominal gradation limits:

Sieve Size (mm)	Percent Passing By Weight	Comments
50	100	
40	90-100	Total Sample
20	35-70	Material Passing 40 mm Sieve
10	10-30	
5	0-5	

.12 Sand: Comprised of crushed or natural sand and having a maximum organic content of 2%, within the following nominal gradation limits:

Sieve Size (mm)	Percent Passing By Weight	Comments
10	65-100	
5	50-90	Total Sample
2	35-75	Material Passing 10 mm Sieve
0.4	10-45	
0.15	0-20	
0.08	0-10	

.13 Clean Washed Gravel: Comprised of crushed stone or gravel, or natural stones and being free draining with less than 5% silt or clay content, and no organic material, within the following nominal gradation limits:

Sieve Size (mm)	Percent Passing By Weight	Comments
38	100	Free Draining Material
10	65-100	Total Sample
5	50-90	Material Passing 10 mm Sieve
2	35-75	
0.4	10-45	
0.15	0-20	
0.08	0-5	

2.5 GEOTEXTILE MATERIALS

.1 Separation Geotextile: Woven geotextile fabric, manufactured for separation applications, manufactured from polyolefin or polyester and having elongation less than 50% in accordance with AASHTO M288 and as follows:

.1 Survivability: Class 2.

.2 Apparent Opening Size: 0.250 mm sieve, maximum in accordance with ASTM D4751.

.3 Permittivity: 0.02 per second, minimum in accordance with ASTM D4491.

.4 UV Stability: 50% after 500 hours' exposure in accordance with ASTM D4355.

2.6 RADON GAS TREATMENTS

.1 The concrete slab-on-grade shall be as noted on the Drawings, and as follows:

.1 Concrete slab.

.2 Radon gas impermeable vapor barrier.

.3 Rigid board insulation, to Section 07 21 13 - Board Insulation.

.4 150 mm thick layer of Type 1 Gravel for base layer.

.5 Approved structural fill (if required).

.6 Approved subgrade.

.7 Include, supply and install radon gas mitigation products and materials as required, suitable to mitigate as-found conditions. Have testing done to determine the radon gas classification Level appropriate to site conditions.

2.7 ACCESSORIES

.1 Warning Tape for Buried Utilities: Acid and alkali resistant polyethylene film warning tape manufactured for marking and identifying underground utilities, 150 mm wide x 100 mm thick,

continuously inscribed with a description of the utility; colored as follows:

.1 Red: Electric.

.2 Yellow: Gas, oil, steam, and dangerous materials.

.3 Orange: Telephone and other communications.

.4 Blue: Water systems.

.5 Green: Sewer systems

Part 3 Execution

3.1 SITEWORKS - GENERAL

.1 Remove existing fill within the building area and reinstate with approved fill. Place and compact approved fill in lifts to design grades as required.

.2 Earthworks for this project includes grubbing in proposed development areas and excavation of the fill down to the glacial till and placement of fill to achieve design grade elevations as required.

.3 Prior to excavations, provide surface water drainage controls on the up-gradient side of the site to minimize run-off onto exposed soils. Employ suitable erosion and sedimentation control measures. These may include silt fences, check dams in ditches, and granular working pads.

.4 Excavation:

.1 Excavation into the site soils will be practical with conventional earth-moving equipment.

.2 In the building area, remove the existing rootmat/topsoil and fill and reinstate with approved fill. Place and compact approved fill in lifts to design grade as required.

.3 In areas to be paved with asphalt or concrete, or finished with crushed stone surfacing, remove the rootmat/topsoil and fill with organics entirely. Excavate the area further to the design subgrade elevation as required and proof-roll. Replace any weak or soft zones with approved fill.

.4 Place material that is planned for re-use directly in the intended areas or compacted in stockpiles for later use. Use unsuitable materials in landscaped areas or wasted off-site. Excavated material containing organics are not suitable for reuse; remove from site and legally dispose in accordance with regulations.

.5 Exterior footings shall be founded a minimum of 1.5 m below grade for frost protection or as otherwise indicated if greater; insulate as indicated.

.6 The use of a geotextile, such as Terratrack 400, and additional gravel shall be supplied and installed by the Contractor for construction access roads and other frequently travelled areas.

3.2 PREPARATION

.1 Notify Consultant minimum two days before beginning excavating operations.

.2 Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earthwork operations:

.3 Contact all affected utility companies regarding exact location and status of all utilities, voltage of underground and overhead power lines and pressure of natural gas lines.

.4 Notify Consultant if any utility lines have been omitted from or incorrectly indicated on Drawings.

.5 Identify known underground utilities. Stake and flag locations. Identify and flag surface and aerial utilities.

.6 Notify utility company to remove and relocate utility lines.

.7 Coordinate preparation of sub-grade for earthwork operations including removal of vegetation, topsoil, debris, obstructions, and deleterious materials from ground surface as required.

.8 Fence open excavations in accordance with Section 01 56 00 - Temporary Barriers and Enclosures.

.9 Coordinate and maintain erosion and sedimentation controls in accordance with Section 01 35 43 - Environmental Procedures during earthwork operations.

.10 Provide protective insulating materials to protect sub-grades and foundation soils against freezing temperatures or frost.

3.3 DEWATERING

.1 Plan construction dewatering for excavations for footings, services, and other underground structures.

.2 Prevent surface water and ground water from entering excavations, from ponding on prepared sub-grades, and from flooding Project site and surrounding area.

.3 Protect sub-grades from softening, undermining, washout, and damage by rain or water accumulation.

.4 Reroute surface water runoff away from excavated areas; do not allow water to accumulate in excavations; do not use excavated trenches as temporary drainage ditches.

3.4 SHORING AND UNDERPINNING

.1 Coordinate and maintain shoring and underpinning as required.

3.5 EXCAVATION: GENERAL

.1 Excavate when conditions are dry; avoid excavating under wet conditions or when wet conditions are anticipated.

.2 Perform work by hand and cut roots with a sharp axe when excavating is necessary through roots of plant materials identified to remain.

.3 Protect excavations for bearing surfaces from freezing, excessive wetting or drying; recondition or replace bearing surfaces that have been wetted, dried or frozen using non shrink fill; notify the Consultant for additional criteria before proceeding with reconditioning.

.4 Place spoil piles a minimum of 1000 mm back from edge of excavations; place any other material capable of causing injury or sliding into excavation on the back side of spoil piles; do not operate machinery in close proximity to edge of excavation, and as follows:

.1 Stockpiles borrow soil materials and excavated satisfactory soil materials without intermixing.

.2 Place, grade, and shape stockpiles to drain surface water.

.3 Cover to prevent windblown dust.

.4 Keep spoil materials outside of drip line of remaining trees.

.5 Provide sufficient ventilation to excavations where gas powered compaction equipment will be used in accordance with Section 01 35 29 - Occupational Health and Safety Requirements.

.6 Expose service connections and utilities to be crossed to confirm horizontal and vertical alignment of existing utilities.

.1 Expose existing utility lines by hand excavation to confirm location before machine digging within 600 mm of lines.

.2 Maintain and protect existing above and below grade utilities that pass-through work area.

.3 Protect active utility lines exposed by excavation, from damage.

.4 Hand excavate to final elevations and dimensions.

.5 Support trench in a manner approved by utility where existing pipes, ducts or other underground services intersect a trench.

.7 Use safe operating practices and maintain safe working distances where existing overhead lines are in traffic areas, or where equipment will be operating in close proximity to overhead lines:

.1 Temporarily support poles in a manner approved by utility where existing overhead line poles are adjacent to excavations.

.2 Tag safe operating distance with fluorescent flagging or other highly visible means.

.3 Post signs to identify overhead line voltage.

.8 Excavate to sub-grade elevations indicated, and as follows:

.1 Replace unsatisfactory soil materials with satisfactory soil materials where excavated materials intended for fill and backfill include unsatisfactory soil materials and Rock.

.2 Remove Rock to lines and grades indicated to permit installation of permanent construction to the following tolerances:

.1 Minimum of 600 mm from outside of concrete forms other than at footings.

.2 Minimum of 300 mm from outside of concrete forms at footings.

.3 Minimum of 150 mm from outside of minimum required dimensions of concrete cast against grade.

.4 Outside dimensions of concrete walls indicated as cast against Rock without forms or exterior waterproofing treatments.

.5 Minimum of 150 mm from beneath bottom of concrete slabs on grade.

.6 Minimum of 150 mm from beneath pipe in trenches, and the greater of 600 mm wider than pipe or 1065 mm wide.

3.6 EXCAVATION: STRUCTURES

.1 Excavate to indicated elevations and dimensions within a tolerance of 25 mm; extend excavations a sufficient distance from structures for placing and removing concrete formwork, for installing services and other construction, and to allow for site reviews and inspections.

.2 Take care not to disturb bottom of excavation for load bearing foundations and footings; excavate by hand to final grade just before placing concrete reinforcement; trim bottoms to required lines and grades to leave solid base to receive other work.

.3 Stop excavations 150 mm to 300 mm above bottom of pile cap before piles are placed; remove loose and displaced material after piles are driven; excavate to final grade, leaving solid base to receive concrete pile caps.

.4 Excavate for underground utility structures to elevations and dimensions indicated within a tolerance of 25 mm; prevent disturbance to bottom of excavations intended as bearing surfaces.

3.7 EXCAVATION: SIDEWALKS AND PAVEMENTS

.1 Excavate surfaces at intended sidewalk and pavement areas to indicated lines, cross sections, elevations, and sub-grades.

3.8 EXCAVATION: UTILITY TRENCHES

.1 Excavate trenches to indicated gradients, lines, depths, and elevations; excavate trenches beyond building perimeter to allow for installation of top of pipe below frost line.

.2 Excavate trenches to uniform widths to provide the following clearance on each side of pipe or

conduit and as follows:

.1 Excavate trench walls vertically from trench bottom to 300 mm higher than top of pipe or conduit.

.2 Allow for 300 mm clearance on each side of pipe or conduit.

.3 Excavate and shape trench bottoms to provide uniform bearing and support of pipes and conduit; shape sub grade to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits; remove projecting stones and sharp objects along trench sub grade, and as follows:

.1 Hand excavate trench bottoms and support pipe and conduit on undisturbed sub grade for pipes and conduit less than 150 mm in nominal diameter and flat bottomed, multiple duct conduit units.

.2 Shape bottom of trench to support bottom 90 mm of pipe circumference for pipes and conduit greater than 150 mm in nominal diameter; fill depressions with tamped sand backfill.

.3 Excavate trenches 150 mm deeper than elevation required in Rock or other unyielding bearing material to allow for bedding course.

3.9 SUB-GRADE REVIEW

.1 Notify Consultant when excavations have reached required sub-grade.

.2 Continue excavation and replace with compacted backfill or fill material as directed where Consultant determines that unsatisfactory soil is present.

.3 Proof roll sub grade below the building slabs and pavements using heavy pneumatic tired equipment to identify soft pockets and areas of excess yielding; proof roll dry sub-grades having optimal moisture content, and as follows:

.4 Completely proof roll sub grade in one direction, repeating proof rolling in direction perpendicular to first direction; limit vehicle speed to 5 km/h.

.5 Proof roll using a loaded 10-wheel, tandem axle dump truck weighing not less than 14-tonnes.

.6 Excavate soft spots, unsatisfactory soils, and areas of excessive pumping or rutting as determined by Consultant and replace with compacted backfill or fill as directed.

.7 Reconstruct sub-grades damaged by freezing temperatures, frost, rain, accumulated water, or construction activities, as directed by Consultant, without additional compensation.

3.10 UNAUTHORIZED EXCAVATION

.1 Fill unauthorized excavation under foundations or wall footings by extending bottom elevation of concrete foundation or footing to excavation bottom, without altering top elevation using lean concrete fill having 28-day compressive strength of 17.2 MPa.

.2 Fill unauthorized excavations under other construction or utility pipe as directed by Consultant.

3.11 BACKFILL

.1 Place backfill on sub-grades free of mud, frost, snow, or ice.

.2 Place and compact backfill in excavations promptly after the completion of the following:

.1 Construction below finish grade.

.2 Surveying locations of underground utilities for Project Record Documents.

.3 Testing and inspecting of underground utilities.

.4 Removal of concrete formwork.

.5 Removal of trash and debris.

.6 Removal of temporary shoring and bracing, and sheeting.

.7 Installing permanent or temporary horizontal bracing on horizontally supported walls.

3.12 UTILITY TRENCH BACK FILL

.1 Place backfill on sub-grades free of mud, frost, snow, or ice.

.2 Place and compact bedding course on trench bottoms; shape bedding course to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits.

.3 Backfill trenches excavated under footings and within 450 mm of bottom of footings with satisfactory soil; fill with concrete to elevation of bottom of footings.

.4 Provide 100 mm thick, concrete base slab support for piping or conduit less than 750 mm below surface of roadways; completely encase piping or conduit in a minimum of 100 mm of concrete before backfilling or placing roadway sub-base after installing and testing.

.5 Place and compact initial soil backfill, free of particles larger than 25 mm in any dimension to a height of 300 mm over utility pipe or conduit.

.6 Carefully compact initial backfills under pipe haunches and compact evenly up on both sides and along the full length of utility piping or conduit to avoid damage or displacement of piping or conduit, coordinate backfilling with utilities testing.

.7 Backfill voids with satisfactory soil while installing and removing shoring and bracing.

.8 Place and compact final backfill of satisfactory soil to final sub grade elevation.

.9 Install warning tape directly above utilities 300 mm below finished grade in landscaped areas and 150 mm below sub-grade under pavements and slabs.

3.13 SOIL FILL

.1 Plough, scarify, bench, or break up sloped surfaces steeper than 1 vertical to 4 horizontals so fill material will bond with existing material.

.2 Place soils fill on sub-grades free of mud, frost, snow, or ice.

.3 Place and compact fill material in layers to required elevations as follows:

.1 Under grass and planted areas: use satisfactory soil material.

.2 Under walks and pavements: use satisfactory soil material.

.3 Under steps and ramps: use engineered fill.

.4 Under building slabs: use engineered fill.

.5 Under footings and foundations: use engineered fill.

3.14 SOIL MOISTURE CONTROL

.1 Uniformly moisten or aerate sub grade and each subsequent fill or backfill soil layer before compaction to within 2% of optimum moisture content.

.2 Do not place backfill or fill soil material on surfaces that are muddy, frozen, or contain frost or ice.

.3 Remove and replace or scarify and air dry otherwise satisfactory soil material that exceeds optimum moisture content by 2% and is too wet to compact to specified dry unit weight.

3.15 COMPACTION OF SOIL BACKFILLS AND FILLS

.1 The lift thickness used during placement of fills shall be compatible with the compaction equipment and the material type to ensure the specified density throughout. The lift thickness shall not exceed approximately 450 mm for mass filling and 200 mm for backfilling of foundations and services. The maximum particle size shall be no larger than ⅔ of the lift thickness.

.2 Places backfill and fill soil materials evenly on all sides of structures to required elevations, and uniformly along the full length of each structure.

.3 Compact soil materials to not less than 98% Standard Proctor Density to ASTM D698.

.4 Compact areas inaccessible to consolidation by mechanical rollers, and areas within 1500 mm of exterior walls by hand tampers or rollers operated to avoid any damage to existing work.

.5 Compact fill materials to the following percentage of maximum Standard Proctor dry density:

.1 Fill in building areas 100% SPD.

.2 Fill within 0.3 m of paved area subgrade 98% SPD.

.3 Fill below 0.3 m of paved area subgrade 95% SPD.

.4 Landscaped areas 93%.

.6 Where fill is needed below footings, the fill shall be extended laterally beyond the edges of the footings to include a 0.3 m bench and the conventional 1H:1V splay.

.7 Sprinkle material with water where necessary to bring to optimum moisture content so that specified density is achieved.

.8 Proof roll sub grade for exterior slabs and paving prior to placing any granular material.

.9 All soil and all backfill materials must be compacted to 100% SPD under all footings and under full area of floor slab, concrete pads, and pavements.

3.16 SLOPES AND TOE DRAINAGE

.1 Permanent fill slopes shall be 2H:1V, or lower. Ensure that permanent cut slopes are stable at 3H:1V for slope heights of less than 2.0 m. Cut slopes of greater heights will require a 300 mm thick granular blanket or deep rooting vegetation to reinforce the slope. A toe drain or swale shall be provided for drainage at the base of cut slopes.

3.17 GRADING

.1 Building and parking Area Subgrade:

.1 The contractor shall take precautions to avoid disturbance of the site soils or reinstate the material to the required condition. The condition of the subgrade should be reviewed by the geotechnical engineer prior to placement of base gravel.

.2 Uniformly grade areas to a smooth surface, free of irregular surface changes. Comply with compaction requirements and grade to cross sections, lines, and elevations indicated, and as follows:

.1 Provide a smooth transition between adjacent existing grades and new grades.

.2 Cut out soft spots, fill low spots, and trim high spots to comply with required surface tolerances.

.3 Slope grades to direct water away from buildings and to prevent ponding; finish sub- grades to required elevations within the following tolerances:

.1 Lawn or Unpaved Areas: ±35 mm.

.2 Walks: ±25 mm.

.3 Pavements: ±13 mm.

.4 Finish sub grade on interior of building to a tolerance of 13 mm when tested with a 3-metre straightedge.

3.18 SUBSURFACE DRAINAGE

.1 Coordinate and install subsurface drainage systems if subsurface drainage is indicated for the project.

3.19 SUB-BASE AND BASE COURSES

.1 Place sub-base and base course on sub-grades free of mud, frost, snow, or ice.

.2 Place sub-base and base course under pavements and walks on prepared sub grade as follows:

.3 Install separation geotextile on prepared sub grade in accordance with manufacturer's written instructions, overlapping sides and ends.

.4 Place base course material over subbase course under hot mix asphalt pavement.

.5 Shape sub-base and base course to required crown elevations and cross slope grades.

.6 Place sub-base and base course 150 mm or less in compacted thickness in a single layer.

.7 Place sub-base and base course that exceeds 150 mm in compacted thickness in layers of equal thickness, with no compacted layer more than 150 mm thick or less than 75 mm thick.

.8 Compact sub-base and base course at optimum moisture content to required grades, lines, cross sections, and thickness to not less than 100% SPD of maximum dry unit weight in accordance with ASTM D698.

3.20 CAPILLARY BREAK

.1 Place capillary break on sub-grades free of mud, frost, snow, or ice.

.2 On prepared sub-grade, place and compact capillary break under cast in place concrete slabs on grade as follows:

.1 Install geotextile on prepared sub-grade in accordance with manufacturer's written instructions, overlapping sides and ends.

.2 Place capillary break 150 mm or less in compacted thickness in a single layer.

.3 Place capillary break that exceeds 150 mm in compacted thickness in layers of equal thickness, with no compacted layer more than 150 mm thick or less than 75 mm thick.

.4 Compact each layer of capillary break to required cross sections and thicknesses to not less than 95% of maximum dry unit weight in accordance with ASTM D698.

3.21 CONCRETE SLABS – BUILDING, PATIO, EXTERIOR

.1 Supply and install minimum 150 mm thick layer of 1/4"-3/4" Washed Stone, compacted to 100% Standard Proctor Density.

.2 A minimum 50 mm thickness of approved insulation for frost protection of exterior slabs shall be installed; coordinate with Section 07 21 13 - Board Insulation as required to ensure this Work is performed.

3.22 RADON GAS SUCTION PIT

.1 Refer to Drawings.

.2 Radon gas suction pit shall be as noted on the Drawings, and as follows:

.1 Concrete slab.

.2 Radon gas impermeable vapor barrier.

.3 Exterior Grade Douglas Fir, preservative pressure treated, 19mm thick.

.4 190x400x190 concrete block with cavities filled with granular fill to support plywood, 1 at each corner.

.5 IPEX XFR radon exhaust pipe with stack vent carried vertically and through roof to 600mm above roof membrane, complete with rain cap.

.6 Approved granular base to meet radon transmission qualities.

.7 Approved subbase.

.8 Include, supply and install radon gas mitigation products and materials as required, suitable to mitigate as-found conditions. Have testing done to determine the radon gas classification level appropriate to site conditions.

3.23 PADMOUNT EQUIPMENT VEHICLE PROTECTION

.1 Contractor shall construct padmounts in accordance with the Drawings; see electrical drawing set.

.2 Contractor shall Provide all products, materials, tools and equipment, and labour as required to build and install padmounts to NB Power standards, and requirements of authorities having jurisdiction.

3.24 LIGHT STANDARD BASES

.1 Contractor shall supply and install light standards bases as required: Campbells Concrete #C19-2, or approved equivalent. Bases to be installed 5-feet below grade with 30-inches above grade. Coordinate trades as required. Refer to Drawings; see electrical drawing set.

3.25 FIELD QUALITY CONTROL

.1 Third-party inspection of all footing bearing surfaces shall be conducted by experienced geotechnical personnel prior to placement of concrete. Third-party inspection and testing shall also be performed during site grading and backfilling operations.

.2 Notify testing agency to inspect and test sub-grades and each fill or backfill layer; proceed with subsequent earthwork only after test results for previously completed work comply with requirements.

.3 Make compaction tests at following frequencies:

.1 Exterior side of perimeter walls: One test/100 lineal m of compacted lift of backfill.

.2 Within building area under basement and sub-basement floating slabs on grade: one test/1,000 m² of compacted lift of backfill.

.3 Within building area under main floor structural slabs: one test/2,500 m² of compacted lift of backfill.

.4 Under exterior floating concrete slabs: one test/1,000 m² of compacted lift of backfill.

.5 Under exterior structural slabs: one test/2,500 m² of compacted lift of backfill.

.6 Retaining walls: one test/100 lineal m of compacted lift of backfill.

.7 Asphalt pavement subbase: one test/1000 m² of compacted lift of backfill or re-compacted lift of native material.

.8 Asphalt pavement granular base: one test/1000 m² of compacted lift of backfill.

.9 Trenches more than 15 meters in length: 2 density tests per 600 mm of trench depth per 100 m of trench length.

.10 Trenches 15 m or less in length: minimum of 3 density tests evenly spaced through the depth

and length of trench.

.11 Landscaped areas: One test/2,500 m² of compacted lift of backfill.

.4 Scarify and moisten or aerate, or remove and replace soil to depth required; re-compact and re-test until specified compaction is obtained when testing agency reports that sub- grades, fills, or backfills have not achieved degree of compaction specified

3.26 PROTECTION

.1 Protect newly graded areas from traffic, freezing, and erosion; keep free of trash and debris.

.2 Repair and re-establish grades to specified tolerances where completed or partially completed surfaces become eroded, rutted, settled, or where they lose compaction due to subsequent construction operations or weather conditions.Remove finished surfacing, backfill with additional soil material, compact, and reconstruct surfacing where settling occurs before Project correction period elapses; restore appearance, quality, and condition of finished surfacing to match adjacent work, and eliminate evidence of restoration to greatest extent possible.

3.27 RESTORATION

.1 Remove surplus materials and debris, trim slopes, and correct defects noted by Consultant upon completion of work.

.2 Replace topsoil as indicated.

.3 Reinstate pavement, sidewalks, and landscaping to condition and elevation that existed before excavation.

.4 Clean and reinstate areas affected by work as directed by Consultant.

3.28 DISPOSAL OF SURPLUS AND WASTE MATERIALS

.1 Remove surplus satisfactory soil and waste material, including unsatisfactory soil, trash, and debris, and legally dispose of it off property in conformance with province of Prince Edward Island requirements.

3.29 CLEANING

.1 Progress Cleaning: clean in accordance with Section 01 74 11 - Cleaning.

.2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11 - Cleaning.

.3 Waste Management: Separate waste materials for reuse and recycling in accordance with Section 01 74 21 - Construction Waste Management. Remove recycling containers and bins from site and dispose of materials at appropriate facility.

END OF SECTION

Part 1 General

1.1 RELATED REQUIREMENTS

.1 Section 31 00 99 – Common Work Results for Earthworks.

1.2 REFERENCE STANDARDS

.1 U.S. Environmental Protection Agency (EPA)/Office of Water

.1 EPA 832R92005, Storm Water Management for Construction Activities: Developing Pollution Prevention Plans and Best Management Practices.

1.3 DEFINITIONS

.1 Clearing consists of cutting off trees and brush vegetative growth to not more than specified height above ground and disposing of felled trees, previously uprooted trees and stumps, and surface debris.

.2 Close-cut clearing consists of cutting off standing trees, brush, scrub, roots, stumps and embedded logs, removing at, or close to, existing grade and disposing of fallen timber and surface debris.

.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.

.4 Underbrush clearing consists of removal from treed areas of undergrowth, deadwood, and trees smaller than 50 mm trunk diameter and disposing of fallen timber and surface debris.

.5 Grubbing consists of excavation and disposal of stumps and roots boulders and rock fragments of specified size to not less than specified depth below existing ground surface.

1.4 ACTION AND INFORMATIONAL SUBMITTALS

.1 Provide required information in accordance with 01 33 00 - Submittal Procedures.

.2 Product Data:

.1 Submit manufacturer's instructions, printed product literature and data sheets for polyurethane foam sprayed insulation and include product characteristics, performance criteria, physical size, finish and limitations.

.2 Submit 2 copies of WHMIS MSDS in accordance with Section 01 35 29 - Occupational Health and Safety Requirements.

.3 Samples:

.1 Submit 3 samples of each material listed below for approval prior to delivery of materials to project site.

.2 Tree wound paint: one liter can with manufacturer's label.

.4 Submit certificates signed by manufacturer certifying that materials comply with specified performance characteristics and physical properties.

.5 Provide manufacturer's installation instructions.

1.5 QUALITY ASSURANCE

.1 Do construction occupational health and safety in accordance with Section 01 35 29 - Occupational Health and Safety Requirements.

.2 Comply with recommended WHMIS MSDS procedures and personal protection equipment.

1.6 STORAGE AND PROTECTION

.1 Prevent damage to features to remain; for example, fencing, trees, shrubs, landscaping, natural features, benchmarks, existing buildings, existing pavement, utility lines, site appurtenances, water courses, and root systems of trees which are to remain.

.2 Repair damaged items to approval of Consultant.

.3 Replace trees designated to remain, if damaged, as directed by Consultant.

Part 2 Products

2.1 MATERIALS

.1 Bituminous based paint of standard manufacture specially formulated for tree wounds.

.2 Soil Material for Fill:

.1 Excavated soil material: free of debris, roots, wood, scrap material, vegetable matter, refuse, soft unsound particles, deleterious, or objectionable materials.

.2 Remove and store soil material for reuse.

Part 3 Execution

2.2 TEMPORARY EROSION AND SEDIMENTATION CONTROL

.1 Provide temporary erosion and sedimentation control measures to prevent soil erosion and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways, according to sediment and erosion control plan, specific to site, that complies with EPA 832/R-92-005 or requirements of authorities having jurisdiction, whichever is more stringent.

.2 Inspect, repair, and maintain erosion and sedimentation control measures during construction until permanent vegetation has been established.

.3 Remove erosion and sedimentation controls and restore and stabilize areas disturbed during removal.

2.3 PREPARATION

.1 Inspect site and verify with Consultant, items designated to remain.

.2 Locate and protect utility lines: preserve in operating condition active utilities traversing site.

.3 Notify Consultant immediately of damage to or when unknown existing utility lines are encountered.

.4 When utility lines which are to be removed are encountered within area of operations, notify Consultant in ample time to minimize interruption of service.

.5 Notify utility authorities before starting clearing and grubbing.

.6 Keep roads and walks free of dirt and debris.

2.4 APPLICATION

.1 Manufacturer's instructions: comply with manufacturer's written recommendations or specifications, including product technical bulletins, handling, storage and installation instructions, and datasheet.

2.5 CLEARING

.1 All cutting must be saw cut. Mechanical mulching heads are prohibited.

.2 Clearing includes felling, trimming, and cutting of trees into sections and satisfactory disposal of trees and other vegetation designated for removal, including downed timber, snags, brush, and rubbish occurring within cleared areas.

.3 Clear as indicated or directed by Consultant by cutting at height of not more than 300 mm above ground. In areas to be subsequently grubbed, height of stumps left from clearing operations to be not more than 1000 mm above ground surface.

.4 Cut off branches overhanging area cleared as directed by Consultant.

.5 Cut off unsound branches on trees designated to remain as directed by Consultant.

2.6 CLOSE CUT CLEARING

.1 Close cut clearing to ground level.

.2 Perform close cut clearing by hand.

.3 Cut off branches overhanging area cleared as directed by Consultant.

.4 Cut off unsound branches on trees designated to remain as directed by Consultant.

2.7 ISOLATED TREES

.1 Cut off isolated trees as indicated or directed by Consultant at height of not more than 300 mm above ground surface.

.2 Grub out isolated tree stumps.

.3 Prune individual trees as indicated.

.4 Trim trees designated to be left standing within cleared areas of dead branches 4 cm or more in diameter; and trim branches to heights as indicated.

.5 Cut limbs and branches to be trimmed close to bole of tree or main branches.

.6 Paint cuts more than 3 cm in diameter with approved tree wound paint.

2.8 UNDERBRUSH CLEARING

.1 Clear underbrush from areas as indicated at ground level.

2.9 GRUBBING

.1 Remove and dispose of roots larger than 7.5 cm in diameter, matted roots, and designated stumps from indicated grubbing areas.

.2 Grub out stumps and roots to not less than 200 mm below ground surface.

.3 Grub out visible rock fragments and boulders, greater than 300 mm in greatest dimension, but less than 0.25 mü.

.4 Fill depressions made by grubbing with suitable material and to make new surface conform with existing adjacent surface of ground.

2.10 REMOVAL AND DISPOSAL

.1 Remove cleared and grubbed materials off site to disposal area designated by Consultant.

.2 Cut timber greater than 125 mm diameter to approved lengths and stockpile as indicated. Stockpiled timber becomes property of Consultant.

.3 Dispose of cleared and grubbed materials by methods approved by authority having jurisdiction and Consultant.

.4 Bury to approval of Consultant by:

.1 Consolidating.

.2 Covering with minimum 500 mm of mineral soil.

.3 Finishing surface.

.5 Chip or mulch and stockpile cleared and grubbed vegetative material on site as directed by Consultant.

.6 Remove diseased trees identified by Consultant and dispose of this material to approval of Consultant.

.7 Any ash wood materials in the form of wood chips or logs are to be scattered widely, to maximum 75 mm depth as directed by Consultant.

.8 Any ash wood materials or firewood which is removed from the site is to be transported in an enclosed vehicle and disposed of at an authorized disposal facility.

.9 The Contractor is responsible for monitoring all cut ash wood and firewood until it is properly disposed of as determined by Consultant.

2.11 FINISHED SURFACE

.1 Leave ground surface in condition suitable for immediate grading operations or stripping of topsoil to approval of Consultant.

2.12 WASTE MANAGEMENT AND DISPOSAL

.1 Separate waste materials for reuse and recycling in accordance with Section 01 74 21 - Construction Waste Management.

.2 Consider felled timber from which saw logs, pulpwood, posts, poles, ties, or fuel wood can be produced as saleable timber.

.1 Trim limbs and tops and saw into saleable lengths.

.2 Stockpile adjacent to site.

.3 Ash wood mixed with the wood of other species is to all be managed and disposed of as ash wood.

2.13 CLEANING

.1 Progress Cleaning: clean in accordance with Section 01 74 11 - Cleaning. Leave Work area clean at end of each day.

