



**Bid Receiving/Réception des
sousmissions :**
Correctional Service Canada
Attn: Edward desormo
443 Union Street West,
Kingston, Ontario
K7L 1L0
Facsimile Number for Amendments:
613-536-4571

**INVITATION TO TENDER APPPEL
D'OFFRES**

**Tender to: Correctional Service
Canada** We hereby offer to sell to Her
Majesty the Queen in right of Canada, in
accordance with the terms and
conditions set out herein, referred to
herein or attached hereto, the goods,
services and construction listed herein
and on any attached sheets at the
price(s) set out thereof.

**Soumission aux: Gendarmerie royale
du Canada** Nous offrons par la présente
de vendre à Sa Majesté I Reine du chef
du Canada, aux conditions énoncées ou
incluses par référence dans la présente
et aux annexes ci-jointes, les biens,
services et construction énumérés ici sur
toute feuille ci-annexée, au(x) prix
indiqué(s). **Comments –
Commentaries :**

Vendor/Firm Name and Address
Raison sociale et adresse du
fournisseur/de l'entrepreneur :

Facsimile No. - No de télécopieur:

Telephone No. - no de téléphone:

Issuing Office - Bureau de distribution
Correctional Service Canada
443 Union Street West,
Kingston, Ontario
K7L 1L0

| | |
|--|--|
| Foundation, services and piers for the relocation of a Modular Classroom to CFB Kingston | |
| Solicitation No. - No. de l'invitation 21401-16-17-1971722 | Date 02-June-2016 |
| Client Reference No. - No. De Référence du Client | |
| GETS Reference No. - No. de Référence de SEAG | |
| Solicitation Closes -L'invitation prend fin at - à Time Zone on - le at : 14 :00 EDT on: 04-July-2016 | |
| F.O.B. - F.A.B. | |
| Address Enquiries to: - Adresser toutes questions à: Edward Desormo Edward.desormo@csc-scc.gc.ca | |
| Telephone No. - No de téléphone 613-536-4959 | Fax No. - No de FAX: 613-536-4571 |
| Destination of Goods, Services, and Construction: Destinations des biens, services et construction: CFB Kingston, Ontario | |
| This document contains a PERSONNEL SECURITY Clearance requirement. | |
| Delivery Required - Livraison exigée: see herein | Delivery Offered - Livraison proposée |
| Name and title of person authorized to sign on behalf of Vendor/Firm : Nom et titre de la personne autorisée à signer au nom du fournisseur/de l'entrepreneur : | |



PART 1 – GENERAL INFORMATION

The bid solicitation is divided into seven parts plus attachments and annexes, as follows:

Part 1 General Information: provides a general description of the requirement;

Part 2 Bidder Instructions: provides the instructions, clauses and conditions applicable to the bid solicitation;

Part 3 Bid Acceptance and Form: provides the bidder the form to submit their bid and includes the clauses and conditions that will apply to any resulting contract.

The Annexes include the Statement of Work, the Basis of Payment and any other annexes.

Summary

Correctional Service of Canada (CSC) has purchased a modular classroom to be situated at the shooting range at CFB Kingston. The modular classroom requires a foundation/piers and site services before it can be occupied.

Debriefings

After contract award, bidders may request a debriefing on the results of the bid solicitation process. Bidders should make the request to the Contracting Authority within 15 working days of receipt of the results of the bid solicitation process. The debriefing may be in writing, by telephone or in person.

Bid Security

For solicitations requiring Bid Security, the following conditions apply:

- Bid security is to be in the form of a bid bond or a cash security deposit in an amount equal to 10% of the tender amount.
- A Bid Bond must have original signatures and be issued by a company that is acceptable to the Government of Canada.
- A security deposit must be in the form of cash, a certified cheque, a bill of exchange, bank draft or money order payable to the Receiver General for Canada, or a bond issued by or guaranteed by the Government of Canada.

Bid and Acceptance Form

CSC uses the Bid and Acceptance Form for all construction contracts valued at \$40,000 or over.

- The contract documents are listed in the Bid and Acceptance Form.

Insurance

The scope of insurance coverage required is determined using forms from the Insurance Bureau of Canada (IBC) with riders for additional risks.

- Before beginning the work, contractors must provide a certificate of insurance proving that they are insured, and this must be done no later than 30 days after acceptance of their bid.
- The amount of any deductible is left to the discretion of the contractor and its insurer.



Workers Compensation Board and Safety Program:

The recommended Tenderer shall provide to the Contracting Authority, prior to Contract Award:

- a Workers Compensation Board letter of good standing, also listing covered Directors, Principals, Proprietor(s) or Partners who will be or will be or who are anticipated to be present on the work site(s); and
- a Certificate of Recognition (COR) or Registered Safety Plan (RSP) acceptable to the Authority Having Jurisdiction (AHJ). A health and safety policy and program, as required by the respective provincial/territorial Occupational Health and Safety Act, will be acceptable in lieu of a COR or RSP. If none is required by law, a copy of a health and safety policy and program that has been sent to the AHJ for review will also be acceptable, provided that the recommended Tenderer certifies that it has been sent to the AHJ.

The recommended Tenderer shall deliver all of the above documents to the Contracting Authority on or before the date stated (usually 3 to 5 days after notification) by the Contracting Authority. Failure to comply will result in a breach of promise, at which time the Contracting Authority will be free to approach the next lowest responsive Tenderer.



PART 2 – BIDDER INSTRUCTIONS

Bid Documents:

The following are the bid documents:

- Invitation to Tender - Page 1;
- Special Instructions to Bidders;
- General Instructions to Bidders R2710T (2015-07-03) and;
- Bid and Acceptance Form and any Appendices attached thereto.

Submission of a bid constitutes acknowledgment that the Bidder has read and agrees to be bound by these documents.

General Conditions and General Instructions:

General Instructions to Bidders are incorporated by reference and is set out in the Standard Acquisition Clauses and Conditions (SACC) Manual, issued by Public Works and Government Services Canada (PWGSC). The SACC Manual is available on the PWGSC Website: <http://sacc.pwgsc.gc.ca/sacc/index-e.jsp>.

Exceptions to General Conditions and General Instructions to Bidders incorporated by Reference:

Delete reference to “Public Works and Government Services Canada” and substitute “Correctional Service Canada”.

Bid Submission:

Bids must be submitted only to CSC Bid Receiving Unit by the date, time and place indicated on page 1 of the bid solicitation.

Bids are to be directed only to the bid receiving address specified above. Correctional Service Canada (CSC) will NOT assume responsibility for bids directed to any other location. **(Canada Post Priority Courier is not considered a Courier)**

Enquiries During the Solicitation Period:

Enquiries regarding this bid must be submitted in writing to the Contracting Officer named on the Invitation to Tender - Page 1 as early as possible within the solicitation period. Except for the approval of alternative materials as described in GI15 of the General Instructions to Bidders, enquiries should be received no later than **five (5)** calendar days prior to the date set for solicitation closing to allow sufficient time to provide a response. Enquiries received after that time may not result in an answer being provided.

To ensure consistency and quality of the information provided to Bidders, the Contracting Officer shall examine the content of the enquiry and shall decide whether or not to issue an amendment.



All enquiries and other communications related to this bid sent throughout the solicitation period are to be directed ONLY to the Contracting Officer named on the Invitation to Tender - Page 1. Non-compliance with this requirement during the solicitation period can, for that reason alone, result in disqualification of a bid.

Mandatory Site Visit:

There will be a mandatory site visit June 17th, 2016, at 13:00. Interested bidders are to meet at the Communications Museum parking lot on the Base. The Contracting Officer must be notified 48 hours prior to the Mandatory Site Visit the names of the Representatives from the firm that will be attending this site visit for security reasons. Failure to notify CSC of the names will result in your Representative not being allowed entrance for the Site Visit, and for that reason alone, will result in disqualification of a bid. **Anyone who attended the March 30, 2016 site visit has already met the MANDATORY requirement. Any other interested bidders must attend this site visit in order to bid.**

The site visit for this project is MANDATORY unless you attended the March 30, 2016 site visit. The representative of the bidder will be required to sign the Site Visit Attendance Sheet at the site visit. Bids submitted by Bidders in attendance of the site visit who have not signed the attendance sheet will not be accepted.

Revision of Bid:

A bid may be revised by letter or facsimile in accordance with GI10 of the General Instructions to Bidders. This must be submitted to the Contracting Officer.

Negotiations:

In the event that the lowest compliant tender exceeds the amount of funding Canada has allocated for the construction phase of the work:

by 15% or less, Canada, at its sole discretion, shall either

1. Cancel the tender call;
2. Obtain additional funding and, subject to the provisions of clause 11 of the General Instructions to Bidders, award the Contract to the Tenderer submitting the lowest compliant tender; or
3. Revise the scope of the work accordingly and negotiate, with the Tenderer submitting the lowest compliant tender, a corresponding reduction in its tendered price.

by more than 15%, Canada, at its sole discretion, shall either

1. Cancel the tender call;
2. Obtain additional funding and, subject to the provisions of clause 11 of the General Instructions to Bidders, award the Contract to the Tenderer submitting the lowest compliant tender; or
3. Revise the scope of the work accordingly and invite those who submitted compliant tenders at the original tender call to retender the work.

If negotiations or a re-tender are undertaken, Tenderers shall retain the same subcontractors and suppliers as they carried in their original tender submissions.



If Canada elects to negotiate a reduction in the tendered price and the negotiations fail to reach an agreement, Canada shall then exercise either of option 3.

Bid Validity Period:

Canada reserves the right to seek an extension to the bid validity period prescribed in BA04 of the Bid and Acceptance Form. Upon notification in writing from Canada, Bidders shall have the option to either accept or reject the proposed extension.

If the extension referred to in paragraph 1 of Bid Validity Period is accepted, in writing, by all those who submitted bids, then Canada shall continue immediately with the evaluation of the bids and its approvals processes.

If the extension referred to in paragraph 1 of Bid Validity Period is not accepted in writing by all those who submitted bids then Canada shall, at its sole discretion, either

- Continue to evaluate the bids of those who have accepted the proposed extension and Seek the necessary approvals; or
- Cancel the invitation to tender.

The provisions expressed herein do not in any manner limit Canada's rights in law or under GI11 of the General Instructions to Bidders.



PART 3 - BID AND ACCEPTANCE FORM / RESULTING CONTRACT CLAUSES

Identification:

- 1) Description of the Work: Correctional Service of Canada has purchased a modular classroom to be situated at the shooting range at CFB Kingston. The modular classroom requires foundation/piers and site services before it can be occupied. Work under this contract will involve, but is not limited to, the following, for Correctional Service Canada (CSC). Supply of all labour, material, tools, equipment, transportation, installation and supervision necessary to. Work will include but is not limited to etc., as further detailed in the specification and drawings.
- 2) Location: CFB Kingston, Ontario
- 3) Solicitation Number: 21401-16-17-1971722

Business Name and Address of Bidder:

- 1) Name: _____
- 2) Address: _____

- 3) Telephone: _____ Fax: _____
E-Mail Address: _____
- 4) GST/HST Number: _____

The Offer *(to be completed by Bidder)*:

- 1) The Bidder offers to Canada as represented by the Minister of Public Safety to perform and complete the Work for the above named project in accordance with the Bid Documents for the **Total Bid Amount** of \$ _____ excluding GST/HST which consists of:
- 2) Any errors in the extension of the Price per Unit and the addition of the Estimated Total Price in the Unit Price Table shall be corrected by Canada in order to obtain the Total Estimated amount.
- 3) Any errors in the addition of the amounts in subparagraph shall be corrected by Canada to obtain the Total Bid Amount.

Bid Validity Period:

The bid shall not be withdrawn for a period of 90 days following the date of solicitation closing.

