

RETURN BIDS TO:
RETOURNER LES SOUMISSIONS À:

**Bid Receiving Public Works and Government
Services Canada/Réception des soumissions
Travaux publics et Services gouvernementaux
Canada
1713 Bedford Row
Halifax, N.S./Halifax, (N.É.)
B3J 1T3
Nova Scotia
Bid Fax: (902) 496-5016**

Request For a Standing Offer Demande d'offre à commandes

National Master Standing Offer (NMSO)
Offre à commandes principale et nationale (OCPN)

Canada, as represented by the Minister of Public Works and Government Services Canada, hereby requests a Standing Offer on behalf of the Identified Users herein.

Le Canada, représenté par le ministre des Travaux Publics et Services Gouvernementaux Canada, autorise par la présente, une offre à commandes au nom des utilisateurs identifiés énumérés ci-après.

Comments - Commentaires

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

Issuing Office - Bureau de distribution
Atlantic Region Acquisitions/Région de l'Atlantique
Acquisitions
1713 Bedford Row
Halifax, N.S./Halifax, (N.É.)
B3J 3C9
Nova Scot

Title - Sujet Flooring SOA	
Solicitation No. - N° de l'invitation W01CE-180023/A	Date 2017-11-03
Client Reference No. - N° de référence du client W01CE-18-0023	GETS Ref. No. - N° de réf. de SEAG PW-\$HAL-405-10241
File No. - N° de dossier HAL-7-79056 (405)	CCC No./N° CCC - FMS No./N° VME
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2017-12-19	Time Zone Fuseau horaire Atlantic Standard Time AST
Delivery Required - Livraison exigée See Herein	
Address Enquiries to: - Adresser toutes questions à: MacLennan, Ashley	Buyer Id - Id de l'acheteur hal405
Telephone No. - N° de téléphone (902)401-6107 ()	FAX No. - N° de FAX (902)496-5016
Destination - of Goods, Services, and Construction: Destination - des biens, services et construction: DEPARTMENT OF NATIONAL DEFENCE SEE HEREIN GREENWOOD NOVA SCOTIA B0PIN0 Canada	
Security - Sécurité This request for a Standing Offer does not include provisions for security. Cette Demande d'offre à commandes ne comprend pas des dispositions en matière de sécurité.	

Instructions: See Herein

Instructions: Voir aux présentes

Vendor/Firm Name and Address Raison sociale et adresse du fournisseur/de l'entrepreneur	
Telephone No. - N° de téléphone Facsimile No. - N° de télécopieur	
Name and title of person authorized to sign on behalf of Vendor/Firm (type or print) Nom et titre de la personne autorisée à signer au nom du fournisseur/ de l'entrepreneur (taper ou écrire en caractères d'imprimerie)	
Signature	Date



Item Article	Description	Dest. Code Dest.	Inv. Code Fact.	Qty Qté	U. of I. U. de D.	Unit Price/Prix unitaire FOB/FAM Destination	Plant/Usine	Delivery Req. Livraison Req.	Del. Offered Liv. offerte
1	Flooring SOA	W01CE	W01CE	1	SUM	\$	XXXXXXXXXXXX	See Herein	

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HAL-7-79056

Buyer ID - Id de l'acheteur
HAL 405
CCC No./N° CCC - FMS No./N° VME

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PART 1 - GENERAL INFORMATION

1.1 Introduction

The Request for Standing Offers (RFSO) is divided into seven parts plus attachments and annexes, as follows:

- | | |
|--------|---|
| Part 1 | General Information: provides a general description of the requirement; |
| Part 2 | Offeror Instructions: provides the instructions applicable to the clauses and conditions of the RFSO; |
| Part 3 | Offer Preparation Instructions: provides offerors with instructions on how to prepare their offer to address the evaluation criteria specified; |
| Part 4 | Evaluation Procedures and Basis of Selection: indicates how the evaluation will be conducted, the evaluation criteria which must be addressed in the offer, and the basis of selection; |
| Part 5 | Certifications and Additional Information: includes the certifications and additional information to be provided; |
| Part 6 | Security, Financial and Insurance Requirements: includes specific requirements that must be addressed by offerors; and |
| Part 7 | 7A, Standing Offer, and 7B, Resulting Contract Clauses:

7A, includes the Standing Offer containing the offer from the Offeror and the applicable clauses and conditions;

7B, includes the clauses and conditions which will apply to any contract resulting from a call-up made pursuant to the Standing Offer. |

The Annexes include the Requirement, the Basis of Payment, the Electronic Payment Instruments, the Federal Contractors Program for Employment Equity - Certification and any other annexes

1.2 Summary

- 1.2.1 Public Works and Government Services Canada, on behalf of the Department of National Defence, has the requirement for Regional Individual standing offer for flooring. This work of this Contract comprises of repairs, replacement, and installations of various types of flooring in various buildings located at 14 Wing Greenwood, Greenwood N.S.

This standing offer agreement is for a three (3) year period with one (1) additional option year

- 1.2.2 The requirement is subject to the provisions of the World Trade Organization Agreement on Government Procurement (WTO-AGP), the North American Free Trade Agreement (NAFTA), the Canada-European Union Comprehensive Economic and Trade Agreement (CETA), and the Canadian Free Trade Agreement (CFTA).

1.3 Security Requirements

There are security requirements associated with the requirement of the Standing Offer. For additional information, see Part 6 - Security, Financial and Insurance Requirements, and Part 7 - Standing Offer and Resulting Contract Clauses. For more information on personnel and organization security screening or security clauses, offerors should refer to the [Contract Security Program](http://www.tpsgc-pwgsc.gc.ca/esc-src/introduction-eng.html) of Public Works and Government Services Canada (<http://www.tpsgc-pwgsc.gc.ca/esc-src/introduction-eng.html>) website.

1.4 Debriefings

Offerors may request a debriefing on the results of the request for standing offers process. Offerors should make the request to the Standing Offer Authority within 15 working days of receipt of the results of the request for standing offers process. The debriefing may be in writing, by telephone or in person.

PART 2 - OFFEROR INSTRUCTIONS

2.1 Standard Instructions, Clauses and Conditions

All instructions, clauses and conditions identified in the Request for Standing Offers (RFSO) by number, date and title are set out in the [Standard Acquisition Clauses and Conditions Manual](https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual) (<https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual>) issued by Public Works and Government Services Canada.

Offerors who submit an offer agree to be bound by the instructions, clauses and conditions of the RFSO and accept the clauses and conditions of the Standing Offer and resulting contract(s).

The [2006](#) 2017-04-27 Standard Instructions - Request for Standing Offers - Goods or Services - Competitive Requirements, are incorporated by reference into and form part of the RFSO.

Subsection 5.4 of [2006](#), Standard Instructions - Request for Standing Offers - Goods or Services - Competitive Requirements, is amended as follows:

Delete: 60 days
Insert: 90days

2.2 Submission of Offers

Offers must be submitted only to Public Works and Government Services Canada (PWGSC) Bid Receiving Unit by the date, time and place indicated on page 1 of the Request for Standing Offers.

2.2.1 SACC Manual Clauses

M100T	Condition of Material – Offer	2016-01-28
C9000T	Pricing	2010-08-16

2.3 Former Public Servant

Contracts awarded to former public servants (FPS) in receipt of a pension or of a lump sum payment must bear the closest public scrutiny, and reflect fairness in the spending of public funds. In order to comply with Treasury Board policies and directives on contracts awarded to FPS, offerors must provide the information required below before the issuance of a standing offer. If the answer to the questions and, as applicable the information required have not been received by the time the evaluation of offers is completed, Canada will inform the Offeror of a time frame within which to provide the information. Failure to comply with Canada's request and meet the requirement within the prescribed time frame will render the offer non-responsive.

Definitions

For the purposes of this clause,

"former public servant" is any former member of a department as defined in the [Financial Administration Act](#) R.S., 1985, c. F-11, a former member of the Canadian Armed Forces or a former member of the Royal Canadian Mounted Police. A former public servant may be:

- a. an individual;
- b. an individual who has incorporated;
- c. a partnership made of former public servants; or
- d. a sole proprietorship or entity where the affected individual has a controlling or major interest in the entity.

"lump sum payment period" means the period measured in weeks of salary, for which payment has been made to facilitate the transition to retirement or to other employment as a result of the implementation of various programs to reduce the size of the Public Service. The lump sum payment period does not include the period of severance pay, which is measured in a like manner.

"pension" means a pension or annual allowance paid under the [Public Service Superannuation Act](#) (PSSA), R.S., 1985, c. P-36, and any increases paid pursuant to the [Supplementary Retirement Benefits Act](#), R.S., 1985, c. S-24 as it affects the PSSA. It does not include pensions payable pursuant to the [Canadian Forces Superannuation Act](#), R.S., 1985, c. C-17, the [Defence Services Pension Continuation Act](#), 1970, c. D-3, the [Royal Canadian Mounted Police Pension Continuation Act](#), 1970, c. R-10, and the [Royal Canadian Mounted Police Superannuation Act](#), R.S., 1985, c. R-11, the [Members of Parliament Retiring Allowances Act](#), R.S. 1985, c. M-5, and that portion of pension payable to the [Canada Pension Plan Act](#), R.S., 1985, c. C-8.

Former Public Servant in Receipt of a Pension

As per the above definitions, is the Offeror a FPS in receipt of a pension? **YES () NO ()**

If so, the Offeror must provide the following information, for all FPS in receipt of a pension, as applicable:

- a. name of former public servant;
- b. date of termination of employment or retirement from the Public Service.

By providing this information, Offerors agree that the successful Offeror's status, with respect to being a former public servant in receipt of a pension, will be reported on departmental websites as part of the published proactive disclosure reports in accordance with [Contracting Policy Notice: 2012-2](#) and the [Guidelines on the Proactive Disclosure of Contracts](#).

Work Force Adjustment Directive

Is the Offeror a FPS who received a lump sum payment pursuant to the terms of the Work Force Adjustment Directive? **YES () NO ()**

If so, the Offeror must provide the following information:

- a. name of former public servant;
- b. conditions of the lump sum payment incentive;
- c. date of termination of employment;
- d. amount of lump sum payment;
- e. rate of pay on which lump sum payment is based;
- f. period of lump sum payment including start date, end date and number of weeks;
- g. number and amount (professional fees) of other contracts subject to the restrictions of a work force adjustment program.

For all contracts awarded during the lump sum payment period, the total amount of fees that may be paid to a FPS who received a lump sum payment is \$5,000, including Applicable Taxes.

2.4 Enquiries - Request for Standing Offers

All enquiries must be submitted in writing to the Standing Offer Authority no later than **five (5)** calendar days before the Request for Standing Offers (RFSO) closing date. Enquiries received after that time may not be answered.

Offerors should reference as accurately as possible the numbered item of the RFSO to which the enquiry relates. Care should be taken by offerors to explain each question in sufficient detail in order to enable Canada to provide an accurate answer. Technical enquiries that are of a proprietary nature must be clearly marked "proprietary" at each relevant item. Items identified as "proprietary" will be treated as such except where Canada determines that the enquiry is not of a proprietary nature. Canada may edit the question(s) or may request that offerors do so, so that the proprietary nature of the question(s) is eliminated, and the enquiry can be answered to all offerors. Enquiries not submitted in a form that can be distributed to all offerors may not be answered by Canada.

2.5 Applicable Laws

The Standing Offer and any contract resulting from the Standing Offer must be interpreted and governed, and the relations between the parties determined, by the laws in force in Nova Scotia.

Offerors may, at their discretion, substitute the applicable laws of a Canadian province or territory of their choice without affecting the validity of their offer, by deleting the name of the Canadian province or territory specified and inserting the name of the Canadian province or territory of their choice. If no change is made, it acknowledges that the applicable laws specified are acceptable to the offerors.