.2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11 - Cleaning. Perform cleaning after installation to remove construction and accumulated environmental dirt.

.3 Manage and dispose of demolition and construction waste materials in accordance with Section 01 74 21 - Construction Waste Management.

2.14 PROTECTION

.1 Protect installed products and components from damage during construction.

.2 Repair damage to adjacent materials caused by Work of this Section.

END OF SECTION

Part 1 General

1.1 RELATED REQUIREMENTS

.1 Section 31 05 99 – Common Work Results for Earthworks.

.2 Section 31 11 00 – Clearing and grubbing.

1.2 REFERENCE STANDARDS

.1 ASTM International.

.1 ASTM D698-12e2, Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (600 kN-m/m3).

.2 Underwriters' Laboratories of Canada (ULC).

Part 2 Products

2.1 MATERIALS

.1 Fill material: to Section 31 05 99 – Common Work Results for Earthworks as approved by Consultant.

.2 Excavated or graded material existing on site suitable to use as fill for grading work if approved by Consultant.

Part 3 Execution

3.1 EXAMINATION

.1 Verification of Conditions: verify that conditions of substrate previously installed under other Sections or Contracts are acceptable for rough grading installation in accordance with manufacturer's written instructions.

.2 Visually inspect substrate in presence of Consultant.

.3 Inform Consultant of unacceptable conditions immediately upon discovery.

.4 Proceed with installation only after unacceptable conditions have been remedied and after receipt of written approval to proceed from Consultant.

3.2 GRADING

.1 Rough grade to levels, profiles, and contours allowing for surface treatment as indicated.

.2 Rough grade to following depths below finish grades:

.1 150 mm for grassed areas.

.2 300 mm for flowerbeds.

.3 400 mm for shrub beds.

.4 600 mm for asphalt paving.

.5 150 mm for gravel paving at pavilions and for crusher dust trails.

.6 350 mm for concrete paving.

.3 Slope rough grade away from building 1:50 minimum.

.4 Grade ditches to depth required for maximum run-off.

.5 Prior to placing fill over existing ground, scarify surface to depth of 150 mm minimum before placing fill over existing ground. Maintain fill and existing surface at approximately same moisture

content to facilitate bonding.

.6 Compact filled and disturbed areas to maximum dry density to ASTM D698, as follows:

.1 85% under landscaped areas.

.2 95% under paved and walk areas.

.7 Do not disturb soil within branch spread of trees or shrubs to remain.

3.3 CLEANING

.1 Progress Cleaning: clean in accordance with Section 01 74 11 - Cleaning. Leave Work area clean at end of each day.

.2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11 - Cleaning. Perform cleaning after installation to remove construction and accumulated environmental dirt.

.3 Manage and dispose of demolition and construction waste materials in accordance with Section 01 74 21 - Construction Waste Management.

3.4 PROTECTION

.1 Protect installed products and components from damage during construction.

.2 Repair damage to adjacent materials caused by Work of this Section.

END OF SECTION

PART 1 - GENERAL

1.1 Work Included

.1 This section specifies requirements for furnishing all materials, labour, tools and equipment and performing all operations necessary to complete excavation of all types of material encountered, placing of excavated material as backfill in trenches and embankments, disposal of unsuitable and surplus material and furnishing backfill material as specified below, all as shown on the drawings and as specified; see also Section 31 22 13 - Rough Grading.

.2 The work generally includes, but is not necessarily limited to the following items:

.1 Trench excavation and backfilling for pipelines and appurtenances.

.2 Structure excavation and backfilling.

.3 Control of water by dewatering.

.4 Providing borrow material when required.

.5 Removal and disposal of surplus and/or unsuitable material.

.6 Sheeting, shoring, trench box and bracing to support trench walls, sides of excavations, existing structures, or utilities.

.7 Stripping, stockpiling, and replacing topsoil.

1.2 Protection of Existing Features

.1 Existing buried utilities and structures.

.2 Size, depth and location of existing utilities and structures as indicated on the drawings are for guidance only. Completeness and accuracy are not guaranteed.

.3 Prior to commencing any excavation work, notify applicable Departmental Representative or authorities, establish location and state of use of buried utilities and structures. Clearly mark such locations to prevent disturbance during work.

.4 Confirm locations of buried utilities by careful test excavations.

.5 Maintain and protect from damage, water, sewer, gas, electric, telephone and other utilities and structures encountered as indicated. Obtain direction of Departmental Representative before moving or otherwise disturbing utilities or structures.

.6 Advise Departmental Representative to remove or re-route existing lines in area of excavation not otherwise on drawings. Pay costs for such work.

.7 Existing buildings and surface features.

.8 Conduct, with Departmental Representative condition survey of existing buildings, trees and other plants, lawns, fencing, service poles, wires, and paving, survey benchmarks and monuments which may be affected by work at no additional cost.

.9 Protect existing buildings and surface features which may be affected by work from damage while work is in progress and repair damage resulting from work.

.10 Where excavation necessitates root or branch cutting, do so only as approved by Departmental Representative.

1.3 Support of Excavation

.1 Suitably slope or properly shore sides of excavations according to site conditions, all in accordance with the Provincial Safety Act. Provide use of support as considered necessary.

.2 The choice of any method of support shall be the responsibility of the Contractor. However, drawings and calculations for the method of support selected, including trench boxes, designed by a qualified professional engineer in accordance with the Provincial safety requirements, are to be submitted to the Departmental Representative for information prior to its use.

.3 If it is desirable that any support, other than that which may be shown on the drawings, be left in the excavations, then the Departmental Representative will issue instructions accordingly.

.4 Take every precaution against slips or falls, but if any should occur, at once make good the same. If any such slip or fall affects or may affect the stability of the permanent work, execute such remedial work as necessary, including filling up of any space left by the slip or fall with approved granular material.

1.4 Samples

.1 At least 1 week prior to commencing work, inform Departmental Representative of proposed source of fill materials and provide access for sampling.

.2 Submit samples in accordance with Section 01 33 00 Submittal Procedures.

PART 2 - PRODUCTS

2.1 Materials

.1 Type 1 fill: Granular Class A as per Department of Transportation, Infrastructure & Energy, Division 401 (Imported).

.2 Type 2 fill: Select Borrow: Select Borrow shall be non-plastic and composed of clean, uncoated particles free from lumps of clay or other deleterious material with a maximum particle size of 100mm and a maximum of 30% of the material passing the 4.75mm sieve shall pass the 75mm sieve.

.3 Type 3 fill: clean, washed, coarse sand free from clay shale and organic matter.

Clean Sand Gradation

Sieve size	Percent Passing
10 mm	**100**
2.5 mm	**80-90**
0.630 mm	**25-75**
0.315 mm	**10-35**
0.160 mm	**10-17**
0.075 mm	**0-5**

.4 Type 4 fill: Common Fill Selected material from excavation or other sources, approved by the Departmental Representative for use intended, unfrozen and free from rocks larger than 75mm, cinders, ashes, sods, refuse or other deleterious material.

PART 3 - EXECUTION

3.1 Site Preparation

.1 Remove obstructions, ice and snow, from surfaces to be excavated within limits indicated.

.2 Strip topsoil from within limits of excavation and stockpile as directed by Departmental Representative, for respreading after backfilling.

.3 Cut pavement or sidewalk neatly along limits of proposed excavation in order that surface may break evenly and cleanly.

3.2 Stockpiling

.1 Stockpile fill materials in areas designated by Departmental Representative.

.2 Stockpile granular materials in manner to prevent segregation.

.3 Protect fill materials from contamination.

3.3 Dewatering

.1 Keep excavations free of water while work is in progress.

.2 Protect open excavations against flooding and damage due to surface run- off.

.3 Dispose of water in a manner not detrimental to public and private property, or any portion of work completed or under construction.

3.4 Excavation

.1 Excavate to lines, grades, elevations and dimensions indicated or as directed by Departmental Representative.

.2 Excavate in all kinds of materials encountered and make own computations of amounts and nature of excavation required.

.3 Remove concrete masonry paving walks demolished foundations and rubble and other obstructions encountered during excavation.

.4 Excavation must not interfere with normal 45° splay of bearing from bottom of any footing.

.5 Do not disturb soil within branch spread of trees or shrubs that are to remain. If excavating through roots, excavate by hand and cut roots with sharp axe or saw. Seal cuts with approved tree wound dressing.

.6 For trench excavation, unless otherwise authorized by Departmental Representative in writing, do not excavate more than 30 m(60ft) of trench in advance of installation operations and do not leave open more than 15 m(30ft) at end of day's operation.

.7 Dispose of surplus and unsuitable excavated material off site.

.8 Do not obstruct flow of surface drainage or natural watercourses.

.9 Earth bottoms of excavations to be undisturbed soil, level, free from loose, soft or organic matter.

.10 Notify Departmental Representative when soil at bottom of excavation appears unsuitable and proceed as directed by Departmental Representative.

.11 Remove unsuitable material from trench bottom to extent and depth directed by Departmental Representative.

.12 Where required due to unauthorized over- excavation, correct as follows:

.13 Fill under bearing surfaces and footings with concrete specified for footings.

.14 Fill under other areas with Type 3 fill compacted to minimum of 98% corrected maximum dry density. (SPMDD)

.15 Hand trim make firm and remove loose material and debris from excavations. Where material at bottom of excavation is disturbed, compact foundation soil to density at least equal to undisturbed soil. Clean out rock seams and fill with concrete mortar or grout to approval of Departmental Representative.

.16 Obtain Departmental Representative’s approval of completed excavation.

3.5 Excavation and Backfilling Required For Other Trades

.1 Excavate trenches to lines and grades shown to a minimum of 150 mm (6") below underside of pipe, conduit, cable, or duct.

.2 Provide recesses for bell and spigot pipe to ensure bearing will occur along barrel of pipe.

.3 Cut trenches 600 mm (24") wide (or wider where indicated) than maximum pipe width. Trim and shape trench bottoms and leave free of irregularities, lumps, or projections.

3.6 Fill Types and Compaction

.1 Use fill of types as indicated or specified below. Unless otherwise specified, compact to following densities:

.1 Type 1: 100% corrected maximum dry density.

.2 Type 2: 100% corrected maximum dry density.

.3 Type 3: 100% corrected maximum dry density.

.4 Type 4: 95% corrected maximum dry density.

.2 Exterior side of perimeter walls: Use Type 3 fill to subgrade level.

.3 Within building area: Use Type 2 to underside of base course for floor slabs.

.4 Under Light Duty Asphalt Paving:

.1 Provide minimum 150mm Type 1 fill to underside of asphalt.

.2 Provide minimum 300mm Type 2 fill from compacted subgrade to underside of Type 1 fill specified above and as indicated.

.5 Under Interior Concrete Slab-on-grade:

.1 Provide minimum 100mm base course of Type 1 fill to underside of concrete.

.6 Underground services within building area:

.1 Cradle half diameter of pipe or conduit using Type 3 fill. After pipe or conduit is in place cover with Type 2 fill to underside of sand base course for floor slabs.

.1 Compact bedding and cover to 98% density

.2 Notify Departmental Representative prior to backfilling of trenches.

.7 Underground services outside building area:

.1 Trench preparation:

.1 Trench shall be true to the alignment and depth required and only so far in advance of the pipe laying as directed.

.2 The minimum width of trench shall be 600mm greater than the normal diameter of pipe.

.3 Pipe trench shall be shaped to give even bearing for length of pipe.

.4 Boulders and rock shall be removed or excavated to provide a clearance of at least 150mm below pipe.

.2 Trench Bottom Preparation:

.1 Where required due to removal of unsuitable material or unauthorized over-excavation, bring bottom of excavation to design grade with approved material.

.2 Compact trench bottom to density at least equal to density of adjacent surrounding soil.

.3 Pre-Installation Inspection:

.1 Excavations require inspection and approval prior to commencement of installation operations.

.4 Pipe / Conduit Bedding:

.1 Bedding for sanitary sewer to be Type 3 fill compacted to 95% standard proctor from 150 mm below pipe invert to 300 mm above the top of pipe.

.5 Use Type 4 fill to rough grade for pipe or conduit cover:

.1 In non-pavement areas: to a density of 95% standard proctor density.

.2 In Pavement areas: compact to 100% standard proctor density and provide 600mm of Type 2 fill and 150mm of Type 1 fill under asphalt surface.

.8 Sites backfill under seeded and sodded areas:

.1 Use Type 4 fill material to bring exterior site up to rough grades required or as indicated.

3.7 Backfilling

.1 Do not proceed with backfilling operations until Departmental Representative has inspected and approved installations.

.2 Areas to be backfilled to be free from debris, snow, ice, water, or frozen ground.

.3 Do not use backfill material which is frozen or contains ice, snow, or debris.

.4 Backfilling around installations.

.1 Place bedding and surround material as specified elsewhere.

.2 Do not backfill around or overcast-in- place concrete within 24 h after placing.

.3 Place layers simultaneously on both sides of installed work to equalize loading.

.4 Where temporary unbalanced earth pressures are liable to develop on walls or other structures:

.1 Permit concrete to cure for minimum 14 days or until it has sufficient strength to withstand earth and compaction pressure and approval obtained from Departmental Representative or:

.2 If approved by Departmental Representative erect bracing or shoring to counteract unbalance and leave in place until removal is approved by Departmental Representative.

.5 Place material by hand under, around and over installations until 600 mm of cover is provided. Dumping material directly on installations will not be permitted.

.5 Place backfill material in uniform layers not exceeding 150 mm compacted thickness up to grades indicated. Compact each layer before placing succeeding layer.

3.8 Backfilling Trenches

.1 Backfill trench from top of bedding to top of grades indicated using materials shown on drawings.

.2 Place backfill in 300 mm horizontal layers and compact to 95% Standard Proctor density except to 100% Standard Proctor density under existing or proposed asphalt. Thoroughly compact each layer before placing next layer. Carry out compaction tests to demonstrate the effectiveness of backfill thickness per lift versus the number of passes with the selected equipment to achieve the specified compaction.

.3 During backfilling always keep trenches free of water and controlled so as to prevent surface water running into excavated areas. Remove silty materials which become wetted and subsequently liquid or extremely plastic

3.9 Restoration

.1 Upon completion of work, remove surplus materials and debris, trim slopes, and correct defects noted by Departmental Representative.

.2 Replace topsoil as indicated or directed by Departmental Representative. Reseed grass or sod as indicated.

.3 Clean and reinstate areas affected by work as directed by Departmental Representative.

END OF SECTION

Part - 1 General

1.1 Related Work

.1 Excavation, Trenching and Backfilling: Section 31.22.13.00

.2 Sanitary Sewers Section 33.31.139

1.2 Material Certification

.1 At least 2 weeks prior to commencing work, submit manufacturer's test data and certification that material meet requirements of this section. Include manufacturer's drawings, information, and shop drawings where pertinent.

Part - 2 Products

2.1 Materials

.1 All storm manholes and catchbasins shall be constructed of precast concrete sections as per ASTM C478, “Standard Specification for Precast Reinforced Concrete Manhole Sections.”

.2 Concrete for manhole and catchbasin construction, pipe protection, etc. shall conform to the latest CSA Specification A 23 "Standards for Concrete and Reinforced Concrete".

.3 Joints between manhole and catchbasin sections shall be RAMNEK gasket capable of achieving the degree of water tightness required by the test parameters.

.4 For “O” ring gasketed joints, a sufficient quantity of lubricant shall be included.

.5 Precast manhole and catchbasin sections shall conform to the dimensions and requirements shown on the plans, and sketches. Base section to be precast.

.6 All manholes and catchbasins shall be supplied with a minimum of 300mm of grade rings included in the total depth to allow for final height adjustment in the field.

.7 Drop manholes shall be precast integral sections from an approved supplier, if specified.

.8 The following precast catchbasins and manholes are approved for use:

.1 Campbell’s Concrete Ltd.

.2 Shaw Ltd.

.9 Frames and Covers

.1 Round catch basin frames and covers shall be IMP R-11, 600 mm diameter not less than 140 kg mass.

.2 Round manhole frames and covers shall be Standard Heavy Duty IMP R-10, 600 mm diameter not less than 145 kg mass.

.3 Adjustments to manhole and catch basin tops shall only be made using precast reinforced grade rings.

.10 Waterproof Membrane type Blueskin by Henry Company (O.A.E.)

Part - 3 Execution

3.1 Excavation and Backfill

.1 Excavate and backfill in accordance with Section 31.22.13.00.

.2 Before installing manholes, ensure that it is in the proper location and elevation.

3.2 Installation

.1 For Precast Units:

.2 Set bottom section of precast unit on 300 mm of granular base. Make each successive joint watertight with approved rubber ring gasket.

.3 Plug lifting holes with concrete plugs set in cement mortar or mastic compound.

.4 Installing units in existing system

.5 Where a new unit is to be installed in an existing run of pipe, ensure full support of existing pipe during installation, and carefully remove that portion of existing pipe to dimensions required and install new unit as specified.

.6 Make all joints watertight between new unit and existing pipe.

.7 Where deem expedient to maintain service around existing pipes and when system constructed under this project are ready to be put in operation, complete installation with appropriate breakouts, removals, redirections of flow, blocking unused pipes or other necessary work.

.8 Place frame and cover on top section to elevation indicated. If adjustment is required, use concrete ring.

.9 Clean units of debris and foreign materials. Remove fins and sharp projections. Prevent debris from entering system.

.10 Cover all structures with a water proof membrane such as Blueskin O.A.E.

3.3 Testing

.1 The Contractor is to ensure that the manholes and catch basins are watertight.

.2 All incoming and outgoing sewers and service lines shall be plugged, the plugs restrained, and the vacuum tester head placed on the manhole frame and sealed. A vacuum of 250 mm Hg shall then be drawn on the manhole and the time measured for the vacuum to drop to 225 mm Hg. This time shall not be less than 40 seconds for manhole diameters up to 1200 mm. For manholes deeper than 6 m, the test times shall be increased by 2 seconds per 300 mm of additional manhole depth.

.3 Backfill prior to testing.

.4 Notify Engineer 48 hours in advance of proposed test. Do test in presence of Engineer.

.5 Locate and repair defects if test fails. Retest.

.6 Repair visible leaks regardless of test results.

END OF SECTION

Part 1 General

1.1 RELATED REQUIREMENTS

.1 Section 31 05 99 - Common Work Results for Earthworks.

.2 Section 31 23 33.01 - Excavating, Trenching and Backfilling.

.3 Section 32 11 23 - Aggregate Base Courses.

.4 Section 32 12 16 - Asphalt Concrete Pavement for Building Sites.

.5 Section 32 16 15 - Concrete Pads, Sidewalks and Curbs.

.6 Drawings.

1.2 REFERENCES

.1 ASTM International (ASTM)

.1 ASTM C117-13, Standard Test Method for Materials Finer than 75-µm (No. 200) Sieve in Mineral Aggregates by Washing.

.2 ASTM C131/C131M-14, Standard Test Method for Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine.

.3 ASTM C136/C136M-14, Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates.

.4 ASTM D422-63(2007) e2, Standard Test Method for Particle-Size Analysis of Soils.

.5 ASTM D698-12e2, Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft3 (600 kN-m/m3)).

.6 ASTM D1557-12e1, Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft3 (2,700 kN-m/m3)).

.7 ASTM D1883-16, Standard Test Method for California Bearing Ratio (CBR) of Laboratory-Compacted Soils.

.8 ASTM D4318-10e1, Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils.

.2 U.S. Environmental Protection Agency (EPA) / Office of Water

.1 EPA 832/R-92-005, Storm Water Management for Construction Activities: Developing Pollution Prevention Plans and Best Management Practices.

1.3 ACTION AND INFORMATIONAL SUBMITTALS

.1 Submit in accordance with Section 01 33 00 - Submittal Procedures.

.1 Submit sieve and compaction test results.

.2 Certificates:

.1 Submit granular material supplier's laboratory tests results confirming materials at site meet requirements of Contract.

1.4 DELIVERY, STORAGE AND HANDLING

.1 Deliver, handle, store and protect materials in accordance with Section 01 61 00 - Common Product Requirements. Protect from weather as required.

Part 2 Products

2.1 MATERIALS

.1 Obtain materials locally to extent possible.

.2 Granular sub-base material: in accordance with Section 31 05 00 - Common Work Results for Earthworks and following requirements.

.1 Crushed, pit run or screened stone, gravel, or sand.

.2 Gradations to be within limits specified when tested to ASTM C136.

.3 Table:

Class B Granular Sub-Base

Sieve	Percent Passing - Type 1	Percent Passing - Type 2
150 mm	100	n/a
106 mm	n/a	100
37.5 mm	n/a	n/a
26.5 mm	50-100	50-100
19.0 mm	n/a	n/a
13.2 mm	n/a	n/a
9.5 mm	n/a	n/a
4.75 mm	20-100	20-55
1.18 mm	10-100	10-40
300 µm	2-65	5-22
150 µm	n/a	n/a
75 µm	0-8.0	0-10.0

Note: when Class B is used for granular backfill for pipe sub-drains, 100% shall pass 37.5 mm sieve.

.4 Other properties as follows:

.1 Liquid Limit: to ASTM D4318, Maximum 25.

.2 Plasticity Index: to ASTM D4318, Maximum 6.

.3 Los Angeles degradation: to ASTM C131.

.1 Maximum loss by mass: 40%.

.4 Particles smaller than 0.02 mm: to ASTM D422, Maximum 3%.

.5 Soaked CBR: to ASTM D1883, minimum 40 when compacted to 100% of ASTM D1557.

Part 3 Execution

3.1 EXAMINATION

.1 Verification of Conditions: verify conditions of substrate previously installed under other Sections or Contracts are acceptable for granular sub-base installation in accordance with manufacturer's written instructions.

.1 Visually inspect substrate in presence of Consultant.

.2 Inform Consultant of unacceptable conditions immediately upon discovery.

.3 Proceed with installation only after unacceptable conditions have been remedied and after receipt of written approval to proceed from Consultant.

3.2 PREPARATION

.1 Temporary Erosion and Sedimentation Control:

.1 Provide temporary erosion and sedimentation control measures to prevent soil erosion and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways, according to sediment and erosion control plan, specific to site, that complies with EPA 832/R-92-005 or requirements of authorities having jurisdiction, whichever is more stringent.

.2 Inspect, repair, and maintain erosion and sedimentation control measures during construction until permanent vegetation has been established.

.3 Remove erosion and sedimentation controls and restore and stabilize areas disturbed during removal.

3.3 PLACING

.1 Place granular sub-base after subgrade is inspected and approved by Consultant.

.2 Construct granular sub-base to depth and grade in areas indicated.

.3 Ensure no frozen material is placed.

.4 Place material only on clean unfrozen surface, free from snow or ice.

.5 Begin spreading sub-base material on crown line or high side of one-way slope.

.6 Place granular sub-base materials using methods which do not lead to segregation or degradation.

.7 For spreading and shaping material, use spreader boxes having adjustable templates or screeds which will place material in uniform layers of required thickness.

.8 Place material to full width in uniform layers not exceeding 150 mm compacted thickness.

.9 Consultant may authorize thicker lifts if specified compaction can be achieved.

.10 Shape each layer to smooth contour and compact to the specified density before succeeding layer is placed.

.11 Remove and replace portion of layer in which material has become segregated during spreading.

3.4 COMPACTION

.1 Compaction equipment to be capable of obtaining required material densities.

.2 Efficiency of equipment not specified to be proved at least as efficient as specified equipment at no extra cost and written approval must be received from Consultant before use.

.3 Equipped with device that records hours of actual work, not motor running hours.

.4 Compact to density of not less than 98% maximum dry density in accordance with ASTM D698.

.5 Shape and roll alternately to obtain smooth, even and uniformly compacted sub-base.

.6 Apply water as necessary during compaction to obtain specified density.

.7 In areas not accessible to rolling equipment, compact to specified density with mechanical tampers approved by Consultant.

.8 Correct surface irregularities by loosening and adding or removing material until surface is within specified tolerance.

3.5 PROOF ROLLING

.1 Locations: proof roll only at areas receiving asphalt or concrete pavement.

.2 For proof rolling use standard roller of 45,400 kg gross mass with four pneumatic tires each carrying 11350 kg and inflated to 620 kPa. Four tires arranged abreast with centre to centre spacing of 730 mm maximum.

.3 Obtain written approval from Consultant to use non-standard proof rolling equipment.

.4 Proof roll at level in sub-base.

.1 If non-standard proof rolling equipment is approved, Consultant will determine level of proof rolling.

.5 Make sufficient passes with proof roller to subject every point on surface to three separate passes of loaded tire.

.6 Where proof rolling reveals areas of defective subgrade:

.1 Remove sub-base and subgrade material to depth and extent as directed by Consultant.

.2 Backfill excavated subgrade with common material and compact in accordance with Section 31 05 00 - Common Work Results for Earthworks sub-base material and compact in accordance with this section.

.3 Replace sub-base material and compact.

.7 Where proof rolling reveals areas of defective sub-base, remove and replace in accordance with this section at no extra cost.

3.6 SITE TOLERANCES

.1 Finished sub-base surface to be within 10 mm of elevation as indicated but not uniformly high or low.

3.7 CLEANING

.1 Progress Cleaning: clean in accordance with Section 01 74 11 - Cleaning. Leave Work area clean at end of each day.

.2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11 - Cleaning. Perform cleaning after installation to remove construction and accumulated environmental dirt.

.3 Manage and dispose of demolition and construction waste materials in accordance with Section 01 74 21 - Construction Waste Management.

3.8 PROTECTION

.1 Maintain finished sub-base in condition conforming to this section until succeeding base is constructed, or until granular sub-base is accepted by Consultant.

.2 Protect installed products and components from damage during construction.

.3 Repair damage to adjacent materials caused by Work of this Section.

END OF SECTION

Part 1 General

1.1 RELATED REQUIREMENTS

.1 Section 31 05 99 - Common Work Results for Earthworks.

.2 Section 31 23 33.01 - Excavating, Trenching and Backfilling.

.3 Section 32 11 16.01 - Granular Sub-Base.

.4 Section 32 12 16 - Asphalt Concrete Pavement for Building Sites.

.5 Section 32 16 15 - Concrete Pads, Sidewalks and Curbs.

.6 Drawings.

1.2 REFERENCES

.1 ASTM International (ASTM)

.1 ASTM C117-13, Standard Test Method for Materials Finer than 75-µm (No. 200) Sieve in Mineral Aggregates by Washing.

.2 ASTM C131/C131M-14, Standard Test Method for Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine.

.3 ASTM C136/C136M-14, Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates.

.4 ASTM D422-63(2007)e2, Standard Test Method for Particle-Size Analysis of Soils.

.5 ASTM D698-12e2, Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft3 (600 kN-m/m3)).

.6 ASTM D1557-12e1, Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft3 (2,700 kN-m/m3)).

.7 ASTM D1883-16, Standard Test Method for California Bearing Ratio (CBR) of Laboratory-Compacted Soils.

.8 ASTM D4318-10e1, Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils.

.2 U.S. Environmental Protection Agency (EPA) / Office of Water

.1 EPA 832/R-92-005, Storm Water Management for Construction Activities: Developing Pollution Prevention Plans and Best Management Practices.

1.3 ACTION AND INFORMATIONAL SUBMITTALS

.1 Submit in accordance with Section 01 33 00 - Submittal Procedures.

.2 Submit sieve test results and compaction tests results.

1.4 DELIVERY, STORAGE AND HANDLING

.1 Deliver, handle, store and protect materials in accordance with Section 01 61 00 - Common Product Requirements.

.1 Stockpile minimum 50% of total aggregate required prior to beginning operation.

.2 Store materials off ground in dry location, and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.

.3 Replace defective or damaged materials with new.

.4 Store cement in weathertight bins or silos that provide protection from dampness and easy access for inspection and identification of each shipment.

Part 2 Products

2.1 MATERIALS

.1 Granular base: material in accordance with Section 31 05 00 – Common Work Results for Earthworks, and following requirements:

.1 Crushed stone or gravel.

.2 Gradations to be within limits specified when tested to ASTM C136.

.3 Table:

Class A Granular Base

Sieve	Percent Passing
150 mm	n/a
106 mm	n/a
37.5 mm	n/a
26.5 mm	100
19.0 mm	85-100
13.2 mm	65-90
9.5 mm	50-73
4.75 mm	35-55
1.18 mm	15-40
300 µm	5-22
150 µm	n/a
75 µm	2.0-8.0

.4 Other properties as follows:

.1 Liquid limit: to ASTM D4318, maximum 25

.2 Plasticity index: to ASTM D4318, maximum 6.

.3 Los Angeles degradation: to ASTM C131:

.1 Max. % loss by weight: 45.

.4 Crushed particles: at least 60% of particles by mass within each of following sieve designation ranges to have at least 1 freshly fractured face. Material to be divided into ranges using methods of ASTM C136.

Passing		Retained on
50 mm	to	25 mm
25 mm	to	19.0 mm
19.0 mm	to	4.75 mm

.5 Soaked CBR: to ASTM D1883, minimum 80, when compacted to 100% of ASTM D1557.

Part 3 Execution

3.1 PREPARATION

.1 Temporary Erosion and Sedimentation Control:

.1 Provide temporary erosion and sedimentation control measures to prevent soil erosion and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways, according to sediment and erosion control plan, specific to site, that complies with EPA 832/R-92-005 or requirements of authorities having jurisdiction, whichever is more stringent.

.2 Inspect, repair, and maintain erosion and sedimentation control measures during construction until permanent vegetation has been established.

.3 Remove erosion and sedimentation controls and restore and stabilize areas disturbed during removal.

3.2 PLACEMENT AND INSTALLATION

.1 Place granular base after sub-base surface is inspected and approved in writing by Consultant.

.2 Placing:

.1 Construct granular base to depth and grade in areas indicated.

.2 Ensure no frozen material is placed.

.3 Place material only on clean unfrozen surface, free from snow and ice.

.4 Begin spreading base material on crown line or on high side of one-way slope.

.5 Place material using methods which do not lead to segregation or degradation of aggregate.

.6 For spreading and shaping material, use spreader boxes having adjustable templates or screeds which will place material in uniform layers of required thickness.

.7 Place material to full width in uniform layers not exceeding 150 mm compacted thickness.

.8 Consultant may authorize thicker lifts (layers) if specified compaction can be achieved.

.9 Shape each layer to smooth contour and compact to the specified density before succeeding layer is placed.

.10 Remove and replace that portion of layer in which material becomes segregated during spreading.

.3 Compaction Equipment:

.1 Ensure compaction equipment is capable of obtaining required material densities.

.2 Efficiency of equipment not specified to be proved at least as efficient as specified equipment at no extra cost and written approval must be received from Consultant before use.

.3 Equipped with device that records hours of actual work, not motor running hours.

.4 . Compacting:

.1 Compact to density not less than 100% maximum dry density to ASTM D698.

.2 Shape and roll alternately to obtain smooth, even and uniformly compacted base.

.3 Apply water as necessary during compacting to obtain specified density.

.4 In areas not accessible to rolling equipment, compact to specified density with mechanical tampers approved in writing by Consultant.

.5 Correct surface irregularities by loosening and adding or removing material until surface is within specified tolerance.

.5 Proof Rolling:

.1 For proof rolling use standard roller of 45,400 kg gross mass with four pneumatic tires each carrying 11,350 kg and inflated to 620 kPa. Four tires arranged abreast with centre to centre spacing of 730 mm.