Resulting Contract Documents and Conditions:

The following are the resulting contract documents and resulting conditions:



- (a) Contract page when signed by Canada;
- (b) Duly completed Bid and Acceptance Form and any Appendices attached thereto;
- (c) Plans and Specifications;
- (d) General Conditions:
 - (I) GC1 General Provisions R2810D (2016-04-04);
 - (ii) GC2 Administration of the Contract R2820D (2006-01-28);
 - (iii) GC3 Execution and Control of the Work R2830D (2015-02-25);
 - (iv) GC4 Protective Measures R2840D (2008-05-12);
 - (v) GC5 Terms of Payment R2[8]50D (2016-01-28);
 - (vi) GC6 Delays and Changes in the Work R2860D (2016-01-28);
 - (vii) GC7 Default, Suspension or Termination of Contract R2870D (2008-05-12);
 - (viii) GC8 Dispute Resolution R288[0]D (2016-01-28);
 - (ix) GC9 Contract Security R2890D (2014-06-26);
 - (x) GC10 Insurance R2900D (2008-05-12)
- (e) Supplementary Conditions, if any;
- (f) Allowable Costs for Contract Changes Under GC6.4.1 R2950D (2007-05-25);
- (g) Schedules of Wage Rates for Federal Construction Contracts;
- (h) Any amendment issued or any allowable bid revision received before the date and time set for solicitation closing;
- (i) Any amendment incorporated by mutual agreement between Canada and the Contractor before acceptance of the bid; and
- jl) Any amendment or variation of the contract documents that is made in accordance with the General Conditions.

The documents identified by title, number and date in **Resulting Contract Documents and Conditions** are incorporated by reference and are set out in the Standard Acquisition Clauses and Conditions (SACC) Manual issued by Public Works and Government Services Canada (PWGSC). The SACC Manual is available on the PWGSC Website: <http://sacc.pwgsc.gc.ca/sacc/index-e.jsp>. Delete references to PWGSC and replace with Correctional Service Canada (CSC).

Schedules of Wage Rates for Federal Construction Contracts is included by reference and May be accessed from the Website

<http://www.hrsc.gc.ca/asp/gateway.asp?hr=en/lp/lo/lsw/fw/schedule.shtml&hs=cgq>

The language of the contract documents shall be the language of the Bid and Acceptance Form submitted.

Acceptance and Contract:

Upon acceptance of the Contractor's offer by Canada, a binding Contract shall be formed between Canada and the Contractor. The documents forming the Contract shall be the contract documents referred to in **Resulting Contract Documents and Conditions**.



Construction Time:

The Contractor shall perform and complete the Work within 6 weeks from the date of notification of acceptance of the offer.

Bid Security:

- 1) The Bidder shall enclose bid security with its bid in accordance with GI08 BID SECURITY REQUIREMENTS.
- 2) If the security furnished does not comply fully with the requirements referred to in paragraph 1) herein, the bid shall be disqualified.
- 3) If a security deposit is furnished as bid security, it shall be forfeited in the event that the bid is accepted by Canada and the Contractor fails to provide Contract Security in accordance with GC9 CONTRACT SECURITY, provided that Canada may, if it is in the public interest, waive the right of Canada to forfeiture of the security deposit.

Personnel Security:

The successful Contractor MUST:

- Provide personal data including the full name, date of birth, present address and other data as requested by the CSC representative, for each person working on this project if requested. This information will be used for security clearance purposes. Fingerprinting may be required. This information must be provided within (3) three days of request.
- Ensure that all persons working on site hold a valid security clearance issued by CSC Departmental Security.

In addition:

It is understood and agreed that all security rules, regulations and procedures applicable to public servants employed by the Correctional Service of Canada will apply equally to the Contractor, its officers, servants and agents.

The Contractor is responsible to ensure the completion of all documentation required in the Correctional Service of Canada personnel security program for the purpose of security clearance or reliability screening of its officers, servants and agents. It is understood and agreed that access to Correctional Service of Canada premises or to Correctional Service of Canada documents will be withheld until clearance documentation is submitted and processed and the officer, servant or agent is deemed to meet the applicable reliability clearance standard.

The Contractor understands and accepts that its officers, servants and agents must consent to the necessary disclosure of personal information required to support the personnel security program and that failure to consent to these disclosures will render the person unsuitable for employment on Correctional Service of Canada premises and/or to have access to any Correctional Service of Canada documents.

The Contractor agrees that its officers, servants and agents will comply with all standing orders or other regulations in force at the site where the work covered by this contract is to be performed, relating to the safety of persons on the site or the protection of property against loss or damage from any, and all causes, including fire.



More particularly, the Contractor, its officers, servants, agents and subcontractors are responsible to immediately report to CSC security personnel any information about or observations of inmate conduct that could jeopardize anyone's safety or the security of a penitentiary.

Health and Labour Conditions:

In this section, "Public Entity" means the municipal, provincial or federal government body authorized to enforce any laws concerning health and labor applicable to the performance of the Work or any part thereof.

The Contractor shall comply with all laws concerning health and labor conditions applicable to the performance of the Work or part thereof and shall also require compliance of same by all its subcontractors when applicable.

The Contractor upon any request for information or inspection dealing with the Work by an authorized representative of a Public Entity shall forthwith notify the Project Authority or Her Majesty.

Evidence of compliance with laws applicable to the performance of the Work or part thereof by either the Contractor or its subcontractor shall be furnished by the Contractor to the Project Authority or Her Majesty at such time as the Project Authority or Her Majesty may reasonably request."

Health and Safety:

FOR WORK IN THE PROVINCE OF ONTARIO.

Employer / Prime Contractor:

The Contractor shall, for the purposes of the Contract, and for the duration of the Work of the Contract:

1. Act as the Employer, where there is only one employer on the work site, in accordance with the Authority Having Jurisdiction;
2. Accept the role of Contractor/Principal Contractor/Constructor, where there are two or more employers involved in work at the same time and space at the worksite, in accordance with the Authority Having Jurisdiction; and
3. Agree, in the event of two or more Contractors working at the same time and space at the work site, without limiting the intent of GC3 - (Execution and Control of Work) to the Project Manager's order *to:
 - o Accept, as the Contractor/Principal Contractor/Constructor, the responsibility for the Project Manager's other Contractor(s); or
 - o Accept that the Project Manager's other Contractor is Contractor/Principal Contractor/Constructor and conform to that Contractor's Site Specific Health and Safety Plan.

* Definition of "order" is a "Change Order issued after the contract has been awarded"



Permits, Notifications and Safety Plan:

The Contractor shall provide to the Project Manager:

- prior to the pre-construction meeting, a transmittal and copy of the Advance Notification of Project form, contained herein, as sent to the Authority Having Jurisdiction (AHJ), unless this requirement is waived by the Project Manager; and
- prior to commencement of work and without limiting the terms of General Instructions to Bidders GI14 and GC4 - Protective Measures GC 4.2
 - copies of all other necessary permits, notifications and related documents as called for in the scope of work/specifications and/or (AHJ); and
 - a site specific Health and Safety Plan which is acceptable to the AHJ, unless this requirement is waived by the Project Manager.

Workers' Compensation:

It is mandatory that every contractor contracted for work must have an account with the Provincial Worker's Compensation Board/ Commission, and coverage shall be extended to cover all employees.

Compliance with Applicable Laws:

The Contractor shall comply with all laws, regulations and rules applicable to the performance of the Work or any part thereof. The Contractor shall also comply with all laws, regulations and rules applicable to the agents and servants of the Crown. The Contractor shall also require compliance therewith by all of its subcontractors. Evidence of compliance with such laws, regulations and rules shall be furnished by the Contractor to the Contracting Authority at such times as the Contracting Authority may reasonable request.

Unless otherwise provided in the contract, the Contractor shall obtain all permits and hold all certificates and licenses required for the performance of the Work.

Details on existing CSC policies can be found at www.csc-scc.gc.ca or any other CSC web page designated for such purpose.

Tuberculosis Testing:

It is a condition of this contract that the Contractor or any employees of the Contractor who require entry into a Correctional Service of Canada Institution to fulfill the conditions of the contract may, at the sole discretion of the Warden, be required to provide proof of and results of a recent tuberculin test for the purpose of determining their TB infection status.

Failure to provide proof of and results of a tuberculin test may result in the termination of the contract.

All costs related to such testing will be at the sole expense of the Contractor.



Code of Conduct for Procurement:

The Bidder confirms that it has read the Code of Conduct for Procurement (<http://www.pwgsc.gc.ca/acquisitions/text/cndt-cndct/tcm-toc-e.html>) and agrees to be bound by its terms.

The bidder certifies that:

- no corruption and no collusion took place in the preparation of its bid; and
- it has not committed an offence under section 121 ("Frauds on the government" & "Contractor subscribing to election fund"), 124 "Selling or purchasing office"), 380 (Fraud committed against Her Majesty) or 418 ("Selling defective stores to Her Majesty") of the Criminal Code of Canada, or under paragraph 80(1)(d) (False entry, certificate or return), subsection 80(2) (Fraud against Her Majesty) or Section 154.01 (Fraud against Her Majesty) of the Financial Administration Act

Information Guide for Contractors

Prior to the commencement of any work, the Contractor certifies that its employees, or employees of its subcontractors, working under contract for CSC will complete the applicable Module(s) and retain the signed checklist(s) from the CSC "Information Guide for Contractors" website: <http://www.csc-scc.gc.ca/text/pblct/cntrctr-modules/mod-intro-eng.shtml>.

SIGNATURE

Name and title of person authorized to sign on behalf of Bidder (Type or print)

Signature

Date



BID AND ACCEPTANCE FORM - APPENDIX [1]

List of Subcontractors

1) The Bidder will subcontract the parts of the work listed below to the subcontractor named for each part. The Bidder agrees not to make changes in the list of subcontractors without the written consent of the Departmental Representative. The Bidder understands that for each part of the work, if more than one subcontractor is named, or no subcontractor is named, or, the Bidder fails to state that the work will be done by its own forces where applicable, the bid will be disqualified. (change categories as required)

(a) ELECTRICAL WORK:

Subcontractor: _____

Address: _____

(b) PLUMBING WORK:

Subcontractor: _____

Address: _____

(c) MECHANICAL/MASONARY WORK:

Subcontractor: _____

Address: _____

OR

2) All Work as detailed will be done by our own forces without the use of sub-contractors.

Check box to confirm.



ANNEX "A"

ADVANCE NOTIFICATION OF CONSTRUCTION PROJECT

| |
|---|
| To Provincial Labour Authority: |
| |
| This Advance Notification is to advise you that we, the listed contractor, will be undertaking a Federal Construction Project within |
| |
| Your jurisdiction for which we are designated the Prime/Principal/General Contractor and that we will be the party responsible for |
| |
| the overall coordination of safety on the construction site. |
| |
| A pre-construction meeting for this project will be held at (Location) _____ on (Date) _____ at (Time) _____. |
| |
| An invitation for a representative of the provincial/territorial authority to attend this meeting is extended. The Site Specific Safety |
| |
| Plan will be reviewed at this meeting. Should you wish to attend please contact the name listed below. |
| |
| Date: File Number: |
| |
| Contract Amount: Project Number: |
| |
| Business/Legal Name of Employer/Prime Contractor (AB)(BC); Employer/Contractor (SK); Employer/Principal Contractor |
| (MB)(QC)(NF&Labrador)(NT & Nunavet); Employer/Constructor (ON)(NS)(NB)(PE)(YT) |
| |
| Mailing Address: Telephone: |
| |
| Fax Number: |
| |
| Contact Name: |
| |
| PROJECT DETAILS |
| |
| Location of Project |
| |
| Nature of Work/Process Undertaken |
| |
| Name of Site Superintendent |
| |
| Contact Number for Superintendent |
| |



| |
|---|
| Estimated Start Date of Project |
| |
| Estimated Project Duration |
| |
| Number of Workers to be Employed |
| |
| List of Sub-Contractors to be Employed (Use additional Space if Required) |
| |
| |
| Company Name Business Address/Location |
| OWNER INFORMATION |
| |
| Project Owner: Correctional Service Canada |
| |
| Owners Representative: |
| |
| Owner Representative Contact Number: |
| |
| <u>Hazardous Regulated Activities</u> |
| |
| This is a notification to the Provincial/Territorial Labour Authority of the Hazardous Regulated Activities that are to be undertaken during the project by the Prime/Principal Contractor or Constructor or any subcontractors. This list may not be inclusive and may be amended from time to time. |
| |
| Note to Prime/Principal Contractor or Constructor: |
| Any Hazardous Regulated Activities which are listed must also have elements included in the Site Specific Safety Plan Listing working Procedures for those activities. |
| |
| Check Box for activities to be undertaken and provide estimated duration of activities in hours/days. |
| Check Activity Estimated Duration |
| Working in or with Trenching/Excavation/Tunnels |
| Use of Scaffolding/Swing Stages |
| Working from Heights requiring fall protection systems |
| Crane Operations |
| Working from Heights requiring fall protection systems |
| Crane Operations |
| Work in Confined Spaces |
| Blasting and/or use of explosives |
| Use and or exposure to high voltage electrical |
| Hot Work |
| Demolition |
| Use of temporary structures, stairs, ramps or landings, and constructed ladders |
| Use of Heavy Equipment which may/may not require traffic control |
| Working on or near water |
| Working with hazardous substances/regulated products * |



| |
|--|
| Working with radiation emitting devices |
| Working with or exposure to Asbestos, PCBs or Lead |
| Please list any other hazardous regulated activities, which are not listed, below: |

* If the work is to occur in an occupied space, as a renovation or a lease fit-up, the Prime/Principal Contractor or Constructor is required to provide copies of MSDSs for all controlled products to the Owner's Representative and to maintain copies on site.