PART 3 - OFFER PREPARATION INSTRUCTIONS

3.1 Offer Preparation Instructions

Canada requests that offerors provide their offer in separately bound sections as follows:

Section I: Technical Offer - 1 Hard Copy

Section II: Financial Offer -1 Hard Copy

Section III: Certifications -1 Hard Copy

Prices must appear in the financial offer only. No prices must be indicated in any other section of the offer.

Canada requests that offerors follow the format instructions described below in the preparation of their offer.

- (a) use 8.5 x 11 inch (216 mm x 279 mm) paper;
- (b) use a numbering system that corresponds to that of the Request for Standing Offers.

In April 2006, Canada issued a policy directing federal departments and agencies to take the necessary steps to incorporate environmental considerations into the procurement process [Policy on Green Procurement](http://www.tpsgc-pwgsc.gc.ca/ecologisation-greening/achats-procurement/politique-policy-eng.html) (<http://www.tpsgc-pwgsc.gc.ca/ecologisation-greening/achats-procurement/politique-policy-eng.html>). To assist Canada in reaching its objectives, offerors should:

- 1) use 8.5 x 11 inch (216 mm x 279 mm) paper containing fibre certified as originating from a sustainably-managed forest and containing minimum 30% recycled content; and
- 2) use an environmentally-preferable format including black and white printing instead of colour printing, printing double sided/duplex, using staples or clips instead of cerlox, duotangs or binders.

Section I: Technical Offer

In their technical offer, offerors should explain and demonstrate how they propose to meet the requirements and how they will carry out the Work.

Section II: Financial Offer

Offerors must submit their financial offer in accordance with the Annex B, Basis of Payment.

3.1.1 Electronic Payment of Invoices - Offer

If you are willing to accept payment of invoices by Electronic Payment Instruments, complete Annex "D" Electronic Payment Instruments, to identify which ones are accepted.

If Annex "D" Electronic Payment Instruments is not completed, it will be considered as if Electronic Payment Instruments are not being accepted for payment of invoices.

Acceptance of Electronic Payment Instruments will not be considered as an evaluation criterion.

3.1.2 Exchange Rate Fluctuation

C3011T 2013-11-06 Exchange Rate Fluctuation

Section III: Certifications Offerors must submit the certifications and additional information required under Part 5.

PART 4 - EVALUATION PROCEDURES AND BASIS OF SELECTION

4.1 Evaluation Procedures

- (a) Offers will be assessed in accordance with the entire requirement of the Request for Standing Offers including the technical and financial evaluation criteria.
- (b) An evaluation team composed of representatives of Canada will evaluate the offers.

4.1.1 Technical Evaluation

4.1.1.1 Mandatory Technical Criteria

Bidder must meet the technical specification identified under Annex A – Requirement

4.1.2 Financial Evaluation

4.1.2.1 Evaluation of Price

SACC Manual Clause [M0220T](#) 2016-01-28, Evaluation of Price

4.2 Basis of Selection

4.2.1 Basis of Selection - Mandatory Technical Criteria Only

An offer must comply with the requirements of the Request for Standing Offers and meet all mandatory technical evaluation criteria to be declared responsive. The responsive offer with the lowest evaluated price will be recommended for issuance of a standing offer.

PART 5 – CERTIFICATIONS AND ADDITIONAL INFORMATION

Offerors must provide the required certifications and additional information to be issued a standing offer.

The certifications provided by offerors to Canada are subject to verification by Canada at all times. Unless specified otherwise, Canada will declare an offer non-responsive, will have the right to set-aside a standing offer, or will declare a contractor in default if any certification made by the Offeror is found to be untrue whether made knowingly or unknowingly during the offer evaluation period, during the Standing Offer period, or during the contract period.

The Standing Offer Authority will have the right to ask for additional information to verify the Offeror's certifications. Failure to comply and to cooperate with any request or requirement imposed by the Standing Offer Authority will render the offer non-responsive, result in the setting aside of the Standing Offer or constitute a default under the Contract.

5.1 Certifications Required with the Offer

Offerors must submit the following duly completed certifications as part of their offer.

5.1.1 Integrity Provisions - Declaration of Convicted Offences

In accordance with the Integrity Provisions of the Standard Instructions, all offerors must provide with their offer, **if applicable**, the declaration form available on the [Forms for the Integrity Regime](http://www.tpsgc-pwgsc.gc.ca/ci-if/declaration-eng.html) website (<http://www.tpsgc-pwgsc.gc.ca/ci-if/declaration-eng.html>), to be given further consideration in the procurement process.

5.2 Certifications Precedent to the Issuance of a Standing Offer and Additional Information

The certifications and additional information listed below should be submitted with the offer, but may be submitted afterwards. If any of these required certifications or additional information is not completed and submitted as requested, the Standing Offer Authority will inform the Offeror of a time frame within which to provide the information. Failure to provide the certifications or the additional information listed below within the time frame provided will render the offer non-responsive.

5.2.1 Integrity Provisions – Required Documentation

In accordance with the section titled Information to be provided when bidding, contracting or entering into a real procurement agreement of the [Ineligibility and Suspension Policy](http://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html) (<http://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html>), the Offeror must provide the required documentation, as applicable, to be given further consideration in the procurement process.

5.2.2 Federal Contractors Program for Employment Equity - Standing Offer Certification

By submitting an offer, the Offeror certifies that the Offeror, and any of the Offeror's members if the Offeror is a Joint Venture, is not named on the Federal Contractors Program (FCP) for employment equity "FCP Limited Eligibility to Bid" list) available at the bottom of the page of the [Employment and Social Development Canada-Labour's](https://www.canada.ca/en/employment-social-development/programs/employment-equity/federal-contractor-program.html#s4) website (<https://www.canada.ca/en/employment-social-development/programs/employment-equity/federal-contractor-program.html#s4>).

Canada will have the right to declare an offer non-responsive, or to set-aside a Standing Offer, if the Offeror, or any member of the Offeror if the Offeror is a Joint Venture, appears on the "FCP Limited Eligibility to Bid" list at the time of issuing of a Standing Offer or during the period of the Standing Offer.

Canada will also have the right to terminate the Call-up for default if a Contractor, or any member of the Contractor if the Contractor is a Joint Venture, appears on the "[FCP Limited Eligibility to Bid](#)" list during the period of the Contract.

The Offeror must provide the Standing Offer Authority with a completed annex titled Federal Contractors Program for Employment Equity - Certification, before the issuance of a Standing Offer. If the Offeror is a Joint Venture, the Offeror must provide the Standing Offer Authority with a completed annex Federal Contractors Program for Employment Equity - Certification, for each member of the Joint Venture.

PART 6 - SECURITY, FINANCIAL AND INSURANCE REQUIREMENTS

6.1 Security Requirements

1. At the Request for Standing Offers closing date, the following conditions must be met:
 - (a) the Offeror must hold a valid organization security clearance as indicated in Part 7A - Standing Offer;
 - (b) the Offeror's proposed individuals requiring access to classified or protected information, assets or sensitive work sites must meet the security requirements as indicate in Part 7A - Standing Offer;
 - (c) the Offeror must provide the name of all individuals who will require access to classified or protected information, assets or sensitive work sites;
2. For additional information on security requirements, offerors should refer to the [Contract Security Program](http://www.tpsgc-pwgsc.gc.ca/esc-src/introduction-eng.html) of Public Works and Government Services Canada (<http://www.tpsgc-pwgsc.gc.ca/esc-src/introduction-eng.html>) website.

PART 7 - STANDING OFFER AND RESULTING CONTRACT CLAUSES

A. STANDING OFFER

7.1 Offer

7.1.1 The Offeror offers to fulfill the requirement in accordance with the Requirement at Annex "A".

7.2 Security Requirements

7.2.1 The following security requirements (SRCL and related clauses provided by the Contract Security Program) apply and form part of the Standing Offer.

1. The Contractor/Offeror must, at all times during the performance of the Contract/Standing Offer, hold a valid Designated Organization Screening (DOS), issued by the Canadian Industrial Security Directorate (CISD), Public Works and Government Services Canada (PWGSC).
2. The Contractor/Offeror personnel requiring access to sensitive work site(s) must EACH hold a valid RELIABILITY STATUS, granted or approved by CISD/PWGSC.
3. Subcontracts which contain security requirements are NOT to be awarded without the prior written permission of CISD/PWGSC.
4. The Contractor/Offeror must comply with the provisions of the:
 - a. Security Requirements Check List and security guide (if applicable), attached at Annex C;
 - b. Industrial Security Manual (Latest Edition).

7.3 Standard Clauses and Conditions

All clauses and conditions identified in the Standing Offer and resulting contract(s) by number, date and title are set out in the [Standard Acquisition Clauses and Conditions Manual](https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual) (<https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual>) issued by Public Works and Government Services Canada.

7.3.1 General Conditions

2005 2017-06-21 General Conditions - Standing Offers - Goods or Services, apply to and form part of the Standing Offer.

7.3.2 Standing Offers Reporting

The Offeror must compile and maintain records on its provision of goods, services or both to the federal government under contracts resulting from the Standing Offer. This data must include all purchases, including those paid for by a Government of Canada Acquisition Card.

The Offeror must provide this data in accordance with the reporting requirements detailed in Annex "A". If some data is not available, the reason must be indicated. If no goods or services are provided during a given period, the Offeror must still provide a "nil" report.

The data must be submitted on a quarterly basis to the Standing Offer Authority.

The quarterly reporting periods are defined as follows:

- 1st quarter: April 1 to June 30;

- 2nd quarter: July 1 to September 30;
- 3rd quarter: October 1 to December 31;
- 4th quarter: January 1 to March 31.

The data must be submitted to the Standing Offer Authority no later than 30 calendar days after the end of the reporting period.

7.4 Term of Standing Offer

7.4.1 Period of the Standing Offer

The period for making call-ups against the Standing Offer is three (3) years from date of award.

7.4.2 Extension of Standing Offer

If the Standing Offer is authorized for use beyond the initial period, the Offeror offers to extend its offer for an additional one (1) year period, under the same conditions and at the rates or prices specified in the Standing Offer, or at the rates or prices calculated in accordance with the formula specified in the Standing Offer.

The Offeror will be advised of the decision to authorize the use of the Standing Offer for an extended period by the Standing Offer Authority 30 days before the expiry date of the Standing Offer. A revision to the Standing Offer will be issued by the Standing Offer Authority.

7.5 Authorities

7.5.1 Standing Offer Authority

The Standing Offer Authority is:

Name: Ashley MacLennan
Title: Supply Officer
Public Works and Government Services Canada
Acquisitions Branch
Directorate: Atlantic Region Acquisitions
Address: 1713 Bedford Row, Halifax, Nova Scotia B3J 3C9

Telephone: 902-401-6107
Facsimile: 902-496-5016
E-mail address: ashley.maclennan@pwgsc.gc.ca

The Standing Offer Authority is responsible for the establishment of the Standing Offer, its administration and its revision, if applicable. Upon the making of a call-up, as Contracting Authority, he is responsible for any contractual issues relating to individual call-ups made against the Standing Offer by any Identified User.

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File No. - N° du dossier
HAL-7-79056

Buyer ID - Id de l'acheteur
HAL 405
CCC No./N° CCC - FMS No./N° VME

7.5.2 Project Authority

The Project Authority for the Standing Offer is:

Name: _____
Title: _____
Organization: _____
Address: _____

Telephone: ____ - ____ - ____
Facsimile: ____ - ____ - ____
E-mail address: _____

The Project Authority is the representative of the department or agency for whom the Work will be carried out pursuant to a call-up under the Standing Offer and is responsible for all the technical content of the Work under the resulting Contract.