.2 Obtain written approval from Consultant to use non-standard proof rolling equipment.

.3 Proof roll at level in granular base as indicated.

.1 If use of non-standard proof rolling equipment is approved, Consultant to determine level of proof rolling.

.4 Make sufficient passes with proof roller to subject every point on surface to three separate passes of loaded tire.

.5 Where proof rolling reveals areas of defective subgrade:

.1 Remove base, sub-base and subgrade material to depth and extent as directed by Consultant.

.2 Backfill excavated sub-grade with common material and compact in accordance with Section 31 05 00 - Common Work Results for Earthworks sub-base material and compact in accordance with Section 32 11 16.01 - Granular Sub-Base.

.3 Replace sub-base material and compact in accordance with Section 32 11 16.01 - Granular Sub-base.

.4 Replace base material and compact in accordance with this Section.

.6 Where proof rolling reveals defective base or sub-base, remove defective materials to depth and extent as directed by Consultant and replace with new materials in accordance with Section 32 11 16.01 - Granular Sub-base and this section at no extra cost.

3.3 SITE TOLERANCES

.1 Finished base surface to be within plus or minus 10 mm of established grade and cross section but not uniformly high or low.

3.4 CLEANING

.1 Progress Cleaning: clean in accordance with Section 01 74 11 - Cleaning. Leave Work area clean at end of each day.

.2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11 - Cleaning. Perform cleaning after installation to remove construction and accumulated environmental dirt.

.3 Manage and dispose of demolition and construction waste materials in accordance with Section 01 74 21 - Construction Waste Management.

3.5 PROTECTION

.1 Protect installed products and components from damage during construction.

.2 Repair damage to adjacent materials caused by Work of this Section.

END OF SECTION

Part 1 - General

1.1 General

.1 Keep vehicular traffic off newly paved areas until paving surface temperature has cooled below 38°C. Do not permit stationary loads on pavement until 24 hours after placement.

1.2 Scope

.1 This Section shall cover the supply of labour, material and equipment required to provide asphaltic concrete for all the areas indicated on the site plan as being asphalt.

1.3 Layout

.1 The General Contractor shall be responsible for laying out all asphalt areas and confirming existing grades are as indicated on the Site Plan.

1.4 Fine Grading

.1 Excavate and remove any material required to allow the placing of the select borrow and gravel base at the proper elevation.

Part 2 - Products

2.1 Materials

.1 All materials to be according to PEI Department of Transportation and Public Works General Provisions and Contract Specifications for Highway Construction, Current Edition.

.2 Tack coat and asphalt cement shall be as per PEI DOTPW Specifications, Division 500.Grade of asphalt shall be as recommended and accepted by DOTPW.

.3 Asphaltic material: hot mixed, hot laid combination of mineral aggregates, uniformly coated and mixed with an asphaltic binder in a suitable mixing plant. Asphaltic materials and aggregates shall meet the requirements of Section 603 of the Prince Edward Island of Transportation and Public Works Specification.

.4 Composition of mixture: to grading and asphalt content requirements in Table 4, Section 603 of the Prince Edward Island Department of Transportation and Public Works Specification. Base course asphalt shall be Mix Type A, thickness shown on drawings. Seal course asphalt shall be Mix Type C, thickness shown on drawings.

.5 Class A granular Material in accordance with Section 401 of the Prince Edward Island of Transportation and Public Works Specification.

.6 Select Borrow in accordance with Section 206 of the Prince Edward Island of Transportation and Public Works Specification.

Part 3 - Execution

3.1 General

.1 Coordinate with the geotechnical engineer to carry out the Department of Transportation and Public Works construction control testing requirements and ensure compliance with the General Provisions and Contract Specifications for Highway Construction. Have the geotechnical engineer issue Certification of Compliance.

3.2 Subgrade Surface Preparation and Inspection

.1 Verify grades of granular sub-base and base before placing asphalt.

.2 Finish base surface to be within 10 mm of specified grade, but not uniformly high or low.

3.3 Asphalt Concrete Paving

.1 Supply and place premium borrow to Public Works specifications as indicated on drawings, compacted to 98% standard proctor.

.2 Supply and place the Class “A” granular material for the base course as indicated on drawings, compacted to 100% standard proctor.

.3 Fine grade and compact the gravel base course in accordance with Section 208 and Section 209 “General Provisions and Contract Specifications for Highway Construction.”

.4 Place tack coat to requirements as outlined in Section 601 “General Provisions and Contract Specifications for Highway Construction.”

.5 Supply and place hot mix asphaltic concrete base and seal materials to requirements as outlined in Section 603 of “General Provisions and Contract Specifications for Highway Construction.”

.6 The asphaltic concrete shall be finished to the following limits:

.1 Slope: Per finish contour lines and spot elevations +/- 25 mm.

.2 No irregularities greater than 3 mm in 3 m.

.3 Thickness: +/- 6 mm for the base course and +/- 3 mm for the surface course.

.4 All asphalt shall be sloped such that water does not pond.

.7 Repair areas showing checking, rippling or segregation as directed by Engineer.

3.4 Joints

.1 Remove surplus material form surface of previously laid strip. Do not deposit on surface of freshly laid strip.

.2 Paint contact surfaces of existing structures such as manholes, curbs or gutters with bituminous material prior to placing adjacent pavement.

.3 For cold joints, cut back to full depth vertical face and tack face with hot asphalt.

.4 For longitudinal joints, overlap previously laid strip with spreader by 25 to 50 mm.

.5 Cold plane existing asphaltic concrete across the width of existing and new asphalt interface as directed on drawings.

3.5 Workmanship

.1 The work shall be completed to the satisfaction of the Owner’s Engineer according to the above Specifications. Any areas which do not meet the Specification are to be cut out and replaced as directed.

3.6 Cleanup

.1 Clean up and remove from the premises, rubbish and surplus materials resulting from the work of this Section.

3.7 Testing

.1 Inspection and testing of asphalt pavement will be carried out by designated testing laboratory.

.2 Asphalt pavement shall meet or exceed 92% of the mean maximum theoretical relative density.

.3 Costs of test will be paid for by Owner.

3.8 Protection

.1 Keep vehicular traffic off newly paved areas until paving surface temperature has cooled below 38° C. Do not permit stationary loads on pavement until 24 h after placement.

.2 Provide access to buildings as required. Arrange paving schedule so as not to interfere with other work.

END OF SECTION

Part 1 General

1.1 RELATED REQUIREMENTS

.1 Section 32 12 16 - Asphalt Concrete Pavement for Building Sites.

1.2 REFERENCES

.1 ASTM International (ASTM)

.1 ASTM D4797-17, Standard Test Methods for Gravimetric Analysis of White and Yellow Thermoplastic Traffic Marking.

.2 ASTM E1360-05(2015), Standard Practice for Specifying Color by Using the Optical Society of America Uniform Color Scales System.

1.3 ADMINISTRATIVE REQUIREMENTS

.1 Pre-Installation Meeting

.1 Convene pre-installation meeting one week prior to beginning work of this Section and on-site installations in accordance with Construction Progress Schedule.

.1 Verify project requirements.

.2 Review installation and substrate conditions.

.3 Coordination with other building trades.

.4 Review manufacturer's installation instructions and warranty requirements.

.2 Scheduling:

.1 Submit work schedule for various stages of pavement marking to Consultant for review. Submit schedule minimum of 48 hours in advance of proposed operations.

.2 Obtain written authorization from Consultant for changes in work schedule.

.3 Schedule painting operations to prevent disruption of and by other trades.

1.4 ACTION AND INFORMATIONAL SUBMITTALS

.1 Submit product data in accordance with Section 01 33 00 – Submittal Procedures.

.1 Submit manufacturer's printed product literature and data sheets for pavement markings and include product characteristics, performance criteria, physical size, finish, and limitations.

.2 Submit samples in accordance with Section 01 33 00 – Submittal Procedures.

.1 Submit to the Consultant the following material sample quantities at least 3 weeks prior to commencing work.

.1 Two 1 L samples of each type of paint.

.2 One 1 kg sample of glass beads.

.3 Sampling to MPI Painting Manual.

.2 Mark samples with name of project and its location, paint manufacturer's name and address, name of paint, MPI specification number and formulation number and batch number.

.3 Closeout Submittals: submit maintenance data for incorporation into manual specified in Section 01 78 15 - Contract Closeout, and include following:

.1 Product name, type and use.

.2 Manufacturer's product number.

.3 Color numbers.

.4 Maintenance guidelines.

.4 Manufacturer's Instructions:

.1 Submit manufacturer's installation and application instructions.

.5 Submit quality assurance submittals in accordance with Section 01 45 00 - Quality Control.

.1 Certificates: submit certificates signed by manufacturer certifying that materials comply with specified performance characteristics and physical properties.

1.5 QUALITY ASSURANCE

.1 Comply with the requirements of Section 01 45 00 - Quality Control.

.2 Mock-Up:

.1 Apply single paint strip, specified width x 5 m (15' 0") long, and symbol (type as selected by Consultant) to the pavement in location as directed by the Consultant.

.2 Application shall be in presence of the Consultant and Construction Manager. When approved, sample shall be standard of quality for Work

1.6 DELIVERY, STORAGE, AND HANDLING

.1 Deliver, store and handle materials in accordance with Section 01 61 00 Common Product Requirements and manufacturer's written instructions.

.2 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.

.3 Storage and Handling Requirements:

.4 Store materials in accordance with manufacturer's recommendations in clean, dry, well- ventilated area, maintained within a temperature range recommended by the manufacturer.

.5 Replace defective or damaged materials with new.

Part 2 Products

2.1 MATERIALS

.1 Paint / Resin / Glass Bead System:Acrylic latex traffic paint to ASTM D4797, color to ASTM E1360 (yellow, white, and blue as required), resin, and glass beads, as follows:

.2 Basis-of-Design:

.1 Paint: High Build Traffic Paint, by Ennis-Flint.

.2 Resin: Rhoplex Fastrack HD-21, by Rohm and Haas Co.

.3 Glass Beads: AC110. by Potters Industries LLC.

.3 A low-VOC solvent-based formulation by Ennis-Flint may be used in lieu of the acrylic latex paint if ambient temperatures at time of application are too cool for acrylic latex paint.

Part 3 Execution

3.1 MANUFACTURER'S INSTRUCTIONS

.1 Compliance: comply with manufacturer's printed installation instructions, data sheets, standard details, and specifications.

3.2 EXAMINATION

.1 Verification of Conditions: verify conditions of substrates and surfaces to receive pavement markings previously installed under other Sections or Contracts are acceptable for product installation in accordance with manufacturer's instructions prior to pavement markings installation.

.1 Visually inspect substrate in presence of Consultant.

.2 Pavement surface: dry, free from water, frost, ice, dust, oil, grease and other deleterious materials.

.3 Proceed with Work only after unacceptable conditions have been rectified.

3.3 EQUIPMENT REQUIREMENTS

.1 Paint applicator: approved pressure type with positive shut-off distributor capable of applying paint in single, double and dashed lines and capable of applying marking components uniformly, at rates specified, and to dimensions as indicated.

.2 Distributor: capable of applying reflective glass beads as overlay on freshly applied paint.

3.4 APPLICATION

.1 Pavement markings: Lay out pavement markings in compliance with Regulatory Requirements.

.2 Clean pavement surface in accordance with paint manufacturers written instructions.

.3 Apply paint only when air temperature is above 10 degrees C, wind speed is less than 60 km/h, and no rain is forecast within next 4 hours. Apply paint using specified equipment only.

.4 Apply traffic paint evenly to a minimum wet film thickness of 30 mil (0.762 mm).

.5 Do not thin paint.

.6 Striping, symbols, and letters: in compliance with Regulatory Requirements.

.7 Paint lines of uniform color and density with sharp edges. Paint lines 100 mm wide where no dimension is indicated otherwise.

.8 Thoroughly clean distributor tank before refilling with paint of different color.

.9 Apply glass beads at rate of 0.5 kg/l of painted area immediately after application of paint.

3.5 SITE TOLERANCES

.1 Paint markings: within plus or minus 12 mm of dimensions indicated.

.2 Remove incorrect markings in accordance with manufacturer's recommended procedures.

3.6 CLEANING

.1 Progress Cleaning: clean in accordance with Section 01 74 11 - Cleaning. Leave Work area clean at end of each day.

.1 Prevent overspray and/or splashes to adjacent surfaces.

.2 Clean spills, splashes and/or or overspray immediately using manufacturer's recommended cleaners and procedures.

.2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11 - Cleaning. Perform cleaning after installation to remove construction and accumulated environmental dirt.

.3 Manage and dispose of demolition and construction waste materials in accordance with Section 01 74 21 - Construction Waste Management.

3.7 PROTECTION OF COMPLETED WORK

.1 Protect pavement markings until dry.

.2 Repair damage to adjacent materials caused by pavement marking application.

END OF SECTION

PART 1 – GENERAL

1.1 Work Included

.1 This section specifies requirements for topsoiling, amendments, and finish grading. Work includes supply and placing of topsoil, fine grading of topsoil, supply and spreading of amendments.

1.2 Deliveries and Storage

.1 Schedule deliveries to minimize storage at job site without causing delays.

.2 Do not deliver bulk topsoil mix before being ready to spread the mix on the field.

1.3 Samples

.1 Submit samples in accordance with instruction supplied by those issuing contract.

1.4 Scheduling of Operations

.1 Schedule individual operation to minimize the need for onsite storage, control of deterioration of products without causing delays in operations.

1.5 Source Quality Control

.1 Inspection and testing of Topsoil:

.1 Individual tests for pH value, sieve analysis and chemical analysis will be carried out by an approved independent laboratory testing company and coordinated by the Engineer.

.2 Inform Engineer of proposed source of topsoil to be supplied and provide access for sampling. If topsoil test results indicate amendments required, add Engineer accepts topsoil.

.3 Inspection and evaluation of topsoil fine grade:

.1 Inspection and evaluation of topsoil finish grade will be carried out by an independent survey technician and Engineer.

.2 The maximum tolerance from designed finish grade is 5cm (2 inches) over 10 meters in all directions.

.4 The Contractor shall not proceed to the next operation before approval of finish grade.

PART 2 – PRODUCTS

2.1 Topsoil

.1 Friable loam containing minimum of 4% organic matter for clay loams and 2% for sandy loams to maximum of 25% by volume and having a pH of 5.5 to 7.5. Topsoil containing subsoil, roots, stones larger than 15 mm, weeds, couch grass, crabgrass, foreign objects, or toxic materials is not acceptable.

2.2 Organic Matter

.1 Well-decomposed and stable sources of organic material, free of mineral content, stones, debris, roots, branches and other contaminates, with matter volume.

.2 Organic matter may be composed of a well decomposed and stable its equivalent under the Walkley-Black test. Compost may be comprised of compost.

.3 Compost shall be sufficiently decomposed and stable so that any further decomposition will adversely affect plant growth (C:N ratio below 25/50) and contain no toxic or growth inhibiting contaminates and heavy metal. Composed bio-solids must meet the requirements of the guidelines for Compost Quality, Category (A) (B) produced by the Canadian Council of the Ministers of the Environment (CCME), January 1996.

.4 The Contractor is to be responsible for providing certification of compost material.

.5 Organic matter may be composed of well-aged, well decomposed, minimum two-year-old manure, with total particle size meeting organic matter requirements.

.6 Sewage slugs are not acceptable.

2.3 Peat Moss

.1 Peat humus composed of reed-sedge of hypnum peat, free of wood and deleterious material, which could inhibit growth.

2.4 Fertilizer

.1 Complete non-toxic, non-burning fertilizer, herbicide free, classified as a specialty turf fertilizer consisting of its Nitrogen component being designated as "slow release". Acceptable concentration of slow-release Nitrogen to be within a range of 50 to 60 percent.

.2 Fertilizer used during installation and maintenance of sod to be specially blended for promoting root development of newly sodded areas. Such fertilizer will contain a high proportion of Phosphorous to facilitate rapid plant root establishment. Such products are sold as "starter fertilizers''

.3 The ratios and fertilizer program for all installation and growing requirements will be determined by the Contractor in accordance to the particular turfgrass needs. The ratio and fertilizing program shall optimize the vegetative growth of the turfgrass enabling it to become established in accordance with the optimum nutrient requirements of the species.

.4 Analysis to be pre-approved prior to application.

2.5 Limestone

.1 Agricultural grade ground limestone containing a minimum calcium carbonate equivalent of 85%. Lime particles to be course with 50% particle size being .5mm to 1 mm.

2.6 Compost

.1 If used must meet specified quality standards as established by industry.

PART 3 - EXECUTION:

3.1 Sub Grade Approval

.1 Do not spread topsoil before approval of sub grade by Engineer.

.2 When constructing an athletic field, the sub grade must be graded to the identical slope of the playing surface once all media (topsoil) is placed on the finished playing surface. This grade must be a minimum of 1.5% from a line down the center of the completed field to the perimeter of the

playing surface. Final grade of subbase must be approved by Engineer.

.3 Do not begin work prior to approval of topsoil by Project Manager.

3.2 Site Condition

.1 Do not perform work under adverse working conditions, such as frozen ground or ground covered with snow, ice or standing water, or during rainy weather conditions without approval from Engineer.

3.3 Installations and Spreading of Topsoil Playing Surface

.1 All media must be installed to an equal depth over the entire future playing surface.

.2 Apply a minimum of 200mm (8 inches) of topsoil in one even lift, unless otherwise indicated.

.3 Spread approved topsoil in one uniform layer over approved sub-grade where indicated. Do not place topsoil on frozen subgrade.

.4 Use machinery in such a way as to control (minimize) compaction of soil and to achieve proposed gradients.

.5 Ensure that the soil is evenly firm but not compacted.

.6 Fine grade topsoil to indicated grades and elevations, leaving surface smooth and uniform with fine loose texture.

.7 Feathered topsoil into the existing adjoining turf or natural areas outside of the limit of work.

3.4 Application of Fertilizer

.1 Apply high phosphorous turf "starter fertilizer" with mechanical spreader over entire area of topsoil. Apply at the rate of 0.5kg Nitrogen /100sqM (10 lb Nitrogen/1000sq ft). Nitrogen component of fertilizer must be between 50% and 65% slow release.

.2 Applied starter fertilizer must be incorporated into top 25 mm (1.0 inch) of final growing media.

3.5 Finished Grades

.1 Grade surface to insure that no rough or uneven areas exist. Insure that final grade will facilitate the removal of excess water from the playing surface during future rainfall, when field is established to turf.

3.6 Approval of Final Grades

.1 Do no proceed to seeding operation before approval of finished grades and compaction.

END OF SECTION

PART 1-GENERAL

1.1 Work Included

.1 This section specifies requirements for seed quality, its establishment and maintenance.

1.2 Definitions

Maintenance

.1 Maintenance is to include but not to be limited to standard practices associated with the establishment of seed such as: watering, mowing, fertilizing, and aerating.

Maintenance Duration

.1 Maintain seeded area from time of seeding until accepted by Transportation & public works.

Deficiencies

.1 Results from all operations during construction and/or maintenance of the sports field that become apparent at any time before Final Acceptance and do not conform with the required level of quality.

.2 All deficiencies shall be noted and corrected in a timely fashion.

1.3 Reference Standards

.1 Certified Number One Canada Turfgrass Seed as Certified by Government of Canada.

1.4 Delivery and Storage

.1 Schedule deliveries of all seeding materials to coincide with end of topsoil installation and approval of Work to minimize storage at job site.

.2 Deliver, unload and store seed in a dry and secure location near work site.

.3 Protect all materials against damage during delivery and transportation.

1.5 Samples

.1 Provide Engineer with proof of seed components (Seed label from product being used).

1.6 Quality Control

.1 Obtain approval of seeds from Engineer prior to seeding.

.2 Obtain approval of site preparation steps from Engineer prior to starting site preparation.

.3 Obtain approval of watering operation from Engineer during maintenance period.

.4 All inspection and testing will be conducted according to 1.8, Source of Quality Control.

1.7 Source of Quality Control

.1 Inspection and verification of seed will be carried out by Engineer.

.2 Inform Engineer of proposed source of seed and other materials to be supplied and provide access for sampling.

1.8 Warranty

.1 Provide warrant for general field construction for one full maintenance period starting at Substantial Performance of the Work.

.2 Extend warranty beyond maintenance period as may be necessary if conditions for final acceptance of the work are not met.

PART 2- PRODUCT

2.1 Materials

.1 All Turfgrass Seed must meet minimum standards as set out by Canadian Seed Act.

.2 Unless otherwise specified, specialty turf fertilizers are to be used.

.3 Specific ranges for nutrient ratios and percent water soluble Nitrogen and detailed in “execution” section.

.4 Water used for irrigation must be of such quality that it does not contain any impurities that would harm the germination and growth of turfgrass.

2.2 Seed Terminology

.1 Kentucky bluegrass is the common name for a turfgrass species.

.2 Common Kentucky bluegrass refers to a nonspecific variety of Kentucky Bluegrass.

.3 Merion Kentucky bluegrass was the first improved (selected) variety of Kentucky bluegrass. It is now considered to be of inferior quality.

.4 Improved Kentucky bluegrass is the designation given to any variety that has one or more superior genetic qualities.

.5 Turfgrass blend is the term given when two or more varieties of the same species are combined.

.6 Turfgrass mixture is the term given when two or more different turfgrass species are combined.

2.3 Turfgrass Seed

.1 Contain a mixture of 90% Improved Kentucky bluegrass, and 10% Improved Perennial Ryegrass. The Kentucky bluegrass component is to consist of a seeding mixture. The perennial ryegrass component is to consist of a minimum of two different improved varieties each present in equal proportions, in the final seeding mixture.

2.4 Seeding Rates

.1 to 2.0 kg per100sq M (2.5 to 5.0 lbs per 1000sq. ft.)

2.5 Water

.1 Clean, fresh, and free from impurities that inhibit plant growth.

2.6 Fertilizer

.1 Immediately prior to seeding the following fertilizer or equivalent is to be incorporated into the top 1.0 cm (0.5 inches) of the seeded area.

.2 Starter fertilizer of 1-2-1, or 1-2-2 ratio containing from 50 - 60% controlled release Nitrogen.

.3 Fertilizer will be applied at rate of 0.25kg. Nitrogen per 100sq M or 0.5 lbs. Nitrogen per 1000sq feet.

.4 In instances where contractor is responsible for future maintenance a second application of this product or an acceptable turf fertilizer is to be applied at above stated rate two or three weeks after initial seeding.

2.7 Seeders

.1 Seeding is to be done using equipment specifically designed for seeding turfgrass. Preference is for a disk type seeder that places seed into seed bed and covers seed, providing for optimum seed soil contact.

PART 3 - EXECUTION

3.1 Start Time

.1 Do not start seeding before approval of Engineer.

3.2 Site Preparation

.1 Eliminate areas of over-compaction before placement of seed and rake even to eliminate unevenness.

3.3 Seed Bed Preparation

.1 Cultivate areas to be seeded to a minimum depth of 50mm. Ensure that all uneven areas are removed, and unwanted debris is raked and removed from the site.

.2 Obtain final approval of Engineer for all media to be placed on the surface which is to be seeded.

.3 Ensure that media is placed to proper depth.

3.4 Media Testing and Addition of Amendments

.1 Have soil tested to determine pH, amount of Organic Matter and nutrient content.

.2 Where necessary, add and incorporate limestone, organic matter and basic fertilizer to bring soil up to recommended levels as indicated by results of soil test.

.3 Have soil chemical test performed at an independent recognized soil testing laboratory.

3.5 Final Grades

.1 Once all amendments have been incorporated into seed bed, give it one final grading to remove any localized depressions.

3.6 Seeding Time Periods

.1 Optimum time for seeding is from August 15th to September 20th.

.2 Second set of preferred seeding dates is between May 15th and June 30th.

.3 If seeding during periods other than given, special care must be taken to increase seeding rates and cultural practices to insure proper establishment of the turf.

3.7 Seeding Rates

.1 Refer to rates given for various situations and grass mixtures.

3.8 Seeding Methods

.1 Use a disk type seeder such as a "Brillion" seeder which accurately distributes and places individual seeds at a specified depth and rate while rolling soil over the newly placed seed.

.2 Divide seeding rate into two half units and sow surface in a minimum of two directions at right angles to each other.

.3 If need be further reduce the seeding rate and sow seed in three or four directions over the entire surface of the field.

.4 Insure that seed is placed at a depth of 10mm in the growing media.

.5 If necessary, roll newly seeded area to ensure good seed soil contact.

.6 Only use cyclone seeding method in areas which cannot be seeded with disk type seeder.

.7 Where approved by Engineer field may be established to turfgrass by hydro seeding.

3.9 Post Establishment Care

.1 This is the four-to-six-week period between when seedling emerge, and they get an established root system.

a. Watering

.1 Maintain light, frequent applications of water to ensure that seedling do not suffer. water stress.

b. Fertilization

.1 Apply a second fertilizer approximately three to four weeks after seedling emergence.

.2 Fertilize with the following or equivalent fertilizer:

.3 1-2-2 ratio containing a minimum of 50% slow-release nitrogen.

.4 Rate of Nitrogen application is 0.25kg. Nitrogen per 100sq M or 0.5 lbs. Nitrogen per 1000sq ft.

c. Mowing

.1 First mowing occurs when initial plant height has reached 33% more than the recommended mowing height for the turfgrass species.

.2 Use light weight equipment for mowing during this time period.

.3 Ensure that mower blades are sharp.

.4 Make successive mowings using alternative mowing patterns to reduce compaction on field and damage to new seedlings.

d. Weeding

.1 Do not apply herbicide to newly established seedlings.

.2 Do not hand remove new weeds.

.3 Vegetatively grow in new turfgrass to smother out any existing weeds.

.4 If persistent weeds exist wait until turfgrass has become established before

3.10 Post Grow In

.1 This is the time period after the initial four to six weeks establishment period when seedlings have an established root system but turfgrass cannot withstand seasonal traffic.

3.11 Site Conditions

.1 Avoid maintenance operations after a heavy rain when soil is wet. Do not mow when turf is wet.

3.12 Machinery

.1 All machinery will be equipped with turf tires and will be designed to specifically perform the intended operation.

.2 Maintain mowing blades well sharpened and free of rust and abrasions.

3.13 Watering

.1 Watering to be done between 7: 00a.m and 10: 00a.m, and 4: 00p.m and 10: 00p.m, using best horticultural practice.

.2 The Contractor shall notify the Project Manager at least 12 hours before scheduled watering operation.

3.14 Mowing

.1 Mow sodded areas throughout the growing season, to maintain the turf between 70mm to 90mm (2.75 to 3.5 inches). Never mow any more than one third of the length of the leaf at one time.

.2 Mowing operations will be done in cross mode.

.3 Mowing shall be done with well maintained, sharp blades, free of rust and abrasions.

3.15 Fertilizing

.1 Fertilize seeded area two to three weeks after seedlings have established a root system.

.2 Fertilize with the following or equilivent fertilizer. 1-2-2 ratio containing a minimum of 50% slow-release Nitrogen.

.3 Rate of Nitrogen application is 0.25kg. Nitrogen per 100sq M or 0.5 lbs. Nitrogen per 1000sq ft.

.4 For seasonal **grow in and establishment** three separate applications of a 50 to 60% slow-release Nitrogen fertilizer should be applied, one in spring, one in early summer and one in late summer. Rate of Nitrogen per application should be between 0.40 and 0.50 kgs per 100sq M (0.8 - 1.00 lbs Nitrogen per 1000sq ft.).

.5 When maintenance period starts at end of the growing season, postpone fertilization with high nitrogen content until the beginning of the next growing season and replace with a high potassium slow-release fertilizer. Resume application of nitrogen fertilizer at the beginning of the next growing season.

.6 Monitor the rate of fertilizer application and the ratio with Engineer for optimum growth.

3.16 Aeration

.1 This procedure is to be done when deemed applicable.

.2 Provide two aeration operations to non-irrigated field during the maintenance period according with the Engineer.

.1 **Spring Construction**: Aerate the field once in early September and in accordance with the Engineer.

.2 **Autumn Construction**: Aerate the field in the following: spring, one t time as soon as the field moisture is at field capacity.

.3 The second aeration operation will coincide with Final Acceptance of the Work.

.4 Aeration operation will be done with slicer aerator equipped with 6-inch tines. Each operation shall consist of one-time passing length wise and

.5 The 6-inch tines shall fully penetrate into the soil in all areas of the field. Field aeration will be coordinated with the Engineer.

3.17 Control of Weeds, Disease, and Insects

.1 Maintain seeded areas weed, insect and disease free through proper cultural and maintenance practice including but not limited to aeration, watering, pH control, fertilization, proper mowing practice, over seeding, and control of grass coverage thickness.

3.18 Acceptance

.1 The work will be accepted by the Engineer at the end of the Maintenance Period provided that:

.2 Root zone is properly established and penetrates into the topsoil layer to a depth sufficient to support a vigorous turf growth.

.3 Turf is growing vigorously, with a thick carpet where when mowed at 6cm (2.5 inches) high, no soil is visible.

.4 Turf is without weed, disease, and insect infestation.

.5 Surface is even and without depressions.

.6 Gradients meet specifications.

.7 That a 6-inch tine aerator will penetrate to its full depth into the soil and in all areas in the field, without adding extra weight to the aerator, and when soil is at field capacity.

.8 Final approval and acceptance will consist of an onsite inspection of the completed work by the following individuals or their representative: contractor, Engineer, and when deemed necessary by either party an independent qualified turf agronomist.

END OF SECTION

Part l - General

1.1 Related Work

.1 Trenching, Backfilling & Compaction: Section 31.22.13.00

1.2 Samples

.1 At least (1) weeks prior to commencing work, inform Engineer of proposed source of bedding materials and provide access for sampling.

1.3 Material Certification

.1 At least (2) weeks prior to commencing work, submit manufacturer's test data and certification that pipe materials meet requirements of this section, if requested by the Engineer.

1.4 Utility Relocation

.1 Contractor is responsible for coordination with Utility companies for locating, exposing, covering, and relocation when necessary, of any utilities.

Part 2 - Products

2.1 Pipe

.1 Reinforced circular concrete pipe and fittings: to CSA A257.2-1974 designed for flexible rubber gasket joints to ASTM C443M-80 and CSA A257.3-1974.

.2 Plastic Pipe.

.1 Type PSM poly (Vinyl Chloride): to ATM D3034-80.

.2 Standard Dimensional Ratio SDR35

.3 Locked-in gasket and integral bell system.

.4 Nominal lengths: 4 m.

.3 Double walled Polyethylene Pipe with a smooth-walled interior and a corrugated exterior wall that is manufactured in standard lengths of approximately 6m to class R 320 (320 kPa) and is joined together with split ring couplers, integral snap bell connection or integral gasketed bell and spigot connection and complies with CSA B182.6, AASHTO M252, AASHTO M294 or ASTM D3212-92.

2.2 Pipe Bedding Materials

.1 Granular Class A, conforming to the requirements of the Dept. of Transportation & Public Work of P.E.I.

.2 Sand Bedding meeting the following requirements.

Natural sand or crushed stone screenings to following grading requirements:

Sieve Square Opening	%passing (by Weight)
4.75 mm	100
2.00 mm	90 - 96
0.85 mm	75 - 94
0.425 mm	45 - 82
0.250 mm	18 - 40
0.150 mm	10 - 17
0.075 mm	0- 5

2.3 Pipe Bedding Depths

.1 Concrete and Polyethylene Pipe Bedding

.1 Use bedding a depth of 150mm below pipe to spring line of pipe.