DISTRIBUTION

The Prime/Principal Contractor or Constructor is responsible to ensure proper distribution of this form and must provide proof that the form was sent to the Labour Authority. Work activities cannot commence until such proof has been provided. Proof can be by registered mail receipt, or by providing a copy of a fax transmittal notice, or any other means providing indication that the Labour Authority has received this document: Original: to applicable provincial/territorial labour authority Copies to: CSC Project Manager.

A copy of this form is to be posted at the project site prior to the commencement of work.

NOTE:

Please do not include any forms that include personal 3rd party information such as the names of the contractor's employees and their related claims information.

LABOUR AUTHORITY CONTACTS

The contacts below represent the Labour Authority in the various jurisdictions. They are not representatives of the Workers Compensation. Do not contact the people referenced below for issues pertaining to WCB or WCB Clearances. Those queries must be directed specifically to the WCB, and where the WCB has both a Labour and Compensation component, WCB issues must be directed to the Compensation/Employer Services sections.



ANNEX "B"
SCOPE OF WORK

| |
|--|
| Project Name: Relocation of Modular Classroom to CFB Kingston Range Project Number: 402-2301-0 Institution: RSC/CFB Kingston Range Requisition: |
|--|

Objectives

Correctional Service Canada requires a Contractor to provide site servicing and foundation/piers for a modular classroom that will be relocated to CFB Kingston.

Background

Correctional Service of Canada has purchased a modular classroom to be situated at the shooting range at CFB Kingston. The modular classroom requires a foundation/piers and site services before it can be occupied.

Scope of work

- Complete all work as per the attached drawings and specifications for the site servicing, foundation/piers, grading and parking area for the new Modular Classroom
- Concrete ductbank shall be provided for the electrical service from the transformer to the location of the new modular unit.
 - Electrical ductbank shall be concrete and complete with two 100mm diameter PVC DB2 empty conduits complete with pull cords. The conduit shall enter the transformer vault at one end and terminate above finished grade at the location of the modular unit. Electrical wiring is not included in this contract.
 - ESA is required to inspect and approve the ductbank and penetration of the transformer vault prior to concealing. Contractor shall coordinate and pay for all associated costs.
- All site servicing for the new Modular Classroom, and the connection of the site services to the existing DND site services shall be by this Contractor.
 - Final connection of new site services to the new Modular Classroom is not included in this contract.
- Contractor shall repair all surfaces (roads, parking areas, grading, etc.) to match existing.
- Excavated material can be dumped at the base. The exact location will be provided by CSC to the General Contractor after the award of the project.
- Contractor is responsible to obtain and pay for all expenses associated with any testing, permits, locates, etc. associated with the completion of the work.



- Building Permit is NOT required for this work.
- Contractor is responsible to provide all locates for buried services.
- Contractor shall provide a detailed cost breakdown separating and identifying all material costs and labour associated with each item.

Delivery and Security

Contractor considerations:

- All employees entering the facility shall report to the Commissionaires Office at the DND Range Control Building and sign in and out.
- Unauthorized cameras are not permitted.

Material Requirements

Contractor shall provide all personnel, tools, services, supplies, materials, supervision and equipment to complete the work as described.

Requirements and Considerations

Contractor shall comply with the following:

Submittals:

- Contractor shall submit shop drawings for approval prior to fabricating/ordering materials.
- Contractor shall provide MSDS.
- Contractor shall provide schedule.
- Contractor shall submit health and safety plan (including fire emergency plan). This plan shall identify any hazards and details on how these hazards will be mitigated.
- Contractor shall submit plan for approval by Project Authority for maintaining operation of the area during construction.
- Contractor shall submit Environmental Protection Plan addressing spill potential, risk protection and response associated with any vehicle fluids from elevating devices and delivery trucks as well as providing a waste management plan (copy of waste manifests).

Safety:

- All applicable Federal and Provincial safety codes shall be adhered to.
- The contractor shall maintain compliance of site procedures regarding potential hazardous work locations and situations.

Certificates, inspections, standards, codes of practice and regulations:

- All work shall comply with any applicable federal or provincial/territorial regulations. Contractor shall provide documentation confirming such to the project authority.



- Work shall comply with the National Building Code or Ontario Building Code – whichever one has more stringent requirements.
- All new materials shall be installed in accordance with manufacturer's specifications, engineering standards, building codes, and best practices.
- Contractor shall submit a Notice of Project to the Ministry of Labour prior to starting projects that meet the standards set out in section 6(1) of the Regulations for Construction Projects, O.Reg 213/91 (the Regulation). Proof of this notification shall be provided to the Project Authority prior to commencing work.

Workmanship and housekeeping:

- Contractor shall provide all necessary equipment and materials to complete the work as described in the scope of work.
- Any equipment damaged in the course of this project shall be repaired and restored to normal operation by the contractor at no cost to CSC or DND.
- Workmanship shall be of the highest standard and shall meet all industry standards.
- Worksite shall be kept clean and neat and upon project completion the workplace area shall be clean, free of post construction materials and returned to original integrity.
- If work is to be completed in an occupied area then construction area shall be hoarded off and institutional property shall be protected from damage and dust.
- Contractor shall be responsible for taking accurate measurements.
- All work and the work site shall be visually inspected by the Project Authority or their representative and completed/cleaned up to the satisfaction of project authority prior to project closeout.

Site Access:

- Work shall be performed during regular working hours of 0800 – 1600 Monday –Friday; schedule must be pre approved by Project Authority.
- Any required submittals shall be provided to Project Authority prior to site access.
- Up to date CPIC clearance and photo identification is required for entry into the Institution.
- All work shall be completed without delay and a schedule of operation shall be provided to the Project Authority 48 hours prior to commencing work. The schedule shall include the following; start date, hours of work, names of those who require entry, milestone dates and completion date.

Additional work or delays:

- Any additional work beyond that described in this scope of work shall first be approved by the Project Authority prior to commencement.
- Any circumstances that cause delay during the project shall be identified to the Project Authority as soon as the circumstance is discovered and shall be followed up in writing to the Project Authority.



Disposal or Removal of Materials and Environmental Protection Plan:

- Disposal of any removed material shall be carried out using the highest standard in regards to landfill waste diversion, reusing, recycling, and comply with applicable transportation and environmental legislation (federal and provincial).
- Copies of waste manifests shall be provided to the Project Authority.
- Contractor shall ensure that Transportation of Dangerous Goods regulations are followed. Institution may request qualification proof for transporter.
- Provide an Environmental Protection Plan that identifies tasks to be performed, associated potential risks and mitigation measures to address those risks.

Cost Breakdown:

- Contractor shall provide cost breakdown based on material and labour.

Place of performance

Canadian Forces Base Kingston
Moro Street,
Kingston, Ontario.

Period of performance

Project shall be completed 8 weeks after award.

Site meeting

There will be a mandatory bidder site visit.

Authorities

Project Authority: Chris Barkley
Regional Chief of Facilities

Contract Authority: Edward Desormo
Regional Procurement & Contracting Officer



Annex "C"

**Modular Building
Relocation
Project No. 402-2301-0**

**Section 00 01 10
Page 1
2015-10-06**

TABLE OF CONTENTS

Division 00 – Procurement and Contracting Requirements

Section 00 01 10 Table of Contents 1

Division 01 – General Requirements

Section 01 14 00 Work Restrictions 3

Section 01 33 00 Submittal Procedures 6

Section 01 35 29.06 Health and Safety Requirements 4

Section 01 41 00 Regulatory Requirements 2

Section 01 45 00 Quality Control 3

Section 01 56 00 Temporary Barriers and Enclosures 2

Section 01 61 00 Common Product Requirements 5

Section 01 74 11 Cleaning 2

Division 31 - Earthwork

Section 31 00 00.01 Earthwork –Short Form 4

Division 33 - Utilities

Section 33 11 16 Site Water Utility Distribution Piping 7

Section 33 31 16 Public Sanitary Utility Sewerage Piping 9

Section 33 65 76 Direct Buried Underground Cable Ducts 3



PART 1 – GENERAL

1.1 ACCESS AND EGRESS

- .1 Design, construct and maintain temporary "access to" and "egress from" work areas, including stairs, runways, ramps or ladders and scaffolding, independent of finished surfaces and in accordance with relevant municipal, provincial and other regulations.

1.2 USE OF SITE AND FACILITIES

- .1 Execute work with least possible interference or disturbance to normal use of premises. Make arrangements with Departmental Representative to facilitate work as stated.
- .2 Maintain existing services to building and provide for personnel and vehicle access.
- .3 Where security is reduced by work provide temporary means to maintain security.
- .4 Sanitary facilities will not be provided.
- .5 Closures: protect work temporarily until permanent enclosures are completed.

1.3 ALTERATIONS, ADDITIONS OR REPAIRS TO EXISTING BUILDING

- .1 Execute work with least possible interference or disturbance to nearby building operations and their occupants, as well as the normal use of premises. Arrange with Departmental Representative to facilitate execution of work.

1.4 EXISTING SERVICES

- .1 Notify, Departmental Representative and utility companies of intended interruption of services and obtain required permission.
- .2 Where Work involves breaking into or connecting to existing services, give Departmental Representative 48 hours of notice for necessary interruption of mechanical or electrical service throughout course of work. Keep duration of interruptions to a minimum. Carry out interruptions after normal working hours of occupants, preferably on weekends.
- .3 Provide for personnel, pedestrian and vehicular traffic.
- .4 Construct barriers in accordance with Section 01 56 00 - Temporary Barriers and Enclosures.



1.5 SPECIAL REQUIREMENTS

- .1 Carry out noise generating Work Monday to Friday from 8:00 to 17:00 hours.
- .2 Ensure that Contractor personnel employed on site become familiar with and obey regulations including safety, fire, traffic and security regulations.
- .3 Keep within limits of work and avenues of ingress and egress.
- .4 Ingress and egress of Contractor vehicles at site is limited to Moro Street, via Craftsman Boulevard.
- .5 Bedrock excavation utilizing blasting will not be permitted.

1.6 SECURITY CLEARANCES

- .1 Personnel employed on this project may be subject to security check. Obtain clearance, as instructed, for each individual who will require to enter premises.

1.7 SECURITY ESCORT

- .1 Personnel employed on this project must be escorted when executing work in non-public areas during normal working hours. Personnel must be escorted in all areas after normal working hours.
- .2 Submit an escort request to Departmental Representative at least 14 days before service is needed. For requests submitted within time noted above, costs of security escort will be paid for by Departmental Representative. Cost incurred by late request will be Contractor's responsibility.
- .3 Any escort request may be cancelled free of charge if notification of cancellation is given at least 4 hours before scheduled time of escort. Cost incurred by late request will be Contractor's responsibility.
- .4 Calculation of costs will be based on average hourly rate of security officer for minimum of eight hours per day for late service request and of four hours for late cancellations.

1.8 BUILDING SMOKING ENVIRONMENT

- .1 Comply with smoking restrictions. Smoking is allowed only in areas indicated.



PART 2 – PRODUCTS

NOT USED

PART 3 – EXECUTION

NOT USED

END OF SECTION



PART 1 – GENERAL

1.1 ADMINISTRATIVE

- .1 Submit to Departmental Representative submittals listed for review. 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.
- .2 Do not proceed with Work affected by submittal until review is complete.
- .3 Present shop drawings, product data, samples and mock-ups in SI Metric units.
- .4 Where items or information is not produced in SI Metric units converted values are acceptable.
- .5 Review submittals prior to submission to Departmental Representative. This review represents that necessary requirements have been determined and verified, or will be, and that each submittal has been checked and co-ordinated 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 Departmental Representative, 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 co-ordinated.
- .8 Contractor's responsibility for errors and omissions in submission is not relieved by Departmental Representative's review of submittals.
- .9 Contractor's responsibility for deviations in submission from requirements of Contract Documents is not relieved by Departmental Representative 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 drawings stamped and signed by professional engineer registered or licensed in the Province of Ontario, 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 co-ordinated, regardless of Section under which adjacent items will be supplied and installed. Indicate cross references to design drawings and specifications.