7.5.3 Offeror's Representative

Name: _____
Title: _____
Organization: _____
Address: _____

Telephone: ____ - ____ - ____
Facsimile: ____ - ____ - ____
E-mail address: _____

7.6 Proactive Disclosure of Contracts with Former Public Servants

By providing information on its status, with respect to being a former public servant in receipt of a [Public Service Superannuation Act](#) (PSSA) pension, the Contractor has agreed that this information will be reported on departmental websites as part of the published proactive disclosure reports, in accordance with [Contracting Policy Notice: 2012-2](#) of the Treasury Board Secretariat of Canada.

Contracts awarded to former public servants (FPS) in receipt of a pension or of a lump sum payment must bear the closest public scrutiny, and reflect fairness in the spending of public funds. In order to comply with Treasury Board policies and directives on contracts awarded to FPS, offerors must provide the information required below before the issuance of a standing offer. If the answer to the questions and, as applicable the information required have not been received by the time the evaluation of offers is completed, Canada will inform the Offeror of a time frame within which to provide the information. Failure to comply with Canada's request and meet the requirement within the prescribed time frame will render the offer non-responsive.

Definitions

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"former public servant" is any former member of a department as defined in the [Financial Administration Act](#) R.S., 1985, c. F-11, a former member of the Canadian Armed Forces or a former member of the Royal Canadian Mounted Police. A former public servant may be:

- a. an individual;
- b. an individual who has incorporated;
- c. a partnership made of former public servants; or
- d. a sole proprietorship or entity where the affected individual has a controlling or major interest in the entity.

"lump sum payment period" means the period measured in weeks of salary, for which payment has been made to facilitate the transition to retirement or to other employment as a result of the implementation of various programs to reduce the size of the Public Service. The lump sum payment period does not include the period of severance pay, which is measured in a like manner.

"pension" means a pension or annual allowance paid under the [Public Service Superannuation Act](#) (PSSA), R.S., 1985, c. P-36, and any increases paid pursuant to the [Supplementary Retirement Benefits Act](#), R.S., 1985, c. S-24 as it affects the PSSA. It does not include pensions payable pursuant to the [Canadian Forces Superannuation Act](#), R.S., 1985, c. C-17, the [Defence Services Pension Continuation Act](#), 1970, c. D-3, the [Royal Canadian Mounted Police Pension Continuation Act](#), 1970, c. R-10, and the [Royal Canadian Mounted Police Superannuation Act](#), R.S., 1985, c. R-11, the [Members of Parliament Retiring Allowances Act](#), R.S. 1985, c. M-5, and that portion of pension payable to the [Canada Pension Plan Act](#), R.S., 1985, c. C-8.

Former Public Servant in Receipt of a Pension

As per the above definitions, is the Offeror a FPS in receipt of a pension? **YES () NO ()**

If so, the Offeror must provide the following information, for all FPS in receipt of a pension, as applicable:

- a. name of former public servant;
- b. date of termination of employment or retirement from the Public Service.

By providing this information, Offerors agree that the successful Offeror's status, with respect to being a former public servant in receipt of a pension, will be reported on departmental websites as part of the published proactive disclosure reports in accordance with [Contracting Policy Notice: 2012-2](#) and the [Guidelines on the Proactive Disclosure of Contracts](#).

Work Force Adjustment Directive

Is the Offeror a FPS who received a lump sum payment pursuant to the terms of the Work Force Adjustment Directive? **YES () NO ()**

If so, the Offeror must provide the following information:

- a. name of former public servant;
- b. conditions of the lump sum payment incentive;
- c. date of termination of employment;
- d. amount of lump sum payment;
- e. rate of pay on which lump sum payment is based;
- f. period of lump sum payment including start date, end date and number of weeks;
- g. number and amount (professional fees) of other contracts subject to the restrictions of a work force adjustment program.

For all contracts awarded during the lump sum payment period, the total amount of fees that may be paid to a FPS who received a lump sum payment is \$5,000, including Applicable Taxes.

7.7 Identified Users

The Identified User authorized to make call-ups against the Standing Offer is Department of National Defence

7.8 Call-up Instrument

The Work will be authorized or confirmed by the Identified User(s) using the duly completed forms or their equivalents as identified in paragraphs 1 and 2 below, or by using Canada acquisition cards (Visa or MasterCard) for low dollar value requirements.

1. Call-ups must be made by Identified Users' authorized representatives under the Standing Offer and must be for goods or services or combination of goods and services included in the Standing Offer at the prices and in accordance with the terms and conditions specified in the Standing Offer.
2. Any of the following forms could be used which are available through [PWGSC Forms Catalogue](#) website:
 - PWGSC-TPSGC 942 Call-up Against a Standing Offer
 - PWGSC-TPGSC 942-2 Call-up Against a Standing Offer - Multiple Delivery
 - PWGSC-TPSGC 944 Call-up Against Multiple Standing Offers (English version)
 - PWGSC-TPSGC 945 Commande subséquente à plusieurs offres à commandes (French version)

or

3. An equivalent form or electronic call-up document which contains at a minimum the following information:
 - standing offer number;
 - statement that incorporates the terms and conditions of the Standing Offer;
 - description and unit price for each line item;
 - total value of the call-up;
 - point of delivery;
 - confirmation that funds are available under section 32 of the Financial Administration Act;
 - confirmation that the user is an Identified User under the Standing Offer with authority to enter into a contract.

7.09 Limitation of Call-ups

Individual call-ups against the Standing Offer must not exceed \$40,000 (Applicable Taxes included).

7.10 Financial Limitation

The total cost to Canada resulting from call ups against the Standing Offer must not exceed the sum of \$_____ (*Applicable Taxes excluded*) unless otherwise authorized in writing by the Standing Offer Authority. The Offeror must not perform any work or services or supply any articles in response to call ups which would cause the total cost to Canada to exceed the said sum, unless an increase is so authorized.

The Offeror must notify the Standing Offer Authority as to the adequacy of this sum when 75 percent of this amount has been committed, or 2 months before the expiry date of the Standing Offer, whichever comes first. However, if at any time, the Offeror considers that the said sum may be exceeded, the Offeror must promptly notify the Standing Offer Authority.

7.11 Priority of Documents

If there is a discrepancy between the wording of any documents that appear on the list, the wording of the document that first appears on the list has priority over the wording of any document that subsequently appears on the list.

- a) the call up against the Standing Offer, including any annexes;
- b) the articles of the Standing Offer;
- c) the general conditions 2005 2017-06-21 General Conditions -Standing Offers - Goods or Services
- d) the general conditions 2010C 2016-04-04, General Conditions - Services (Medium Complexity)
- e) Annex A, Requirement
- f) Annex B, Basis of Payment
- g) Annex C, Security Requirements Check List
- h) the Offeror's offer dated _____

7.12 Certifications and Additional Information

7.12.1 Compliance

Unless specified otherwise, the continuous compliance with the certifications provided by the Offeror with its offer or precedent to issuance of the Standing Offer (SO), and the ongoing cooperation in providing additional information are conditions of issuance of the SO and failure to comply will constitute the Offeror in default. Certifications are subject to verification by Canada during the entire period of the SO and of any resulting contract that would continue beyond the period of the SO.

7.13 Applicable Laws

The Standing Offer and any contract resulting from the Standing Offer must be interpreted and governed, and the relations between the parties determined, by the laws in force in Nova Scotia

B. RESULTING CONTRACT CLAUSES

The following clauses and conditions apply to and form part of any contract resulting from a call-up against the Standing Offer.

7.1 Requirement

The Contractor must provide the items detailed in the call-up against the Standing Offer.

7.2 Standard Clauses and Conditions

7.2.1 General Conditions

2010C 2016-04-04, General Conditions - Services (Medium Complexity) apply to and form part of the Contract.

Section 16 Interest on Overdue Accounts, of 2010C 13 (2008-12-12) Interest on overdue accounts will not apply to payments made by credit cards.

7.3 Term of Contract

7.3.1 Period of the Contract

The period for making call-ups against the Standing Offer is from date of award for a period of three (3) years

7.3.2 Delivery Date

Delivery must be completed in accordance with the call-up against the Standing Offer.

7.4 Proactive Disclosure of Contracts with Former Public Servants

By providing information on its status, with respect to being a former public servant in receipt of a [Public Service Superannuation Act](#) (PSSA) pension, the Contractor has agreed that this information will be reported on departmental websites as part of the published proactive disclosure reports, in accordance with [Contracting Policy Notice: 2012-2](#) of the Treasury Board Secretariat of Canada.

Contracts awarded to former public servants (FPS) in receipt of a pension or of a lump sum payment must bear the closest public scrutiny, and reflect fairness in the spending of public funds. In order to comply with Treasury Board policies and directives on contracts awarded to FPS, offerors must provide the information required below before the issuance of a standing offer. If the answer to the questions and, as applicable the information required have not been received by the time the evaluation of offers is completed, Canada will inform the Offeror of a time frame within which to provide the information. Failure to comply with Canada's request and meet the requirement within the prescribed time frame will render the offer non-responsive.

Definitions

For the purposes of this clause,

"former public servant" is any former member of a department as defined in the [Financial Administration Act](#) R.S., 1985, c. F-11, a former member of the Canadian Armed Forces or a former member of the Royal Canadian Mounted Police. A former public servant may be:

- a. an individual;
- b. an individual who has incorporated;
- c. a partnership made of former public servants; or
- d. a sole proprietorship or entity where the affected individual has a controlling or major interest in the entity.

"lump sum payment period" means the period measured in weeks of salary, for which payment has been made to facilitate the transition to retirement or to other employment as a result of the implementation of various programs to reduce the size of the Public Service. The lump sum payment period does not include the period of severance pay, which is measured in a like manner.

"pension" means a pension or annual allowance paid under the [Public Service Superannuation Act](#) (PSSA), R.S., 1985, c. P-36, and any increases paid pursuant to the [Supplementary Retirement Benefits Act](#), R.S., 1985, c. S-24 as it affects the PSSA. It does not include pensions payable pursuant to the [Canadian Forces Superannuation Act](#), R.S., 1985, c. C-17, the [Defence Services Pension Continuation Act](#), 1970, c. D-3, the [Royal Canadian Mounted Police Pension Continuation Act](#), 1970, c. R-10, and the [Royal Canadian Mounted Police Superannuation Act](#), R.S., 1985, c. R-11, the [Members of Parliament Retiring Allowances Act](#), R.S. 1985, c. M-5, and that portion of pension payable to the [Canada Pension Plan Act](#), R.S., 1985, c. C-8.

Former Public Servant in Receipt of a Pension

As per the above definitions, is the Offeror a FPS in receipt of a pension? **YES () NO ()**

If so, the Offeror must provide the following information, for all FPS in receipt of a pension, as applicable:

- a. name of former public servant;
- b. date of termination of employment or retirement from the Public Service.

By providing this information, Offerors agree that the successful Offeror's status, with respect to being a former public servant in receipt of a pension, will be reported on departmental websites as part of the published proactive disclosure reports in accordance with [Contracting Policy Notice: 2012-2](#) and the [Guidelines on the Proactive Disclosure of Contracts](#).

Work Force Adjustment Directive

Is the Offeror a FPS who received a lump sum payment pursuant to the terms of the Work Force Adjustment Directive? **YES () NO ()**

If so, the Offeror must provide the following information:

- a. name of former public servant;
- b. conditions of the lump sum payment incentive;
- c. date of termination of employment;
- d. amount of lump sum payment;
- e. rate of pay on which lump sum payment is based;
- f. period of lump sum payment including start date, end date and number of weeks;
- g. number and amount (professional fees) of other contracts subject to the restrictions of a work force adjustment program.

For all contracts awarded during the lump sum payment period, the total amount of fees that may be paid to a FPS who received a lump sum payment is \$5,000, including Applicable Taxes.

7.5 Payment

7.5.1 Basis of Payment

In consideration of the Contractor satisfactorily completing all of its obligations under the Contract, the Contractor will be paid a *firm price as specified in Annex B for a cost of \$ _____*. Customs duties are *excluded* and Applicable Taxes are extra.