.2 PVC Pipe Bedding

.1 Use bedding a depth of 150mm below pipe extending to 150mm above top of pipe.

.3 Asphalt Roadway Crossing

.1 Use granular Class A or B, conforming to the requirements of the Dept. of Transportation & Public Work of P.E.I., a depth of 150mm below pipe extending to 150mm above top of pipe.

Part 3 - Execution

3.1 Preparation

.1 Clean pipes and fittings of debris and water before installation. Carefully inspect materials for defects before installing. Remove defective materials from site.

3.2 Trenching and Backfilling

.1 When crossing roadways or driveways boring techniques shall be used whenever possible to preserve asphalt surfaces.

.2 Do trenching and backfill work in accordance with Section 31.22.13.00.

.3 Trench line and depth require approval prior to placing bedding material and pipe.

3.3 Concrete Bedding and Encasement

.1 Place concrete to details indicated or directed by Engineer.

3.4 Granular Bedding

.1 Place granular bedding materials to details indicated or directed.

.2 Shape bed true to grade and to provide continuous, uniform bearing surface for barrel of pipe. Do not use blocks when bedding pipe.

.3 Shape transverse depressions as required to receive bell, if bell and spigot pipe is used.

.4 Fill excavation below bottom of specified bedding and adjacent to manholes or catch basins with bedding material.

3.5 Soil Bedding

.1 Where granular bedding material is not indicated, shape trench bottom so that pipe is fully supported over lower quarter of pipe circumference on undisturbed subgrade.

.2 Where trench bottom is rock and no bedding is indicated, lay pipe on a 150 mm cushion of granular material.

3.6 Installation

.1 Lay and join pipe in accordance with manufacturer's recommendations.

.2 Handle pipe by approved methods. Do not use chains or cables passed through rigid pipe bore so that weight of pipe bears upon pipe ends.

.3 Lay pipes on prepared bed, true to line and grade with pipe inverts smooth and free of sags or high points. Ensure barrel of each pipe is in contact with shaped bed throughout its full length.

.4 Commence laying at outlet and proceed in upstream direction with socket ends of pipe facing upgrade.

.5 Do not exceed maximum joint deflection recommended by pipe manufacturer.

.6 Do not allow water to flow through pipes during construction except as may be permitted by Engineer.

.7 Whenever work is suspended, install removable watertight bulkhead at open end of last pipe laid to prevent entry of foreign materials.

.8 Position and join pipes by approved methods. Do not use excavating equipment to force pipe sections.

.9 Joints:

.1 Concrete pipe:

.1 Install gaskets as recommended by manufacturer.

.2 Support pipes with hand slings or crane as required to minimize lateral pressure on gasket and maintain concentric city until gasket is properly positioned.

.3 Align pipes carefully before joining.

.4 Maintain pipe joints free from mud, silt, gravel and other foreign material.

.5 Avoid displacing gasket or contaminating with dirt or other foreign material. Remove disturbed or dirty gaskets; clean, lubricate and replace before joining is attempted.

.6 Complete each joint before laying next length of pipe. Place initial lift over previous pipe before commencing with further installation.

.7 Minimize joint deflection after joint has been made to avoid joint damage.

.8 Apply sufficient pressure in making joints to ensure that joint is complete as outlined in manufacturer's recommendations.

.9 When any stoppage of work occurs, block pipes as directed to prevent "creep" during down time.

.10 Plug lifting holes with approved prefabricated plugs set in non-shrink grout.

.11 Cut pipes as required for special inserts, fittings, or closure pieces in a neat manner, as recommended by pipe manufacturer, without damaging pipe or its coating and to leave a smooth end at right angles to axis of pipe.

.12 Make watertight connection to manholes and catch basins using A- Lok gasket (or approved equal).

3.7 Lateral Connections

.1 Where conne0ctions are made between existing concrete and PVC pipe, saddles with waterproof rubber gaskets must be used as approved by the Engineer.

3.8 Testing

.1 The Contractor to ensure that the storm sewer is watertight.

.2 The Contractor is to locate and repair defects and visible leaks.

END OF SECTION

Appendix A –

Dome Paving Drawings

Note: Full set of civil drawings provided, however the scope of this tender only applies to the paving portions of the work

CITY OF SUMMERSIDE
MULTIPURPOSE TURF FIELD & DOME

511 NOTRE-DAME ST.
SUMMERSIDE, PE

CIVIL

SHEET NO:	TITLE
C-100	NOTES & LEGEND
C-101	EXISTING CONDITIONS PLAN
C-102	SITE PLAN
C-103	GRADING & DRAINAGE PLAN
C-104	SECTIONS
C-105	MISCELLANEOUS DETAILS
C-106	MISCELLANEOUS DETAILS
C-107	MISCELLANEOUS DETAILS
C-108	MISCELLANEOUS DETAILS

BELLCOR

STRUCTURAL / CIVIL ENGINEERING & PROJECT MANAGEMENT
149 INDUSTRIAL CRESCENT
SUMMERSIDE, PE
C1N 5P8
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PROJECT NO: 20274

GENERAL NOTES

1. THE LIMIT OF CONTRACT IS GENERALLY BOUNDED BY THE PROPERTY LINE AND ALSO INCLUDES ALL WORK IMPLIED OR SHOWN WITHIN AND OUTSIDE THE LOT. THE SCOPE OF WORK SHALL INCLUDE ALL CIVIL WORK SHOWN OR IMPLIED ON THE DRAWINGS AND SHALL INCLUDE ANY ADDITIONAL WORK LISTED IN THE SPECIFICATIONS AND TENDER DOCUMENTS.
2. ALL DIMENSIONS ARE IN METERS AND MILLIMETERS. ALL ELEVATIONS ARE IN GEODETIC METERS. DISTANCES AND ELEVATIONS CAN BE CONVERTED INTO IMPERIAL BY DIVIDING VALUES IN METERS BY 0.3048 TO OBTAIN THEIR EQUIVALENT IN FEET.
3. ALL WORK SHALL FOLLOW STANDARD CONSTRUCTION PRACTICE. WORK SHALL FOLLOW ALL LOCALLY ENFORCED CODES AND REGULATIONS. ALL PIPES, MH'S AND CB'S SHALL BE HANDLED AND INSTALLED TO THE MANUFACTURER'S RECOMMENDATIONS. ALL LINE TESTING AND WATER LINE DISINFECTION REQUIRED BY THE MUNICIPALITY AND PROVINCIAL GOVERNMENT ARE THE RESPONSIBILITY OF THE CIVIL CONTRACTOR.
4. CIVIL SITE PLANS SHALL BE READ IN CONJUNCTION WITH THE ARCHITECTURAL, STRUCTURAL, MECHANICAL, ELECTRICAL AND LANDSCAPE SITE DRAWINGS.CONTRACTOR SHALL ALSO REVIEW AND IMPLEMENT THE RECOMMENDATIONS LISTED IN THE GEOTECHNICAL REPORT
5. TOPOGRAPHIC SURVEY INFORMATION BASED ON MORRIS GEOMATICS AND ENGINEERING LTD. DRAWING NO. 20086.700 DATED 2020-09-30.EXISTING SERVICES INFORMATION BASED ON CITY OF SUMMERSIDE RECORD DRAWING.
6. LOCATIONS INDICATED FOR EXISTING SERVICES, UTILITIES, SEWER STRUCTURES, AND BUILDING SHALL BE CONSIDERED APPROXIMATE. CIVIL CONTRACTOR IS RESPONSIBLE FOR CONFIRMING THE ACCURACY AND COMPLETENESS OF SERVICE INFORMATION ON SITE PRIOR TO COMMENCING WORK. CIVIL CONTRACTOR IS SOLELY LIABLE FOR ANY DAMAGE CAUSED TO EXISTING SERVICES WHETHER THEY ARE SHOWN ON THE PLAN OR NOT.
7. THE CIVIL CONTRACTOR IS RESPONSIBLE FOR ALL TRAFFIC CONTROL AND SAFETY MEASURES DURING CONSTRUCTION. ALL CONSTRUCTION SHALL BE CARRIED OUT IN ACCORDANCE WITH THE REQUIREMENTS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS. ANY FINES OR CHARGES FOR UNSAFE WORKING CONDITIONS ARE SOLELY THE RESPONSIBILITY OF THE CIVIL CONTRACTOR.
8. THE CIVIL CONTRACTOR IS RESPONSIBLE FOR PREVENTING MUD TRACKING ONTO THE PUBLIC AND PRIVATE RIGHT-OF-WAYS; AND IS, AT THEIR EXPENSE, RESPONSIBLE FOR CLEANING TRACKED MUD FROM THE R.O.W AS DIRECTED BY THE MUNICIPALITY.
9. THE CONTRACTOR IS RESPONSIBLE FOR NECESSARY GRADING AND DUST CONTROL AS DIRECTED BY THE MUNICIPALITY OR THE OWNER'S SITE REPRESENTATIVE.
10. CIVIL CONTRACTOR SHALL REINSTATE ALL DISTURBED AREAS TO ORIGINAL CONDITION OR BETTER. WORK WITHIN THE PUBLIC R.O.W OR ON PUBLIC INFRASTRUCTURE SHALL BE COMPLETED TO THE STANDARD ENFORCED BY THE AUTHORITY HAVING JURISDICTION.
11. ALL WORK PERFORMED WITHIN THE ROAD R.O.W OR ON EXISTING MUNICIPAL SERVICES SHALL FOLLOW MUNICIPAL AND PROVINCIAL SPECIFICATIONS AND GUIDELINES. WORK ON PUBLIC PROPERTY AND INFRASTRUCTURE IS SUBJECT TO APPROVAL BY THE OWNER AND THE AUTHORITIES HAVING JURISDICTION.
12. THE BUILDING FOOTPRINT SHALL BE LOCATED BY A REGISTERED SURVEYOR BASEDON THE FOUNDATION PLAN.
13. THE CIVIL CONTRACTOR IS RESPONSIBLE FOR OBTAINING AND PAYING FOR ALL PERMITS REQUIRED FOR WORK WITHIN R.O.W OR ON EXISTING MUNICIPAL SERVICES. CIVIL CONTRACTOR IS RESPONSIBLE FOR MAKING ALL SERVICE CONNECTIONS TO MUNICIPAL MAINS OR PAYING THE CITY TO DO SO. CIVIL CONTRACTOR SHALL PROVIDE THE MUNICIPALITY WITH ANY DEPOSITS AND WARRANTEES REQUIRED ON WORK DONE TO PUBLIC PROPERTY AS PART OF THIS CONTRACT.
14. CIVIL CONTRACTOR IS SOLELY RESPONSIBLE FOR IMPLEMENTING EROSION AND SEDIMENTATION CONTROL MEASURES, WHICH SHALL INCLUDE BUT NOT BE LIMITED TO: INSTALLING A SILT FENCE AT THE DOWN GRADIENT BOUNDARY OF THE SITE PRIOR TO CONSTRUCTION AND PROVIDING SURFACE STABILIZATION AND ADDITIONAL MEASURES AS REQUIRED BY THE MUNICIPALITY AND DEPARTMENT OF ENVIRONMENT.
15. ALL DEMOLISHED MATERIALS INCLUDING ASPHALT, FOUNDATIONS, VEGETATION, UTILITIES, SIDEWALKS, SURPLUS FILL, ETC. SHALL BECOME THE PROPERTY OF THE CIVIL CONTRACTOR AND SHALL BE REMOVED FROM THE SITE; UNLESS SPECIFICALLY NOTED OTHERWISE. CIVIL CONTRACTOR SHALL BE RESPONSIBLE FOR DISPOSING OF SUCH IN ACCORDANCE TO ALL APPLICABLE MUNICIPAL, PROVINCIAL AND FEDERAL LAWS AND REGULATIONS.
16. ALL PRICES SHALL BE BOTH SUPPLY AND INSTALL INCLUDING TRENCHING, BACKFILLING AND COMPACTION. ALL WORK IS SUBJECT TO APPROVAL BY OWNER'S REPRESENTATIVE AND LOCAL MUNICIPALITY. MATERIALS DAMAGED OR OF POOR QUALITY CAN AND WILL BE REJECTED BY THE OWNERS REPRESENTATIVE.
17. ALL SITE WORK SHALL BE WARRANTED FOR ONE YEAR AFTER SUBSTANTIAL COMPLETION.
18. PROVIDE RIGID INSULATION WHERE FROST COVER CAN NOT BE ESTABLISHED . REQUIRED FROST COVER IS 1800MM OVER WATER PIPES AND 1500MM TO THE INVERT OF SEWER PIPES. SEE DETAIL.
19. PROPOSED GRADES SHALL BE UNDERSTOOD AS FINISHED SURFACE GRADES UNLESS NOTED OTHERWISE.
20. CONTRACTORS ARE RESPONSIBLE FOR VISITING THE SITE TO CONFIRM CONDITIONS PRIOR TO SUBMITTING BIDS. ALL SURFACE FEATURES SHALL BE DEMOLISHED AS REQUIRED TO ACCOMMODATE THE PROPOSED WORK.
21. SEWER STRUCTURES SHALL HAVE A MINIMUM DIAMETER OF 1050MM. INCREASE SIZE AS REQUIRED FOR MULTIPLE PIPE AND LARGE PIPE STRUCTURES.
22. PIPE MATERIALS FOR SANITARY SEWER SHALL BE PVC WITH A MINIMUM OF DR35 THICKNESS . PIPE FOR STORM SEWER SHALL BE HDPE OR PVC DR 35.PIPE FOR WATER SYSTEMS SHALL BE PVC DR 18 OR TYPE K COPPER
23. IF A DETAIL IS NOT PROVIDED THEN REFER TO CITY OF SUMMERSIDE STANDARD MUNICIPAL SPECIFICATIONS.
24. CONTRACTOR IS RESPONSIBLE TO ENSURE THAT THE WORK IS CARRIED OUT IN ACCORDANCE WITH P.E. OCCUPATIONAL HEALTH AND SAFETY ACT.
25. CONTRACTOR TO CONFIRM HORIZONTAL LOCATION AND VERTICAL ELEVATIONS OF ALL EXISTING SERVICES PRIOR TO COMMENCING WORK . CONTRACTOR TO IMMEDIATELY REPORT ANY DISAPPEARANCES TO THE ENGINEER
26. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF NATURAL WATERCOURSES/DRAINAGE SWALES FROM DAMAGE DUE TO SILTATION RUNOFF FROM THE CONSTRUCTION SITE.
27. DITCHES ,SWALES AND PONDS ARE TO BE STABILIZED AS SOON AS IS PRACTICAL AFTER CONSTRUCTION. PERMANENT STABILIZATION SHALL BE COMPLETED WITHIN 30 DAYS OF CONSTRUCTION AND SHALL CONSIST OF; RIPRAP WHERE SPECIFIED ON THE PLANS OR HYDROSEED TO CITY OF SUMMERSIDE SPECIFICATION , UNLESS NOTED.
28. A LATERAL SERVICE HOOK-UP INSPECTION BY THE CITY'S ENGINEERING DEPARTMENT IS REQUIRED PRIOR TO BACKFILLING THE LATERAL CONNECTIONS TO THE MAINLINE. NO WATER TURN ON WILL TAKE PLACE UNTIL THIS HOOK-UP INSPECTION HAS BEEN COMPLETED
29. LOCATIONS AND EXTENT OF UNSUITABLE MATERIAL ARE UNKNOWN. DEFINITION OF UNSUITABLE MATERIAL TO BE DEFINED BY GEOTECHNICAL ENGINEER. CONTRACTOR IS RESPONSIBLE TO REVIEW SITE CONDITIONS IN A MANNER DEEMED RELIABLE TO IDENTIFY LOCATIONS AND EXTENT OF UNSUITABLE MATERIAL.CONTRACTOR IS RESPONSIBLE FOR REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL AND REPLACEMENT WITH MATERIAL APPROVED BY THE GEOTECHNICAL ENGINEER.
30. ALL DISTURBED AREAS, INCLUDING THE TEMPORARY CONSTRUCTION ROAD SHALL BE REINSTATED, AS SOON AS POSSIBLE, TO PREVIOUS CONDITION OR BETTER.
31. CONTACT CITY'S ENGINEERING DEPARTMENT PRIOR TO CONSTRUCTION FOR APPLICATION FOR A LATERAL SERVICE AND DEPOSIT.

PAVING

1. NATIVE SOIL SHALL BE PROOF ROLLED PRIOR TO APPLYING FILL MATERIAL
2. SOFT SPOTS AND OTHER TROUBLE AREAS SHALL BE EXCAVATED AND REPLACED WITH SELECT BORROW AS DIRECTED BY THE ENGINEER
3. ALL UNIT PRICES FOR MATERIALS SHALL BE COMPACTED IN PLACE.
4. WHERE NEW ASPHALT MEETS EXISTING , MILL EDGE PF EXISTING ASPHALT DOWN 40MM BY A MINIMUM WIDTH OF 600MM TO ALLOW NEW ASPHALT TO OVERLAP EXISTING.
5. CLEANLY REMOVE ANY BROKEN OR OTHERWISE DEFECTIVE ASPHALT WHERE NEW PAVING MEETS EXISTING ASPHALT.
6. SUB-BASE PREPARATION AND PLACEMENT OF ASPHALT SHALL CONFORM TO THE LATEST EDITION OF PEI TIE'S STANDARD SPECIFICATIONS.

WATER

1. CONTRACTOR IS RESPONSIBLE FOR TESTING AND DISINFECTION OF WATER MAINS TO CITY OF CHARLOTTETOWN STANDARDS.
2. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR OPERATE EXISTING WATER VALVES OR MAKE CONNECTIONS TO THE EXISTING WATER SYSTEM WITHOUT PRIOR APPROVAL OF THE CITY OF SUMMERSIDE DEPARTMENT OF ENGINEERING AND PUBLIC WORKS.
3. ALL WATER LATERALS, 100MM AND GREATER IN DIAMETER , INSTALLED MUST BE PRESSURE TESTED AND DISINFECTED TO THE CITY STANDARD MUNICIPAL SPECIFICATIONS AND RESULTS SUBMITTED TO THE ENGINEERING DEPARTMENT WITH A STAMPED LETTER STATING THAT ALL TESTS HAVE PASSED AND FULL TIME INSPECTION WAS DONE DURING CONSTRUCTION AND DURING THE TEST BEFORE WATERLINES ARE DISINFECTED OR TURNED ON BY THE CITY. CITY'S ENGINEERING DEPARTMENT MUST BE NOTIFIED ONE WEEK IN ADVANCE WITH THE TESTING RESULTS BEFORE WATER MAIN CAN BE DISINFECTED.
4. THE WATER SERVICE LATERAL FOR FIRE PROTECTION (SPRINKLER), FROM PROPERTY LINE TO THE BUILDING , SHALL FOLLOW THE NFPA 13 STANDARDS. THIS INCLUDES THE REQUIRED 200 PSI PRESSURE TEST.

EROSION CONTROL.

1. DURING WORK ON THE SITE , THE FOLLOWING ITEMS MUST BE COMPLETED.
2. SILTATION FENCE MUST BE ERECTED AROUND THE PERIMETER OF THE DISTURBED AREA TO START OF CONSTRUCTION, AND ROUTINELY MONITORED THROUGHOUT PROJECT.
3. STORM DRAIN INLET PROTECTION MUST BE INSTALLED IMMEDIATELY FOLLOWING THE INSTALLATION OF THE ONSITE STORM INFRASTRUCTURE.
4. CONTRACTOR IS RESPONSIBLE FOR DUST CONTROL, MUD AND DIRT REMOVAL ON DANIEL DRIVE, MINNI JANE ROAD AND MALPEQUE ROAD. A STABILIZED ENTRANCE/EXIT COMPLETE WITH CLEAR STONE/GRAVEL IS RECOMMENDED TO HELP PREVENT TRACKING OF MUD AND DIRT ONTO JOHN YEO DRIVE AND MALPEQUE ROAD.
5. CONTRACTOR TO INSPECT SEDIMENT CONTROL STRUCTURES AND MAKE NECESSARY REPAIRS TWICE DAILY.

LEGEND

DESCRIPTION		DESCRIPTION	
SURVEY AREA BOUNDED		BOREHOLE	
APPROXIMATE BOUNDARY		MONITORING WELL	M
EASEMENT BOUNDARY		TEST PIT	
CHAIN LINK FENCE		BOLLARD	BD
GENERAL FENCE	X X	FLAG POLE	FP
COMBINED SEWER	CBS	SINGLE POSTED SIGN	
SANITARY SEWER	SAN	MAIL BOX	
SANITARY SERVICE	SS SS	MUNCIPAL CIVIC ADDRESS	
SANITARY FORCEMAIN	FM	OVERHEAD SIGN	
STORM SEWER	STM	POST	
STORM SERVICE	ST ST	REGULATORY SIGN	
CULVERT/HEADWALL		DOUBLE POSTED SIGN	
SWALE/DEFINED FLOW		FUEL MANHOLE	F
DITCH		FUEL METER	
SURFACE DRAINAGE		FUEL VALVE	
WATER MAIN	WM FW	FUEL VENT	VENT
WATER SERVICE	WS SW	COMMUNICATIONS MANHOLE	C
DISTRICT HEAT STEAM LINE	DH HQ	COMMUNICATIONS POLE	
DISTRICT HEAT CHILL LINE	DC DC	TELEPHONE RISER	
BELL COMMUNICATIONS	BELL BELL	COMMUNICATIONS VAULT	C
EASTLINK COMMUNICATIONS	ELNK ELNK	STORM ROUND CATCHBASIN	
COMMUNICATIONS	COM COM	STORM SQUARE CATCHBASIN	
UTILITY CONDUIT	CON CON	STORM INTEGRATED CATCHBASIN	
OVERHEAD ELECTRICAL	OH HQ	STORM DRAINAGE MANHOLE	
UNDERGROUND ELECTRICAL	UG UG	STORM SLUICE BOX	
UNDERGROUND GAS	GAS GAS	AIR RELEASE CHAMBER	
TOP OF ROCK	R R	DOMESTIC WELL	
BOTTOM OF ROCK	R R	ELBOW	
BOTTOM OF SLOPE		END CAP	
TOP OF SLOPE		FIRE HYDRANT	
MAJOR CONTOUR		GATE/WATER VALVE	
MINOR CONTOUR		SPRINKLER	
BUILDING WALL		WATER SERVICE BOX	
BUILDING FOOTING		BUTTERFLY VALVE	
BUILDING FOUNDATION		ELECTRICAL MANHOLE	E
DRIVEWAY CUT		LIGHT POLE	
SILT FENCE		PAD MOUNTED TRANSFORMER	
5 YEAR STORM SETBACK	5 YR SS	PEDESTRIAN SIGNAL POST	PED
10 YEAR STORM SETBACK	20 YR SS	POWER VAULT	E
25 YEAR STORM SETBACK	25 YR SS	TRAFFIC CABINET	
100 YEAR STORM SETBACK	100 YR SS	TRAFFIC LIGHT	
18.3m ENVIRONMENTAL SETBACK	BUFFER SETBACK	UNIVERSAL RESIDENTIAL DISTRIBUTION	
BUFFER		UTILITY POLE/ANCHOR	
		COMBINED SERVICES MANHOLE	
		SANITARY LIFT STATION	LS
		SANITARY SEWER MANHOLE	
		SANITARY SEWER CLEANOUT	CO
		SANITARY SEWER LATERAL	CO
		BENCHMARK	
		SURVEY CONTROL POINT	
		PROJECT CONTROL MOMUMENT	
LD ASPHALT		CONIFEROUS TREE	
HD ASPHALT		DECIDUOUS TREE	
GRANUALR		HEDGE/TREE LINE	
CONCRETE SIDEWALK		MARSH/WETLAND	
TOPSOIL & SOD		SHRUB/BUSH	

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NO	REVISION	DATE
0	ISSUED FOR PERMIT	2021-04-20
1	ISSUED FOR TENDER	2021-05-18
2	ISSUED FOR CONSTRUCTION	2021-06-03

ENGINEER STAMP:

PROFESSIONAL ENGINEER
The Association Of Professional Engineers Of Prince Edward Island
Nicholas G. Sharkey
1407
June 3, 2021
Date
PROVINCE OF PRINCE EDWARD ISLAND

CLIENT INFORMATION:

CITY OF SUMMERSIDE
511 NOTRE-DAME ST.
SUMMERSIDE, PE

SHEET INFORMATION:

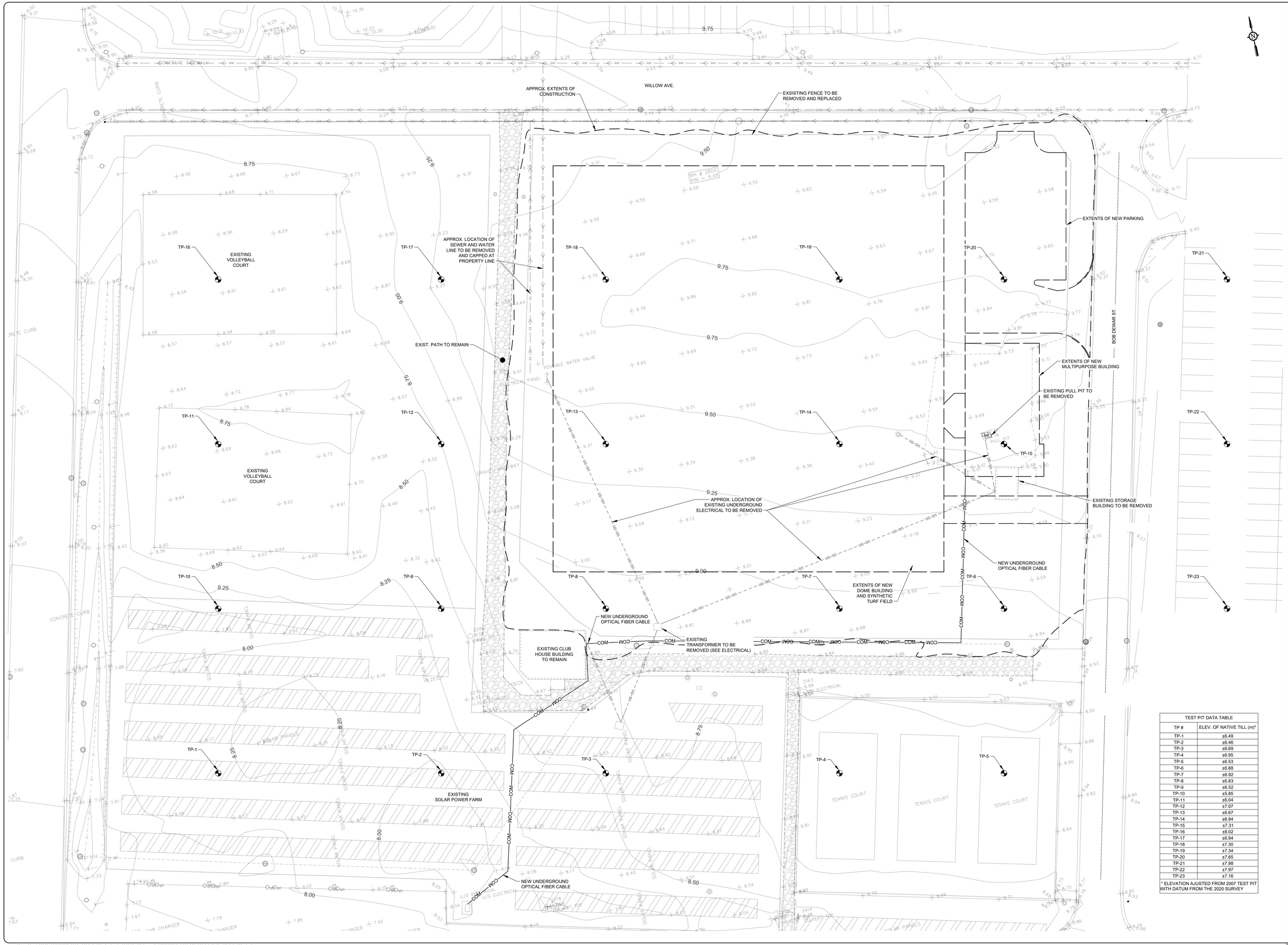
TURF FIELD & DOME NOTES

DATE:	SCALE:
2021-02-23	N/A
DRAWN: L.TURGEON	DESIGNED: N. SHARKEY

PROJECT NO: 20274

SHEET: C-100

BELLCOR | NOT FOR CONSTRUCTION



TEST PIT DATA TABLE	
TP #	ELEV. OF NATIVE TILL (m)*
TP-1	±6.49
TP-2	±6.46
TP-3	±6.69
TP-4	±6.95
TP-5	±6.53
TP-6	±6.88
TP-7	±6.92
TP-8	±6.83
TP-9	±6.52
TP-10	±5.85
TP-11	±6.04
TP-12	±7.07
TP-13	±6.67
TP-14	±6.94
TP-15	±7.31
TP-16	±8.02
TP-17	±6.94
TP-18	±7.30
TP-19	±7.34
TP-20	±7.65
TP-21	±7.98
TP-22	±7.97
TP-23	±7.16

* ELEVATION AJUSTED FROM 2007 TEST PIT WITH DATUM FROM THE 2020 SURVEY

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0	ISSUED FOR PERMIT	2021-04-20
1	ISSUED FOR TENDER	2021-05-18
2	ISSUED FOR CONSTRUCTION	2021-06-03

ENGINEER STAMP:

PROFESSIONAL ENGINEER
THE ASSOCIATION OF
PROFESSIONAL ENGINEERS OF
THE PROVINCE OF PRINCE
EDWARD ISLAND
Nicholas Sharkey
Nicholas G. Sharkey
1407
June 3, 2021
DATE
PROVINCE OF PRINCE EDWARD ISLAND

NOTES

- UNDERGROUND LOCATES TO BE CONDUCTED BY CONTRACTORS PRIOR CONSTRUCTION

CLIENT INFORMATION:

CITY OF SUMMERSIDE
511 NOTRE-DAME ST.
SUMMERSIDE, PE

SHEET INFORMATION:

TURF FIELD & DOME
EXISTING CONDITIONS
PLAN

DATE:	SCALE:
2021-02-22	1:300
DRAWN: L.TURGEON	DESIGNED: N. SHARKEY

PROJECT NO:

20274

SHEET:

C-101

36" WIDE EMERGENCY GATE
- PANIC BAR.
- PANIC SHIELD- 24" TALL, WIDTH TO MATCH DOOR WIDTH, STAINLESS OR GALVANIZED
- JAMB STOP
- LATCH PROTECTOR
- STRIKE BRACKET
- KEYED CYLINDER
- KEY BOX
- ALL ELEMENTS TO BE HEAVY DUTY EXTERIOR GRADE TO MEET NBC EGRESS REQUIREMENTS.