- .4 Allow 10 days for Departmental Representative's review of each submission.
- .5 Adjustments made on shop drawings by Departmental Representative are not intended to change Contract Price. If adjustments affect value of Work, state such in writing to Departmental Representative prior to proceeding with Work.
- .6 Make changes in shop drawings as Departmental Representative may require, consistent with Contract Documents. When resubmitting, notify Departmental Representative 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 After Departmental Representative's review, distribute copies.
- .10 Submit electronic copy of shop drawings for each requirement requested in specification Sections and as Departmental Representative may reasonably request.
- .11 Submit electronic copies of product data sheets or brochures for requirements requested in specification Sections and as requested by Departmental Representative and where shop drawings will not be prepared due to standardized manufacture of product.
- .12 Submit electronic copies of test reports for requirements requested in specification Sections and as requested by Departmental Representative.
 - .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.
- .13 Submit electronic copies of certificates for requirements requested in specification Sections and as requested by Departmental Representative.
 - .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.
- .14 Submit electronic copies of manufacturers instructions for requirements requested in specification Sections and as requested by Departmental Representative.
- .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.
- .15 Submit electronic copies of Manufacturer's Field Reports for requirements requested in specification Sections and as requested by Departmental Representative.
- .16 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 Departmental Representative.
- .18 Delete information not applicable to project.
- .19 Supplement standard information to provide details applicable to project.
- .20 If upon review by Departmental Representative, 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 Departmental Representative is for sole purpose of ascertaining conformance with general concept.
- .1 This review shall not mean that Departmental Representative 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 co-ordination of Work of sub-trades.

1.5 SAMPLES

- .1 Submit for review samples as requested in respective specification Sections. Label samples with origin and intended use.
- .2 Deliver samples prepaid to Departmental Representative's business address.
- .3 Notify Departmental Representative in writing, at time of submission of deviations in samples from requirements of Contract Documents.
- .4 Where colour, pattern or texture is criterion, submit full range of samples.
- .5 Adjustments made on samples by Departmental Representative are not intended to change Contract Price. If adjustments affect value of Work, state such in writing to Departmental Representative prior to proceeding with Work.
- .6 Make changes in samples which Departmental Representative 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.

1.7 PHOTOGRAPHIC DOCUMENTATION

- .1 Submit electronic and hard copy of colour digital photography in jpg format, standard resolution monthly with progress statement and as directed by Departmental Representative.
- .2 Project identification: name and number of project and date of exposure indicated.
- .3 Number of viewpoints: 2 locations.
 - .1 Position viewpoints so that information shown within photograph adequately depicts intent.
- .4 Frequency of photographic documentation: as directed by Departmental Representative.
 - .1 Upon completion of: excavation, foundation, services before concealment, and as directed by Departmental Representative.



1.8 CERTIFICATES AND TRANSCRIPTS

- .1 Immediately after award of Contract, submit Workers' Compensation Board status.
- .2 Submit transcription of insurance immediately after award of Contract.

PART 2 – PRODUCTS

NOT USED

PART 3 – EXECUTION

NOT USED

END OF SECTION



PART 1 - GENERAL

1.1 REFERENCES

- .1 Canada Labour Code, Part 2, Canada Occupational Safety and Health Regulations
- .2 Health Canada/Workplace Hazardous Materials Information System (WHMIS)
 - .1 Material Safety Data Sheets (MSDS).
- .3 Province of Ontario
 - .1 Occupational Health and Safety Act, R.S.O. (latest up-date).

1.2 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 copies of Contractor's authorized representative's work site health and safety inspection reports to Departmental Representative and authority having jurisdiction, weekly.
- .4 Submit copies of reports or directions issued by Federal, Provincial and Territorial health and safety inspectors.
- .5 Submit copies of incident and accident reports.
- .6 Departmental Representative 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 Departmental Representative within 3 days after receipt of comments from Departmental Representative.
- .7 Departmental Representative'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.
- .8 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 Departmental Representative.

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

1.3 FILING OF NOTICE

- .1 File Notice of Project with authorities having jurisdiction prior to beginning of Work.

1.4 SAFETY ASSESSMENT

- .1 Perform site specific safety hazard assessment related to project.

1.5 MEETINGS

- .1 Schedule and administer Health and Safety meeting with Departmental Representative prior to commencement of Work.

1.6 REGULATORY REQUIREMENTS

- .1 Do Work in accordance with Section 01 41 00 - Regulatory Requirements

1.7 GENERAL REQUIREMENTS

- .1 Develop written site-specific Health and Safety Plan based on hazard assessment prior to beginning site Work and continue to implement, maintain, and enforce plan until final demobilization from site. Health and Safety Plan must address project specifications.
- .2 Departmental Representative may respond in writing, where deficiencies or concerns are noted and may request re-submission with correction of deficiencies or concerns.

1.8 RESPONSIBILITY

- .1 Be responsible for health and safety of persons on site, safety of property on site and for protection of persons adjacent to site and environment to extent that they may be affected by conduct of Work.
- .2 Comply with and enforce compliance by employees with safety requirements of Contract Documents, applicable federal, provincial, territorial and local statutes, regulations, and ordinances, and with site-specific Health and Safety Plan.

1.9 COMPLIANCE REQUIREMENTS

- .1 Comply with Ontario Health and Safety Act, R.S.O.



- .2 Comply with Canada Labour Code, Canada Occupational Safety and Health Regulations.

1.10 UNFORSEEN HAZARDS

- .1 When unforeseen or peculiar safety-related factor, hazard, or condition occur during performance of Work, follow procedures in place for Employee's Right to Refuse Work in accordance with Acts and Regulations of Ontario having jurisdiction and advise Departmental Representative verbally and in writing.

1.11 HEALTH AND SAFETY CO-ORDINATOR

- .1 Employ and assign to Work, competent and authorized representative as Health and Safety Co-ordinator. Health and Safety Co-ordinator must:
 - .1 Have site-related working experience specific to activities associated with heavy construction.
 - .2 Have working knowledge of occupational safety and health regulations.
 - .3 Be responsible for completing Contractor's Health and Safety Training Sessions and ensuring that personnel not successfully completing required training are not permitted to enter site to perform Work.
 - .4 Be responsible for implementing, enforcing daily and monitoring site-specific Contractor's Health and Safety Plan.
 - .5 Be on site during execution of Work and report directly to and be under direction of site supervisor.

1.12 POSTING OF DOCUMENTS

- .1 Ensure applicable items, articles, notices and orders are posted in conspicuous location on site in accordance with Acts and Regulations of authority having jurisdiction, and in consultation with Departmental Representative.

1.13 CORRECTION OF NON-COMPLIANCE

- .1 Immediately address health and safety non-compliance issues identified by authority having jurisdiction or by Departmental Representative.
- .2 Provide Departmental Representative with written report of action taken to correct non-compliance of health and safety issues identified.
- .3 Departmental Representative may stop Work if non-compliance of health and safety regulations is not corrected.



1.14 BLASTING

- .1 Blasting or other use of explosives is not permitted.

1.15 POWDER ACTUATED DEVICES

- .1 Use powder actuated devices is not permitted.

PART 2 – PRODUCTS

NOT USED

PART 3 – EXECUTION

NOT USED

END OF SECTION



PART 1 - GENERAL

1.1 REFERENCES AND CODES

- .1 Perform Work in accordance with the Ontario Building Code and/or National Building Code of Canada (NBCC) including amendments up to tender closing date and other codes of provincial or local application provided that in case of conflict or discrepancy, more stringent requirements apply.
- .2 Meet or exceed requirements of:
 - .1 Contract documents.
 - .2 Specified standards, codes and referenced documents.

1.2 HAZARDOUS MATERIAL DISCOVERY

- .1 In the event that hazardous materials and or designated substances are encountered during work:
 - .1 Stop work and immediately notify Departmental Representative and
 - .1 Departmental Representative and will outline prescriptive course of action.
 - .2 Hazardous materials may include but not be limited to:
 - .1 Polychlorinated Biphenyls (PCB)
 - .2 Petroleum Hydrocarbon Compounds (PHC)
 - .3 Volatile Organic Compounds (VOC)
 - .3 Designated Substances
 - .1 Refer to Ontario Regulation 409/09: Designated Substances (O.Reg. 409/09)

1.3 BUILDING SMOKING ENVIRONMENT

- .1 Comply with smoking restrictions and municipal by-laws.

PART 2 – PRODUCTS

NOT USED



Modular Building
Relocation
Project No. 402-2301-0

Regulatory Requirements

Section 01 41 00
Page 2
2015-10-06

PART 3 – EXECUTION

NOT USED

END OF SECTION



PART 1 - GENERAL

1.1 INSPECTION

- .1 Allow Departmental Representative 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.
- .2 Give timely notice requesting inspection if Work is designated for special tests, inspections or approvals by Departmental Representative instructions, or law of Place of Work.
- .3 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.
- .4 Departmental Representative will order 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. If such Work is found in accordance with Contract Documents, Departmental Representative shall pay cost of examination and replacement.

1.2 INDEPENDENT INSPECTION AGENCIES

- .1 Independent Inspection/Testing Agencies may be engaged by Departmental Representative for purpose of inspecting and/or testing portions of Work. Cost of such services will be borne by Departmental Representative.
- .2 Provide equipment required for executing inspection and testing by appointed agencies.
- .3 Employment of inspection/testing agencies does not relax responsibility to perform Work in accordance with Contract Documents.
- .4 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 Departmental Representative at no cost to Departmental Representative. Pay costs for retesting and reinspection.

1.3 ACCESS TO WORK

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



- .2 Co-operate to provide reasonable facilities for such access.

1.4 PROCEDURES

- .1 Notify appropriate agency, Departmental Representative 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 orderly sequence to not cause delays 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.

1.5 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 Departmental Representative 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 Departmental Representative it is not expedient to correct defective Work or Work not performed in accordance with Contract Documents, Owner will deduct from Contract Price difference in value between Work performed and that called for by Contract Documents, amount of which will be determined by Departmental Representative.

1.6 REPORTS

- .1 Submit electronic copies of inspection and test reports to Departmental Representative.
- .2 Provide copies to subcontractor of work being inspected or tested, manufacturer or fabricator of material being inspected or tested.

1.7 TESTS AND MIX DESIGNS

- .1 Furnish test results and mix designs as requested.
- .2 Cost of tests and mix designs beyond those called for in Contract Documents or beyond those required by law of Place of Work will be appraised by Departmental Representative and may be authorized as recoverable.



Modular Building
Relocation
Project No. 402-2301-0

Quality Control

Section 01 45 00
Page 3
2015-10-06

PART 2 - PRODUCTS

NOT USED

PART 3 – EXECUTION

NOT USED

END OF SECTION



PART 1 – GENERAL

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 HOARDING

- .1 Erect temporary site enclosures modular type fencing.
- .2 Provide lockable truck entrance gate(s) as required and at least one pedestrian door as directed and conforming to applicable traffic restrictions on adjacent streets. Equip gates with locks and keys.
- .3 Erect and maintain pedestrian walkways including roof and side covers, complete with signs and electrical lighting as required by law.
- .4 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.
- .2 Provide as required by governing authorities or as indicated.

1.4 ACCESS TO SITE

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

1.5 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 public.

1.6 FIRE ROUTES

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

1.7 PROTECTION FOR OFF-SITE AND PUBLIC PROPERTY

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



- .2 Be responsible for damage incurred.

1.8 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 Departmental Representative locations and installation schedule 3 days prior to installation.
- .4 Be responsible for damage incurred due to lack of or improper protection.

PART 2 – PRODUCTS

NOT USED

PART 3 – EXECUTION

NOT USED

END OF SECTION



PART 1 – GENERAL

1.1 REFERENCES

- .1 Within text of each specifications section, reference may be made to reference standards.
- .2 Conform to these reference standards, in whole or in part as specifically requested in specifications.
- .3 If there is question as to whether products or systems are in conformance with applicable standards, Departmental Representative reserves right to have such products or systems tested to prove or disprove conformance.
- .4 Cost for such testing will be born by Departmental Representative in event of conformance with Contract Documents or by Contractor in event of non-conformance.