Canada will not pay the Contractor for any design changes, modifications or interpretations of the Work, unless they have been approved, in writing, by the Contracting Authority before their incorporation into the Work.

7.5.2 Limitation of Expenditure

1. Canada's total liability to the Contractor under the Contract must not exceed \$ _____. Customs duties are included and Applicable Taxes are extra.
2. No increase in the total liability of Canada or in the price of the Work resulting from any design changes, modifications or interpretations of the Work, will be authorized or paid to the Contractor unless these design changes, modifications or interpretations have been approved, in writing, by the Contracting Authority before their incorporation into the Work. The Contractor must not perform any work or provide any service that would result in Canada's total liability being exceeded before obtaining the written approval of the Contracting Authority. The Contractor must notify the Contracting Authority in writing as to the adequacy of this sum:
 - a. when it is 75% committed, or
 - b. four months before the contract expiry date, or
 - c. as soon as the Contractor considers that the contract funds provided are inadequate for the completion of the Work, whichever comes first.
3. If the notification is for inadequate contract funds, the Contractor must provide to the Contracting Authority a written estimate for the additional funds required. Provision of such information by the Contractor does not increase Canada's liability.

7.5.3 Single Payment

Canada will pay the Contractor upon completion and delivery of the Work in accordance with the payment provisions of the Contract if:

- a. an accurate and complete invoice and any other documents required by the Contract have been submitted in accordance with the invoicing instructions provided in the Contract;
- b. all such documents have been verified by Canada;
- c. the Work delivered has been accepted by Canada.

7.5.4 Electronic Payment of Invoices – Call-up

The Contractor accepts to be paid using any of the following Electronic Payment Instrument(s):

- a. Visa Acquisition Card;
- b. MasterCard Acquisition Card;
- c. Direct Deposit (Domestic and International);
- d. Electronic Data Interchange (EDI);
- e. Wire Transfer (International Only);

7.6 Invoicing Instructions

1. The Contractor must submit invoices in accordance with the section entitled "Invoice Submission" of the general conditions. Invoices cannot be submitted until all work identified in the invoice is completed.

Each invoice must be supported by:

- a. a copy of time sheets to support the time claimed;
 - b. a copy of the release document and any other documents as specified in the Contract;
 - c. a copy of the invoices, receipts, vouchers for all direct expenses, and all travel and living expenses;
 - d. a copy of the monthly progress report.
2. Invoices must be distributed as follows:
 - a. The original and one (1) copy must be forwarded to the address shown on page 1 of the Contract for certification and payment.
 - b. One (1) copy must be forwarded to the Contracting Authority identified under the section entitled "Authorities" of the Contract.

7.7 Insurance

SACC Manual clause [G1005C](#) 2016-01-28 Insurance

7.8 SACC Manual Clauses

A9062C (2011-05-16) Canadian Forces Site Regulations
M3800C (2006-08-15) Estimates

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ANNEX "A"

REQUIREMENT

See Attached

ANNEX "B"

BASIS OF PAYMENT

YEAR 1

Resilient Flooring

item	Description	Unit	Estimate (A)	Price (B)	Total (C=AxB)
A	Remove floor coverings, repair existing underlay/sub-floor (based on clear floor area);	m ²	3000 m ²	\$ _____	\$ _____
B	Remove existing floor coverings and underlay and supply and install new underlay (based on clear floor area);	m ²	500 m ²	\$ _____	\$ _____
C	Supply and install new underlay (based on clear floor area);	m ²	120 m ²	\$ _____	\$ _____
D	To supply and install new floor covering including all labour (based on minimum available width);				
	1) Vinyl composition tile type A, 32.2mm thick	m ²	250 m ²	\$ _____	\$ _____
	2) Commercial grade sheet vinyl, Type 2 backing type E thickness grade 1	m ²	5000 m ²	\$ _____	\$ _____
	3) Sheet linoleum, thickness min 2.5mm	m ²	1000 m ²	\$ _____	\$ _____
	4) Sheet linoleum, thickness min 4.0mm	m ²	150 m ²	\$ _____	\$ _____
E	Supply, paint and install new quarter round including all labour	m	300 m	\$ _____	\$ _____
F	Supply and install new cove base including all labour	m	300 m	\$ _____	\$ _____
G	Trim bottom of doors, labour only	ea.	12	\$ _____	\$ _____
H	Lift and reinstall toilet including new gasket, including labour	ea.	10	\$ _____	\$ _____
I	Replace return grills, including all labour	ea.	10	\$ _____	\$ _____
J	Replace supply grills, including all labour	ea.	10	\$ _____	\$ _____
K	Continuous seam welding of commercial grade; sheet vinyl, including all labour	m	2000m	\$ _____	\$ _____
L	Labour in addition to above	hour	180 hours	\$ _____	\$ _____

Ceramic Tile Flooring

item	Description	Unit	Estimate (A)	Price (B)	Total (C=AxB)
A	remove existing floor coverings, repair existing underlay/sub-floor (based on clear floor area);	m²	800 m²	\$ _____	\$ _____
B	remove existing floor coverings and underlay and supply and install new underlay (based on clear floor area);	m²	800 m²	\$ _____	\$ _____
C	supply and install new underlay (based on clear floor area);	m²	600 m²	\$ _____	\$ _____
D	A) Supply and install new 1/4" underlay cement board	m²	200 m²	\$ _____	\$ _____
	B) Supply and install new 1/4" underlay cement board	m²	1000 m²	\$ _____	\$ _____
E	1. Supply and install new 4" x 4" glazed tile (PEI-5)	m²	2000 m²	\$ _____	\$ _____
	2. Supply and install new 6" x 6" glazed tile (PEI-5)	m²	1000 m²	\$ _____	\$ _____
	3. supply and install new 8" x 8" glazed tile (PEI-5)	m²	500 m²	\$ _____	\$ _____
	4. supply and install new 8" x 8" glazed tile (PEI-5)	m²	500 m²	\$ _____	\$ _____
	5. supply and install new 12" x 12" glazed tile (PEI-5)	m²	600 m²	\$ _____	\$ _____
	6. supply and install new 13" x 13" glazed tile (PEI-5)	m²	1000 m²	\$ _____	\$ _____
F	1. Supply and install new 4" x 4" porcelain tile	m²	1000 m²	\$ _____	\$ _____
	2. Supply and install new 6" x 6" porcelain tile	m²	800 m²	\$ _____	\$ _____
	3. Supply and install new 8" x 8" porcelain tile	m²	600 m²	\$ _____	\$ _____
	4. Supply and install new 12" x 12" porcelain tile	m²	800 m²	\$ _____	\$ _____
	5. Supply and install new 13" x 13" porcelain tile	m²	1000 m²	\$ _____	\$ _____
	6. Supply and install new 24" x 24" porcelain tile	m²	600 m²	\$ _____	\$ _____
G	1. Supply and install new 4" cove base glazed (PEI-5)	lm	100 lm	\$ _____	\$ _____
	2. Supply and install new 4" cove base porcelain tile	lm	500 lm	\$ _____	\$ _____
H	Remove, reset, and re-grout existing loose or damaged tile with new (material, labour, and equipment)	m²	500 m²	\$ _____	\$ _____
I	Clean and re-grout existing tile (material, labour, and equipment)	m²	500 m²	\$ _____	\$ _____

J	Inlaying patterns chosen by owner (material, labour, and equipment)	Sq Ft	200 Sq Ft	\$ _____	\$ _____
K	Labour in addition to the above:				
	1. Tradesman	Hour	100 hours	\$ _____	\$ _____
	2. Helper	Hour	100 hours	\$ _____	\$ _____

Sheet Carpet Flooring

item	Description	Unit	Estimate (A)	Price (B)	Total (C=AxB)
A	remove existing floor coverings, repair existing underlay/sub-floor (based on clear floor area);	m ²	1000 m2	\$ _____	\$ _____
B	remove existing floor coverings and underlay and supply and install new underlay (based on clear floor area);	m ²	1000 m2	\$ _____	\$ _____
C	supply and install new underlay (based on clear floor area);	m ²	600 m2	\$ _____	\$ _____
D	supply and install new carpet flooring in accordance with section 09 68 16 of the specifications	m ²	10000 m2	\$ _____	\$ _____

Tile Carpet Flooring

item	Description	Unit	Estimate (A)	Price (B)	Total (C=AxB)
A	remove existing floor coverings, repair existing underlay/sub-floor (based on clear floor area);	m ²	10000 m2	\$ _____	\$ _____
B	remove existing floor coverings and underlay and supply and install new underlay (based on clear floor area);	m ²	5000 m2	\$ _____	\$ _____
C	supply and install new underlay (based on clear floor area);	m ²	200 m2	\$ _____	\$ _____
D	supply and install new carpet flooring in accordance with section 09 68 13 of the specifications	m ²	10000 m2	\$ _____	\$ _____

Wood Carpet Flooring

item	Description	Unit	Estimate (A)	Price (B)	Total (C=AxB)
A	remove existing floor coverings, repair existing underlay/sub-floor (based on clear floor area);	m ²	1000 m2	\$ _____	\$ _____
B	remove existing floor coverings and underlay and supply and install new underlay (based on clear floor area);	m ²	600 m2	\$ _____	\$ _____
C	supply and install new underlay (based on clear floor area);	m ²	600 m2	\$ _____	\$ _____
D	supply and install new carpet flooring in accordance with section 09 68 16 of the specifications	m ²	1000 m2	\$ _____	\$ _____

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Access Flooring

item	Description	Unit	Estimate (A)	Price (B)	Total (C=AxB)
A	supply and install 600mm X 600mm access floor systems includes pedestals, stringers, panels, facia panels, accessories, and finishes in accordance with Section 09 69 00 of the specification	m ²	250m2	\$_____	\$_____

YEAR 1 TOTAL \$_____

YEAR 2

Resilient Flooring

item	Description	Unit	Estimate (A)	Price (B)	Total (C=AxB)
A	Remove floor coverings, repair existing underlay/sub-floor (based on clear floor area);	m²	3000 m²	\$ _____	\$ _____
B	Remove existing floor coverings and underlay and supply and install new underlay (based on clear floor area);	m²	500 m²	\$ _____	\$ _____
C	Supply and install new underlay (based on clear floor area);	m²	120 m²	\$ _____	\$ _____
D	To supply and install new floor covering including all labour (based on minimum available width);				
	5) Vinyl composition tile type A, 32.2mm thick	m²	250 m²	\$ _____	\$ _____
	6) Commercial grade sheet vinyl, Type 2 backing type E thickness grade 1	m²	5000 m²	\$ _____	\$ _____
	7) Sheet linoleum, thickness min 2.5mm	m²	1000 m²	\$ _____	\$ _____
	8) Sheet linoleum, thickness min 4.0mm	m²	150 m²	\$ _____	\$ _____
E	Supply, paint and install new quarter round including all labour	m	300 m	\$ _____	\$ _____
F	Supply and install new cove base including all labour	m	300 m	\$ _____	\$ _____
G	Trim bottom of doors, labour only	ea.	12	\$ _____	\$ _____
H	Lift and reinstall toilet including new gasket, including labour	ea.	10	\$ _____	\$ _____
I	Replace return grills, including all labour	ea.	10	\$ _____	\$ _____
J	Replace supply grills, including all labour	ea.	10	\$ _____	\$ _____
K	Continuous seam welding of commercial grade; sheet vinyl, including all labour	m	2000m	\$ _____	\$ _____
L	Labour in addition to above	hour	180 hours	\$ _____	\$ _____