TYPICAL AT EACH DOME EMERGENCY EXIT DOOR

DOME EMERGENCY EXIT (TYP.)
ALL ELECTRICAL SUPPLY AND INSTALL BY OTHERS (NIC).
ALL TRENCHING AND BACKFILLING, REINSTATMENT BY CIVIL CONTRACTOR

3m WIDE ASPHALT PAVED PERIMETER (ASPHALT NIC)

BLEND INTO EXISTING

EXIST. 1050 mm Ø CONCRETE STORM MAIN

DOME OUTLINE

EXIST. 250 mm Ø WATER MAIN

CORPORATION STOP C/W A SERVICE CLAMP/SADDLE
CITY OF SUMMERSIDE STAFF TO INSTALL ON THE LIVE TAP

CURB STOP AND SERVICE BOX

EXIST. 450 mm Ø PVC STORM MAIN

PROVIDE NEW SADDLE TO EXISTING SANITARY SEWER

REMOVE EXISTING SIDEWALK
INSTALL NEW ACCESSIBLE RAMPED SIDEWALK

FINISH ELEVATION AND SIDEWALK STYLE TO MATCH EXISTING. DOWEL INTO EXISTING SIDEWALK (B.S.) AS PER CITY OF SUMMERSIDE STANDARDS

NEW SIDEWALK FLUSH WITH EXIST. ROAD

NEW CROSSWALK

MODIFY EXISTING CURBS TO SUIT SIDEWALK DROP

WILLOW AVE.

CONCRETE SIDEWALK

73.61m (241'-6" - TO COORDINATE WITH DOME SUPPLIER)

77m (251'-0" - TO COORDINATE WITH DOME SUPPLIER)

11m

OUTSIDE FACE OF GRADE BEAM

10' WIDE DOULBE GATE

NEW CHAINLINK FENCE

BLEND INTO EXISTING TYP.

DOME

NEW MULTIPURPOSE INFLATED DOME BUILDING & TURF FIELD ±5548m² (59 700 ft²)

NEW PARKING

NEW 150 mm Ø DR 35 PVC SANITARY SERVICE @ MIN. 2% SLOPE

NEW 38 mm Ø MUNICIPEX DOMESTIC SERVICE C/W CURB AND MAIN STOP

NEW CONCRETE SIDEWALK

NEW CURB. BLEND INTO EXISTING AND DROP DOWN AT NEW SIDEWALK LOCATION

SLOPE 6%

6' WIDE SINGLE GATE

NEW STAINLESS STEEL ACCESSIBLE DOOR OPENER BOLLARD POST. COORDINATE EXACT LOCATION WITH ARCHITECTURAL BUILDING DRAWINGS.

NEW MULTIPURPOSE BUILDING ±335m² (3600 ft²)

DOME AIRLOCK

DROP CURB AND BLEND INTO EXIST.

EXISTING PARKING

FLUSH WITH TOP EXIST. ASPHALT

DROP CURB ON BOTH SIDE OF NEW ASPHALT VEHICLE ACCESS (TYP BOTH SIDES)

VEHICLE AIRLOCK

BOB DEWAR ST.

NEW ASPHALT PAVED VEHICLE ACCESS (ASPHALT NIC)

NEW GRAVEL TRAIL

CONCRETE PAD FOR PERSONNEL AIR LOCK SEE DOME SUPPLIER DRAWINGS FOR SPECIFICATIONS

HEATER & AIR BLOWER UNIT

HEATER & AIR BLOWER UNIT

EMERGENCY GENERATOR

CONCRETE PAD FOR MECHANICAL EQUIPMENT SEE DOME SUPPLIER DRAWINGS FOR SPECIFICATIONS

PROPANE TANK 1000 GAL. EACH SUPPLIED AND INSTALLED BY OTHERS

NEW UNDERGROUND OPTICAL FIBER CABLE

EXISTING CLUB HOUSE BUILDING

ALL ELECTRICAL SUPPLY AND INSTALL BY OTHERS (NIC).
ALL TRENCHING AND BACKFILLING, REINSTATMENT BY CIVIL CONTRACTOR

COORDINATE		
POINT #	N	E
1	706018.752	338377.670
2	706003.208	338449.619
3	705943.975	338361.515
4	705928.431	338433.464
5	705969.672	338446.466
6	705945.158	338441.170

* GRADE BEAM COORDINATES ARE TO THE OUTSIDE FACE OF FOUNDATION. COORDINATE WITH DOME SUPPLIER DRAWINGS

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NO	REVISION	DATE
0	ISSUED FOR PERMIT	2021-04-20
1	ISSUED FOR TENDER	2021-05-18
2	ISSUED FOR ADDENDUM #1	2021-05-26
3	ISSUED FOR CONSTRUCTION	2021-06-03

ENGINEER STAMP:

PROFESSIONAL ENGINEER
THE ASSOCIATION OF PROFESSIONAL ENGINEERS OF PRINCE EDWARD ISLAND
Nicholas Sharkey
Nicholas G. Sharkey
1407
June 3 2021
DATE
PROVINCE OF PRINCE EDWARD ISLAND

CLIENT INFORMATION:

CITY OF SUMMERSIDE
511 NOTRE-DAME ST.
SUMMERSIDE, PE

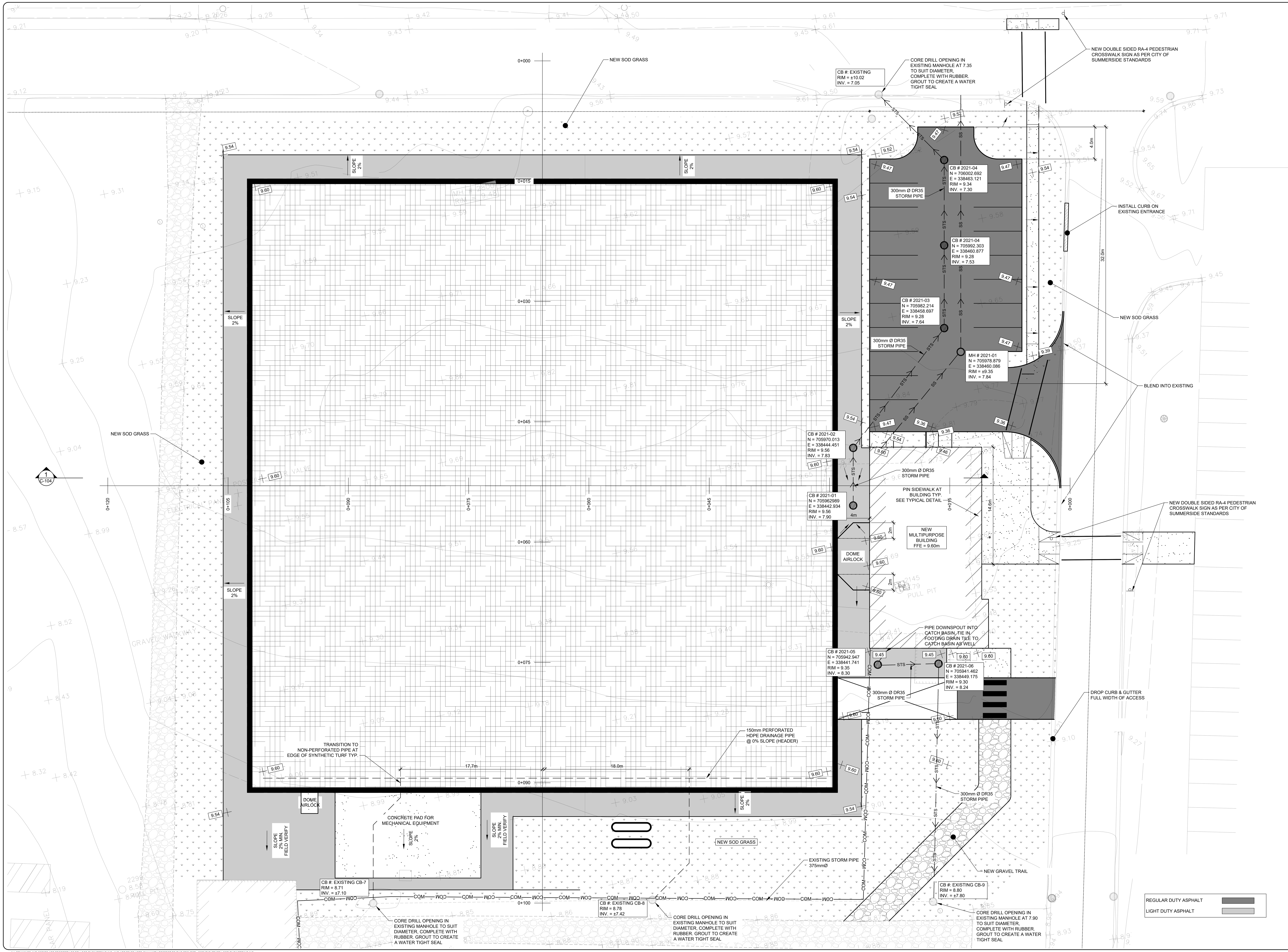
SHEET INFORMATION:

TURF FIELD & DOME SITE PLAN

DATE:	SCALE:
2021-02-17	1:200
DRAWN: L.TURGEON	DESIGNED: N. SHARKEY

PROJECT NO: 20274

SHEET: C-102



NEW SOD GRASS
CB #: EXISTING
RIM = ±10.02
INV. = 7.05
CORE DRILL OPENING IN EXISTING MANHOLE AT 7.35 TO SUIT DIAMETER, COMPLETE WITH RUBBER. GROUT TO CREATE A WATER TIGHT SEAL
NEW DOUBLE SIDED RA-4 PEDESTRIAN CROSSWALK SIGN AS PER CITY OF SUMMERSIDE STANDARDS
CB # 2021-04
N = 706002.692
E = 338463.121
RIM = 9.34
INV. = 7.30
300mm Ø DR35 STORM PIPE
INSTALL CURB ON EXISTING ENTRANCE
CB # 2021-04
N = 705992.303
E = 338460.877
RIM = 9.28
INV. = 7.53
CB # 2021-03
N = 705982.214
E = 338458.697
RIM = 9.28
INV. = 7.64
MH # 2021-01
N = 705978.879
E = 338460.086
RIM = ±9.35
INV. = 7.84
BLEND INTO EXISTING
CB # 2021-02
N = 705970.013
E = 338444.451
RIM = 9.56
INV. = 7.83
CB # 2021-01
N = 705962989
E = 338442.934
RIM = 9.56
INV. = 7.90
PIN SIDEWALK AT BUILDING TYP. SEE TYPICAL DETAIL
NEW MULTIPURPOSE BUILDING FFE = 9.60m
DOME AIRLOCK
PIPE DOWNSPOUT INTO CATCH BASIN, TIE IN FOOTING DRAIN TILE TO CATCH BASIN AS WELL
CB # 2021-05
N = 705942.947
E = 338441.741
RIM = 9.35
INV. = 8.30
CB # 2021-06
N = 705941.462
E = 338449.175
RIM = 9.30
INV. = 8.24
DROP CURB & GUTTER FULL WIDTH OF ACCESS
TRANSITION TO NON-PERFORATED PIPE AT EDGE OF SYNTHETIC TURF TYP.
150mm PERFORATED HDPE DRAINAGE PIPE @ 0% SLOPE (HEADER)
17.7m
18.0m
SLOPE 2%
CONCRETE PAD FOR MECHANICAL EQUIPMENT
SLOPE 2% MIN. FIELD VERIFY
NEW SOD GRASS
EXISTING STORM PIPE 375mmØ
NEW GRAVEL TRAIL
CB #: EXISTING CB-7
RIM = 8.71
INV. = ±7.10
CB #: EXISTING CB-8
RIM = 8.78
INV. = ±7.42
CB #: EXISTING CB-9
RIM = 8.80
INV. = ±7.80
CORE DRILL OPENING IN EXISTING MANHOLE TO SUIT DIAMETER, COMPLETE WITH RUBBER. GROUT TO CREATE A WATER TIGHT SEAL
CORE DRILL OPENING IN EXISTING MANHOLE AT 7.90 TO SUIT DIAMETER, COMPLETE WITH RUBBER. GROUT TO CREATE A WATER TIGHT SEAL
REGULAR DUTY ASPHALT
LIGHT DUTY ASPHALT

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NO	REVISION	DATE
0	ISSUED FOR PERMIT	2021-04-20
1	ISSUED FOR TENDER	2021-05-18
2	ISSUED FOR ADDENDUM #1	2021-05-26
3	ISSUED FOR CONSTRUCTION	2021-06-03

ENGINEER STAMP:

PROFESSIONAL ENGINEER
The Association of Professional Engineers of the Province of Prince Edward Island
Nicholas G. Sharkey
1407
June 3, 2021
DATE
PROVINCE OF PRINCE EDWARD ISLAND

CLIENT INFORMATION:

CITY OF SUMMERSIDE
511 NOTRE-DAME ST.
SUMMERSIDE, PE

SHEET INFORMATION:

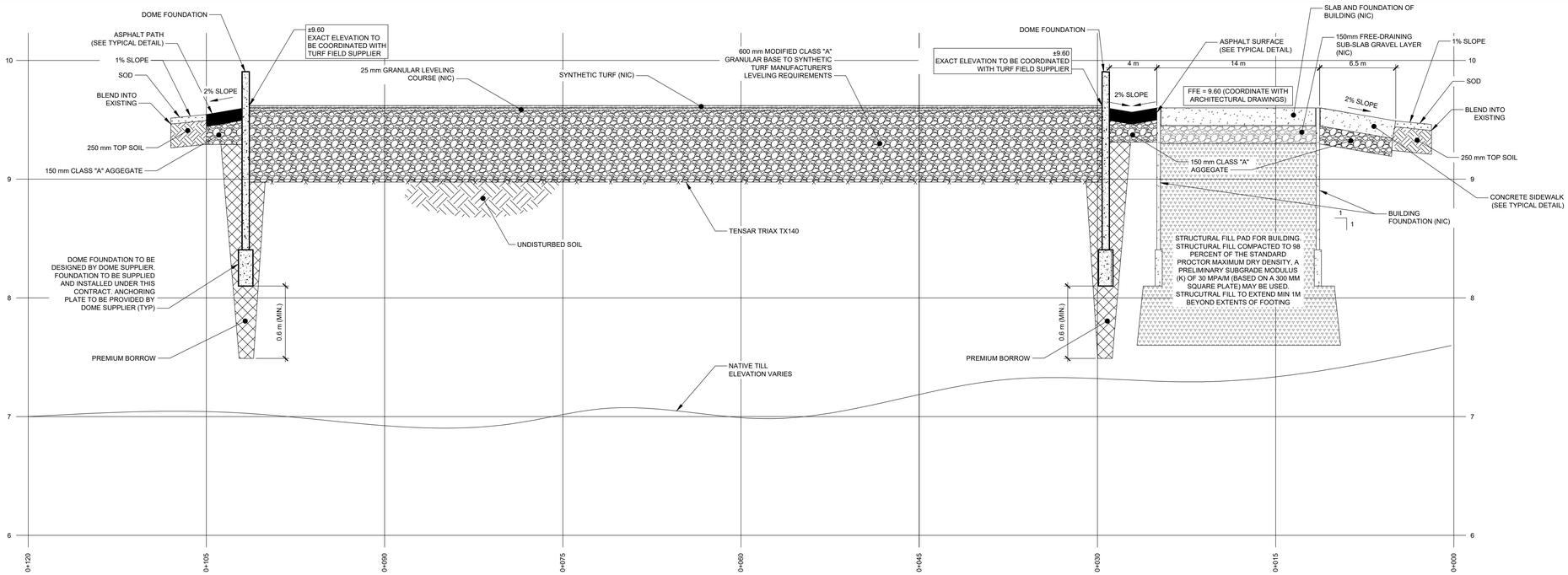
TURF FIELD & DOME
GRADING & DRAINAGE

DATE: 2021-02-18	SCALE: 1:200
DRAWN: L.TURGEON	DESIGNED: N. SHARKEY

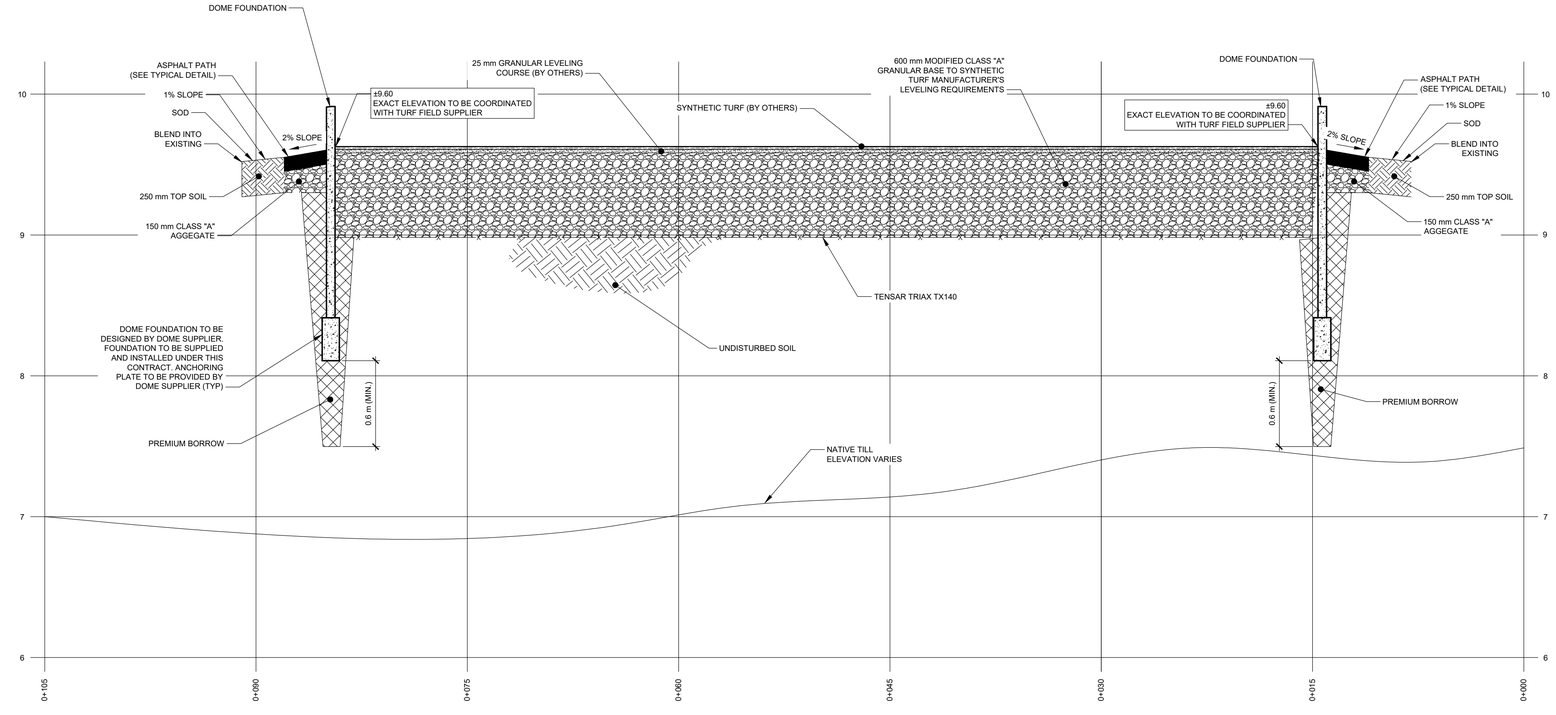
PROJECT NO: 20274

SHEET: C-103

20274 - City of Summerside - Multipurpose Turf Field and Dome - CIVIL MASTER.dwg



1 C-104 TURF FIELD PROFILE
SCALE: H= 1:200 V=1:20



- C-104 TURF FIELD SAMPLE AT 0+050
SCALE: H= 1:200 V=1:20

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0	ISSUED FOR PERMIT	2021-04-20
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2	ISSUED FOR CONSTRUCTION	2021-06-03

ENGINEER STAMP:

PROFESSIONAL ENGINEER
THE ASSOCIATION OF PROFESSIONAL ENGINEERS OF THE PROVINCE OF PRINCE EDWARD ISLAND
Nicholas Sharkey
Nicholas G. Sharkey
1407
June 3 2021
DATE
PROVINCE OF PRINCE EDWARD ISLAND

CLIENT INFORMATION:

CITY OF SUMMERSIDE
511 NOTRE-DAME ST.
SUMMERSIDE, PE

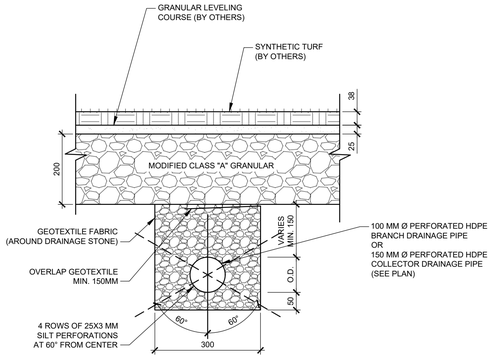
SHEET INFORMATION:

TURF FIELD & DOME SECTIONS

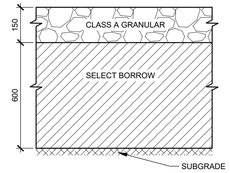
DATE: 2021-02-24	SCALE: AS SHOWN
DRAWN: L.TURGEON	DESIGNED: N. SHARKEY

PROJECT NO:
20274

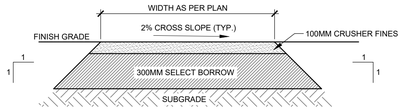
SHEET:
C-104



PERFORATED PIPE TRENCH UNDER SYNTHETIC TURF
SCALE: N.T.S

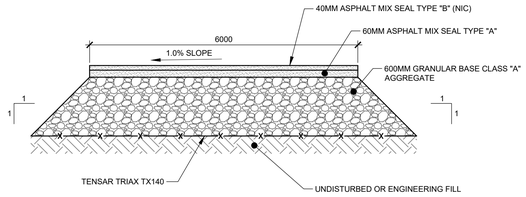


GRAVEL PARKING LOT
SCALE: N.T.S

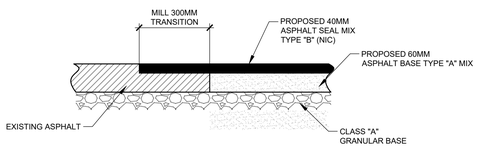


NOTES:
1. FINISHED GRADE OF PATH SURFACE TO MATCH SURROUNDING GROUND
2. SELECT BORROW TO BE REPLACED WITH GRAVEL FROM EXISTING PILE ON SOUTH SITE, SEE NOTE ON DRAWING C2. USE UP GRAVEL BEFORE SWITCHING TO SELECT BORROW
3. SEE PLAN FOR DIRECTION OF CROSS SLOPE.

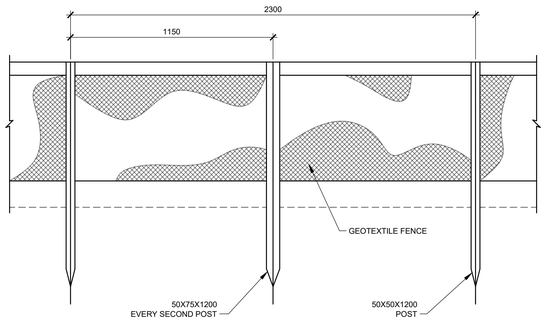
GRAVEL WALKWAY
SCALE: N.T.S

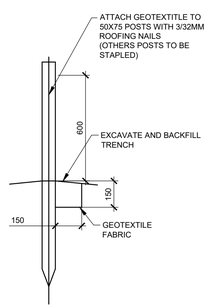


STANDARD ROAD CROSS-SECTION
SCALE: N.T.S



ASPHALT TRANSITION TO EXISTING SURFACE
SCALE: N.T.S.





DETAIL-TYPE 1
SEDIMENT CONTROL FENCE
SCALE: N.T.S.

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PROFESSIONAL ENGINEER
THE ASSOCIATION OF PROFESSIONAL ENGINEERS OF THE PROVINCE OF PRINCE EDWARD ISLAND
Nicholas Sharkey
Nicholas G. Sharkey
1407
June 3 2021
DATE
PROVINCE OF PRINCE EDWARD ISLAND

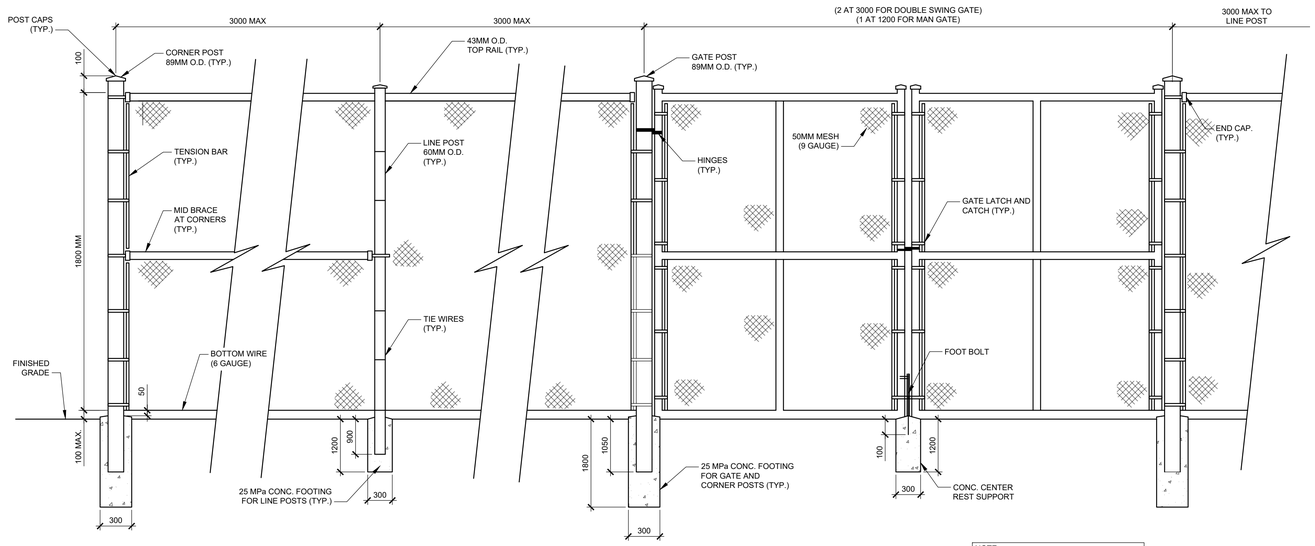
CLIENT INFORMATION:
CITY OF SUMMERSIDE
511 NOTRE-DAME ST.
SUMMERSIDE, PE

SHEET INFORMATION:
TURF FIELD & DOME MISCELLANEOUS DETAILS

DATE:	SCALE:
2021-03-02	AS SHOWN
DRAWN:	DESIGNED:
N. ADDEPALLI	N. SHARKEY

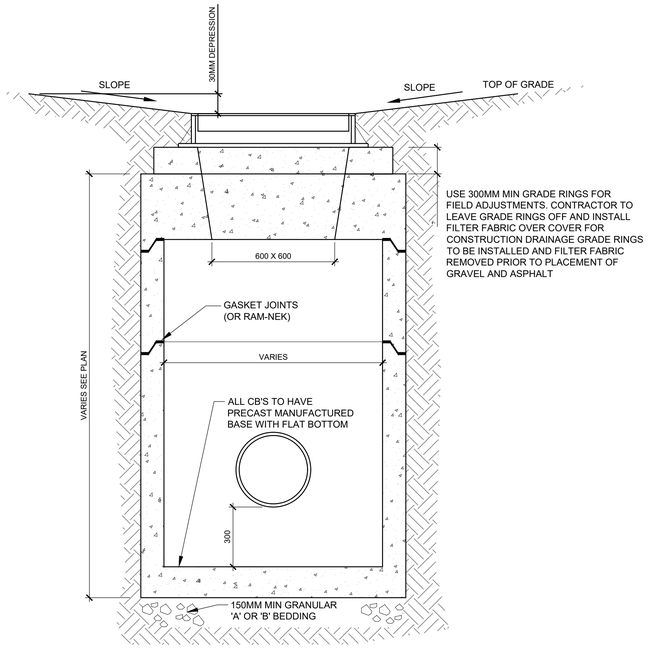
PROJECT NO:
20274

SHEET:
C-105



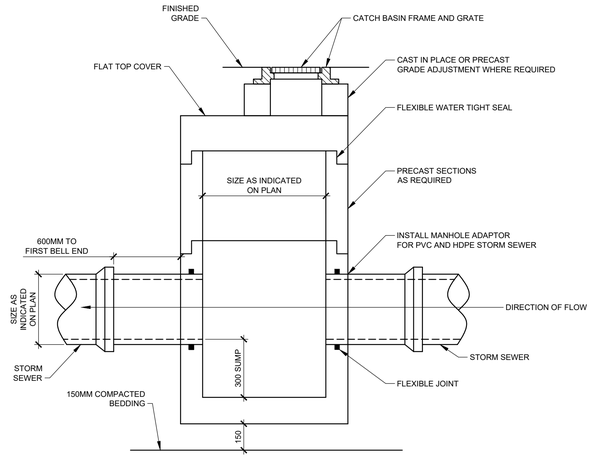
HIGH CHAINLINK FENCE AND GATE
SCALE: N.T.S

NOTE:
SEE SHEET C-102 FOR REQUIREMENTS OF EMERGENCY EXIT GATES IN NEW FENCE. EMERGENCY EXIT GATES ARE TO ALIGN WITH ALL DOME EMERGENCY EXITS.