1.2 QUALITY

- .1 Products, materials, equipment and articles incorporated in Work shall be new, not damaged or defective, and of best quality for purpose intended. If requested, furnish evidence as to type, source and quality of products provided.
- .2 Procurement policy is to acquire, in cost effective manner, items containing highest percentage of recycled and recovered materials practicable consistent with maintaining satisfactory levels of competition. Make reasonable efforts to use recycled and recovered materials and in otherwise utilizing recycled and recovered materials in execution of work.
- .3 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.
- .4 Should disputes arise as to quality or fitness of products, decision rests strictly with Departmental Representative based upon requirements of Contract Documents.
- .5 Unless otherwise indicated in specifications, maintain uniformity of manufacture for any particular or like item throughout building.
- .6 Permanent labels, trademarks and nameplates on products are not acceptable in prominent locations, except where required for operating instructions, or when located in mechanical or electrical rooms.



1.3 AVAILABILITY

- .1 Immediately upon signing Contract, review product delivery requirements and anticipate foreseeable supply delays for items. If delays in supply of products are foreseeable, notify Departmental Representative 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 Departmental Representative and at commencement of Work and should it subsequently appear that Work may be delayed for such reason, Departmental Representative reserves right to substitute more readily available products of similar character, at no increase in Contract Price or Contract Time.

1.4 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 Remove and replace damaged products at own expense and to satisfaction of Departmental Representative.
- .7 Touch-up damaged factory finished surfaces to Departmental Representative's satisfaction. Use touch-up materials to match original. Do not paint over name plates.

1.5 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 Departmental Representative. Unload, handle and store such products.



1.6 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 Departmental Representative in writing, of conflicts between specifications and manufacturer's instructions, so that Departmental Representative will establish course of action.
- .3 Improper installation or erection of products, due to failure in complying with these requirements, authorizes Departmental Representative to require removal and re-installation at no increase in Contract Price or Contract Time.

1.7 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 Departmental Representative if required Work is such as to make it impractical to produce required results.
- .2 Do not employ anyone unskilled in their required duties. Departmental Representative 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 Departmental Representative, whose decision is final.

1.8 CO-ORDINATION

- .1 Ensure co-operation of workers in laying out Work. Maintain efficient and continuous supervision.
- .2 Be responsible for coordination and placement of openings, sleeves and accessories.

1.9 CONCEALMENT

- .1 In finished areas conceal pipes, ducts and wiring in floors, walls and ceilings, except where indicated otherwise.
- .2 Before installation inform Departmental Representative if there is interference. Install as directed by Departmental Representative.

1.10 REMEDIAL WORK

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



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

1.11 FASTENINGS

- .1 Prevent electrolytic action between dissimilar metals and materials.
- .2 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.
- .3 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.
- .4 Keep exposed fastenings to a minimum, space evenly and install neatly.
- .5 Fastenings which cause spalling or cracking of material to which anchorage is made are not acceptable.

1.12 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.

1.13 PROTECTION OF WORK IN PROGRESS

- .1 Prevent overloading of parts of building. Do not cut, drill or sleeve load bearing structural member, unless specifically indicated without written approval of Departmental Representative.

1.14 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, building occupants, 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.

PART 2 – PRODUCTS

NOT USED

PART 3 – EXECUTION

NOT USED

END OF SECTION



PART 1 - GENERAL

1.1 PROJECT CLEANLINESS

- .1 Maintain Work in tidy condition, free from accumulation of waste products and debris, including that caused by Sub- Contractors.
- .2 Remove waste materials from site at daily regularly scheduled times or dispose of as directed by Departmental Representative. 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 Dispose of waste materials and debris off site.
- .7 Clean areas prior to start of finishing work, and maintain areas free of debris and other deleterious during finishing operations.
- .8 Store volatile waste in covered metal containers, and remove from premises at end of each working day.
- .9 Provide adequate ventilation during use of volatile or noxious substances.
- .10 Use only cleaning materials recommended by manufacturer of surface to be cleaned, and as recommended by cleaning material manufacturer.
- .11 Schedule cleaning operations so that resulting dust, debris and other contaminants will not fall on wet, newly painted surfaces nor contaminate building systems.

1.2 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 other than that caused by Owner.



- .5 Remove waste materials from site at regularly scheduled times or dispose of as directed by Departmental Representative. 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 Broom clean and wash exterior walks, steps and surfaces; rake clean other surfaces of grounds.
- .8 Remove dirt and other disfiguration from exterior surfaces.
- .9 Sweep and wash clean paved areas.
- .10 Remove debris and surplus materials from crawl areas and other accessible concealed spaces.
- .11 Remove snow and ice from access to building.

PART 2 – PRODUCTS

NOT USED

PART 3 – EXECUTION

NOT USED

END OF SECTION



| | | |
|--|------------------------|--|
| Modular Building Relocation Project No. 402-2301-0 | EARTHWORK - SHORT FORM | Sect 31 00 00.01 Page 1 2015-10-09 |
|--|------------------------|--|

PART 1 - GENERAL

- 1.1 REFERENCES**
- .1 American Society for Testing and Materials International (ASTM)
 - .1 ASTM D 698-00ae1, Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400ft-lbf/ft³) (600kN-m/m²).
 - .2 Ontario Provincial Standard Specifications (OPSS)/Ontario Ministry of Transportation
 - OPSS-180 (November 2011);
 - OPSS-206 (November 2013);
 - OPSS-802 (November 2010);
 - OPSS.MUNI-804 (November 2014);
 - OPSS-805 (November 2010);
 - OPSS.MUNI-1004 (November 2013);
 - OPSS.MUNI-1010 (November 2013).
- 1.2 WASTE MANAGEMENT AND DISPOSAL**
- .1 Divert unused vegetation materials from landfill to local facility as directed by Departmental Representative.
- 1.3 EXISTING CONDITIONS**
- .1 Examine soils information on plans.
 - .2 Buried services:
 - .1 Before commencing work Contractor is to verify location of buried services on and adjacent to site.
 - .2 Arrange with appropriate authority for relocation of buried services that interfere with execution of work: pay costs of relocating services.
 - .3 Remove obsolete buried services within 2 m of foundations: cap cut-offs.

PART 2 - PRODUCTS

- 2.1 MATERIALS**
- .1 Granular A and B Type II as per OPSS1010. Sand as per OPSS1004.

PART 3 - EXECUTION

- 3.1 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 Site Servicing and Grading Plans.



| | | |
|--|------------------------|--|
| Modular Building Relocation Project No. 402-2301-0 | EARTHWORK - SHORT FORM | Sect 31 00 00.01 Page 2 2015-10-09 |
|--|------------------------|--|

- .2 Inspect, repair, and maintain erosion and sedimentation control measures during construction until permanent vegetation has been established.
 - .3 Upon establishment of vegetation, remove erosion and sedimentation controls and restore and stabilize areas disturbed during removal.
- 3.2 PREPARATION/ PROTECTION
- .1 Protect excavations from freezing.
 - .2 Keep excavations clean, free of standing water, and loose soil.
 - .3 Where soil is subject to significant volume change due to change in moisture content, cover and protect to Departmental Representative approval.
 - .4 Protect natural and man-made features required to remain undisturbed. Unless otherwise indicated or located in an area to be occupied by new construction, protect existing trees from damage.
 - .5 Protect buried services that are required to remain undisturbed.
- 3.3 CLEARING AND GRUBBING
- .1 Dispose of cleared and grubbed material off site daily to disposal areas acceptable to authority having jurisdiction.
- 3.4 EXCAVATION
- .1 Strip topsoil over areas to be covered by new construction, over areas where grade changes are required, and so that excavated material may be stockpiled without covering topsoil.
 - .1 Stockpile topsoil on site for later use.
 - .2 Excavate as required to carry out work.
 - .1 Do not disturb soil or rock below bearing surfaces.
 - .2 Notify Consultant when excavations are complete.
 - .3 If bearings are unsatisfactory, additional excavation will be authorized in writing and paid for as additional work.
 - .4 Excavation taken below depths shown without Departmental Representative's written authorization to be filled with concrete of same strength as for footings at Contractor's expense.
 - .3 Excavate trenches to provide uniform continuous bearing and support as shown on plans.
 - .4 Costs for rock excavation shall be included in the cost per meter of pipe/utility trench. No additional compensation for rock



| | | |
|--|------------------------|--|
| Modular Building Relocation Project No. 402-2301-0 | EARTHWORK - SHORT FORM | Sect 31 00 00.01 Page 3 2015-10-09 |
|--|------------------------|--|

excavation will be paid.

- .5 No blasting is permitted on site.

3.5 BACKFILLING

- .1 Inspection: do not commence backfilling until fill material and spaces to be filled have been inspected and approved by Consultant.
- .2 Remove snow, ice, construction debris, organic soil and standing water from spaces to be filled.
- .3 Lateral support: maintain even levels of backfill around structures as work progresses, to equalize earth pressures.
- .4 Compaction of subgrade: compact existing subgrade under walks, paving, and slabs on grade, to same compaction as specified for fill.
 - .1 Fill excavated areas with selected subgrade material compacted as specified for fill.
- .5 Place backfill and fill material in 150 mm lifts: add water as required to achieve specified density.
- .6 Compaction: compact each layer of material as noted on plans.
- .7 Blown rock material, not capable of fine grading, is not acceptable, imported material must be placed on this type of material
- .8 Against foundations (except as applicable to trenches and under slabs and paving): excavated material or imported material with no stones larger than 200 mm diameter within 600 mm of structures.

3.6 GRADING

- .1 Grade so that water will drain away from buildings, walls and paved areas, to catch basins and other disposal areas as illustrated on plans.
 - .1 Grade to be gradual between finished spot elevations shown on drawings.

3.7 FIELD QUALITY CONTROL

- .1 Testing of materials and compaction of backfill will be carried out by the Contractor. Test results shall be supplied to the Consultant and Departmental Representative. The testing laboratory must be CCIL accredited.
- .2 Do not begin backfilling or filling operations until material has been approved for use by Departmental Representative.



| | | |
|------------------------|------------------------|------------------|
| Modular Building | EARTHWORK - SHORT FORM | Sect 31 00 00.01 |
| Relocation | | Page 4 |
| Project No. 402-2301-0 | | 2015-10-09 |

- .3 Not later than 48 hours before backfilling or filling with approved material, notify Consultant so that compaction tests can be witnessed and carried out by designated testing agency.

3.8 SHORTAGE AND SURPLUS

- .1 Supply necessary fill to meet backfilling and grading requirements and with minimum and maximum rough grade variance.
- .2 Dispose of surplus material off site at Contractor's expense.

3.9 FINISH GRADING

- .1 Grade to eliminate rough spots and low areas and ensure positive drainage.
 - .1 Prepare loose friable bed by means of cultivation and subsequent raking.

3.10 TOPSOIL

- .1 Topsoil to meet OPSS 802.

3.11 SEED

- .1 Seed to meet OPSS 804, Contractor to place MTO seed mix or approved equivalent. Contractor to provide seed mix to Consultant a minimum of one week prior to placement.

END OF SECTION



| | | |
|--|---|--|
| Modular Building Relocation Project No. 402-2301-0 | Site Water Utility Distribution Piping | Section 33 11 16 Page 1 2015-10-09 |
|--|---|--|

PART 1 - GENERAL

1.1 MEASUREMENT
PROCEDURES

- .1 Measure water main including trenching and backfilling, in metres of each size of pipe installed.
 - .1 Horizontal measurement will be made over surface, through valves and fittings, after work has been completed.
 - .2 Measure lateral connections from water main to hydrants as water main and include curb valve and adjustable valve box.