Ceramic Tile Flooring

item	Description	Unit	Estimate (A)	Price (B)	Total (C=AxB)
A	remove existing floor coverings, repair existing underlay/sub-floor (based on clear floor area);	m²	800 m²	\$ _____	\$ _____
B	remove existing floor coverings and underlay and supply and install new underlay (based on clear floor area);	m²	800 m²	\$ _____	\$ _____
C	supply and install new underlay (based on clear floor area);	m²	600 m²	\$ _____	\$ _____
D	C) Supply and install new 1/4" underlay cement board	m²	200 m²	\$ _____	\$ _____
	D) Supply and install new 1/4" underlay cement board	m²	1000 m²	\$ _____	\$ _____
E	7. Supply and install new 4" x 4" glazed tile (PEI-5)	m²	2000 m²	\$ _____	\$ _____
	8. Supply and install new 6" x 6" glazed tile (PEI-5)	m²	1000 m²	\$ _____	\$ _____
	9. supply and install new 8" x 8" glazed tile (PEI-5)	m²	500 m²	\$ _____	\$ _____
	10. supply and install new 8" x 8" glazed tile (PEI-5)	m²	500 m²	\$ _____	\$ _____
	11. supply and install new 12" x 12" glazed tile (PEI-5)	m²	600 m²	\$ _____	\$ _____
	12. supply and install new 13" x 13" glazed tile (PEI-5)	m²	1000 m²	\$ _____	\$ _____
F	7. Supply and install new 4" x 4" porcelain tile	m²	1000 m²	\$ _____	\$ _____
	8. Supply and install new 6" x 6" porcelain tile	m²	800 m²	\$ _____	\$ _____
	9. Supply and install new 8" x 8" porcelain tile	m²	600 m²	\$ _____	\$ _____
	10. Supply and install new 12" x 12" porcelain tile	m²	800 m²	\$ _____	\$ _____
	11. Supply and install new 13" x 13" porcelain tile	m²	1000 m²	\$ _____	\$ _____
	12. Supply and install new 24" x 24" porcelain tile	m²	600 m²	\$ _____	\$ _____
G	3. Supply and install new 4" cove base glazed (PEI-5)	lm	100 lm	\$ _____	\$ _____
	4. Supply and install new 4" cove base porcelain tile	lm	500 lm	\$ _____	\$ _____
H	Remove, reset, and re-grout existing loose or damaged tile with new (material, labour, and equipment)	m²	500 m²	\$ _____	\$ _____
I	Clean and re-grout existing tile (material, labour, and equipment)	m²	500 m²	\$ _____	\$ _____

J	Inlaying patterns chosen by owner (material, labour, and equipment)	Sq Ft	200 Sq Ft	\$ _____	\$ _____
K	Labour in addition to the above:				
	3. Tradesman	Hour	100 hours	\$ _____	\$ _____
	4. Helper	Hour	100 hours	\$ _____	\$ _____

Sheet Carpet Flooring

item	Description	Unit	Estimate (A)	Price (B)	Total (C=AxB)
A	remove existing floor coverings, repair existing underlay/sub-floor (based on clear floor area);	m ²	1000 m2	\$ _____	\$ _____
B	remove existing floor coverings and underlay and supply and install new underlay (based on clear floor area);	m ²	1000 m2	\$ _____	\$ _____
C	supply and install new underlay (based on clear floor area);	m ²	600 m2	\$ _____	\$ _____
D	supply and install new carpet flooring in accordance with section 09 68 16 of the specifications	m ²	10000 m2	\$ _____	\$ _____

Tile Carpet Flooring

item	Description	Unit	Estimate (A)	Price (B)	Total (C=AxB)
A	remove existing floor coverings, repair existing underlay/sub-floor (based on clear floor area);	m ²	10000 m2	\$ _____	\$ _____
B	remove existing floor coverings and underlay and supply and install new underlay (based on clear floor area);	m ²	5000 m2	\$ _____	\$ _____
C	supply and install new underlay (based on clear floor area);	m ²	200 m2	\$ _____	\$ _____
D	supply and install new carpet flooring in accordance with section 09 68 13 of the specifications	m ²	10000 m2	\$ _____	\$ _____

Wood Carpet Flooring

item	Description	Unit	Estimate (A)	Price (B)	Total (C=AxB)
A	remove existing floor coverings, repair existing underlay/sub-floor (based on clear floor area);	m ²	1000 m2	\$ _____	\$ _____
B	remove existing floor coverings and underlay and supply and install new underlay (based on clear floor area);	m ²	600 m2	\$ _____	\$ _____
C	supply and install new underlay (based on clear floor area);	m ²	600 m2	\$ _____	\$ _____
D	supply and install new carpet flooring in accordance with section 09 68 16 of the specifications	m ²	1000 m2	\$ _____	\$ _____

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Access Flooring

item	Description	Unit	Estimate (A)	Price (B)	Total (C=AxB)
A	supply and install 600mm X 600mm access floor systems includes pedestals, stringers, panels, facia panels, accessories, and finishes in accordance with Section 09 69 00 of the specification	m ²	250m2	\$ _____	\$ _____

YEAR 2 TOTAL \$ _____

YEAR 3

Resilient Flooring

item	Description	Unit	Estimate (A)	Price (B)	Total (C=AxB)
A	Remove floor coverings, repair existing underlay/sub-floor (based on clear floor area);	m²	3000 m²	\$ _____	\$ _____
B	Remove existing floor coverings and underlay and supply and install new underlay (based on clear floor area);	m²	500 m²	\$ _____	\$ _____
C	Supply and install new underlay (based on clear floor area);	m²	120 m²	\$ _____	\$ _____
D	To supply and install new floor covering including all labour (based on minimum available width);				
	9) Vinyl composition tile type A, 32.2mm thick	m²	250 m²	\$ _____	\$ _____
	10) Commercial grade sheet vinyl, Type 2 backing type E thickness grade 1	m²	5000 m²	\$ _____	\$ _____
	11) Sheet linoleum, thickness min 2.5mm	m²	1000 m²	\$ _____	\$ _____
	12) Sheet linoleum, thickness min 4.0mm	m²	150 m²	\$ _____	\$ _____
E	Supply, paint and install new quarter round including all labour	m	300 m	\$ _____	\$ _____
F	Supply and install new cove base including all labour	m	300 m	\$ _____	\$ _____
G	Trim bottom of doors, labour only	ea.	12	\$ _____	\$ _____
H	Lift and reinstall toilet including new gasket, including labour	ea.	10	\$ _____	\$ _____
I	Replace return grills, including all labour	ea.	10	\$ _____	\$ _____
J	Replace supply grills, including all labour	ea.	10	\$ _____	\$ _____
K	Continuous seam welding of commercial grade; sheet vinyl, including all labour	m	2000m	\$ _____	\$ _____
L	Labour in addition to above	hour	180 hours	\$ _____	\$ _____

Ceramic Tile Flooring

item	Description	Unit	Estimate (A)	Price (B)	Total (C=AxB)
A	remove existing floor coverings, repair existing underlay/sub-floor (based on clear floor area);	m²	800 m²	\$ _____	\$ _____
B	remove existing floor coverings and underlay and supply and install new underlay (based on clear floor area);	m²	800 m²	\$ _____	\$ _____
C	supply and install new underlay (based on clear floor area);	m²	600 m²	\$ _____	\$ _____
D	E) Supply and install new 1/4" underlay cement board	m²	200 m²	\$ _____	\$ _____
	F) Supply and install new 1/4" underlay cement board	m²	1000 m²	\$ _____	\$ _____
E	13. Supply and install new 4" x 4" glazed tile (PEI-5)	m²	2000 m²	\$ _____	\$ _____
	14. Supply and install new 6" x 6" glazed tile (PEI-5)	m²	1000 m²	\$ _____	\$ _____
	15. supply and install new 8" x 8" glazed tile (PEI-5)	m²	500 m²	\$ _____	\$ _____
	16. supply and install new 8" x 8" glazed tile (PEI-5)	m²	500 m²	\$ _____	\$ _____
	17. supply and install new 12" x 12" glazed tile (PEI-5)	m²	600 m²	\$ _____	\$ _____
	18. supply and install new 13" x 13" glazed tile (PEI-5)	m²	1000 m²	\$ _____	\$ _____
F	13. Supply and install new 4" x 4" porcelain tile	m²	1000 m²	\$ _____	\$ _____
	14. Supply and install new 6" x 6" porcelain tile	m²	800 m²	\$ _____	\$ _____
	15. Supply and install new 8" x 8" porcelain tile	m²	600 m²	\$ _____	\$ _____
	16. Supply and install new 12" x 12" porcelain tile	m²	800 m²	\$ _____	\$ _____
	17. Supply and install new 13" x 13" porcelain tile	m²	1000 m²	\$ _____	\$ _____
	18. Supply and install new 24" x 24" porcelain tile	m²	600 m²	\$ _____	\$ _____
G	5. Supply and install new 4" cove base glazed (PEI-5)	lm	100 lm	\$ _____	\$ _____
	6. Supply and install new 4" cove base porcelain tile	lm	500 lm	\$ _____	\$ _____
H	Remove, reset, and re-grout existing loose or damaged tile with new (material, labour, and equipment)	m²	500 m²	\$ _____	\$ _____
I	Clean and re-grout existing tile (material, labour, and equipment)	m²	500 m²	\$ _____	\$ _____

J	Inlaying patterns chosen by owner (material, labour, and equipment)	Sq Ft	200 Sq Ft	\$ _____	\$ _____
K	Labour in addition to the above:				
	5. Tradesman	Hour	100 hours	\$ _____	\$ _____
	6. Helper	Hour	100 hours	\$ _____	\$ _____

Sheet Carpet Flooring

item	Description	Unit	Estimate (A)	Price (B)	Total (C=AxB)
A	remove existing floor coverings, repair existing underlay/sub-floor (based on clear floor area);	m ²	1000 m2	\$ _____	\$ _____
B	remove existing floor coverings and underlay and supply and install new underlay (based on clear floor area);	m ²	1000 m2	\$ _____	\$ _____
C	supply and install new underlay (based on clear floor area);	m ²	600 m2	\$ _____	\$ _____
D	supply and install new carpet flooring in accordance with section 09 68 16 of the specifications	m ²	10000 m2	\$ _____	\$ _____

Tile Carpet Flooring

item	Description	Unit	Estimate (A)	Price (B)	Total (C=AxB)
A	remove existing floor coverings, repair existing underlay/sub-floor (based on clear floor area);	m ²	10000 m2	\$ _____	\$ _____
B	remove existing floor coverings and underlay and supply and install new underlay (based on clear floor area);	m ²	5000 m2	\$ _____	\$ _____
C	supply and install new underlay (based on clear floor area);	m ²	200 m2	\$ _____	\$ _____
D	supply and install new carpet flooring in accordance with section 09 68 13 of the specifications	m ²	10000 m2	\$ _____	\$ _____

Wood Carpet Flooring

item	Description	Unit	Estimate (A)	Price (B)	Total (C=AxB)
A	remove existing floor coverings, repair existing underlay/sub-floor (based on clear floor area);	m ²	1000 m2	\$ _____	\$ _____
B	remove existing floor coverings and underlay and supply and install new underlay (based on clear floor area);	m ²	600 m2	\$ _____	\$ _____
C	supply and install new underlay (based on clear floor area);	m ²	600 m2	\$ _____	\$ _____
D	supply and install new carpet flooring in accordance with section 09 68 16 of the specifications	m ²	1000 m2	\$ _____	\$ _____

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Access Flooring

item	Description	Unit	Estimate (A)	Price (B)	Total (C=AxB)
A	supply and install 600mm X 600mm access floor systems includes pedestals, stringers, panels, facia panels, accessories, and finishes in accordance with Section 09 69 00 of the specification	m ²	250m2	\$ _____	\$ _____