USE 300MM MIN GRADE RINGS FOR FIELD ADJUSTMENTS. CONTRACTOR TO LEAVE GRADE RINGS OFF AND INSTALL FILTER FABRIC OVER COVER FOR CONSTRUCTION DRAINAGE GRADE RINGS TO BE INSTALLED AND FILTER FABRIC REMOVED PRIOR TO PLACEMENT OF GRAVEL AND ASPHALT

CATCH BASIN DETAIL
SCALE: N.T.S



CATCH BASIN
SCALE: N.T.S

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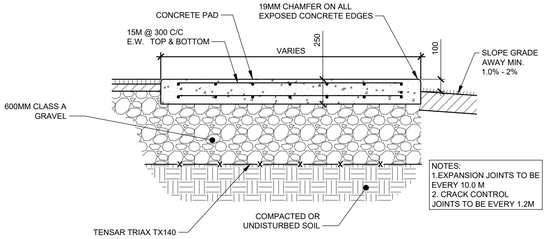
PROJECT NO:

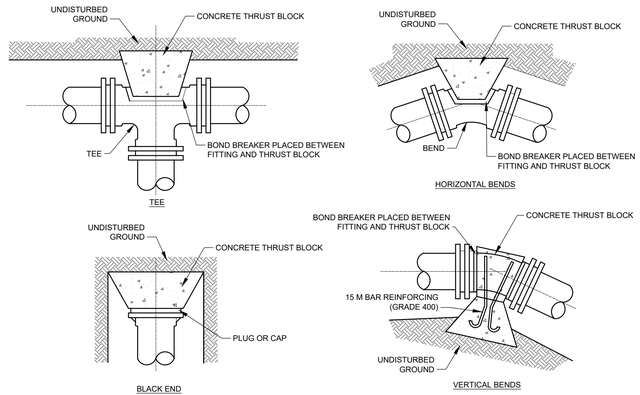
20274

SHEET:

C-106



TYPICAL CONCRETE PAD DETAIL
SCALE: N.T.S



MINIMUM CONTACT AREAS FOR CONCRETE THRUST BLOCKS

PIPE DIA	AREA (M2) FOR SOIL SUPPORTING CAPACITY OF 100 kPa					
MM	CAP OR PLUG	TEE	90° BEND	45° BEND	22.5° BEND	11.25° BEND
100	0.25	0.25	0.32	0.20	0.16	0.16
150	0.48	0.48	0.64	0.40	0.24	0.16
200	0.80	0.80	1.12	0.64	0.32	0.16
250	1.28	1.28	1.76	0.96	0.48	0.24
300	1.76	1.76	2.56	1.44	0.72	0.40

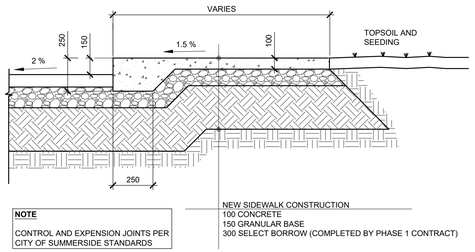
MIN. DISTANCE FROM FITTING TO UNDERSTAND GROUND

PIPE DIA	MM
100	450
150	450
200	450
250	600
300	750

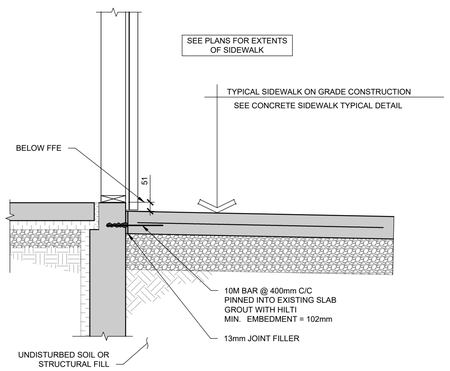
VERTICAL THRUST BLOCKS THRUST COMPENSATED FOR BY MASS OF CONCRETE (M3)

PIPE DIA (MM)	45° BEND	22.5° BEND	11.25° BEND
100	0.40	0.20	0.20
150	0.80	0.40	0.40
200	1.40	0.70	0.70
250	2.10	1.10	1.10
300	3.00	1.50	1.50

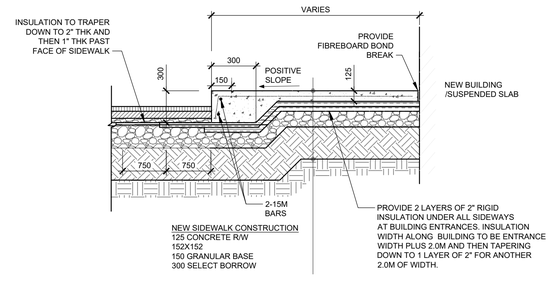
TYPICAL THRUST BLOCK DETAILS
SCALE: N.T.S



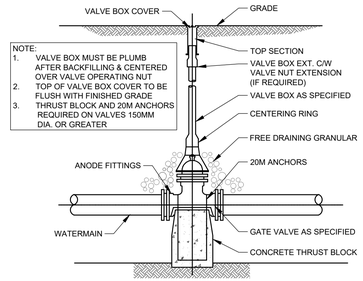
TYPICAL SIDEWALK/ CURB SECTION
SCALE: N.T.S



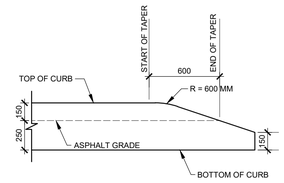
TYPICAL SIDEWALK DETAILS AT BUILDING PERIMETER
SCALE: N.T.S



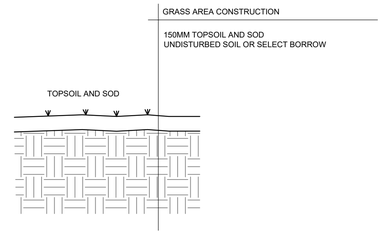
TYPICAL BUILDING ENTRANCE SIDEWALK SECTION
SCALE: N.T.S



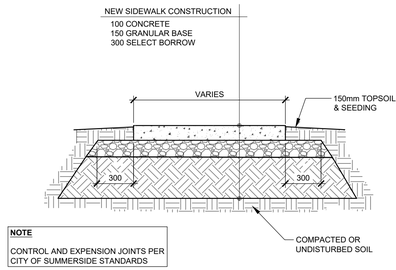
VALVE BOX DETAIL
SCALE: N.T.S



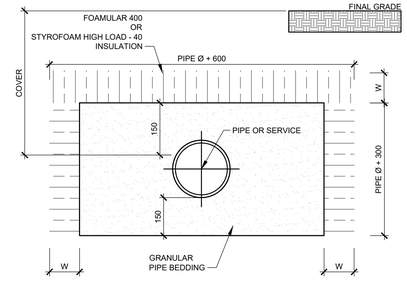
CURB TERMINATION
SCALE: N.T.S



TYPICAL GRASS SECTION
SCALE: N.T.S

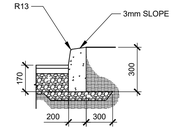


CONCRETE SIDEWALK
SCALE: N.T.S

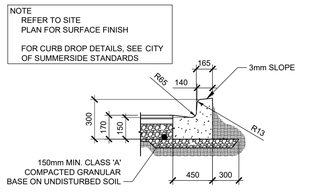


NOTE:
1. PROVIDE 25MM OF INSULATION FOR EVERY 300MM OF REQUIRED FROST COVER THAT IS NOT PROVIDED (W)
2. APPROVED RIGID FOAM BOARD ONLY-COMPREHENSIVE STRENGTH = 40PSI
3. MINIMUM OF 0.25M OF COMPACTED BACKFILL MATERIAL (AS PER CONTRACT SPECIFICATIONS) IS REQUIRED INSULATION PRIOR TO TRAFFIC LOADING.

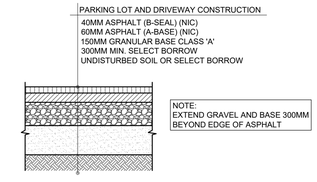
PIPE INSULATION
SCALE: N.T.S



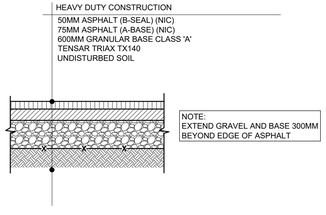
TYPICAL CONCRETE CURB SECTION
SCALE: N.T.S



TYPICAL CONCRETE CURB & GUTTER SECTION
SCALE: N.T.S



TYPICAL LIGHT DUTY ASPHALT SECTION
SCALE: N.T.S



TYPICAL REGULAR DUTY ASPHALT SECTION
SCALE: N.T.S

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THE ASSOCIATION OF PROFESSIONAL ENGINEERS OF THE PROVINCE OF PRINCE EDWARD ISLAND
Nicholas Sharkey
Nicholas G. Sharkey
1407
June 3, 2021
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SUMMERSIDE, PE

SHEET INFORMATION:

TURF FIELD & DOME MISCELLANEOUS DETAILS

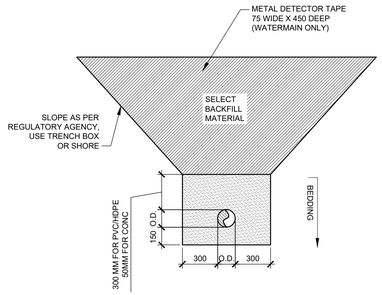
DATE:	SCALE:
2021-03-02	AS SHOWN
DRAWN:	DESIGNED:
N. ADDEPALLI	N. SHARKEY

PROJECT NO:

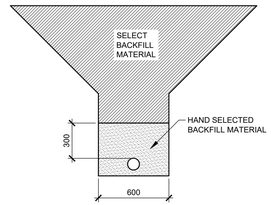
20274

SHEET:

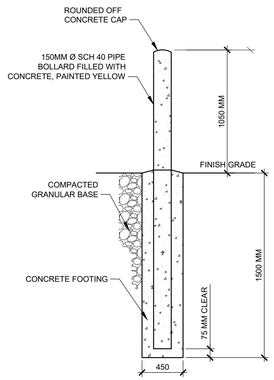
C-107



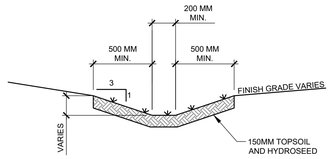
SINGLE PIPE TRENCH DETAIL FOR SANITORY SEWER/STORM WATER
SCALE: N.T.S



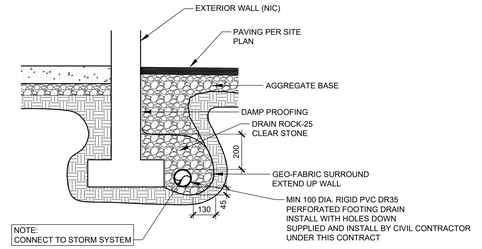
COPPER SERVICE
TRENCH DETAIL
SCALE: N.T.S



TYPICAL BOLLARD
SCALE: N.T.S

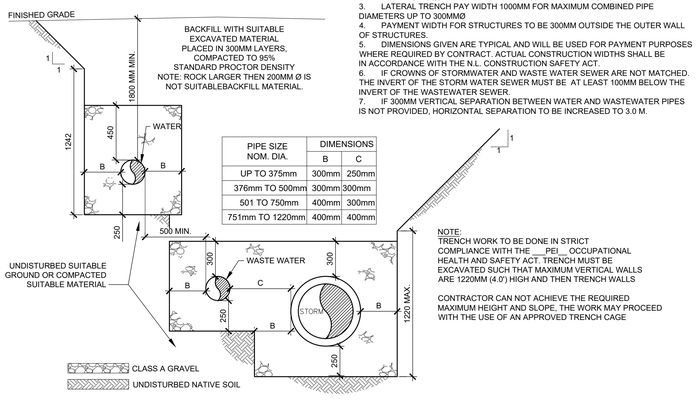


TYPICAL SWALE
SCALE: N.T.S



FOOTING DRAIN
SCALE: N.T.S

NOTE:
1. DIMENSIONS ARE GOVERNED BY THE LARGER ADJACENT PIPE.
2. BEDDING REQUIREMENTS SHALL BE 250MM AS PER SECTIONS.
3. LATERAL TRENCH PAY WIDTH 1000MM FOR MAXIMUM COMBINED PIPE DIAMETERS UP TO 300MM0
4. PAYMENT WIDTH FOR STRUCTURES TO BE 300MM OUTSIDE THE OUTER WALL OF STRUCTURES.
5. DIMENSIONS GIVEN ARE TYPICAL AND WILL BE USED FOR PAYMENT PURPOSES WHERE REQUIRED BY CONTRACT. ACTUAL CONSTRUCTION WIDTHS SHALL BE IN ACCORDANCE WITH THE N.L. CONSTRUCTION SAFETY ACT.
6. IF CROWNS OF STORMWATER AND WASTE WATER SEWER ARE NOT MATCHED, THE INVERT OF THE STORM WATER SEWER MUST BE AT LEAST 100MM BELOW THE INVERT OF THE WASTEWATER SEWER.
7. IF 300MM VERTICAL SEPARATION BETWEEN WATER AND WASTEWATER PIPES IS NOT PROVIDED, HORIZONTAL SEPARATION TO BE INCREASED TO 3.0 M.

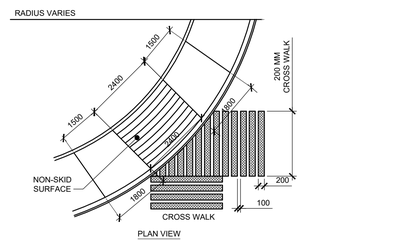


PIPE SIZE NOM. DIA.	DIMENSIONS	
	B	C
UP TO 375mm	300mm	250mm
376mm TO 500mm	300mm	300mm
501 TO 750mm	400mm	300mm
751mm TO 1220mm	400mm	400mm

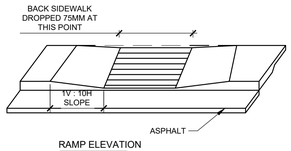
NOTE:
TRENCH WORK TO BE DONE IN STRICT COMPLIANCE WITH THE ___PEI__ OCCUPATIONAL HEALTH AND SAFETY ACT. TRENCH MUST BE EXCAVATED SUCH THAT MAXIMUM VERTICAL WALLS ARE 1220MM (4.0') HIGH AND THEN TRENCH WALLS

CONTRACTOR CAN NOT ACHIEVE THE REQUIRED MAXIMUM HEIGHT AND SLOPE, THE WORK MAY PROCEED WITH THE USE OF AN APPROVED TRENCH CAGE

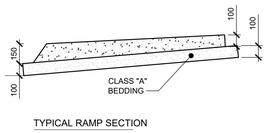
TRENCH DRAIN DETAIL
SCALE: N.T.S



PLAN VIEW



RAMP ELEVATION



TYPICAL RAMP SECTION

COMBINED RAMP &
CONCRETE CURB SIDEWALK
SCALE: N.T.S

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20274

SHEET:

C-108

Appendix B –

New CUP Parking Lot Drawing

CITY OF SUMMERSIDE
CUP NEW PARKING LOT

511 NOTRE-DAME ST.
SUMMERSIDE, PE

CIVIL

SHEET NO: ---------- TITLE
C-100 ---------- NOTES
C-101 ---------- DRAINAGE PLAN
C-102 ---------- DETAILS

BELLCOR

STRUCTURAL ENGINEERING / CIVIL & PROJECT MANAGEMENT
149 INDUSTRIAL CRESCENT
SUMMERSIDE, PE
C1N 5P8
www.bellcor.ca

PROJECT NO: 21188

GENERAL NOTES

1. THE LIMIT OF CONTRACT IS GENERALLY BOUNDED BY THE PROPERTY LINE AND ALSO INCLUDES ALL WORK IMPLIED OR SHOWN WITHIN AND OUTSIDE THE LOT. THE SCOPE OF WORK SHALL INCLUDE ALL CIVIL WORK SHOWN OR IMPLIED ON THE DRAWINGS AND SHALL INCLUDE ANY ADDITIONAL WORK LISTED IN THE SPECIFICATIONS AND TENDER DOCUMENTS.
2. ALL DIMENSIONS ARE IN METERS AND MILLIMETERS. ALL ELEVATIONS ARE IN GEODETIC METERS. DISTANCES AND ELEVATIONS CAN BE CONVERTED INTO IMPERIAL BY DIVIDING VALUES IN METERS BY 0.3048 TO OBTAIN THEIR EQUIVALENT IN FEET.
3. ALL WORK SHALL FOLLOW STANDARD CONSTRUCTION PRACTICE. WORK SHALL FOLLOW ALL LOCALLY ENFORCED CODES AND REGULATIONS. ALL PIPES, MHYS AND CBS SHALL BE HANDLED AND INSTALLED TO THE MANUFACTURER'S RECOMMENDATIONS. ALL LINE TESTING AND WATER LINE DISINFECTION REQUIRED BY THE MUNICIPALITY AND PROVINCIAL GOVERNMENT ARE THE RESPONSIBILITY OF THE CIVIL CONTRACTOR.
4. CIVIL SITE PLANS SHALL BE READ IN CONJUNCTION WITH THE ARCHITECTURAL, STRUCTURAL, MECHANICAL, ELECTRICAL AND LANDSCAPE SITE DRAWINGS.CONTRACTOR SHALL ALSO REVIEW AND IMPLEMENT THE RECOMMENDATIONS LISTED IN THE GEOTECHNICAL REPORT
5. TOPOGRAPHIC SURVEY INFORMATION BASED ON MORRIS GEOMATICS AND ENGINEERING LTD. DRAWING NO. 21054.700 DATED 2021-05-10.EXISTING SERVICES INFORMATION BASED ON CITY OF SUMMERSIDE RECORD DRAWING.
6. LOCATIONS INDICATED FOR EXISTING SERVICES, UTILITIES, SEWER STRUCTURES, AND BUILDING SHALL BE CONSIDERED APPROXIMATE. CIVIL CONTRACTOR IS RESPONSIBLE FOR CONFIRMING THE ACCURACY AND COMPLETENESS OF SERVICE INFORMATION ON SITE PRIOR TO COMMENCING WORK. CIVIL CONTRACTOR IS SOLELY LIABLE FOR ANY DAMAGE CAUSED TO EXISTING SERVICES WHETHER THEY ARE SHOWN ON THE PLAN OR NOT.
7. THE CIVIL CONTRACTOR IS RESPONSIBLE FOR ALL TRAFFIC CONTROL AND SAFETY MEASURES DURING CONSTRUCTION. ALL CONSTRUCTION SHALL BE CARRIED OUT IN ACCORDANCE WITH THE REQUIREMENTS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS. ANY FINES OR CHARGES FOR UNSAFE WORKING CONDITIONS ARE SOLELY THE RESPONSIBILITY OF THE CIVIL CONTRACTOR.
8. THE CIVIL CONTRACTOR IS RESPONSIBLE FOR PREVENTING MUD TRACKING ONTO THE PUBLIC AND PRIVATE RIGHT-OF-WAYS; AND IS, AT THEIR EXPENSE, RESPONSIBLE FOR CLEANING TRACKED MUD FROM THE R.O.W AS DIRECTED BY THE MUNICIPALITY.
9. THE CONTRACTOR IS RESPONSIBLE FOR NECESSARY GRADING AND DUST CONTROL AS DIRECTED BY THE MUNICIPALITY OR THE OWNER'S SITE REPRESENTATIVE.
10. CIVIL CONTRACTOR SHALL REINSTATE ALL DISTURBED AREAS TO ORIGINAL CONDITION OR BETTER. WORK WITHIN THE PUBLIC R.O.W OR ON PUBLIC INFRASTRUCTURE SHALL BE COMPLETED TO THE STANDARD ENFORCED BY THE AUTHORITY HAVING JURISDICTION.
11. ALL WORK PERFORMED WITHIN THE ROAD R.O.W OR ON EXISTING MUNICIPAL SERVICES SHALL FOLLOW MUNICIPAL AND PROVINCIAL SPECIFICATIONS AND GUIDELINES. WORK ON PUBLIC PROPERTY AND INFRASTRUCTURE IS SUBJECT TO APPROVAL BY THE OWNER AND THE AUTHORITIES HAVING JURISDICTION.
12. THE BUILDING FOOTPRINT SHALL BE LOCATED BY A REGISTERED SURVEYOR BASEDON THE FOUNDATION PLAN.
13. THE CIVIL CONTRACTOR IS RESPONSIBLE FOR OBTAINING AND PAYING FOR ALL PERMITS REQUIRED FOR WORK WITHIN R.O.W OR ON EXISTING MUNICIPAL SERVICES. CIVIL CONTRACTOR IS RESPONSIBLE FOR MAKING ALL SERVICE CONNECTIONS TO MUNICIPAL MAINS OR PAYING THE CITY TO DO SO. CIVIL CONTRACTOR SHALL PROVIDE THE MUNICIPALITY WITH ANY DEPOSITS AND WARRANTEES REQUIRED ON WORK DONE TO PUBLIC PROPERTY AS PART OF THIS CONTRACT.
14. CIVIL CONTRACTOR IS SOLELY RESPONSIBLE FOR IMPLEMENTING EROSION AND SEDIMENTATION CONTROL MEASURES, WHICH SHALL INCLUDE BUT NOT BE LIMITED TO: INSTALLING A SILT FENCE AT THE DOWN GRADIENT BOUNDARY OF THE SITE PRIOR TO CONSTRUCTION AND PROVIDING SURFACE STABILIZATION AND ADDITIONAL MEASURES AS REQUIRED BY THE MUNICIPALITY AND DEPARTMENT OF ENVIRONMENT.
15. ALL DEMOLISHED MATERIALS INCLUDING ASPHALT, FOUNDATIONS, VEGETATION, UTILITIES, SIDEWALKS, SURPLUS FILL, ETC. SHALL BECOME THE PROPERTY OF THE CIVIL CONTRACTOR AND SHALL BE REMOVED FROM THE SITE; UNLESS SPECIFICALLY NOTED OTHERWISE. CIVIL CONTRACTOR SHALL BE RESPONSIBLE FOR DISPOSING OF SUCH IN ACCORDANCE TO ALL APPLICABLE MUNICIPAL, PROVINCIAL AND FEDERAL LAWS AND REGULATIONS.
16. ALL PRICES SHALL BE BOTH SUPPLY AND INSTALL INCLUDING TRENCHING, BACKFILLING AND COMPACTION. ALL WORK IS SUBJECT TO APPROVAL BY OWNERS REPRESENTATIVE AND LOCAL MUNICIPALITY. MATERIALS DAMAGED OR OF POOR QUALITY CAN AND WILL BE REJECTED BY THE OWNERS REPRESENTATIVE.
17. ALL SITE WORK SHALL BE WARRANTED FOR ONE YEAR AFTER SUBSTANTIAL COMPLETION.
18. PROVIDE RIGID INSULATION WHERE FROST COVER CAN NOT BE ESTABLISHED . REQUIRED FROST COVER IS 1800MM OVER WATER PIPES AND 1500MM TO THE INVERT OF SEWER PIPES, SEE DETAIL.
19. PROPOSED GRADES SHALL BE UNDERSTOOD AS FINISHED SURFACE GRADES UNLESS NOTED OTHERWISE.
20. CONTRACTORS ARE RESPONSIBLE FOR VISITING THE SITE TO CONFIRM CONDITIONS PRIOR TO SUBMITTING BIDS. ALL SURFACE FEATURES SHALL BE DEMOLISHED AS REQUIRED TO ACCOMMODATE THE PROPOSED WORK.
21. SEWER STRUCTURES SHALL HAVE A MINIMUM DIAMETER OF 1050MM. INCREASE SIZE AS REQUIRED FOR MULTIPLE PIPE AND LARGE PIPE STRUCTURES.
22. PIPE MATERIALS FOR SANITARY SEWER SHALL BE PVC WITH A MINIMUM OF DR35 THICKNESS . PIPE FOR STORM SEWER SHALL BE HDPE OR PVC DR 35.PIPE FOR WATER SYSTEMS SHALL BE PVC DR 18 OR TYPE K COPPER
23. IF A DETAIL IS NOT PROVIDED THEN REFER TO CITY OF SUMMERSIDE STANDARD MUNICIPAL SPECIFICATIONS.
24. CONTRACTOR IS RESPONSIBLE TO ENSURE THAT THE WORK IS CARRIED OUT IN ACCORDANCE WITH P.E. OCCUPATIONAL HEALTH AND SAFETY ACT.
25. CONTRACTOR TO CONFIRM HORIZONTAL LOCATION AND VERTICAL ELEVATIONS OF ALL EXISTING SERVICES PRIOR TO COMMENCING WORK. CONTRACTOR TO IMMEDIATELY REPORT ANY DISAPPEARANCES TO THE ENGINEER
26. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF NATURAL WATERCOURSES/DRAINAGE SWALES FROM DAMAGE DUE TO SILTATION RUNOFF FROM THE CONSTRUCTION SITE.
27. DITCHES ,SWALES AND PONDS ARE TO BE STABILIZED AS SOON AS IS PRACTICAL AFTER CONSTRUCTION. PERMANENT STABILIZATION SHALL BE COMPLETED WITHIN 30 DAYS OF CONSTRUCTION AND SHALL CONSIST OF; RIPRAP WHERE SPECIFIED ON THE PLANS OR HYDROSEED TO CITY OF SUMMERSIDE SPECIFICATION , UNLESS NOTED.
28. A LATERAL SERVICE HOOK-UP INSPECTION BY THE CITY'S ENGINEERING DEPARTMENT IS REQUIRED PRIOR TO BACKFILLING THE LATERAL CONNECTIONS TO THE MAINLINE. NO WATER TURN ON WILL TAKE PLACE UNTIL THIS HOOK-UP INSPECTION HAS BEEN COMPLETED
29. LOCATIONS AND EXTENT OF UNSUITABLE MATERIAL ARE UNKNOWN. DEFINITION OF UNSUITABLE MATERIAL TO BE DEFINED BY GEOTECHNICAL ENGINEER .CONTRACTOR IS RESPONSIBLE TO REVIEW SITE CONDITIONS IN A MANNER DEEMED RELIABLE TO IDENTIFY LOCATIONS AND EXTENT OF UNSUITABLE MATERIAL.CONTRACTOR IS RESPONSIBLE FOR REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL AND REPLACEMENT WITH MATERIAL APPROVED BY THE GEOTECHNICAL ENGINEER.
30. ALL DISTURBED AREAS, INCLUDING THE TEMPORARY CONSTRUCTION ROAD SHALL BE REINSTATED, AS SOON AS POSSIBLE, TO PREVIOUS CONDITION OR BETTER.
31. CONTACT CITY'S ENGINEERING DEPARTMENT PRIOR TO CONSTRUCTION FOR APPLICATION FOR A LATERAL SERVICE AND DEPOSIT.

PAVING

1. NATIVE SOIL SHALL BE PROOF ROLLED PRIOR TO APPLYING FILL MATERIAL
2. SOFT SPOTS AND OTHER TROUBLE AREAS SHALL BE EXCAVATED AND REPLACED WITH SELECT BORROW AS DIRECTED BY THE ENGINEER
3. ALL UNIT PRICES FOR MATERIALS SHALL BE COMPACTED IN PLACE.
4. WHERE NEW ASPHALT MEETS EXISTING , MILL EDGE PF EXISTING ASPHALT DOWN 40MM BY A MINIMUM WIDTH OF 600MM TO ALLOW NEW ASPHALT TO OVERLAP EXISTING.
5. CLEANLY REMOVE ANY BROKEN OR OTHERWISE DEFECTIVE ASPHALT WHERE NEW PAVING MEETS EXISTING ASPHALT.
6. SUB-BASE PREPARATION AND PLACEMENT OF ASPHALT SHALL CONFORM TO THE LATEST EDITION OF PEI TIE'S STANDARD SPECIFICATIONS.

WATER

1. CONTRACTOR IS RESPONSIBLE FOR TESTING AND DISINFECTION OF WATER MAINS TO CITY OF CHARLOTTETOWN STANDARDS.
2. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR OPERATE EXISTING WATER VALVES OR MAKE CONNECTIONS TO THE EXISTING WATER SYSTEM WITHOUT PRIOR APPROVAL OF THE CITY OF SUMMERSIDE DEPARTMENT OF ENGINEERING AND PUBLIC WORKS.
3. ALL WATER LATERALS, 100MM AND GREATER IN DIAMETER , INSTALLED MUST BE PRESSURE TESTED AND DISINFECTED TO THE CITY STANDARD MUNICIPAL SPECIFICATIONS AND RESULTS SUBMITTED TO THE ENGINEERING DEPARTMENT WITH A STAMPED LETTER STATING THAT ALL TESTS HAVE PASSED AND FULL TIME INSPECTION WAS DONE DURING CONSTRUCTION AND DURING THE TEST BEFORE WATERLINES ARE DISINFECTED OR TURNED ON BY THE CITY. CITY'S ENGINEERING DEPARTMENT MUST BE NOTIFIED ONE WEEK IN ADVANCE WITH THE TESTING RESULTS BEFORE WATER MAIN CAN BE DISINFECTED.
4. THE WATER SERVICE LATERAL FOR FIRE PROTECTION (SPRINKLER), FROM PROPERTY LINE TO THE BUILDING , SHALL FOLLOW THE NFPA 13 STANDARDS. THIS INCLUDES THE REQUIRED 200 PSI PRESSURE TEST.

EROSION CONTROL.

1. DURING WORK ON THE SITE , THE FOLLOWING ITEMS MUST BE COMPLETED.
2. SILTATION FENCE MUST BE ERECTED AROUND THE PERIMETER OF THE DISTURBED AREA TO START OF CONSTRUCTION, AND ROUTINELY MONITORED THROUGHOUT PROJECT.
3. STORM DRAIN INLET PROTECTION MUST BE INSTALLED IMMEDIATELY FOLLOWING THE INSTALLATION OF THE ONSITE STORM INFRASTRUCTURE.
4. CONTRACTOR IS RESPONSIBLE FOR DUST CONTROL, MUD AND DIRT REMOVAL ON DANIEL DRIVE, MINNI JANE ROAD AND MALPEQUE ROAD. A STABILIZED ENTRANCE/EXIT COMPLETE WITH CLEAR STONE/GRAVEL IS RECOMMENDED TO HELP PREVENT TRACKING OF MUD AND DIRT ONTO JOHN YEO DRIVE AND MALPEQUE ROAD.
5. CONTRACTOR TO INSPECT SEDIMENT CONTROL STRUCTURES AND MAKE NECESSARY REPAIRS TWICE DAILY.