1.2 REFERENCES

- .1 American Society for Testing and Materials International, (ASTM)
 - .1 ASTM C 117-95, Standard Test Method for Material Finer Than 75 MU (No. 200) Sieve in Mineral Aggregates by Washing.
 - .2 ASTM C 136-01, Standard Method for Sieve Analysis of Fine and Coarse Aggregates.
 - .3 ASTM D 698-00a, Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft (600 kN-m/m²)).
 - .4 ASTM F 714-01, Standard Specification for Polyethylene (PE) Plastic Pipe SDR-PR Based on Outside Diameter.
 - .5 ASTM C 618-01, Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use as a Mineral Admixture in Concrete.
- .2 American Water Works Association (AWWA)/Manual of Practice
 - .1 AWWA M17-1989, Installation, Field Testing, and Maintenance of Fire Hydrants.
- .3 Canadian General Standards Board (CGSB)
 - .1 CAN/CGSB-8.1-88, Sieves, Testing, Woven Wire, Inch Series.
 - .2 CAN/CGSB-8.2-M88, Sieves, Testing, Woven Wire, Metric.
 - .3 CAN/CGSB-1.88-92, Gloss Alkyd Enamel, Air Drying and Baking.
 - .4 CGSB 41-GP-25M-77, Pipe, Polyethylene, for the Transport of Liquids.
- .4 Canadian Standards Association (CSA International)
 - .1 CSA B137 Series-02, Thermoplastic Pressure Piping Compendium. (Consists of B137.0, B137.1, B137.2, B137.3, B137.4, B137.4.1, B137.5, B137.6, B137.8, B137.9, B137.10, B137.11 and B137.12).



| | | |
|--|---|--|
| Modular Building Relocation Project No. 402-2301-0 | Site Water Utility Distribution Piping | Section 33 11 16 Page 2 2015-10-09 |
|--|---|--|

.1 CSA B137.1-02, Polyethylene Pipe, Tubing, and Fittings for Cold-Water Pressure Services.

.5 Department of Justice Canada (Jus)
.1 Canadian Environmental Protection Act, 1999 (CEPA).

.6 Transport Canada (TC)
.1 Transportation of Dangerous Goods Act, 1992 (TDGA)

**1.3 ACTION AND
INFORMATIONAL
SUBMITTALS**

.1 Submit manufacturer's test data and certification that pipe materials meet requirements of this section at least 2 weeks prior to beginning work. Include manufacturer's drawings, information and shop drawings where pertinent.

.2 Pipe certification to be on pipe.

**1.4 CLOSEOUT
SUBMITTALS**

.1 Provide data to produce record drawings, including directions for operating valves, list of equipment required to operate valves, details of pipe material, location of air and vacuum release valves, hydrant details, maintenance and operating instructions.

.1 Include top of pipe, horizontal location of fittings and type, valves, valve boxes, valve chambers and hydrants.

.2 Contractor responsible for all testing. Results to be submitted to Engineer.

**1.5 WASTE
MANAGEMENT AND
DISPOSAL**

.1 Remove from site and dispose of packaging materials at appropriate recycling facilities.

.2 Place materials defined as hazardous or toxic in designated containers.

.3 Handle and dispose of hazardous materials in accordance with the CEPA, TDGA, Regional and Municipal regulations.

.4 Ensure emptied containers are sealed and stored safely.

.5 Divert unused aggregate and concrete materials from landfill to local facility as approved by Departmental Representative.

.6 Dispose of unused disinfection material at official hazardous material collections site approved by Departmental Representative.

.7 Do not dispose of unused disinfection material into sewer



| | | |
|--|---|--|
| Modular Building Relocation Project No. 402-2301-0 | Site Water Utility Distribution Piping | Section 33 11 16 Page 3 2015-10-09 |
|--|---|--|

system, into streams, lakes, onto ground or in other location where they will pose health or environmental hazard.

- .8 Fold up metal banding, flatten and place in designated area for recycling.

1.6 SCHEDULING OF WORK

- .1 Schedule Work to minimize interruptions to existing services.
- .2 Submit schedule of expected interruptions to Departmental Representative for approval and adhere to interruption schedule as approved by Departmental Representative.
- .3 Notify Departmental Representative minimum of 24 h in advance of interruption in service.

PART 2 - PRODUCTS

2.1 PIPE, JOINTS AND FITTINGS

- .1 Install pipes, joints and fittings as per Site Servicing and Grading Plan.

2.2 VALVES AND VALVE BOXES

- .1 Valves to open as dictated by Departmental Representative.
- .2 Gate valves: to be installed as per Site Servicing and Grading Plan.

2.3 SERVICE CONNECTIONS

- .1 Service Connections: to be installed as per Site Servicing and Grading Plan.

2.4 PIPE BEDDING AND SURROUND MATERIAL

- .1 As indicated on plans.

2.5 BACKFILL MATERIAL

- .1 As indicated on plans.

2.6 PIPE DISINFECTION

- .1 Undertake disinfection of water mains in accordance with City of Kingston / Utilities Kingston standards.



| | | |
|--|---|--|
| Modular Building Relocation Project No. 402-2301-0 | Site Water Utility Distribution Piping | Section 33 11 16 Page 4 2015-10-09 |
|--|---|--|

PART 3 - EXECUTION

| | | |
|-------------------------------------|----|--|
| <u>3.1 PREPARATION</u> | .1 | Clean pipes, fittings, valves, hydrants, and appurtenances of accumulated debris and water before installation. .1 Inspect materials for defects. .2 Remove defective materials from site as directed by Departmental Representative. |
| <u>3.2 TRENCHING</u> | .1 | Do trenching work in accordance with Section 31 00 00.01- Earthwork - Short Form. |
| <u>3.3 GRANULAR BEDDING</u> | .1 | As indicated on plans. |
| <u>3.4 PIPE INSTALLATION</u> | .1 | Terminate building water service 1m outside building wall opposite point of connection to main. Install coupling necessary for connection to building plumbing. If plumbing is already installed, make connection; otherwise cap or seal end of pipe and place temporary marker to locate pipe end. |
| | .2 | Lay pipes to manufacturer's standard instructions and specifications. Do not use blocks except as specified. |
| | .3 | Join pipes in accordance with manufacturer's written instructions. |
| | .4 | Bevel or taper ends of PVC pipe to match fittings. |
| | .5 | Handle pipe as per pipe manufacturer's written instruction. Do not use chains or cables passed through pipe bore so that weight of pipe bears on pipe ends. |
| | .6 | Lay pipes on prepared bed, true to line and grade. .1 Ensure barrel of each pipe is in contact with shaped bed throughout its full length. .2 Take up and replace defective pipe. .3 Correct pipe which is not in true alignment or grade or pipe which shows differential settlement after installation greater than 10 mm in 3 m. |
| | .7 | Face socket ends of pipe in direction of laying. For mains on grade of 2% or greater, face socket ends up-grade. |
| | .8 | Do not exceed permissible deflection at joints as per pipe manufacturer's written instructions. |



| | | |
|--|---|--|
| Modular Building Relocation Project No. 402-2301-0 | Site Water Utility Distribution Piping | Section 33 11 16 Page 5 2015-10-09 |
|--|---|--|

- .9 Keep jointing materials and installed pipe free of dirt and water and other foreign materials.
 - .1 Whenever work is stopped, install a removable watertight bulkhead at open end of last pipe laid to prevent entry of foreign materials.
- .10 Position and join pipes with equipment and methods approved by Departmental Representative.
- .11 Cut pipes in approved manner as per pipe manufacturer's written instructions, without damaging pipe or its coating and to leave smooth end at right angles to axis of pipe.
- .12 Align pipes before jointing.
- .13 Install gaskets as per manufacturer's written instructions. Support pipes with hand slings or crane as required to minimize lateral pressure on gasket and maintain concentricity until gasket is properly positioned.
- .14 Avoid displacing gasket or contaminating with dirt or other foreign material.
 - .1 Remove disturbed or contaminated gaskets.
 - .2 Clean, lubricate and replace before jointing is attempted again.
- .15 Complete each joint before laying next length of pipe.
- .16 Minimize deflection after joint has been made.
- .17 Apply sufficient pressure in making joints to ensure that joint is completed as per manufacturer's written instructions.
- .18 Ensure completed joints are restrained by compacting bedding material alongside and over installed pipes or as otherwise approved by Departmental Representative.
- .19 When stoppage of work occurs, block pipes in an approved manner to prevent creep during down time.
- .20 Recheck plastic pipe joints assembled above ground after placing in trench to ensure that no movement of joint has taken place.
- .21 Do not lay pipe on frozen bedding.
- .22 Do hydrostatic and leakage test and have results approved by Departmental Representative before surrounding and covering joints and fittings with granular material.



| Modular Building Relocation Project No. 402-2301-0 | Site Water Utility Distribution Piping | Section 33 11 16 Page 6 2015-10-09 |
|--|---|--|
| | .23 | Backfill remainder of trench. |
| <u>3.5 VALVE INSTALLATION</u> | .1 | Install valves as per manufacturer's written instructions at locations as indicated. |
| | .2 | Install underground post-type indicator valves as indicated. |
| <u>3.6 HYDROSTATIC AND LEAKAGE TESTING</u> | .1 | Do tests in accordance with OPSS 441.07.24 Hydrostatic Testing. |
| | .2 | Provide labour, equipment and materials required to perform hydrostatic and leakage tests hereinafter described. |
| | .3 | Notify Departmental Representative at least 24 hours in advance of proposed tests. |
| | .1 | Perform tests in presence of Departmental Representative. |
| | .4 | Where section of system is provided with concrete thrust blocks, conduct tests at least 5 days after placing concrete or 2 days if high early strength concrete is used. |
| | .5 | Upon completion of pipe laying and after Departmental Representative has inspected Work in place, surround and cover pipes between joints with approved granular material placed to dimensions indicated. |
| <u>3.7 PIPE SURROUND</u> | .1 | Upon completion of pipe laying and after Departmental Representative has inspected Work in place, surround and cover pipes as indicated. |
| <u>3.8 BACKFILL</u> | .1 | Place backfill material, above pipe surround, in uniform layers as indicated. |
| <u>3.9 FLUSHING AND DISINFECTING</u> | .1 | Flushing and disinfecting operations: witnessed by Consultant, carried out by qualified contractor |
| | .1 | Notify Departmental Representative at least 4 days in advance of proposed date when disinfecting operations will begin. |
| | .2 | Flushing and disinfecting operations to be completed as per OPSS 441.07.25 Flushing and Disinfecting Watermains and City of Kingston Subdivision Guidelines & Technical Standards - Utilities Kingston: Technical Schedule 2 Appendix 2B: Design Standards - Water Distribution System Section 9.0 |



| | | |
|------------------------|---------------------|------------------|
| Modular Building | Site Water Utility | Section 33 11 16 |
| Relocation | Distribution Piping | Page 7 |
| Project No. 402-2301-0 | | 2015-10-09 |

Flushing/Swabbing and Disinfection of Watermains.

**3.10 SURFACE
RESTORATION**

- .1 After installing and backfilling over water mains, restore surface to original condition as directed by Departmental Representative. Restoring surface to include asphalt if necessary and is to be accounted for in the cost per meter of the Contractor's unit prices.

END OF SECTION



| | | |
|--|--|--|
| Modular Building Relocation Project No. 402-2301-0 | Public Sanitary Utility Sewerage Piping | Section 33 31 13 Page 1 2015-10-09 |
|--|--|--|

PART 1 - GENERAL

| | | |
|--|----|---|
| <u>1.1 MEASUREMENT PROCEDURES</u> | .1 | Excavation (rock or earth), bedding and backfill paid per meter of pipe / trench. |
| | .2 | Measure, supply and installation of sanitary sewer including testing and including excavation and backfilling and granular bedding and surround horizontally from manhole face to manhole face in metres of each size pipe and depth class installed. |
| <u>1.2 PAYMENT</u> | .1 | After television and photographic pipe inspections: .1 If defective Work is found, Contractor to repair and re-inspect – to be completed at their cost. |
| <u>1.3 REFERENCES</u> | .1 | American Society for Testing and Materials International, (ASTM) .1 ASTM C 117-95, Standard Test Method for Material Finer Than 75 MU m (No. 200) Sieve in Mineral Aggregates by Washing. .2 ASTM C 136-01, Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates. .3 ASTM C 428-97(2002, Standard Specification for Asbestos-Cement Nonpressure Sewer Pipe. .4 ASTM D 698-00a, Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft ⁴ -lbf/ft ³ (600 kN-m/m ³)). .5 ASTM D 3034-00, Standard Specification for Type PSM Poly (Vinyl Chloride) (PVC) Sewer Pipe and Fittings. .6 ASTM D 3350-[02], Standard Specification for Polyethylene Plastics Pipe and Fittings Materials. |
| | .2 | Canadian General Standards Board (CGSB) .1 CAN/CGSB-8.1-88, Sieves, Testing, Woven Wire, Inch Series. .2 CAN/CGSB-8.2-M88, Sieves, Testing, Woven Wire, Metric. |
| | .3 | Canadian Standards Association (CSA International) .1 CSA B1800-02, Plastic Non-pressure Pipe Compendium - B1800 Series (Consists of B181.1, B181.2, B181.3, B181.5, B182.1, B182.2, B182.4, B182.6, B182.7, B182.8 and B182.11). .1 CSA B182.2-02, PVC Sewer Pipe and Fittings (PSM Type). .2 CSA B182.11-02, Recommended Practice for |



| | | |
|--|--|--|
| Modular Building Relocation Project No. 402-2301-0 | Public Sanitary Utility Sewerage Piping | Section 33 31 13 Page 2 2015-10-09 |
|--|--|--|

the Installation of Thermoplastic Drain, Storm, and
Sewer Pipe and Fittings.