YEAR 3 TOTAL \$ _____

OPTION YEAR 1

Resilient Flooring

item	Description	Unit	Estimate (A)	Price (B)	Total (C=AxB)
A	Remove floor coverings, repair existing underlay/sub-floor (based on clear floor area);	m²	3000 m²	\$ _____	\$ _____
B	Remove existing floor coverings and underlay and supply and install new underlay (based on clear floor area);	m²	500 m²	\$ _____	\$ _____
C	Supply and install new underlay (based on clear floor area);	m²	120 m²	\$ _____	\$ _____
D	To supply and install new floor covering including all labour (based on minimum available width);				
	13) Vinyl composition tile type A, 32.2mm thick	m²	250 m²	\$ _____	\$ _____
	14) Commercial grade sheet vinyl, Type 2 backing type E thickness grade 1	m²	5000 m²	\$ _____	\$ _____
	15) Sheet linoleum, thickness min 2.5mm	m²	1000 m²	\$ _____	\$ _____
	16) Sheet linoleum, thickness min 4.0mm	m²	150 m²	\$ _____	\$ _____
E	Supply, paint and install new quarter round including all labour	m	300 m	\$ _____	\$ _____
F	Supply and install new cove base including all labour	m	300 m	\$ _____	\$ _____
G	Trim bottom of doors, labour only	ea.	12	\$ _____	\$ _____
H	Lift and reinstall toilet including new gasket, including labour	ea.	10	\$ _____	\$ _____
I	Replace return grills, including all labour	ea.	10	\$ _____	\$ _____
J	Replace supply grills, including all labour	ea.	10	\$ _____	\$ _____
K	Continuous seam welding of commercial grade; sheet vinyl, including all labour	m	2000m	\$ _____	\$ _____
L	Labour in addition to above	hour	180 hours	\$ _____	\$ _____

Ceramic Tile Flooring

item	Description	Unit	Estimate (A)	Price (B)	Total (C=AxB)
A	remove existing floor coverings, repair existing underlay/sub-floor (based on clear floor area);	m ²	800 m ²	\$ _____	\$ _____
B	remove existing floor coverings and underlay and supply and install new underlay (based on clear floor area);	m ²	800 m ²	\$ _____	\$ _____
C	supply and install new underlay (based on clear floor area);	m ²	600 m ²	\$ _____	\$ _____
D	G) Supply and install new 1/4" underlay cement board	m ²	200 m ²	\$ _____	\$ _____
	H) Supply and install new 1/4" underlay cement board	m ²	1000 m ²	\$ _____	\$ _____
E	19. Supply and install new 4" x 4" glazed tile (PEI-5)	m ²	2000 m ²	\$ _____	\$ _____
	20. Supply and install new 6" x 6" glazed tile (PEI-5)	m ²	1000 m ²	\$ _____	\$ _____
	21. supply and install new 8" x 8" glazed tile (PEI-5)	m ²	500 m ²	\$ _____	\$ _____
	22. supply and install new 8" x 8" glazed tile (PEI-5)	m ²	500 m ²	\$ _____	\$ _____
	23. supply and install new 12" x 12" glazed tile (PEI-5)	m ²	600 m ²	\$ _____	\$ _____
	24. supply and install new 13" x 13" glazed tile (PEI-5)	m ²	1000 m ²	\$ _____	\$ _____
F	19. Supply and install new 4" x 4" porcelain tile	m ²	1000 m ²	\$ _____	\$ _____
	20. Supply and install new 6" x 6" porcelain tile	m ²	800 m ²	\$ _____	\$ _____
	21. Supply and install new 8" x 8" porcelain tile	m ²	600 m ²	\$ _____	\$ _____
	22. Supply and install new 12" x 12" porcelain tile	m ²	800 m ²	\$ _____	\$ _____
	23. Supply and install new 13" x 13" porcelain tile	m ²	1000 m ²	\$ _____	\$ _____
	24. Supply and install new 24" x 24" porcelain tile	m ²	600 m ²	\$ _____	\$ _____
G	7. Supply and install new 4" cove base glazed (PEI-5)	lm	100 lm	\$ _____	\$ _____
	8. Supply and install new 4" cove base porcelain tile	lm	500 lm	\$ _____	\$ _____
H	Remove, reset, and re-grout existing loose or damaged tile with new (material, labour, and equipment)	m ²	500 m ²	\$ _____	\$ _____
I	Clean and re-grout existing tile (material, labour, and equipment)	m ²	500 m ²	\$ _____	\$ _____

J	Inlaying patterns chosen by owner (material, labour, and equipment)	Sq Ft	200 Sq Ft	\$ _____	\$ _____
K	Labour in addition to the above:				
	7. Tradesman	Hour	100 hours	\$ _____	\$ _____
	8. Helper	Hour	100 hours	\$ _____	\$ _____

Sheet Carpet Flooring

item	Description	Unit	Estimate (A)	Price (B)	Total (C=AxB)
A	remove existing floor coverings, repair existing underlay/sub-floor (based on clear floor area);	m ²	1000 m2	\$ _____	\$ _____
B	remove existing floor coverings and underlay and supply and install new underlay (based on clear floor area);	m ²	1000 m2	\$ _____	\$ _____
C	supply and install new underlay (based on clear floor area);	m ²	600 m2	\$ _____	\$ _____
D	supply and install new carpet flooring in accordance with section 09 68 16 of the specifications	m ²	10000 m2	\$ _____	\$ _____

Tile Carpet Flooring

item	Description	Unit	Estimate (A)	Price (B)	Total (C=AxB)
A	remove existing floor coverings, repair existing underlay/sub-floor (based on clear floor area);	m ²	10000 m2	\$ _____	\$ _____
B	remove existing floor coverings and underlay and supply and install new underlay (based on clear floor area);	m ²	5000 m2	\$ _____	\$ _____
C	supply and install new underlay (based on clear floor area);	m ²	200 m2	\$ _____	\$ _____
D	supply and install new carpet flooring in accordance with section 09 68 13 of the specifications	m ²	10000 m2	\$ _____	\$ _____

Wood Carpet Flooring

item	Description	Unit	Estimate (A)	Price (B)	Total (C=AxB)
A	remove existing floor coverings, repair existing underlay/sub-floor (based on clear floor area);	m ²	1000 m2	\$ _____	\$ _____
B	remove existing floor coverings and underlay and supply and install new underlay (based on clear floor area);	m ²	600 m2	\$ _____	\$ _____
C	supply and install new underlay (based on clear floor area);	m ²	600 m2	\$ _____	\$ _____
D	supply and install new carpet flooring in accordance with section 09 68 16 of the specifications	m ²	1000 m2	\$ _____	\$ _____

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Access Flooring

item	Description	Unit	Estimate (A)	Price (B)	Total (C=AxB)
A	supply and install 600mm X 600mm access floor systems includes pedestals, stringers, panels, facia panels, accessories, and finishes in accordance with Section 09 69 00 of the specification	m ²	250m2	\$_____	\$_____

OPTION YEAR 1 TOTAL \$_____

YEAR1_____

YEAR 2_____

YEAR3_____

OPTION YEAR 1_____

Total Evaluated price \$_____

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ANNEX "C"

SECURITY REQUIREMENTS CHECK LIST



Government of Canada
Gouvernement du Canada

Contract Number / Numéro du contrat

SOA W6837-17-5360

Security Classification / Classification de sécurité
Unclassified

SECURITY REQUIREMENTS CHECK LIST (SRCL) LISTE DE VÉRIFICATION DES EXIGENCES RELATIVES À LA SÉCURITÉ (LVERS)

PART A - CONTRACT INFORMATION / PARTIE A - INFORMATION CONTRACTUELLE		
1. Originating Government Department or Organization / Ministère ou organisme gouvernemental d'origine	2. Branch or Directorate / Direction générale ou Direction	
DND	RCAF	
3. a) Subcontract Number / Numéro du contrat de sous-traitance	3. b) Name and Address of Subcontractor / Nom et adresse du sous-traitant	
4. Brief Description of Work / Brève description du travail This SRCL is for the issuing of a Standing Offer Agreement for Supply all Materials, Labour, and Equipment required to perform Repairs and Installation of Various Flooring at 14 Wing Greenwood, Greenwood N.S. In accordance with Specifications Dated 2017-05-29 and Job no. L-G111-9900/1071 Period of Contract is 01-Aug-2017 to 31 July-2020 with a one year option from 01-Aug-2020 to 31 July-2021. Buildings are located within an Operations Zone.		
5. a) Will the supplier require access to Controlled Goods? Le fournisseur aura-t-il accès à des marchandises contrôlées? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes Non Oui		
5. b) Will the supplier require access to unclassified military technical data subject to the provisions of the Technical Data Control Regulations? Le fournisseur aura-t-il accès à des données techniques militaires non classifiées qui sont assujetties aux dispositions du Règlement sur le contrôle des données techniques? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes Non Oui		
6. Indicate the type of access required / Indiquer le type d'accès requis		
6. a) Will the supplier and its employees require access to PROTECTED and/or CLASSIFIED information or assets? Le fournisseur ainsi que les employés auront-ils accès à des renseignements ou à des biens PROTÉGÉS et/ou CLASSIFIÉS? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes (Specify the level of access using the chart in Question 7. c) (Préciser le niveau d'accès en utilisant le tableau qui se trouve à la question 7. c)		
6. b) Will the supplier and its employees (e.g. cleaners, maintenance personnel) require access to restricted access areas? No access to PROTECTED and/or CLASSIFIED information or assets is permitted. Le fournisseur et ses employés (p. ex. nettoyeurs, personnel d'entretien) auront-ils accès à des zones d'accès restreintes? L'accès à des renseignements ou à des biens PROTÉGÉS et/ou CLASSIFIÉS n'est pas autorisé. <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes Non Oui		
6. c) Is this a commercial courier or delivery requirement with no overnight storage? S'agit-il d'un contrat de messagerie ou de livraison commerciale sans entreposage de nuit? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes Non Oui		
7. a) Indicate the type of information that the supplier will be required to access / Indiquer le type d'information auquel le fournisseur devra avoir accès		
Canada <input type="checkbox"/>	NATO / OTAN <input type="checkbox"/>	Foreign / Étranger <input type="checkbox"/>
7. b) Release restrictions / Restrictions relatives à la diffusion		
No release restrictions Aucune restriction relative à la diffusion <input type="checkbox"/>	All NATO countries Tous les pays de l'OTAN <input type="checkbox"/>	No release restrictions Aucune restriction relative à la diffusion <input type="checkbox"/>
Not releasable À ne pas diffuser <input type="checkbox"/>		
Restricted to: / Limité à: <input type="checkbox"/>	Restricted to: / Limité à: <input type="checkbox"/>	Restricted to: / Limité à: <input type="checkbox"/>
Specify country(ies): / Préciser le(s) pays:	Specify country(ies): / Préciser le(s) pays:	Specify country(ies): / Préciser le(s) pays:
7. c) Level of information / Niveau d'information		
PROTECTED A PROTÉGÉ A <input type="checkbox"/>	NATO UNCLASSIFIED NATO NON CLASSIFIÉ <input type="checkbox"/>	PROTECTED A PROTÉGÉ A <input type="checkbox"/>
PROTECTED B PROTÉGÉ B <input type="checkbox"/>	NATO RESTRICTED NATO DIFFUSION RESTREINTE <input type="checkbox"/>	PROTECTED B PROTÉGÉ B <input type="checkbox"/>
PROTECTED C PROTÉGÉ C <input type="checkbox"/>	NATO CONFIDENTIAL NATO CONFIDENTIEL <input type="checkbox"/>	PROTECTED C PROTÉGÉ C <input type="checkbox"/>
CONFIDENTIAL CONFIDENTIEL <input type="checkbox"/>	NATO SECRET NATO SECRET <input type="checkbox"/>	CONFIDENTIAL CONFIDENTIEL <input type="checkbox"/>
SECRET SECRET <input type="checkbox"/>	COSMIC TOP SECRET COSMIC TRÈS SECRET <input type="checkbox"/>	SECRET SECRET <input type="checkbox"/>
TOP SECRET TRÈS SECRET <input type="checkbox"/>		TOP SECRET TRÈS SECRET <input type="checkbox"/>
TOP SECRET (SIGINT) TRÈS SECRET (SIGINT) <input type="checkbox"/>		TOP SECRET (SIGINT) TRÈS SECRET (SIGINT) <input type="checkbox"/>