LEGEND

DESCRIPTION	DESCRIPTION
SURVEY AREA BOUNDED	BOREHOLE
APPROXIMATE BOUNDARY	MONITORING WELL
EASEMENT BOUNDARY	TEST PIT
CHAIN LINK FENCE	BOLLARD
GENERAL FENCE	FLAG POLE
COMBINED SEWER	SINGLE POSTED SIGN
SANITARY SEWER	MAIL BOX
SANITARY SERVICE	MUNCIPAL CIVIC ADDRESS
SANITARY FORCEMAIN	OVERHEAD SIGN
STORM SEWER	POST
STORM SERVICE	REGULATORY SIGN
CULVERT/HEADWALL	DOUBLE POSTED SIGN
SWALE/DEFINED FLOW	FUEL MANHOLE
DITCH	FUEL METER
SURFACE DRAINAGE	FUEL VALVE
WATER MAIN	FUEL VENT
WATER SERVICE	COMMUNICATIONS MANHOLE
DISTRICT HEAT STEAM LINE	COMMUNICATIONS POLE
DISTRICT HEAT CHILL LINE	TELEPHONE RISER
BELL COMMUNICATIONS	COMMUNICATIONS VAULT
EASTLINK COMMUNICATIONS	STORM ROUND CATCHBASIN
COMMUNICATIONS	STORM SQUARE CATCHBASIN
UTILITY CONDUIT	STORM INTEGRATED CATCHBASIN
OVERHEAD ELECTRICAL	STORM DRAINAGE MANHOLE
UNDERGROUND ELECTRICAL	STORM SLUICE BOX
UNDERGROUND GAS	AIR RELEASE CHAMBER
TOP OF ROCK	DOMESTIC WELL
BOTTOM OF ROCK	ELBOW
BOTTOM OF SLOPE	END CAP
TOP OF SLOPE	FIRE HYDRANT
MAJOR CONTOUR	GATE/WATER VALVE
MINOR CONTOUR	SPRINKLER
BUILDING WALL	WATER SERVICE BOX
BUILDING FOOTING	BUTTERFLY VALVE
BUILDING FOUNDATION	ELECTRICAL MANHOLE
DRIVEWAY CUT	LIGHT POLE
SILT FENCE	PAD MOUNTED TRANSFORMER
5 YEAR STORM SETBACK	PEDESTRIAN SIGNAL POST
10 YEAR STORM SETBACK	POWER VAULT
25 YEAR STORM SETBACK	TRAFFIC CABINET
100 YEAR STORM SETBACK	TRAFFIC LIGHT
18.3m ENVIRONMENTAL SETBACK	UNIVERSAL RESIDENTIAL DISTRIBUTION
BUFFER	UTILITY POLE/ANCHOR
	COMBINED SERVICES MANHOLE
	SANITARY LIFT STATION
	SANITARY SEWER MANHOLE
	SANITARY SEWER CLEANOUT
	SANITARY SEWER LATERAL
	BENCHMARK
	SURVEY CONTROL POINT
	PROJECT CONTROL MOMUMENT
LD ASPHALT	CONIFEROUS TREE
HD ASPHALT	DECIDUOUS TREE
GRANUALR	HEDGE/TREE LINE
CONCRETE SIDEWALK	MARSH/WETLAND
TOPSOIL & SOD	SHRUB/BUSH

BELLCOR

STRUCTURAL / CIVIL ENGINEERING
PROJECT MANAGEMENT

www.bellcor.ca

NO	REVISION	DATE
0	ISSUED FOR TENDER	2021-06-23
1	RE-ISSUED FOR TENDER	2021-07-05

ENGINEER STAMP:

PROFESSIONAL ENGINEER
THE ASSOCIATION OF PROFESSIONAL ENGINEERS OF THE PROVINCE OF PRINCE EDWARD ISLAND
Nicholas Sharkey
Nicholas G. Sharkey
1407
July 5 2021
DATE
PROVINCE OF PRINCE EDWARD ISLAND

CLIENT INFORMATION:

CITY OF SUMMERSIDE
511 NOTRE-DAME ST.
SUMMERSIDE, PE

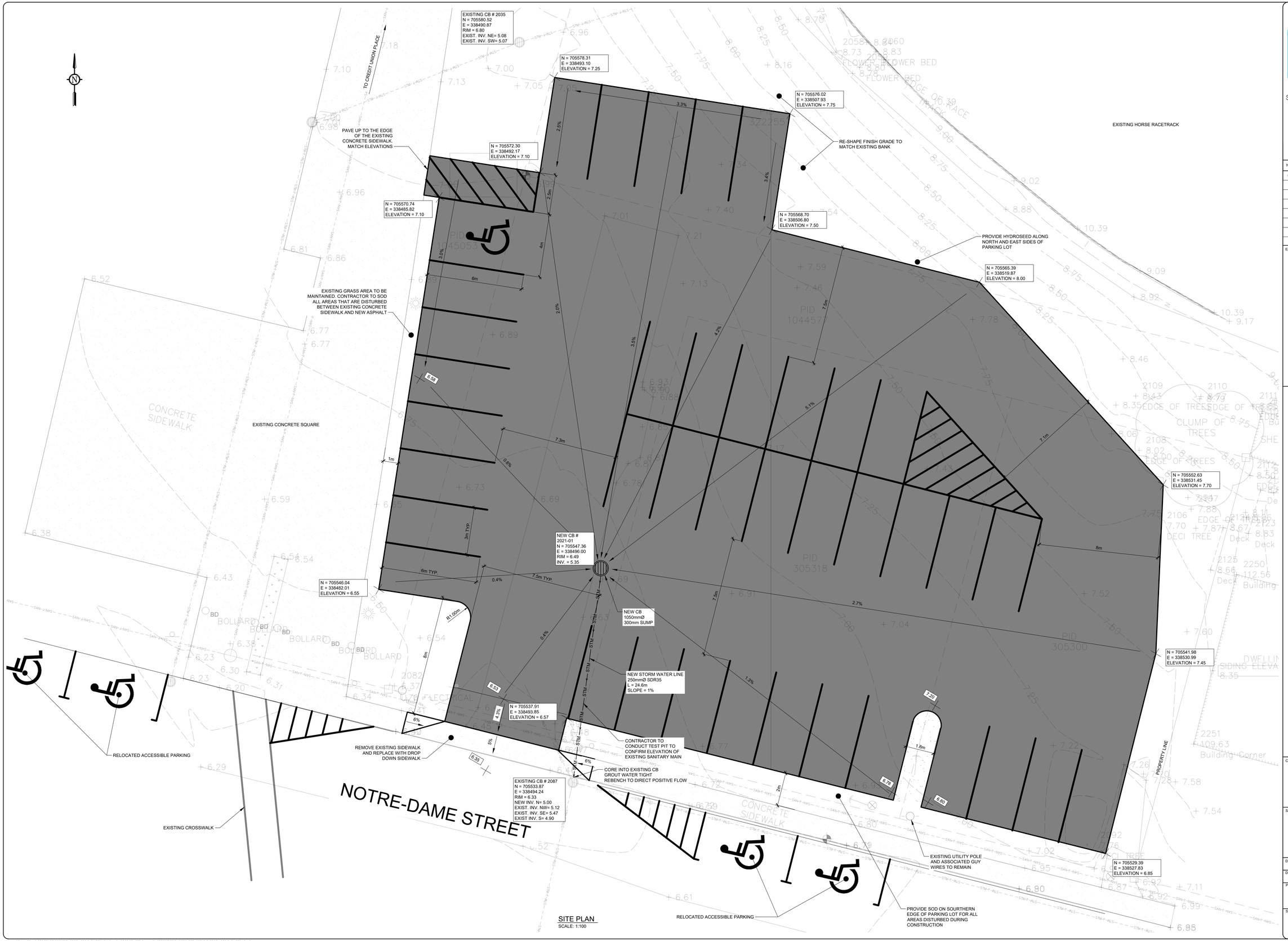
SHEET INFORMATION:

CUP NEW PARKING LOT NOTES

DATE:	SCALE:
2021-05-19	N/A
DRAWN: L.TURGEON	DESIGNED: N. SHARKEY

PROJECT NO: 21188

SHEET: C-100



SITE PLAN
SCALE: 1:100

BELLCOR

STRUCTURAL / CIVIL ENGINEERING
PROJECT MANAGEMENT

www.bellcor.ca

NO	REVISION	DATE
0	ISSUED FOR TENDER	2021-06-23
1	RE-ISSUED FOR TENDER	2021-07-05

ENGINEER STAMP:

PROFESSIONAL ENGINEER
The Association Of Professional Engineers Of The Province Of Prince Edward Island
Nicholas Sharkey
Nicholas G. Sharkey
1407
July 5 2021
Date
PROVINCE OF PRINCE EDWARD ISLAND

CLIENT INFORMATION:

CITY OF SUMMERSIDE
511 NOTRE-DAME ST.
SUMMERSIDE, PE

SHEET INFORMATION:

CUP NEW PARKING LOT DRAINAGE PLAN

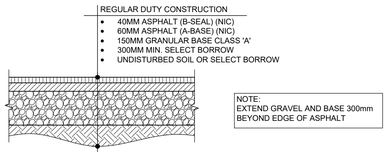
DATE:	SCALE:
2021-05-14	AS SHOWN
DRAWN:	DESIGNED:
L.TURGEON	N. SHARKEY

PROJECT NO:

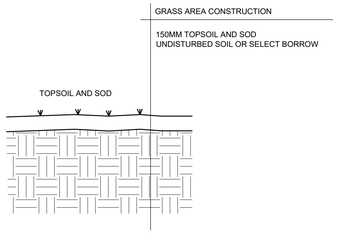
21188

SHEET:

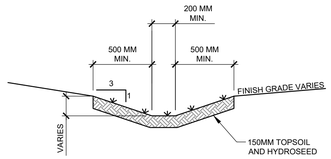
C-101



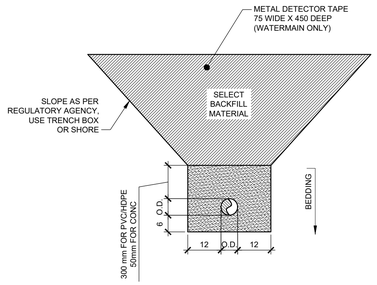
- C-102 REGULAR DUTY ASPHALT TYPICAL SECTION
SCALE: N.T.S.



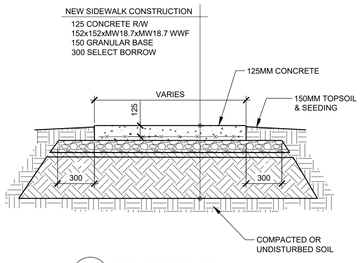
- C-102 TYPICAL GRASS SECTION
SCALE: N.T.S



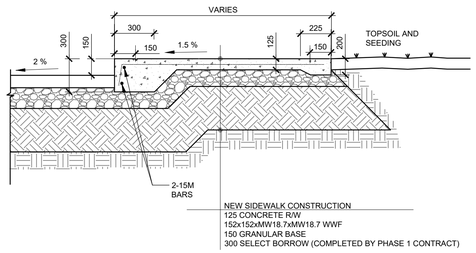
- C-102 TYPICAL SWALE
SCALE: N.T.S



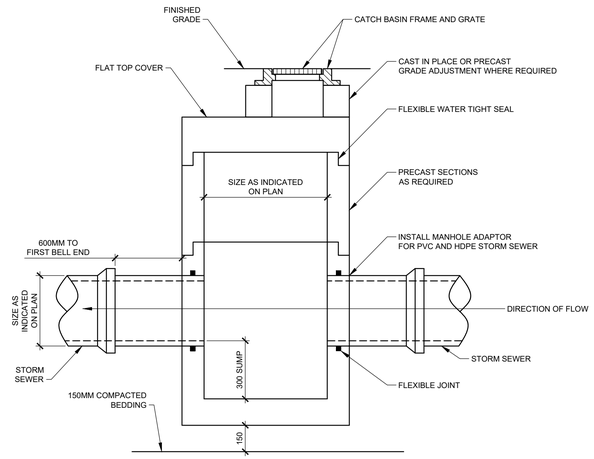
- C-102 SINGLE PIPE TRENCH DETAIL FOR SANITORY SEWER/STORM WATER
SCALE: N.T.S.



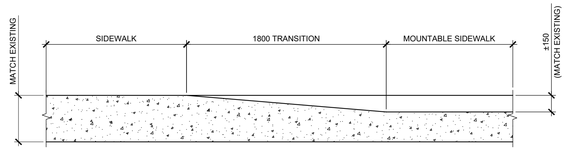
- C-102 CONCRETE SIDEWALK
SCALE: N.T.S



- C-102 TYPICAL SIDEWALK/ CURB SECTION
SCALE: N.T.S



- C-102 CATCH BASIN
SCALE: N.T.S



- C-102 DROP TRANSITION FOR CROSSWALK / DRIVEWAYS
SCALE: N.T.S.

BELLCOR

STRUCTURAL / CIVIL ENGINEERING
PROJECT MANAGEMENT

www.bellcor.ca

NO	REVISION	DATE
0	ISSUED FOR TENDER	2021-06-23
1	RE-ISSUED FOR TENDER	2021-07-05

ENGINEER STAMP:

PROFESSIONAL ENGINEER
The Association Of Professional Engineers Of The Province Of Prince Edward Island
Nicholas G. Sharkey
1407
July 5 2021
DATE
PROVINCE OF PRINCE EDWARD ISLAND

CLIENT INFORMATION:

CITY OF SUMMERSIDE
511 NOTRE-DAME ST.
SUMMERSIDE, PE

SHEET INFORMATION:

CUP NEW PARKING LOT DETAILS

DATE:	SCALE:
2021-05-20	AS SHOWN
DRAWN: L.TURGEON	DESIGNED: N. SHARKEY

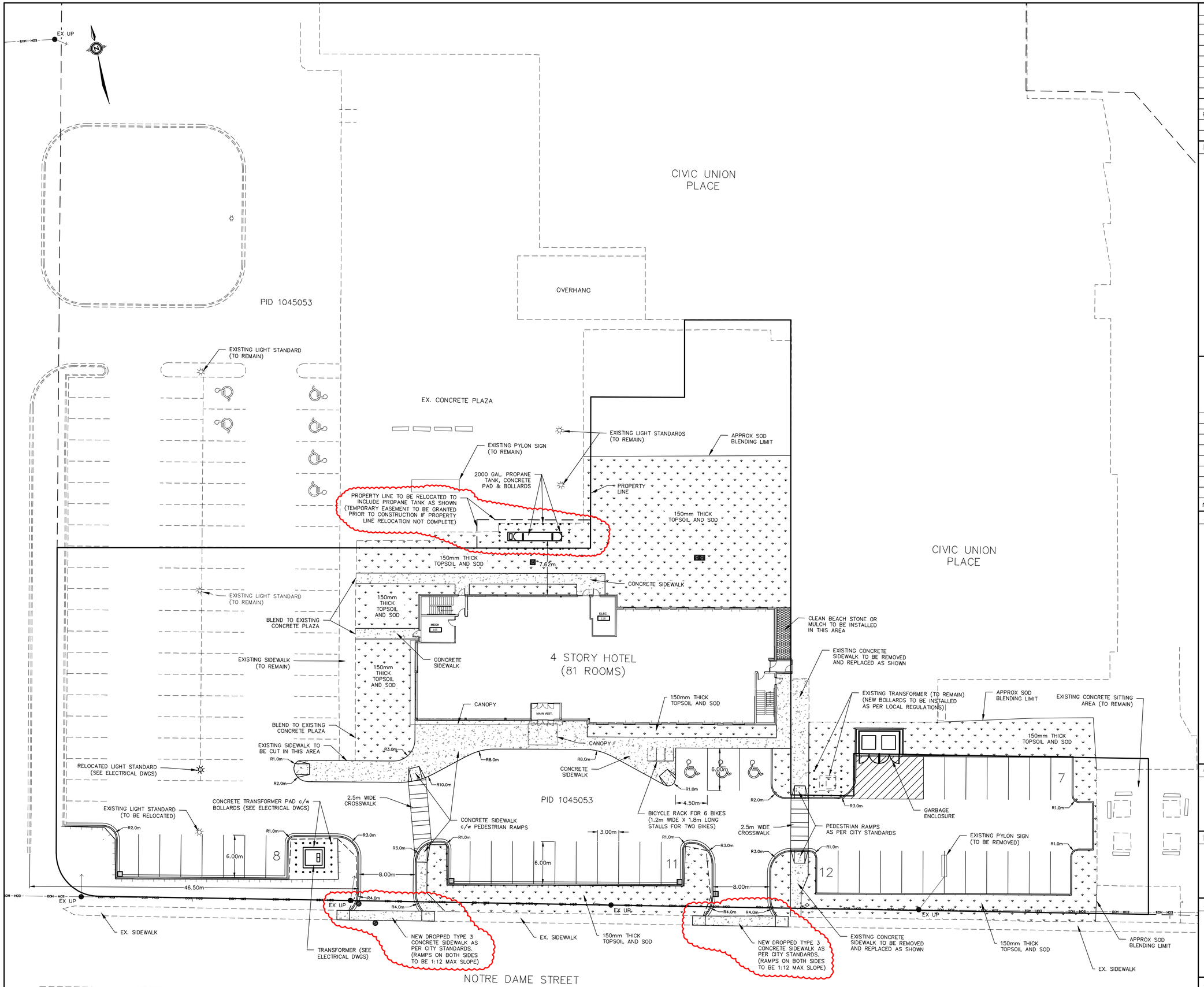
PROJECT NO: 21188

SHEET: C-102

Appendix C –

Hotel Civil Works

Note: This portion of the work will be specified, managed, and paid for by the hotel owner and contractor RCS



LEGEND

	PROPOSED	EXISTING
EDGE OF PAVEMENT		
EDGE OF GRAVEL		
CURB		
SWALE / DITCH		
UTILITY POLE & LINES		
LOTLINE		
EASEMENT		

CATCH BASIN	LIGHT STANDARD	CULVERT	
FIRE HYDRANT	ROAD SIGN	HEADWALL	
SHRUB	UTILITY POLE	FENCE	
SILT FENCE	ROAD SIGN	SIDEWALK	

NOTES

DRAWINGS SUBJECT TO APPROVAL PRIOR TO CONSTRUCTION.

METRES
5 4 3 2 1 0 5 10 15 20
SCALE 1:250

NO.	DESCRIPTION	CHK'D	DATE
7	REVISED AS PER CITY COMMENTS		19/05/2021
6	ISSUED FOR FOUNDATION PERMIT		07/05/2021
5	SITE PLAN ISSUED FOR COORDINATION		04/05/2021
4	ISSUED FOR TENDER		28/04/2021
3	ISSUED FOR COORDINATION		26/04/2021
2	SITE PLAN ISSUED FOR REVIEW / COORDINATION		09/04/2021
1	BLDG REVISED		19/03/2021
0	ISSUED FOR CONCEPT REVIEW		09/09/2020

SEAL

HGE Engineering Inc.
Land Surveyors
Consulting Engineers
153 Sackville Drive, Suite 1, Lower Sackville, NS, B4C 2R3
Phone: (902) 880-1354
www.hge-inc.ca

THE ASSOCIATION OF PROFESSIONAL ENGINEERS OF THE PROVINCE OF PRINCE EDWARD ISLAND
VALID FOR THE YEAR 2021
Danny Holloway
No. 1327
LICENCE TO PRACTISE

CLIENT NAME & ADDRESS

RCS Construction
Bedford, Nova Scotia

PROJECT NAME & ADDRESS

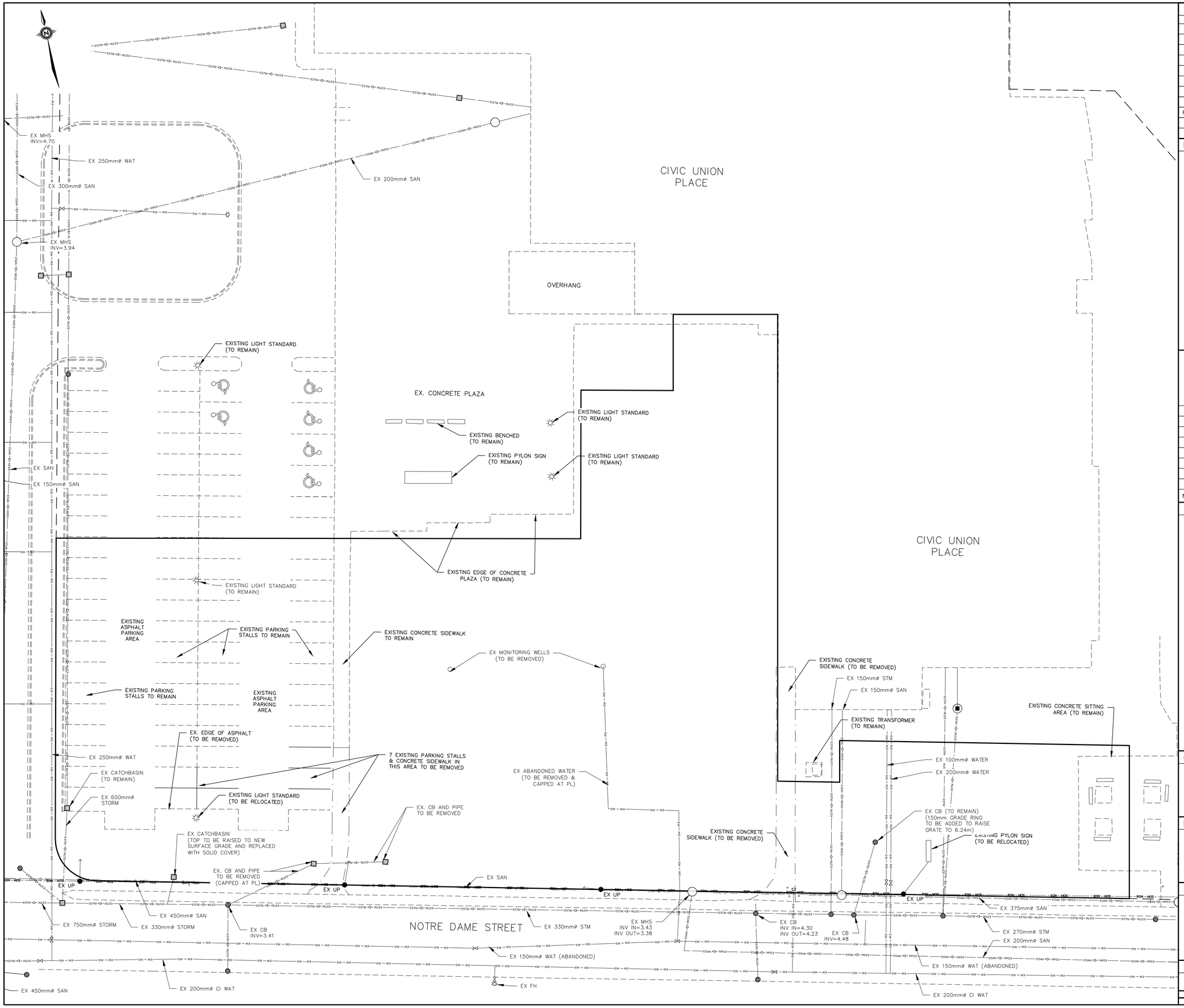
MICROTEL DEVELOPMENT
Notre Dame Street, Summerside, PEI

SHEET DESCRIPTION

SITE PLAN

SHEET NO.	NUMBER OF SHEETS
C101	5

DRAWN BY: MLP | CHECKED BY: DTH
DATE: 19/05/2021 | SCALE: 1:250 | PROJECT NO. H21022



LEGEND

	PROPOSED	EXISTING
EDGE OF PAVEMENT		
EDGE OF GRAVEL		
CURB		
SWALE / DITCH		
UTILITY POLE & LINES		
LOTLINE		
EASEMENT		

CATCH BASIN	LIGHT STANDARD	CULVERT	
FIRE HYDRANT	ROAD SIGN	HEADWALL	
SHRUB	UTILITY POLE	FENCE	
SILT FENCE	ROAD SIGN	SIDEWALK	

NOTES

DRAWINGS SUBJECT TO APPROVAL PRIOR TO CONSTRUCTION.

METRES
5 4 3 2 1 0 5 10 15 20
SCALE 1: 250

NO.	DESCRIPTION	CHK'D	DATE
7	REVISED AS PER CITY COMMENTS		19/05/2021
6	ISSUED FOR FOUNDATION PERMIT		07/05/2021
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2	SITE PLAN ISSUED FOR REVIEW / COORDINATION		09/04/2021
1	BLDG REVISED		19/03/2021
0	ISSUED FOR CONCEPT REVIEW		09/09/2020

SEAL

HGE Engineering Inc.
Land Surveyors
Consulting Engineers

153 Sackville Drive, Suite 1, Lower Sackville, NS, B4C 2R3
Phone: (902) 880-1354
www.hge-inc.ca

THE ASSOCIATION OF PROFESSIONAL ENGINEERS OF THE PROVINCE OF PRINCE EDWARD ISLAND
VALID FOR THE YEAR 2021

Danny Holloway
No. 1327

LICENCE TO PRACTISE

CLIENT NAME & ADDRESS

RCS Construction

Bedford, Nova Scotia

PROJECT NAME & ADDRESS

MICROTEL DEVELOPMENT

Notre Dame Street, Summerside, PEI

SHEET DESCRIPTION

EXISTING CONDITIONS PLAN

SHEET NO.	NUMBER OF SHEETS
C102	5

DRAWN BY: MLP | CHECKED BY: DTH
DATE: 19/05/2021 | SCALE: 1:250 | PROJECT NO. H21022

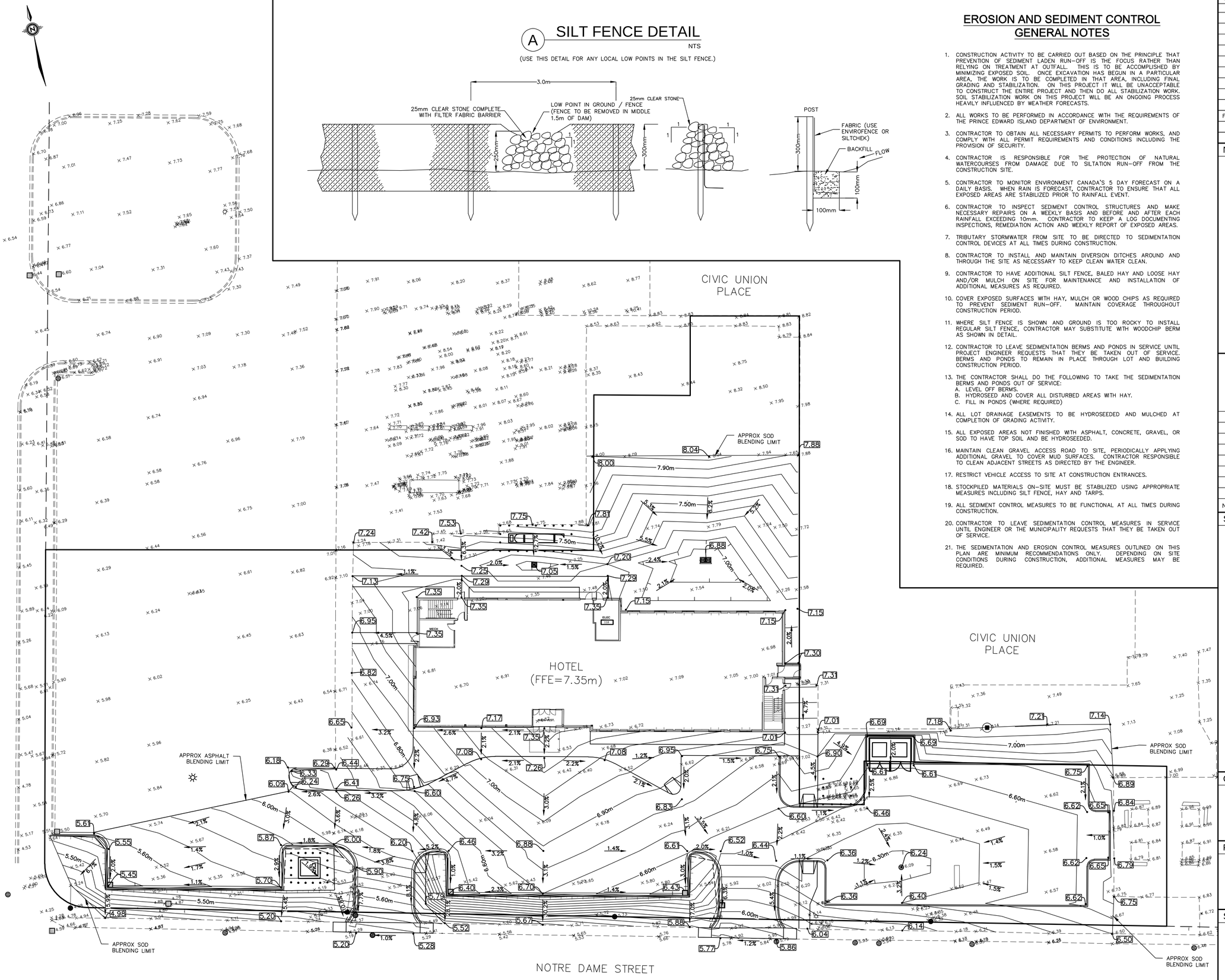
A SILT FENCE DETAIL

NTS

(USE THIS DETAIL FOR ANY LOCAL LOW POINTS IN THE SILT FENCE.)

EROSION AND SEDIMENT CONTROL GENERAL NOTES

1. CONSTRUCTION ACTIVITY TO BE CARRIED OUT BASED ON THE PRINCIPLE THAT PREVENTION OF SEDIMENT LADEN RUN-OFF IS THE FOCUS RATHER THAN RELYING ON TREATMENT AT OUTFALL. THIS IS TO BE ACCOMPLISHED BY MINIMIZING EXPOSED SOIL. ONCE EXCAVATION HAS BEGUN IN A PARTICULAR AREA, THE WORK IS TO BE COMPLETED IN THAT AREA, INCLUDING FINAL GRADING AND STABILIZATION. ON THIS PROJECT IT WILL BE UNACCEPTABLE TO CONSTRUCT THE ENTIRE PROJECT AND THEN DO ALL STABILIZATION WORK. SOIL STABILIZATION WORK ON THIS PROJECT WILL BE AN ONGOING PROCESS HEAVILY INFLUENCED BY WEATHER FORECASTS.
2. ALL WORKS TO BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF THE PRINCE EDWARD ISLAND DEPARTMENT OF ENVIRONMENT.
3. CONTRACTOR TO OBTAIN ALL NECESSARY PERMITS TO PERFORM WORKS, AND COMPLY WITH ALL PERMIT REQUIREMENTS AND CONDITIONS INCLUDING THE PROVISION OF SECURITY.
4. CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF NATURAL WATERCOURSES FROM DAMAGE DUE TO SILTATION RUN-OFF FROM THE CONSTRUCTION SITE.
5. CONTRACTOR TO MONITOR ENVIRONMENT CANADA'S 5 DAY FORECAST ON A DAILY BASIS. WHEN RAIN IS FORECAST, CONTRACTOR TO ENSURE THAT ALL EXPOSED AREAS ARE STABILIZED PRIOR TO RAINFALL EVENT.
6. CONTRACTOR TO INSPECT SEDIMENT CONTROL STRUCTURES AND MAKE NECESSARY REPAIRS ON A WEEKLY BASIS AND BEFORE AND AFTER EACH RAINFALL EXCEEDING 10mm. CONTRACTOR TO KEEP A LOG DOCUMENTING INSPECTIONS, REMEDIATION ACTION AND WEEKLY REPORT OF EXPOSED AREAS.
7. TRIBUTARY STORMWATER FROM SITE TO BE DIRECTED TO SEDIMENTATION CONTROL DEVICES AT ALL TIMES DURING CONSTRUCTION.
8. CONTRACTOR TO INSTALL AND MAINTAIN DIVERSION DITCHES AROUND AND THROUGH THE SITE AS NECESSARY TO KEEP CLEAN WATER CLEAN.
9. CONTRACTOR TO HAVE ADDITIONAL SILT FENCE, BALED HAY AND LOOSE HAY AND/OR MULCH ON SITE FOR MAINTENANCE AND INSTALLATION OF ADDITIONAL MEASURES AS REQUIRED.
10. COVER EXPOSED SURFACES WITH HAY, MULCH OR WOOD CHIPS AS REQUIRED TO PREVENT SEDIMENT RUN-OFF. MAINTAIN COVERAGE THROUGHOUT CONSTRUCTION PERIOD.
11. WHERE SILT FENCE IS SHOWN AND GROUND IS TOO ROCKY TO INSTALL REGULAR SILT FENCE, CONTRACTOR MAY SUBSTITUTE WITH WOODCHIP BERM AS SHOWN IN DETAIL.
12. CONTRACTOR TO LEAVE SEDIMENTATION BERMS AND PONDS IN SERVICE UNTIL PROJECT ENGINEER REQUESTS THAT THEY BE TAKEN OUT OF SERVICE. BERMS AND PONDS TO REMAIN IN PLACE THROUGH LOT AND BUILDING CONSTRUCTION PERIOD.
13. THE CONTRACTOR SHALL DO THE FOLLOWING TO TAKE THE SEDIMENTATION BERMS AND PONDS OUT OF SERVICE:
    A. LEVEL OFF BERMS.
    B. HYDROSEED AND COVER ALL DISTURBED AREAS WITH HAY.
    C. FILL IN PONDS (WHERE REQUIRED)
14. ALL LOT DRAINAGE EASEMENTS TO BE HYDROSEEDED AND MULCHED AT COMPLETION OF GRADING ACTIVITY.
15. ALL EXPOSED AREAS NOT FINISHED WITH ASPHALT, CONCRETE, GRAVEL, OR SOD TO HAVE TOP SOIL AND BE HYDROSEEDED.
16. MAINTAIN CLEAN GRAVEL ACCESS ROAD TO SITE, PERIODICALLY APPLYING ADDITIONAL GRAVEL TO COVER MUD SURFACES. CONTRACTOR RESPONSIBLE TO CLEAN ADJACENT STREETS AS DIRECTED BY THE ENGINEER.
17. RESTRICT VEHICLE ACCESS TO SITE AT CONSTRUCTION ENTRANCES.
18. STOCKPILED MATERIALS ON-SITE MUST BE STABILIZED USING APPROPRIATE MEASURES INCLUDING SILT FENCE, HAY AND TARPS.
19. ALL SEDIMENT CONTROL MEASURES TO BE FUNCTIONAL AT ALL TIMES DURING CONSTRUCTION.
20. CONTRACTOR TO LEAVE SEDIMENTATION CONTROL MEASURES IN SERVICE UNTIL ENGINEER OR THE MUNICIPALITY REQUESTS THAT THEY BE TAKEN OUT OF SERVICE.
21. THE SEDIMENTATION AND EROSION CONTROL MEASURES OUTLINED ON THIS PLAN ARE MINIMUM RECOMMENDATIONS ONLY. DEPENDING ON SITE CONDITIONS DURING CONSTRUCTION, ADDITIONAL MEASURES MAY BE REQUIRED.