- .4 Department of Justice Canada (Jus)
 - .1 Canadian Environmental Protection Act, 1999 (CEPA)
- .5 Transport Canada (TC)
 - .1 Transportation of Dangerous Goods Act, 1992 (TDGA)

1.4 DEFINITIONS

- .1 Pipe section is defined as length of pipe between successive manholes and/or between manhole and any other structure which is part of sewer system.

1.5 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Inform Departmental Representative at least 4 weeks prior to beginning Work, of proposed source of bedding materials and provide access for sampling.
- .2 Submit manufacturer's test data and certification at least 2 weeks prior to beginning Work.
- .3 Ensure certification is marked on pipe.
- .4 Submit manufacturers' information data sheets and instructions.

1.6 DELIVERY, STORAGE AND HANDLING

- .1 Deliver, store and handle materials in accordance with Section 01 61 00 - Common Product Requirements.

1.7 WASTE MANAGEMENT AND DISPOSAL

- .1 Remove from site and dispose of packaging materials at appropriate disposal or recycling facilities.
- .2 Collect and separate for disposal packaging material for recycling in accordance with Waste Management Plan.
- .3 Place materials defined as hazardous or toxic in designated containers.
- .4 Divert unused metal materials from landfill to metal recycling facility as approved by Departmental Representative.
- .5 Divert unused aggregate and / or concrete materials from landfill to local facility as approved by Departmental Representative.



| | | |
|--|--|--|
| Modular Building Relocation Project No. 402-2301-0 | Public Sanitary Utility Sewerage Piping | Section 33 31 13 Page 3 2015-10-09 |
|--|--|--|

- .6 Handle and dispose of hazardous materials in accordance with the CEPA, TDGA, Regional and Municipal regulations.
- .7 Dispose of unused asbestos cement pipe in accordance with regulations governing disposal of hazardous materials.
- .8 Fold up metal banding, flatten and place in designated area for recycling.

1.7 SCHEDULING

- .1 Schedule Work to minimize interruptions to existing services and maintain existing sewage flows during construction.
- .2 Submit schedule of expected interruptions for approval and adhere to approved schedule.
- .3 Notify Departmental Representative 24 hours minimum in advance of any interruption in service.

PART 2 - PRODUCTS

2.1 PLASTIC PIPE

- .1 See Site Servicing and Grading Plan for material.

2.2 SERVICE CONNECTIONS

- .1 See Site Servicing and Grading Plan for connections.

2.3 CEMENT MORTAR

- .1 Portland cement: to CAN/CSA-A5, normal type 10.
- .2 Mix mortar one part by volume of cement to two parts of clean, sharp sand mixed dry.
 - .1 Add only sufficient water after mixing to give optimum consistency for placement.
 - .2 Do not use additives.

2.4 PIPE BEDDING AND SURROUND MATERIALS

- .1 Granular material following requirements:
 - .1 Crushed or screened stone, gravel or sand.
 - .2 Gradations to be within limits specified on OPSS .MUNI 1010.

2.5 BACKFILL MATERIAL

- .1 As indicated on plans.



| | | |
|--|--|--|
| Modular Building Relocation Project No. 402-2301-0 | Public Sanitary Utility Sewerage Piping | Section 33 31 13 Page 4 2015-10-09 |
|--|--|--|

PART 3 - EXECUTION

3.1 PREPARATION

- .1 Clean and dry pipes and fittings before installation.
- .2 Obtain Departmental Representative's approval of pipes and fittings prior to installation.

3.2 TRENCHING

- .1 Do not allow contents of any sewer or sewer connection to flow into trench.
- .2 Trench alignment and depth require approval of Departmental Representative prior to placing bedding material and pipe.

3.3 GRANULAR BEDDING

- .1 Place bedding in unfrozen condition.
- .2 Place granular bedding materials in uniform layer(s) as shown on the plans.
- .3 Shape bed true to grade and to provide continuous, uniform bearing surface for pipe.
 - .1 Do not use blocks when bedding pipe.
- .4 Shape transverse depressions as required to suit joints.
- .5 Compact each layer full width of bed as noted on plans..

3.4 INSTALLATION

- .1 Lay and join pipes in accordance with manufacturer's written instructions and to approval of Departmental Representative.
- .2 Handle pipe using methods approved by Departmental Representative
 - .1 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 invert smooth and free of sags or high points.
 - .1 Ensure barrel of each pipe is in contact with shaped bed throughout its full length.
- .4 Begin laying at outlet and proceed in upstream direction with socket ends of pipe facing upgrade.
- .5 Do not exceed maximum joint deflection as per written instructions by pipe manufacturer.



| | | |
|--|--|--|
| Modular Building Relocation Project No. 402-2301-0 | Public Sanitary Utility Sewerage Piping | Section 33 31 13 Page 5 2015-10-09 |
|--|--|--|

- .6 Do not allow water to flow through pipe during construction.
- .7 Whenever Work is suspended, install removable watertight bulkhead at open end of last pipe laid to prevent entry of foreign materials.
- .8 Install plastic pipe and fittings in accordance with CSA B182.11.
- .9 Pipe jointing:
 - .1 Install gaskets in accordance with manufacturer's written instructions.
 - .2 Support pipes with hand slings or crane as required to minimize lateral pressure on gasket and maintain concentricity until gasket is properly positioned.
 - .3 Align pipes 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. Gaskets so disturbed shall be removed, cleaned and lubricated and replaced before joining is attempted.
 - .6 Complete each joint before laying next length of pipe.
 - .7 Minimize joint deflection after joint has been made to avoid joint damage.
 - .8 At rigid structures, install pipe joints not more than 1.2 m from side of structure.
 - .9 Apply sufficient pressure in making joints to ensure that joint is complete as outlined in manufacturer's written instructions.
- .10 When stoppage of Work occurs, block pipes as directed by Departmental Representative to prevent creep during down time.
- .11 Plug lifting holes with pre-fabricated plugs approved by Departmental Representative, set in shrinkage compensating grout.
- .12 Cut pipes as required for special inserts, fittings or closure pieces as per pipe manufacturer's written instructions, without damaging pipe or its coating and to leave smooth end at right angles to axis of pipe.
- .13 Make watertight connections to manholes.
 - .1 Use shrinkage compensating grout when suitable gaskets are not available.
- .14 Use prefabricated saddles or field connections approved by Departmental Representative, for connecting pipes to existing



| | | |
|--|--|--|
| Modular Building Relocation Project No. 402-2301-0 | Public Sanitary Utility Sewerage Piping | Section 33 31 13 Page 6 2015-10-09 |
|--|--|--|

sewer pipes.
.1 Joints to be structurally sound and watertight.

3.5 PIPE SURROUND

- .1 Place surround material in unfrozen condition.
- .2 Upon completion of pipe laying, and after Departmental Representative has inspected pipe joints, surround and cover pipes as indicated.
 - .1 Leave joints and fittings exposed until field testing is completed.
- .3 Hand place surround material in uniform layers not exceeding 150 mm compacted thickness as indicated.
 - .1 Do not dump material within 1m of pipe.
- .4 Place layers uniformly and simultaneously on each side of pipe.
- .5 Compact each layer from pipe invert as shown in the plans.
- .6 When field test results are acceptable to Departmental Representative, place surround material at pipe joints.

3.6 BACKFILL

- .1 Place backfill material in unfrozen condition.

3.7 UNDERCROSSING

- .1 Excavate working pit to dimensions indicated, outside right-of-way to be crossed.
- .2 Excavate working pit to minimum of 0.5m below lowest invert of encasing pit.
- .3 Dewater excavation.
- .4 Dewater area of undercrossing.

3.8 SERVICE CONNECTIONS

- .1 Install pipe to manufacturer's instructions and specifications.
- .2 Maintain grade as shown on the plans.
- .3 Service connections to main sewer: as shown on plans.
 - .1 Do not use break-in and mortar patch-type joints.
- .4 Service connection pipe: not to extend into interior of main sewer.
- .5 Make up required horizontal and vertical bends from 45 degrees bends or less, separated by straight section of pipe



| | | |
|--|--|--|
| Modular Building Relocation Project No. 402-2301-0 | Public Sanitary Utility Sewerage Piping | Section 33 31 13 Page 7 2015-10-09 |
|--|--|--|

with minimum length of four pipe diameters.

.1 Use long sweep bends where applicable.

.6 Plug service laterals with water tight caps or plugs as approved by Departmental Representative.

.7 Place location marker at ends of plugged or capped unconnected sewer lines.

.1 Each marker: 38 x 89 mm stake extending from pipe end at pipe level to 0.6 m above grade.

.2 Paint exposed portion of stake red with designation SAN SWR LINE in black.

3.9 FIELD TESTING

.1 Repair or replace pipe, pipe joint or bedding found defective.

.2 When directed by Departmental Representative, draw tapered wooden plug with diameter of 50 mm less than nominal pipe diameter through sewer to ensure that pipe is free of obstruction.

.3 Remove foreign material from sewers and related appurtenances by flushing with water.

.4 Perform infiltration and exfiltration testing as soon as practicable after jointing and bedding are complete, and service connections have been installed.

.5 Do infiltration and exfiltration testing as specified herein and as directed by Departmental Representative.

.1 Perform tests in presence of Departmental Representative.

.2 Notify Departmental Representative 24 hours in advance of proposed tests.

.6 Carry out tests on each section of sewer between successive manholes including service connections.

.7 Install watertight bulkheads in suitable manner to isolate test section from rest of pipeline.

.8 Exfiltration test:

.1 Fill test section with water to displace air in line.

Maintain under nominal head for 24 hours to ensure absorption in pipe wall is complete before test measurements are begun.

.2 Immediately prior to test period add water to pipeline until there is head of 1 m over interior crown of pipe measured at highest point of test section or water in manhole is 1 m above static ground water level, whichever is greater.

.3 Duration of exfiltration test: 2 hours.



| | | |
|--|--|--|
| Modular Building Relocation Project No. 402-2301-0 | Public Sanitary Utility Sewerage Piping | Section 33 31 13 Page 8 2015-10-09 |
|--|--|--|

- .4 Water loss at end of test period: not to exceed maximum allowable exfiltration over any section of pipe between manholes.
- .9 Infiltration test:
 - .1 Conduct infiltration test in lieu of exfiltration test where static ground water level is 750 mm or more above top of pipe measured at highest point in line to be used.
 - .2 Do not interpolate a head greater than 750 mm to obtain an increase in allowable infiltration rate.
 - .3 Install watertight plug at upstream end of pipeline test section.
 - .4 Discontinue pumping operations for at least 3 days before test measurements are to begin and during this time, keep thoroughly wet at least one third of pipe invert perimeter.
 - .5 Prevent damage to pipe and bedding material due to flotation and erosion.
 - .6 Place 90 degrees V-notch weir, or other measuring device approved by Departmental Representative in invert of sewer at each manhole.
 - .7 Measure rate of flow over minimum of 1 hour, with recorded flows for each 5 min interval.
- .10 Infiltration and exfiltration: not to exceed following limits in per hour per 100 m of pipe, including service connections.

| Nominal Pipe diameter in mm | Asbestos-Cement or Plastic pipe | Concrete or Vitrified Clay pipe |
|-----------------------------|---------------------------------|---------------------------------|
| 100 | 3.88 | 25.5 |
| 125 | 4.62 | 30.0 |
| 150 | 5.51 | 34.0 |
| 200 | 7.45 | 41.5 |
| 250 | 9.39 | 49.5 |
| 300 | 11.33 | 56.5 |
| 350 | 13.27 | 63.5 |
| 400 | 14.91 | 70.0 |
| 450 | 16.84 | 76.0 |
| 500 | 18.78 | 81.5 |
| 550 | 20.72 | 87.0 |
| 600 | 22.80 | 92.5 |
| 700 | 26.53 | 102.0 |
| 800 | 30.11 | 110.5 |
| 900 | 33.69 | 118.0 |
| 1000 | 37.56 | 124.5 |
| 1100 | 41.29 | 130.0 |
| 1200 | 45.01 | 135.0 |

- .11 Leakage: not to exceed following limits in litres per hour per mm of diameter per 100 m of sewer including service



| | | |
|--|--|--|
| Modular Building Relocation Project No. 402-2301-0 | Public Sanitary Utility Sewerage Piping | Section 33 31 13 Page 9 2015-10-09 |
|--|--|--|

connections:

- .1 Exfiltration, based on 600 mm head: 0.175 L.
- .2 Infiltration: 0.150 L.