TBS/SCS 350-103(2004/12)

Security Classification / Classification de sécurité
Unclassified

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PART A (continued) / PARTIE A (suite)

8. Will the supplier require access to PROTECTED and/or CLASSIFIED COMSEC information or assets?
Le fournisseur aura-t-il accès à des renseignements ou à des biens COMSEC désignés PROTÉGÉS et/ou CLASSIFIÉS? ☒ No ☐ Yes
Non Oui
- If Yes, indicate the level of sensitivity:
Dans l'affirmative, indiquer le niveau de sensibilité:
9. Will the supplier require access to extremely sensitive INFOSEC information or assets?
Le fournisseur aura-t-il accès à des renseignements ou à des biens INFOSEC de nature extrêmement délicate? ☒ No ☐ Yes
Non Oui

Short Title(s) of material / Titre(s) abrégé(s) du matériel:
Document Number / Numéro du document:

PART B - PERSONNEL (SUPPLIER) / PARTIE B - PERSONNEL (FOURNISSEUR)

10. a) Personnel security screening level required / Niveau de contrôle de la sécurité du personnel requis

- | | | | |
|---|---|---|--|
| <input checked="" type="checkbox"/> RELIABILITY STATUS
COTE DE FIABILITÉ | <input type="checkbox"/> CONFIDENTIAL
CONFIDENTIEL | <input type="checkbox"/> SECRET
SECRET | <input type="checkbox"/> TOP SECRET
TRÈS SECRET |
| <input type="checkbox"/> TOP SECRET - SIGINT
TRÈS SECRET - SIGINT | <input type="checkbox"/> NATO CONFIDENTIAL
NATO CONFIDENTIEL | <input type="checkbox"/> NATO SECRET
NATO SECRET | <input type="checkbox"/> COSMIC TOP SECRET
COSMIC TRÈS SECRET |
| <input type="checkbox"/> SITE ACCESS
ACCÈS AUX EMPLACEMENTS | | | |

Special comments:
Commentaires spéciaux:

NOTE: If multiple levels of screening are identified, a Security Classification Guide must be provided.

REMARQUE: Si plusieurs niveaux de contrôle de sécurité sont requis, un guide de classification de la sécurité doit être fourni.

10. b) May unscreened personnel be used for portions of the work?
Du personnel sans autorisation sécuritaire peut-il se voir confier des parties du travail? ☒ No ☐ Yes
Non Oui
- If Yes, will unscreened personnel be escorted?
Dans l'affirmative, le personnel en question sera-t-il escorté? ☒ No ☐ Yes
Non Oui

PART C - SAFEGUARDS (SUPPLIER) / PARTIE C - MESURES DE PROTECTION (FOURNISSEUR)

INFORMATION / ASSETS / RENSEIGNEMENTS / BIENS

11. a) Will the supplier be required to receive and store PROTECTED and/or CLASSIFIED information or assets on its site or premises?
Le fournisseur sera-t-il tenu de recevoir et d'entreposer sur place des renseignements ou des biens PROTÉGÉS et/ou CLASSIFIÉS? ☒ No ☐ Yes
Non Oui
11. b) Will the supplier be required to safeguard COMSEC information or assets?
Le fournisseur sera-t-il tenu de protéger des renseignements ou des biens COMSEC? ☒ No ☐ Yes
Non Oui

PRODUCTION

11. c) Will the production (manufacture, and/or repair and/or modification) of PROTECTED and/or CLASSIFIED material or equipment occur at the supplier's site or premises?
Les installations du fournisseur serviront-elles à la production (fabrication et/ou réparation et/ou modification) de matériel PROTÉGÉ et/ou CLASSIFIÉ? ☒ No ☐ Yes
Non Oui

INFORMATION TECHNOLOGY (IT) MEDIA / SUPPORT RELATIF À LA TECHNOLOGIE DE L'INFORMATION (TI)

11. d) Will the supplier be required to use its IT systems to electronically process, produce or store PROTECTED and/or CLASSIFIED information or data?
Le fournisseur sera-t-il tenu d'utiliser ses propres systèmes informatiques pour traiter, produire ou stocker électroniquement des renseignements ou des données PROTÉGÉS et/ou CLASSIFIÉS? ☒ No ☐ Yes
Non Oui
11. e) Will there be an electronic link between the supplier's IT systems and the government department or agency?
Disposera-t-on d'un lien électronique entre le système informatique du fournisseur et celui du ministère ou de l'agence gouvernementale? ☒ No ☐ Yes
Non Oui

TBS/SCT 350-103(2004/12)

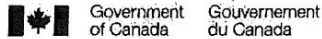
Security Classification / Classification de sécurité
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PART C - (continued) / PARTIE C - (suite)

For users completing the form manually use the summary chart below to indicate the category(ies) and level(s) of safeguarding required at the supplier's site(s) or premises.
Les utilisateurs qui remplissent le formulaire manuellement doivent utiliser le tableau récapitulatif ci-dessous pour indiquer, pour chaque catégorie, les niveaux de sauvegarde requis aux installations du fournisseur.

For users completing the form online (via the Internet), the summary chart is automatically populated by your responses to previous questions.
Dans le cas des utilisateurs qui remplissent le formulaire en ligne (par Internet), les réponses aux questions précédentes sont automatiquement saisies dans le tableau récapitulatif.

SUMMARY CHART / TABLEAU RÉCAPITULATIF

Category Catégorie	PROTECTED PROTÉGÉ			CLASSIFIED CLASSIFIÉ			NATO					COMSEC				
	A	B	C	CONFIDENTIAL	SECRET	TOP SECRET	NATO RESTRICTED	NATO CONFIDENTIAL	NATO SECRET	COSMIC TOP SECRET	PROTECTED PROTÉGÉ			CONFIDENTIAL	SECRET	TOP SECRET
				CONFIDENTIEL		TRÈS SECRET	NATO DIFFUSION RESTREINTE	NATO CONFIDENTIEL		COSMIC TRÈS SECRET	A	B	C	CONFIDENTIEL		TRÈS SECRET
Information / Assets Renseignements / Biens Production																
IT Media / Support TI																
IT Link / Lien électronique																

12. a) Is the description of the work contained within this SRCL PROTECTED and/or CLASSIFIED?
La description du travail visé par la présente LVERS est-elle de nature PROTÉGÉE et/ou CLASSIFIÉE? ☒ No / Non ☐ Yes / Oui
- If Yes, classify this form by annotating the top and bottom in the area entitled "Security Classification".
Dans l'affirmative, classifiez le présent formulaire en indiquant le niveau de sécurité dans la case intitulée « Classification de sécurité » au haut et au bas du formulaire.
12. b) Will the documentation attached to this SRCL be PROTECTED and/or CLASSIFIED?
La documentation associée à la présente LVERS sera-t-elle PROTÉGÉE et/ou CLASSIFIÉE? ☒ No / Non ☐ Yes / Oui
- If Yes, classify this form by annotating the top and bottom in the area entitled "Security Classification" and indicate with attachments (e.g. SECRET with Attachments).
Dans l'affirmative, classifiez le présent formulaire en indiquant le niveau de sécurité dans la case intitulée « Classification de sécurité » au haut et au bas du formulaire et indiquez qu'il y a des pièces jointes (p. ex. SECRET avec des pièces jointes).

TBS/SCT 350-103(2004/12)

Security Classification / Classification de sécurité
Unclassified

Canada

Solicitation No. - N° de l'invitation
W01CE-180023/A
Client Ref. No. - N° de réf. du client
W01CE-180023

Amd. No. - N° de la modif.
File No. - N° du dossier
HAL-7-79056

Buyer ID - Id de l'acheteur
HAL 405
CCC No./N° CCC - FMS No./N° VME



Government
of Canada

Gouvernement
du Canada

Contract Number / Numéro du contrat

SOA W6837-17-5360

Security Classification / Classification de sécurité
Unclassified

PART D - AUTHORIZATION / PARTIE D - AUTORISATION

13. Organization Project Authority / Chargé de projet de l'organisme

Name (print) - Nom (en lettres moulées)

Title - Titre

Signature

Major J.M. LeGresley

Officer Commanding RP Ops Del GRWD

Telephone No. - N° de téléphone
(902) 765-1494 Ext 5458

Facsimile No. - N° de télécopieur
(902) 765-5688

E-mail address - Adresse courriel
James.LeGresley@forces.gc.ca

Date
14 Jun 2017

14. Organization Security Authority / Responsable de la sécurité de l'organisme

Name (print) - Nom (en lettres moulées)

Title - Titre

Signature

Sasa Medjovic - DBSO - Industrial Security
Senior Security Analyst

Telephone No. - N° de téléphone

Facsimile No. - N° de télécopieur

E-mail address - Adresse courriel

Date
2017- June 16

15. Are there additional instructions (e.g. Security Guide, Security Classification Guide) attached?

Des instructions supplémentaires (p. ex. Guide de sécurité, Guide de classification de la sécurité) sont-elles jointes?

☐ No
☐ Non

☒ Yes
☒ Oui

16. Procurement Officer / Agent d'approvisionnement

Name (print) - Nom (en lettres moulées)

Title - Titre

Signature

Telephone No. - N° de téléphone

Facsimile No. - N° de télécopieur

E-mail address - Adresse courriel

Date

17. Contracting Security Authority / Autorité contractante en matière de sécurité

Name (print) - Nom (en lettres moulées)

Title - Titre

Signature

Roxana Pineda

Contract Security Officer RP

Telephone No. - N° de téléphone

Facsimile No. - N° de télécopieur

E-mail address - Adresse courriel

Date

613 948 1655

roxana.pineda@pwc.ca

2017-07-02

TBS/SCT 350-103(2004/12)

Security Classification / Classification de sécurité
Unclassified

Canada

Solicitation No. - N° de l'invitation
W01CE-180023/A
Client Ref. No. - N° de réf. du client
W01CE-180023

Amd. No. - N° de la modif.
File No. - N° du dossier
HAL-7-79056

Buyer ID - Id de l'acheteur
HAL 405
CCC No./N° CCC - FMS No./N° VME

ANNEX “D” “to PART 3 OF THE REQUEST FOR STANDING OFFERS

ELECTRONIC PAYMENT INSTRUMENTS

The Offeror accepts to be paid by any of the following Electronic Payment Instrument(s):

- ☐ () VISA Acquisition Card;
- ☐ () MasterCard Acquisition Card;
- ☐ () Direct Deposit (Domestic and International);
- ☐ () Electronic Data Interchange (EDI);

ANNEX "E" to PART 5 OF THE REQUEST FOR STANDING OFFERS

FEDERAL CONTRACTORS PROGRAM FOR EMPLOYMENT EQUITY - CERTIFICATION

I, the Offeror, by submitting the present information to the Standing Offer Authority, certify that the information provided is true as of the date indicated below. The certifications provided to Canada are subject to verification at all times. I understand that Canada will declare an offer non-responsive, or may set-aside a Standing Offer, or will declare a contractor in default, if a certification is found to be untrue, whether during the offer evaluation period, during the Standing Offer period, or during the contract period. Canada will have the right to ask for additional information to verify the Offeror's certifications. Failure to comply with any request or requirement imposed by Canada may render the Offer non-responsive, may result in the Standing Offer set-aside or constitute a default under the Contract.

For further information on the Federal Contractors Program for Employment Equity visit [Employment and Social Development Canada \(ESDC\) – Labour's](#) website.

Date: _____ (YYYY/MM/DD) (If left blank, the date will be deemed to be the RFSO closing date.)

Complete both A and B.