LEGEND

	PROPOSED	EXISTING
SPOT ELEVATION	23.45	× 23.89
TOP OF SLOPE		
SWALE / DITCH		
BOTTOM OF SLOPE		
EDGE OF PAVEMENT		
CURB		
LOTLINE		
UTILITY POLE & LINES	— OH — H10 —	— EOH — H10 —
CATCH BASIN	LIGHT STANDARD	CULVERT
FIRE HYDRANT	ROAD SIGN	HEADWALL
SHRUB	UTILITY POLE	FENCE
SILT FENCE	ROAD SIGN	SIDEWALK

NOTES

DRAWINGS SUBJECT TO APPROVAL PRIOR TO CONSTRUCTION.

METRES

5 4 3 2 1 0 5 10 15 20

SCALE 1:250

NO.	DESCRIPTION	CHK'D	DATE
7	REVISED AS PER CITY COMMENTS		19/05/2021
6	ISSUED FOR FOUNDATION PERMIT		07/05/2021
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1	BLDG REVISED		19/03/2021
0	ISSUED FOR CONCEPT REVIEW		09/09/2020

SEAL

HGE Engineering Inc.
Land Surveyors
Consulting Engineers

153 Sackville Drive, Suite 1, Lower Sackville, NS, B4C 2R3
Phone: (902) 880-1354
www.hge-inc.ca

THE ASSOCIATION OF PROFESSIONAL ENGINEERS OF THE PROVINCE OF PRINCE EDWARD ISLAND
VALID FOR THE YEAR 2021

Danny Holloway
No. 1327

LICENCE TO PRACTISE

CLIENT NAME & ADDRESS

RCS Construction

Bedford, Nova Scotia

PROJECT NAME & ADDRESS

MICROTEL DEVELOPMENT

Notre Dame Street, Summerside, PEI

SHEET DESCRIPTION

GRADING PLAN

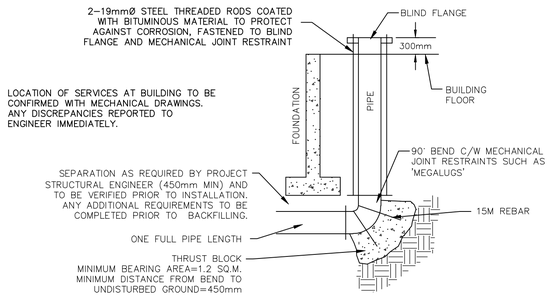
SHEET NO.	NUMBER OF SHEETS
C103	5

DRAWN BY: MLP — CHECKED BY: DTH

DATE: 19/05/2021 — SCALE: 1:250 — PROJECT NO. H21022

B SPRINKLER ENTRY DETAIL

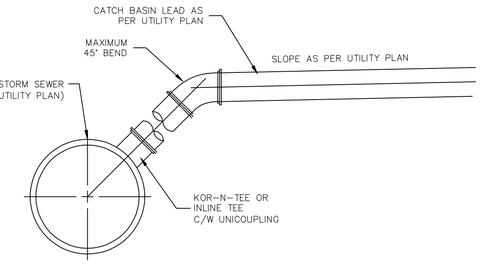
NTS



LOCATION OF SERVICES AT BUILDING TO BE CONFIRMED WITH MECHANICAL DRAWINGS. ANY DISCREPANCIES REPORTED TO ENGINEER IMMEDIATELY.

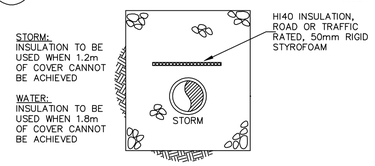
C CATCH BASIN LEAD CONNECTION TO STORM LINE

NTS



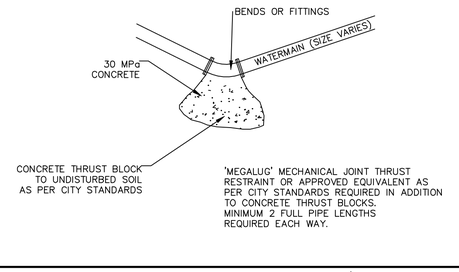
D PIPE INSULATION DETAIL

NTS



E TYPICAL THRUST RESTRAINT

NTS



CIVIC UNION PLACE

HOTEL (FFE=7.35m)

CIVIC UNION PLACE

EX MHS INV=4.70

EX 250mmØ WAT

EX 300mmØ SAN

EX MHS INV=3.94

EX SAN

EX 150mmØ SAN

21.5m – 200mmØ PVC STM @ 1.5%

CB2 (PYRAMID TOP) TOP=7.05 INV IN=5.15 INV OUT=5.10

23.5m – 200mmØ PVC STM @ 1.4%

CB1 (DOUBLE PYRAMID TOP) TOP=6.88 INV=5.48

MHT1 TOP=7.23 INV IN=4.77 INV OUT=4.67

EX MONITORING WELLS (TO BE REMOVED)

SIAMESE CONNECTION (SEE MECH DWGS)

15.5m – 150mmØ PVC SAN @ 2.5% INV @ BLDG=5.35

100mmØ PVC DR18 WATER (DOMESTIC)

150mmØ PVC DR18 WATER (SPRINKLER)

EX 250mmØ WAT

EX CATCHBASIN (TO REMAIN)

EX 600mmØ STORM

CB2 TOP=5.45 INV=4.05

8.4m – 200mmØ PVC STORM @ 1.0%

EX CATCHBASIN (TOP TO BE RAISED TO NEW SURFACE GRADE AND REPLACED WITH SOLID COVER)

EX. CB AND PIPE TO BE REMOVED (CAPPED AT PL)

EX ABANDONED WATER (TO BE REMOVED & CAPPED AT PL)

51.0m – 250mmØ PVC STM @ 1.4%

EX. CB AND PIPE TO BE REMOVED

10.5m – 200mmØ PVC STM @ 4.0% INV @ TEE=4.04

CB3 TOP=6.40 INV=4.46

42.96m

MHS1 TOP=6.58 INV IN=4.96 INV OUT=4.66

11.5m – 150mmØ PVC SAN @ 4.5% INV @ EX MHS=4.14

CB5 TOP=6.43 INV=4.97

CB6 TOP=6.05 INV IN=4.86 INV OUT=4.81

5.4m – 200mmØ PVC STM @ 2.0%

28.5m – 200mmØ PVC STM @ 2.5% INV @ BLDG=5.31 INV @ EX CB=4.60

EX 150mmØ STM

EX 150mmØ SAN

EX 100mmØ WATER

EX 200mmØ WATER

EX CB (TO REMAIN) (150mm GRADE RING TO BE ADDED TO RAISE GRATE TO 6.24m)

EX 750mmØ STORM

EX 330mmØ STORM

EX 450mmØ SAN

EX CB INV=3.41

CB4 TOP=5.40 INV=4.05

2.5m – 200mmØ PVC STM @ 2.0% INV @ TEE=4.00

CB7 (SEE CITY DETAIL 02529–4) TOP=5.22 INV IN=3.96 EX INV=3.63 (APPROX)

11.25 BENDS c/w THRUST BLOCKS

EX 330mmØ STM

EX MHS INV IN=3.43 INV OUT=3.38

7.5m – 200mmØ PVC STM @ 1.0% INV @ TEE=4.73

EX CB INV IN=4.30 INV OUT=4.23

EX CB INV=4.48

EX 375mmØ SAN

EX 270mmØ STM

EX 200mmØ SAN

EX 150mmØ WAT (ABANDONED)

EX 150mmØ WAT (ABANDONED)

IN–LINE TEES c/w VALVES AND THRUST BLOCKS

EX FH

EX 450mmØ SAN

EX 200mmØ CI WAT

EX 200mmØ CI WAT

LEGEND

	PROPOSED	EXISTING
WATERMAIN & GATE VALVE	W	EW – M3
SANITARY MANHOLE & PIPE	SAN → WS	ESAN – NYS3
STORM MANHOLE & PIPE	STM → ALS	ESTM – ALS3
UTILITY POLE & LINES	OH – HO	EOH – HO3
EDGE OF PAVEMENT		
LOTLINE		
WATER LATERAL		SANITARY LATERAL
CATCH BASIN LEAD		STORM LATERAL
SWALE/DITCH	HEADWALL	CULVERT
CATCH BASIN	ENDCAP	EASEMENT
FIRE HYDRANT	LIGHT STANDARD	SHOULDER
SHRUB	ROAD SIGN	CURB
SILT FENCE	UTILITY POLE	SIDEWALK
FENCE		

NOTES

DRAWINGS SUBJECT TO APPROVAL PRIOR TO CONSTRUCTION.

METRES

5 4 3 2 1 0 5 10 15 20

SCALE 1:250

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SEAL

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Danny Holloway
No. 1327

LICENCE TO PRACTISE

CLIENT NAME & ADDRESS

RCS Construction

Bedford, Nova Scotia

PROJECT NAME & ADDRESS

MICROTEL DEVELOPMENT

Notre Dame Street, Summerside, PEI

SHEET DESCRIPTION

SERVICING PLAN

SHEET NO.	NUMBER OF SHEETS
C104	5

DRAWN BY: MLP CHECKED BY: DTH
DATE: 19/05/2021 SCALE: 1:250 PROJECT NO. H21022

CONSTRUCTION NOTES

GENERAL

1. MATERIAL PROPERTIES, CONSTRUCTION METHODS AND COMPACTIONS AS PER P.E.I. DEPARTMENT OF TRANSPORTATION "GENERAL PROVISIONS AND CONTRACT SPECIFICATIONS OF HIGHWAY CONSTRUCTION" WITH THE EXCEPTION OF ASPHALT COMPACTIONS WHICH ARE BASED ON BULK DENSITY WITH AN AVERAGE OF 97% WITH NO TEST MEASURING LESS THAN 96%.
2. ALL WORK TO BE PERFORMED IN ACCORDANCE WITH THE CITY OF SUMMERSIDE STANDARDS AND SPECIFICATIONS AND PROJECT SPECIFIC SPECIFICATIONS. IN CASE OF CONFLICT THE MORE STRINGENT SHALL APPLY.
3. ALL WORKS TO BE PERFORMED IN ACCORDANCE WITH REQUIREMENTS OF THE PRINCE EDWARD ISLAND DEPARTMENT OF ENVIRONMENT, ENERGY AND FORESTRY.
4. CONTRACTOR TO OBTAIN ALL NECESSARY PERMITS REQUIRED TO PERFORM WORKS. COMPLY WITH ALL PERMIT REQUIREMENTS AND CONDITIONS.
5. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO BECOME FAMILIAR WITH AND UNDERSTAND THE NATURE AND EXTENT OF THE WORK TO BE EXECUTED, THE NATURE OF THE SOIL, SURFACE WATER DRAINAGE, THE GENERAL FORM OF THE SURFACE OF THE GROUND, AND GENERALLY OF ALL MATTERS WHICH CAN IN ANY WAY INFLUENCE THE TENDER.
6. DO NOT SUBSTITUTE MATERIALS UNLESS PRIOR WRITTEN APPROVAL IS GIVEN BY THE PROJECT ENGINEER.
7. CONTRACTOR TO NOTIFY THE CITY OF SUMMERSIDE REGARDING CONSTRUCTION SCHEDULE PRIOR TO COMMENCING CONSTRUCTION A MINIMUM OF 3 DAYS PRIOR TO OCCURRENCE.
8. CONTRACTOR TO COORDINATE ITS ACTIVITIES WITH OTHER CONTRACTORS WORKING ON AND ADJACENT TO THE SITE.
9. CONTRACTOR TO OBTAIN STREET EXCAVATION APPROVAL PRIOR TO UNDERTAKING ANY WORK IN THE STREET RIGHT-OF-WAY.
10. CONTRACTOR TO VERIFY EXISTING SERVICE LOCATIONS SUCH AS NATURAL GAS SERVICE (IF APPLICABLE), TELEPHONE/COMMUNICATION AND POWER UTILITY SERVICES, UNDERGROUND CONDUIT LOCATIONS, AND THE CITY OF SUMMERSIDE STORM, SANITARY AND WATER SERVICES. COORDINATION TO BE COMPLETED WITH THE APPROPRIATE UTILITIES PRIOR TO CONSTRUCTION. REPORT ANY DISCREPANCIES TO THE ENGINEER.
11. CONTRACTOR TO VERIFY EXISTING GRADES, INCLUDING SURROUNDING GRADES, PRIOR TO LOT GRADING WORK. ANY DISCREPANCIES TO BE REPORTED TO THE PROJECT ENGINEER IMMEDIATELY. MINIMUM SLOPE TO BE 0.5% FOR PAVED AREA. MAXIMUM SLOPE FOR LANDSCAPED AREAS 3H:1V.
12. THE CONTRACTOR IS REQUIRED TO EXCAVATE IN THE AREAS OF ALL INTERCONNECTIONS TO DETERMINE GRADE, LOCATION AND GENERAL CONFIGURATION OF THE EXISTING MAINS PRIOR TO COMMENCING WORK. ALL COSTS ASSOCIATED WITH THIS WORK ARE TO BE CONSIDERED INCIDENTAL TO THE PROJECT. NO EXTRA WILL BE ALLOWED.
12. SEE ELECTRICAL DRAWINGS FOR UNDERGROUND ELECTRICAL CONDUIT DETAILS. EXACT LOCATION OF TRANSFORMERS AND STREET LIGHTS TO BE DETERMINED IN FIELD. CONTRACTOR TO COORDINATE ALL ELECTRICAL/COMMUNICATION CONNECTIONS WITH THE APPROPRIATE UTILITIES.
13. POWER POLES TO BE COORDINATED BY CONTRACTOR. CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF POLE PLACEMENT WITH THE CITY OF SUMMERSIDE AND ELECTRICAL/COMMUNICATIONS UTILITIES.
14. ALL FILL SLOPES GREATER THAN 2.5 METRES IN HEIGHT TO BE CERTIFIED BY A GEOTECHNICAL ENGINEER.
15. ALL TRAFFIC SIGN BASES AND POLES TO BE INSTALLED TO CITY OF SUMMERSIDE SPECIFICATIONS.
16. LOCATION OF DISPOSAL OF EXCESS MATERIALS TO BE APPROVED BY ENGINEER PRIOR TO ANY MATERIAL BEING REMOVED BY THE CONTRACTOR.
17. ALL ELEVATIONS ARE METRIC GEODETIC.
18. CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF NATURAL WATERCOURSES FROM DAMAGE DUE TO SILTATION RUNOFF FROM THE CONSTRUCTION SITE.
19. GEOTECHNICAL WORKS TO BE CERTIFIED BY PROJECT GEOTECHNICAL ENGINEER.
20. ALL AREAS DISTURBED DURING CONSTRUCTION (I.E. ASPHALT, GRASS, ETC.) ARE TO BE REINSTATED TO ORIGINAL CONDITIONS. ALL COSTS FOR REINSTATEMENT ARE TO BE INCLUDED. NO EXTRA WILL BE ALLOWED.
21. ALL SANITARY & WATER SERVICE CONNECTIONS TO EXISTING MAINS TO BE PERFORMED BY THE CITY OF SUMMERSIDE WATER AND SEWER UTILITY STAFF AT THE CONTRACTOR'S COST. CONTRACTOR IS RESPONSIBLE FOR CONTINUATION OF THESE SERVICES TO THE PROPERTY LINE AND BEYOND AS SHOWN ON THESE PLANS. STORMWATER CONNECTIONS ARE TO BE MADE BY THE CONTRACTOR UNDER CITY OF SUMMERSIDE REVIEW AND PERMISSION.
22. DURING CONSTRUCTION CONTRACTOR IS TO PREVENT ENTRY OF BEDDING MATERIAL, WATER OR FOREIGN MATTER INTO NEW PIPE. THE USE OF TEMPORARY WATER-TIGHT BULKHEADS DURING PIPE INSTALLATION IS REQUIRED. TO ENSURE PIPE IS CLEAN OF DEBRIS PIPES ARE TO BE SWABBED AS THEY ARE INSTALLED.

STORM

1. DIRECT ALL SURFACE WATER TO CATCH BASINS. CATCH BASINS TO BE INSTALLED IN 50mm LOCAL DEPRESSION.
2. CONTRACTOR IS RESPONSIBLE FOR TESTING OF STORM SEWER TO CITY OF SUMMERSIDE STANDARDS INCLUDING VIDEO INSPECTIONS.
3. ALL MANHOLE FRAMES AND COVERS TO BE ADJUSTABLE DUCTILE IRON (R10) TO CITY OF SUMMERSIDE STANDARDS. MANHOLE COVERS OUTSIDE TRAVELLED WAY TO BE BOLTDOWN.
4. ALL CATCHBASIN FRAMES AND COVERS TO BE IMP S401 OR S361 CATCHBASIN FRAME & COVER.
5. ALL STORM PIPE 375mm DIAMETER OR SMALLER TO BE PVC DR35 TO CSA B182.2 AND ASTM D3034 OF THE DIAMETER NOTED ON THE DRAWINGS, COLOR CODED WHITE. ALL STORM PIPE 450mm DIAMETER OR LARGER TO BE CONCRETE TO CSA A 257.2 CLASS 65D, DIAMETER AS NOTED, UNLESS OTHERWISE STATED ON THE DRAWINGS.
6. ALL JOINTS TO BE BELL AND SPIGOT TYPE WITH RUBBER GASKETS TO CSA A 257.3.
7. ALL STORM MANHOLES TO BE PRECAST CONCRETE TO CSA A257.4 AND ASTM C478. MINIMUM DIAMETER OF 1050mm.
8. ALL CATCHBASIN LEADS TO BE 200mm MIN DIAMETER PVC DR35 TO CSA B182.2 AND ASTM D3034, COLOR CODED WHITE.
9. ALL CATCHBASINS TO BE 1050mm DIAMETER CONCRETE TO CSA A257.4. ICDS TO BE INSTALLED ON PIPE OUTLETS WHERE NOTED ON SERVICING PLAN.
10. PIPE CONNECTIONS TO EXISTING MANHOLES TO BE CORED AND MADE WITH INSERT TEE OR APPROVED EQUIVALENT.

SANITARY

1. ALL MANHOLE FRAMES AND COVERS TO BE ADJUSTABLE DUCTILE IRON (R10) TO CITY OF SUMMERSIDE STANDARDS, AND MARKED SANITARY. MANHOLE COVERS OUTSIDE TRAVELLED WAY TO BE BOLTDOWN.
2. CONTRACTOR IS RESPONSIBLE FOR AIR TESTING OF SANITARY LATERALS.
3. ALL SANITARY PIPE TO BE PVC SDR35 UNLESS OTHERWISE NOTED.
4. ALL JOINTS TO BE BELL AND SPIGOT TYPE WITH RUBBER GASKETS TO CSA A 257.3.
5. ALL SANITARY MANHOLES TO BE PRECAST CONCRETE TO CSA A257.2, 1050mm MINIMUM DIAMETER. WATERPROOFED WITH BAKOR BLUESKIN WP200 OR APPROVED EQUIVALENT, FROM FRAME TO BOTTOM OF MANHOLE.
6. CONTRACTOR IS RESPONSIBLE FOR TESTING OF SANITARY SEWER TO CITY OF SUMMERSIDE STANDARDS INCLUDING VIDEO INSPECTIONS.

WATER

1. ALL WATERMAIN TO BE PVC DR18.
2. WATERMAIN TO BE INSULATED WITH HI-40 RIGID FOAM INSULATION WHERE 1.8m COVER CAN NOT BE ACHIEVED.
3. ALL DUCTILE IRON FITTINGS ARE TO BE POLY-WRAPPED WITH ZINC ANODES (ZN 24-48) CONNECTED TO ALL COPPER SERVICES, GATE VALVES AND HYDRANTS.
4. ALL MANHOLE COVERS FOR WATER WORKS TO BE IMP R90, MARKED "WATER".
5. ALL GATE VALVES TO CLOSE IN THE CLOCKWISE DIRECTION, AND BOX COVERS SHALL BE MARKED "WATER"
6. WATER SERVICE SHUTOFF VALVES ARE TO BE LOCATED AT THE EDGE OF RIGHT OF WAY AND A MINIMUM OF 1.5m FROM ROAD, ASPHALT, CURBING OR ANY OTHER STRUCTURE WHICH MAY IMPEDE WITH FUTURE MAINTENANCE.
7. CONTRACTOR IS RESPONSIBLE FOR THE TESTING AND DISINFECTION OF WATERMAINS AND LATERALS TO CITY OF SUMMERSIDE STANDARDS.
8. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR OPERATE EXISTING WATER VALVES OR MAKE CONNECTIONS TO THE EXISTING WATER SYSTEM WITHOUT PRIOR APPROVAL OF THE CITY OF SUMMERSIDE PUBLIC WORKS.
9. THRUST BLOCKS TO BE PROVIDED AT ALL TEES, BENDS, CAPS, AND HYDRANT BOWLS. MECHANICAL JOINT RESTRAINT MAY BE USED IN LIEU OF THRUST BLOCKS SUBJECT TO DESIGN AND APPROVAL OF THE ENGINEER.
10. ALL WATER PIPE TO BE OF THE DIAMETER NOTED ON THE DRAWINGS.
11. THRUST BLOCKS SHALL BE CAST-IN-PLACE CONCRETE WITH A COMPRESSIVE STRENGTH OF 32 MPa AT 28 DAYS.
12. CONTRACTOR IS RESPONSIBLE FOR THE PROVISIONS FOR FLUSHING THE LINES PRIOR TO TESTING ETC. MUST BE PROVIDED WITH AT LEAST A 50mmø OUTLET ON 100mmø AND LARGER PIPES. COPPER LINES ARE TO HAVE FLUSHING POINTS AT THE END, SAME SIZE AS THE LINES. THEY MUST ALSO BE HOSED OR PIPED TO ALLOW THE WATER TO DRAIN ON TO A PARKING LOT, SODDED AREA OR DITCH. FLUSHING OUTLET TO BE 100mmø OR, A HYDRANT.
13. EXTEND WATER SERVICES INSIDE BUILDING, STUBBED UP THROUGH FLOOR SLAB WITH WELDED FLANGE AND CAP. COORDINATE WITH PLUMBING DRAWINGS.

F STANDARD TRENCH DETAIL

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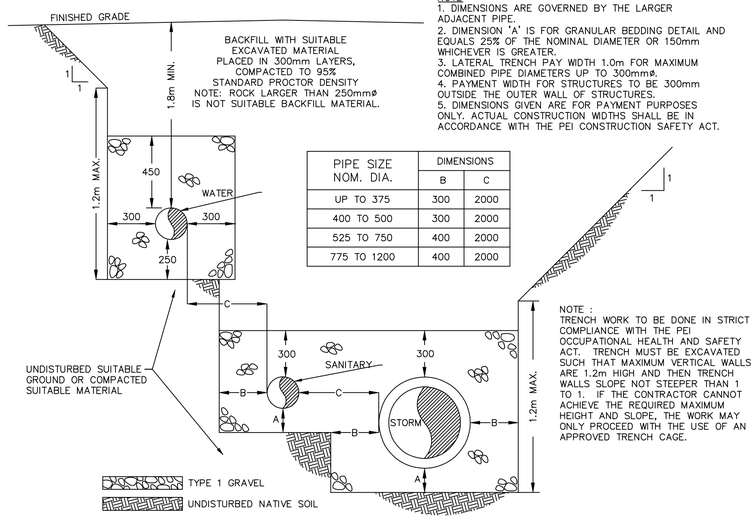


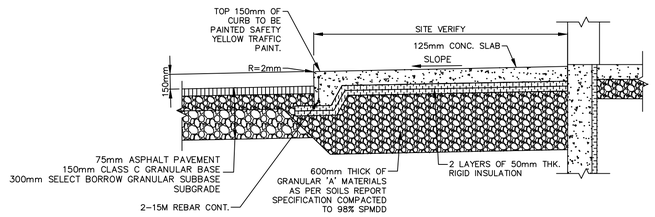
PIPE SIZE NOM. DIA.	DIMENSIONS	
	B	C
UP TO 375	300	2000
400 TO 500	300	2000
525 TO 750	400	2000
775 TO 1200	400	2000

NOTE
1. DIMENSIONS ARE GOVERNED BY THE LARGER ADJACENT PIPE.
2. DIMENSION 'A' IS FOR GRANULAR BEDDING DETAIL AND EQUALS 25% OF THE NOMINAL DIAMETER OR 150mm WHICHEVER IS GREATER.
3. LATERAL TRENCH PAY WIDTH 1.0m FOR MAXIMUM COMBINED PIPE DIAMETERS UP TO 300mmø.
4. PAYMENT WIDTH FOR STRUCTURES TO BE 300mm OUTSIDE THE OUTER WALL OF STRUCTURES.
5. DIMENSIONS GIVEN ARE FOR PAYMENT PURPOSES ONLY. ACTUAL CONSTRUCTION WIDTHS SHALL BE IN ACCORDANCE WITH THE PEI CONSTRUCTION SAFETY ACT.

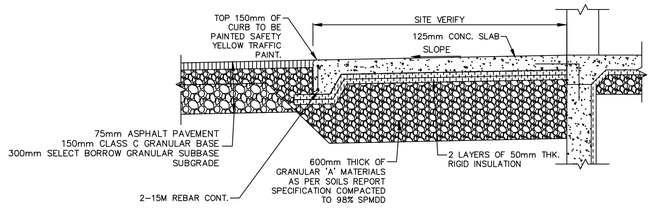
NOTE :
TRENCH WORK TO BE DONE IN STRICT COMPLIANCE WITH THE PEI OCCUPATIONAL HEALTH AND SAFETY ACT. TRENCH MUST BE EXCAVATED SUCH THAT MAXIMUM VERTICAL WALLS ARE 1.2m HIGH AND THEN TRENCH WALLS SLOPE NOT STEEPER THAN 1 TO 1. IF THE CONTRACTOR CANNOT ACHIEVE THE REQUIRED MAXIMUM HEIGHT AND SLOPE, THE WORK MAY ONLY PROCEED WITH THE USE OF AN APPROVED TRENCH CAGE.

I CONCRETE PLAZA & CURB DETAILS

NTS



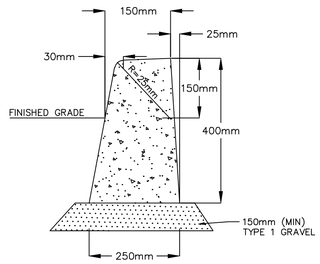
TYPICAL CURB CONCRETE SIDEWALK IN COMPACTED 600mm GRANULAR MATERIALS



TYPICAL FLUSH CONCRETE SIDEWALK RAMP w/ INTEGRAL CURB IN COMPACTED 600mm GRANULAR MATERIALS

G CONCRETE CURB DETAIL

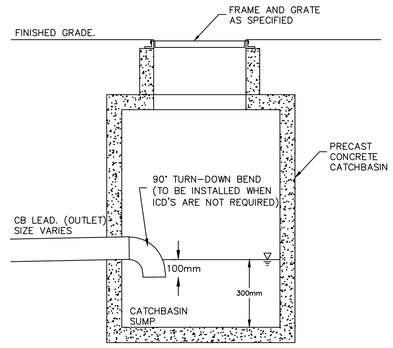
NTS



NOTES:
1. MIN 150mm TYPE 1 GRAVEL UNDER CONCRETE CURB AND GUTTER
2. TO BE INSTALLED WHERE WATER FLOWS AWAY FROM CURB.

H TYPICAL CATCHBASIN DETAIL

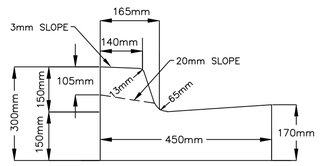
NTS



NOTE: MIN 150mm TYPE A GRAVEL UNDER CATCHBASINS AND MANHOLES

J CONCRETE CURB AND GUTTER DETAIL

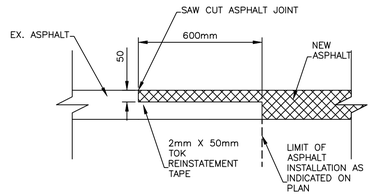
NTS



NOTES:
1. MIN 450mm THICK GRAVEL BASE MATERIAL UNDER CONCRETE CURB AND GUTTER. GRAVEL BASE TO EXTEND 300mm BEYOND BACK OF CURB.
2. TO BE INSTALLED WHERE WATER FLOWS TOWARDS TO CURB.
3. CONCRETE USED SHALL BE 30MPA WITH 6% AIR ENTRAINMENT.
4. REFER TO CITY DETAILS 02529-1 AND 02529-2.

K ASPHALT BLENDING DETAIL

NTS



TYPICAL PAVEMENT SECTION

STANDARD DUTY ASPHALT PAVEMENT

40mm - ASPHALT B SEAL
60mm - ASPHALT A BASE
200mm - BASE GRAVEL, DOT CLASS A
300mm - SUBBASE GRAVEL, SELECT BORROW

SUBGRADE COMPACTED AS PER GEOTECHNICAL REQUIREMENTS

NOTE: MATERIALS MUST BE PREPARED AND PLACE IN ACCORDANCE WITH GEOTECHNICAL REPORT PREPARED BY FUNDY ENGINEERING, DATED SEPTEMBER 23, 2020.

DRAWINGS SUBJECT TO APPROVAL PRIOR TO CONSTRUCTION.

NO.	DESCRIPTION	CHK'D	DATE
7	REVISED AS PER CITY COMMENTS		19/05/2021
6	ISSUED FOR FOUNDATION PERMIT		07/05/2021
5	SITE PLAN ISSUED FOR COORDINATION		04/05/2021
4	ISSUED FOR TENDER		28/04/2021
3	ISSUED FOR COORDINATION		26/04/2021
2	SITE PLAN ISSUED FOR REVIEW / COORDINATION		09/04/2021
1	BLDG REVISED		19/03/2021
0	ISSUED FOR CONCEPT REVIEW		09/09/2020

SEAL

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Land Surveyors
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153 Sackville Drive, Suite 1, Lower Sackville, NS, B4C 2R3
Phone: (902) 880-1354
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THE ASSOCIATION OF PROFESSIONAL ENGINEERS OF THE PROVINCE OF PRINCE EDWARD ISLAND
VALID FOR THE YEAR 2021
Danny Holloway
No. 1327
LICENCE TO PRACTISE

CLIENT NAME & ADDRESS

RCS Construction

Bedford, Nova Scotia

PROJECT NAME & ADDRESS

MICROTEL DEVELOPMENT

Notre Dame Street, Summerside, PEI

SHEET DESCRIPTION

CONSTRUCTION NOTES & DETAILS

SHEET NO.	NUMBER OF SHEETS
C105	5

DRAWN BY: MLP | CHECKED BY: DTH
DATE: 19/05/2021 | SCALE: N/A | PROJECT NO. H21022