.12 Repair and retest sewer line as required, until test results are within limits specified.

.13 Repair visible leaks regardless of test results.

END OF SECTION



| | | |
|--|--|--|
| Modular Building Relocation Project No. 402-2301-0 | DIRECT BURIED UNDERGROUND CABLE DUCTS | Section 33 65 76 Page 1 2015-10-09 |
|--|--|--|

PART 1 - GENERAL

| | | |
|---|----|---|
| <u>1.1 CONNECTION TO EXISTING</u> | .1 | The Contractor is responsible for all coordination and associated costs for the connections to existing utilities. This includes all excavation/backfill in and around the existing infrastructure as well as locates (if required). Per meter cost to include all conduits, rock excavation, backfill, granular and asphalt reinstatement, etc. |
| <u>1.2 ACTION AND INFORMATIONAL SUBMITTALS</u> | .1 | Provide submittals in accordance with Section 01 33 00 - Submittal Procedures. |
| | .2 | Product Data: .1 Submit manufacturer's printed product literature, specifications and datasheet and include product characteristics, performance criteria, physical size, finish and limitations. |
| <u>1.3 QUALITY ASSURANCE</u> | .1 | Quality assurance submittals: submit following in accordance with Section 01 45 00 - Quality Control. .1 Certificates: signed by manufacturer certifying materials comply with specified performance characteristics and physical properties. .2 Manufacturer's Instructions: for installation and special handling criteria, installation sequence, cleaning procedures. |
| <u>1.4 DELIVERY, STORAGE AND HANDLING</u> | .1 | Deliver, store and handle materials in accordance with Section 01 61 00 - Common Product Requirements and with manufacturer's written instructions. |
| | .2 | Delivery and Acceptance Requirements: .1 Deliver materials to site in original factory packaging, labelled with manufacturer's name, address. |
| | .3 | Packaging Waste Management: dispose of off-site according to governing legislation or by-laws. |



| | | |
|--|--|--|
| Modular Building Relocation Project No. 402-2301-0 | DIRECT BURIED UNDERGROUND CABLE DUCTS | Section 33 65 76 Page 2 2015-10-09 |
|--|--|--|

PART 2 - PRODUCTS

2.1 PVC DUCTS AND FITTINGS

- .1 Rigid PVC duct: Type DB2/ES2, with fabricated fittings
- .2 Rigid PVC split ducts.
- .3 Rigid PVC bends, couplings, reducers, bell end fittings, plugs, caps, adaptors same product material as duct, to make a complete installation.
- .4 Rigid PVC 90 degrees, 45 degrees bends and 5 degrees angle couplings as required.

2.2 SOLVENT WELD COMPOUND

- .1 Solvent cement for PVC duct joints.

2.3 CABLE PULLING EQUIPMENT

- .1 6 mm stranded nylon pull rope tensile strength 5 kN.

2.4 MARKERS

- .1 Concrete type cable markers: as indicated, with words: "Cable", "Joint" or "Conduit" impressed in top surface, with arrows to indicate change in direction of duct runs.
- .2 Cedar post type markers: 89 x 89 mm square, 1.5 m long, pressure treated, with nameplate fastened near post top, on side facing duct.
 - .1 Nameplate: aluminum anodized 89 x 125 mm, 1.5 mm thick mounted on cedar post with mylar label 0.125 mm thick with words "Cable" "Joint" or "Conduit" with arrows to indicate change in direction.

2.5 WARNING TAPE

- .1 Standard 4-mil polyethylene 76 mm wide tape, yellow with black letters, imprinted with "CAUTION BURIED ELECTRIC CABLE BELOW".

PART 3 - EXECUTION

3.1 MANUFACTURER'S INSTRUCTIONS

- .1 Compliance: comply with manufacturer's written recommendations or specifications, including product technical bulletins, handling, storage and installation instructions, and datasheets.



| | | |
|------------------------|---------------------------|------------------|
| Modular Building | DIRECT BURIED UNDERGROUND | Section 33 65 76 |
| Relocation | CABLE DUCTS | Page 3 |
| Project No. 402-2301-0 | | 2015-10-09 |

3.2 INSTALLATION

- .1 Install duct in accordance with manufacturer's instructions and at elevations as indicated.
- .2 Clean inside of ducts before laying.
- .3 Install plastic duct spacers and ensure full, even support every 1.5 m and smooth transition throughout duct length.
- .4 Slope ducts with 1 to 400 minimum slope.
- .5 Install plugs and cap both ends of ducts to prevent entrance of foreign materials during and after construction.
- .6 Pull through each duct mandrel not less than 300 mm long and of diameter 6 mm less than internal diameter of duct, followed by stiff bristle brush to remove sand, earth and other foreign material.
 - .1 Pull stiff bristle brush through each duct immediately before pulling-in cables.
- .7 Install a pull rope continuous throughout each duct run with 3m spare rope at each end.
- .8 Place continuous strip of warning tape 300 mm above duct before backfilling trenches.
- .9 Install markers as required.
- .10 Notify the Departmental Representative for field review upon completion of direct buried ducts and obtain acceptance prior to backfill.

3.3 CLEANING

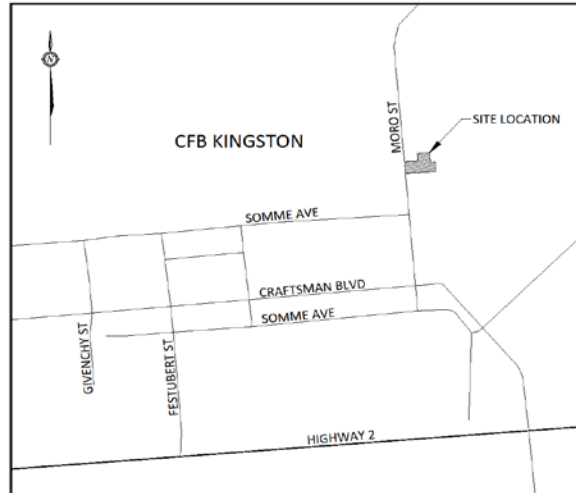
- .1 Clean in accordance with Section 01 74 11 - Cleaning.
 - .1 Remove surplus materials, excess materials, rubbish, tools and equipment.

END OF SECTION



MODULAR BUILDING RELOCATION

KINGSTON, ONTARIO



REVISION 3 - REVISED AS PER CLIENT COMMENTS

| | |
|----------|-------------------------------|
| SHEET 01 | SITE SERVICING & GRADING PLAN |
| SHEET 02 | FOOTING DETAILS |



| | | |
|-----|--------------------------------|------------|
| 1 | REVISED AS PER CLIENT COMMENTS | 04/15/2014 |
| 2 | ISSUED FOR TENDER | 07/09/2014 |
| 3 | ISSUED FOR BIDDING | 07/09/2014 |
| 4 | | |
| 5 | | |
| 6 | | |
| 7 | | |
| 8 | | |
| 9 | | |
| 10 | | |
| 11 | | |
| 12 | | |
| 13 | | |
| 14 | | |
| 15 | | |
| 16 | | |
| 17 | | |
| 18 | | |
| 19 | | |
| 20 | | |
| 21 | | |
| 22 | | |
| 23 | | |
| 24 | | |
| 25 | | |
| 26 | | |
| 27 | | |
| 28 | | |
| 29 | | |
| 30 | | |
| 31 | | |
| 32 | | |
| 33 | | |
| 34 | | |
| 35 | | |
| 36 | | |
| 37 | | |
| 38 | | |
| 39 | | |
| 40 | | |
| 41 | | |
| 42 | | |
| 43 | | |
| 44 | | |
| 45 | | |
| 46 | | |
| 47 | | |
| 48 | | |
| 49 | | |
| 50 | | |
| 51 | | |
| 52 | | |
| 53 | | |
| 54 | | |
| 55 | | |
| 56 | | |
| 57 | | |
| 58 | | |
| 59 | | |
| 60 | | |
| 61 | | |
| 62 | | |
| 63 | | |
| 64 | | |
| 65 | | |
| 66 | | |
| 67 | | |
| 68 | | |
| 69 | | |
| 70 | | |
| 71 | | |
| 72 | | |
| 73 | | |
| 74 | | |
| 75 | | |
| 76 | | |
| 77 | | |
| 78 | | |
| 79 | | |
| 80 | | |
| 81 | | |
| 82 | | |
| 83 | | |
| 84 | | |
| 85 | | |
| 86 | | |
| 87 | | |
| 88 | | |
| 89 | | |
| 90 | | |
| 91 | | |
| 92 | | |
| 93 | | |
| 94 | | |
| 95 | | |
| 96 | | |
| 97 | | |
| 98 | | |
| 99 | | |
| 100 | | |

CLIENT: CORRECTIONAL SERVICE CANADA
 444 UNION STREET, P.O. BOX 1274, KINGSTON ON K7L 2K8

PROJECT: MODULAR BUILDING RELOCATION

DATE: 08/15/2014

PROJECT NO: KM 15-7301

CLIENT: CORRECTIONAL SERVICE CANADA
 444 UNION STREET, P.O. BOX 1274, KINGSTON ON K7L 2K8

PROJECT: MODULAR BUILDING RELOCATION

DATE: 08/15/2014

PROJECT NO: KM 15-7301

CLIENT: CORRECTIONAL SERVICE CANADA
 444 UNION STREET, P.O. BOX 1274, KINGSTON ON K7L 2K8

PROJECT: MODULAR BUILDING RELOCATION

DATE: 08/15/2014

PROJECT NO: KM 15-7301



FOOTING A
ELEVATION
SECTION A-A'

FOOTING B
SECTION B-B'

FOOTING REINFORCEMENT DETAIL

ANCHOR ROD DETAIL

FOOTING TYPICAL PLAN VIEW

COLUMN PLAN VIEW

TP INVESTIGATION DETAILS

| NO. | DATE | DESCRIPTION | REMARKS |
|-----|------------|------------------|------------------|
| 1 | 01/15/2018 | TP INVESTIGATION | TP INVESTIGATION |
| 2 | 01/15/2018 | TP INVESTIGATION | TP INVESTIGATION |
| 3 | 01/15/2018 | TP INVESTIGATION | TP INVESTIGATION |
| 4 | 01/15/2018 | TP INVESTIGATION | TP INVESTIGATION |
| 5 | 01/15/2018 | TP INVESTIGATION | TP INVESTIGATION |
| 6 | 01/15/2018 | TP INVESTIGATION | TP INVESTIGATION |
| 7 | 01/15/2018 | TP INVESTIGATION | TP INVESTIGATION |
| 8 | 01/15/2018 | TP INVESTIGATION | TP INVESTIGATION |
| 9 | 01/15/2018 | TP INVESTIGATION | TP INVESTIGATION |
| 10 | 01/15/2018 | TP INVESTIGATION | TP INVESTIGATION |
| 11 | 01/15/2018 | TP INVESTIGATION | TP INVESTIGATION |
| 12 | 01/15/2018 | TP INVESTIGATION | TP INVESTIGATION |
| 13 | 01/15/2018 | TP INVESTIGATION | TP INVESTIGATION |
| 14 | 01/15/2018 | TP INVESTIGATION | TP INVESTIGATION |
| 15 | 01/15/2018 | TP INVESTIGATION | TP INVESTIGATION |
| 16 | 01/15/2018 | TP INVESTIGATION | TP INVESTIGATION |
| 17 | 01/15/2018 | TP INVESTIGATION | TP INVESTIGATION |
| 18 | 01/15/2018 | TP INVESTIGATION | TP INVESTIGATION |
| 19 | 01/15/2018 | TP INVESTIGATION | TP INVESTIGATION |
| 20 | 01/15/2018 | TP INVESTIGATION | TP INVESTIGATION |

MOBILITY PERRY
1-800-468-8888

CORRECTIONAL SERVICE CANADA
649 UNION STREET, P.O. BOX 974, KINGSTON ON K7L 2K6

MODULAR BUILDING RELOCATION

FOOTING DETAILS

Scale: 1/4" = 1'-0"

Project Number: KM-15-7101

Sheet: 03