A. Check only one of the following:

- ☐ A1. The Offeror certifies having no work force in Canada.
- ☐ A2. The Offeror certifies being a public sector employer.
- ☐ A3. The Offeror certifies being a [federally regulated employer](#) being subject to the [Employment Equity Act](#).
- ☐ A4. The Offeror certifies having a combined work force in Canada of less than 100 permanent full-time and/or permanent part-time employees.

A5. The Offeror has a combined workforce in Canada of 100 or more employees; and

- ☐ A5.1 The Offeror certifies already having a valid and current [Agreement to Implement Employment Equity](#) (AIEE) in place with ESDC-Labour.
- OR
- ☐ A5.2. The Offeror certifies having submitted the [Agreement to Implement Employment Equity](#) (LAB1168) to ESDC-Labour. As this is a condition to issuance of a standing offer, proceed to completing the form Agreement to Implement Employment Equity (LAB1168), duly signing it, and transmit it to ESDC-Labour.

B. Check only one of the following:

- ☐ B1. The Offeror is not a Joint Venture.

OR

- ☐ B2. The Offeror is a Joint venture and each member of the Joint Venture must provide the Standing Offer Authority with a completed annex Federal Contractors Program for Employment Equity - Certification. (Refer to the Joint Venture section of the Standard Instructions)

DEPARTMENT OF NATIONAL DEFENCE



SPECIFICATION

FLOORING SOA

14 WING GREENWOOD,

GREENWOOD, NS

PROJECT MANAGER:
Mr. B BREWER
Tel: 902-765-1494 Ext 5188

JOB NO. L-G111-9900/1071
CCID # B847

2017-05-29

<u>Section</u>	<u>Title</u>	<u>Pages</u>
<u>Division 01 - General Requirements</u>		
01 11 00	SUMMARY OF WORK	4
01 33 00	SUBMITTAL PROCEDURES	7
01 35 21	LEED REQUIREMENTS	15
01 35 29.06	HEALTH AND SAFETY REQUIREMENTS	5
01 35 35	DND FIRE SAFETY REQUIREMENTS	4
01 35 43.10	CARPET RECLAMATION	6
01 41 00	REGULATORY REQUIREMENTS	2
01 45 00	QUALITY CONTROL	4
01 51 00	TEMPORARY UTILITIES	5
01 61 00	COMMON PRODUCT REQUIREMENTS	7
01 73 00	EXECUTION	3
01 74 11	CLEANING	3
01 74 21	CONSTRUCTION/DEMOLITION WASTE MANAGEMENT AND DISPOSAL	8
01 78 00	CLOSEOUT SUBMITTALS	4
<u>Division 07 - Thermal and Moisture Protection</u>		
07 92 00	JOINT SEALANTS	11
<u>Division 09 - Finishes</u>		
09 30 13	CERAMIC TILING	12
09 64 29	WOOD STRIP AND PLANK FLOORING	15
09 65 16	RESILIENT SHEET FLOORING	10
09 65 19	RESILIENT TILE FLOORING	10
09 65 99	RESILIENT FLOORING FOR MINOR WORKS	9
09 66 13	PORTLAND CEMENT TERRAZZO FLOORING	11
09 68 13	TILE CARPETING	15
09 68 16	SHEET CARPETING	20
09 69 00	ACCESS FLOORING	14

PART 1 - GENERAL

- | | | |
|---|----|--|
| <u>1.1 RELATED REQUIREMENTS</u> | .1 | Section 01 56 00. |
| <u>1.2 WORK COVERED BY CONTRACT DOCUMENTS</u> | .1 | Work of this Contract comprises of repairs, replacement, and installations of various types of flooring in various buildings located at 14 Wing Greenwood, Greenwood N.S. |
| <u>1.3 CONTRACT METHOD</u> | .1 | Construct Work under ,stipulated price contract. |
| <u>1.4 WORK BY OTHERS</u> | .1 | Co-operate with other Contractors in carrying out their respective works and carry out instructions from DND Repr. |
| | .2 | Co-ordinate work with that of other Contractors. If any part of work under this Contract depends for its proper execution or result upon work of another Contractor, report promptly to DND Representative, in writing, any defects which may interfere with proper execution of Work. |
| <u>1.5 WORK SEQUENCE</u> | .1 | Construct Work in stages to accommodate Owner's continued intermittent use of premises during construction. |
| | .2 | Co-ordinate Progress Schedule and co-ordinate with Owner Occupancy during construction. |
| | .3 | Required stages: <ul style="list-style-type: none"> .1 Floor preperation. .2 Installation. |
| | .4 | Maintain fire access/control. |
-

- 1.6 CONTRACTOR USE OF PREMISES
- .1 Unrestricted use of site until Substantial Performance.
 - .2 Limit use of premises for Work, for storage, and for access, to allow:
 - .1 Owner occupancy.
 - .2 Partial owner occupancy.
 - .3 Work by other contractors.
 - .3 Co-ordinate use of premises under direction of DND Representative.
 - .4 Remove or alter existing work to prevent injury or damage to portions of existing work which remain.
 - .5 Repair or replace portions of existing work which have been altered during construction operations to match existing or adjoining work, as directed by DND Representative.
 - .6 At completion of operations condition of existing work: equal to or better than that which existed before new work started.
- 1.7 OWNER OCCUPANCY
- .1 Owner will occupy premises during entire construction period for execution of normal operations.
 - .2 Co-operate with Owner in scheduling operations to minimize conflict and to facilitate Owner usage.
- 1.8 PARTIAL OWNER OCCUPANCY
- .1 Schedule and substantially complete designated portions of Work for Owner's occupancy prior to Substantial Performance of entire Work.
 - .2 Owner will occupy designated areas for purpose of storage of furnishings and equipment installation of equipment.
-

1.9 ALTERATIONS,
ADDITIONS OR
REPAIRS TO EXISTING
BUILDING

- .1 Execute work with least possible interference or disturbance to building operations occupants, public and normal use of premises. Arrange with DND Representative to facilitate execution of work.
- .2 Use only elevators, dumbwaiters, conveyors or escalators existing in building for moving workers and material.
 - .1 Protect walls of passenger elevators, to approval of DND Representative prior to use.
 - .2 Accept liability for damage, safety of equipment and overloading of existing equipment.

1.10 EXISTING
SERVICES

- .1 Notify, DND 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 DND Representative 48 hours notice for necessary interruption of mechanical or electrical service throughout course of work. Minimize duration of interruptions. Carry out work at times as directed by governing authorities with minimum disturbance to pedestrian vehicular traffic and tenant operations.
- .3 Provide alternative routes for personnel pedestrian and vehicular traffic.
- .4 Establish location and extent of service lines in area of work before starting Work. Notify DND Representative of findings.
- .5 Submit schedule to and obtain approval for any shut-down or closure of active service or facility including power and communications services. Adhere to approved schedule and provide notice to affected parties.
- .6 Provide adequate bridging over trenches which cross sidewalks or roads to permit normal traffic.

1.10 EXISTING
SERVICES
(Suite)

- .7 Where unknown services are encountered, immediately advise DND Representative and confirm findings in writing.
- .8 Protect, relocate or maintain existing active services. When inactive services are encountered, cap off in manner approved by authorities having jurisdiction.
- .9 Record locations of maintained, re-routed and abandoned service lines.
- .10 Construct barriers in accordance with Section 01 56 00 - Temporary Barriers and Enclosures.

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 Refer to CCDC 2 GC 3.11.
 - .2 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.
 - .3 Submit drawings stamped and signed by professional engineer registered or licensed in Province Territory, Canada.
 - .4 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.
 - .5 Allow 5 days for Departmental Representative's review of each submission.
 - .6 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.
 - .7 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.
 - .8 Accompany submissions with transmittal letter, in duplicate, 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.
 - .9 Submissions include:
-

- 1.2 SHOP DRAWINGS .9 (Suite)
AND PRODUCT DATA
(Suite)
-
- .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.
 - .10 After Departmental Representative's review, distribute copies.
 - .11 Submit one transparency on plastic film 6 prints electronic copy of shop drawings for each requirement requested in specification Sections and as Departmental Representative may reasonably request.
 - .12 Submit 6 electronic copies of product data sheets or brochures for requirements requested in specification Sections and as requested by Departmental Representative where shop drawings will not be prepared due to standardized manufacture of product.
 - .13 Submit 6 electronic copies of test reports for requirements requested in specification Sections and as requested by Departmental Representative .
-

1.2 SHOP DRAWINGS
AND PRODUCT DATA
(Suite)

- .13 (Suite)
- .1 Report signed by authorized official of testing laboratory that material, product or system identical to material, product or system to be provided has been tested in accord with specified requirements.
- .2 Testing must have been within 3 years of date of contract award for project.
- .14 Submit 6 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.
- .15 Submit 6 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.
- .16 Submit 6 electronic copies of Manufacturer's Field Reports for requirements requested in specification Sections and as requested by Departmental Representative.
- .17 Documentation of the testing and verification actions taken by manufacturer's representative to confirm compliance with manufacturer's standards or instructions.
- .18 Submit 6 electronic copies of Operation and Maintenance Data for requirements requested in specification Sections and as requested by Departmental Representative.
- .19 Delete information not applicable to project.
- .20 Supplement standard information to provide details applicable to project.
-

1.2 SHOP DRAWINGS
AND PRODUCT DATA
(Suite)

- .21 If upon review by Departmental Representative , no errors or omissions are discovered or if only minor corrections are made, transparency 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.
- .22 The review of shop drawings by Public Works and Government Services Canada (PSPC) is for sole purpose of ascertaining conformance with general concept.
- .1 This review shall not mean that PSPC 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.

1.3 SAMPLES

- .1 Submit for review samples in duplicate triplicate as requested in respective specification Sections. Label samples with origin and intended use.
- .2 Deliver samples prepaid to Departmental Representative's business address site office.
- .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.

- | | | |
|----------------------------------|----|---|
| 1.3 SAMPLES
(Suite) | .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. |
| 1.4 MOCK-UPS | .1 | Erect mock-ups in accordance with 01 45 00 - Quality Control. |
| 1.5 PHOTOGRAPHIC DOCUMENTATION | .1 | Submit electronic and hard copy of grey tone colour digital photography in jpg bin tif format, fine 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 4 locations.
.1 Viewpoints and their location as determined by Departmental Representative. |
| | .4 | Frequency of photographic documentation: weekly monthly as directed by Departmental Representative .
.1 Upon completion of: excavation, foundation, framing and services before concealment, of Work, and as directed by Departmental Representative . |
| 1.6 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 1 - GENERAL

1.1 RELATED REQUIREMENTS .1 Section. 01 35 29.06, 01 35 43, 01 74 21

1.2 REFERENCE STANDARDS .1 American Society of Heating Refrigeration and Air-Conditioning (ASHRAE)
.1 ANSI/ASHRAE 52.2-2007, Method of Testing General Ventilation Air-Cleaning Devices for Removal Efficiency by Particle Size (ANSI approved).

.2 ASTM International
.1 ASTM E 408-71(2008), Standard Test Methods for Total Normal Emittance of Surfaces Using Inspection-Meter Techniques.
.2 ASTM C 1371-04a(2010)e1, Standard Test Method for Determination of Emittance of Materials Near Room Temperature Using Portable Emissometers.
.3 ASTM E 1918-06, Standard Test Method for Measuring Solar Reflectance of Horizontal and Low-Sloped Surfaces in the Field.
.4 ASTM C 1549-09, Standard Test Method for Determination of Solar Reflectance Near Ambient Temperature Using a Portable Solar Reflectometer.

.3 Canada Green Building Council (CaGBC)
.1 LEED Canada-NC Version 1.0-2004, LEED (Leadership in Energy and Environmental Design): Green Building Rating System Reference Package For New Construction and Major Renovations (including Addendum 2007).
.2 LEED Canada-CI Version 1.0-2007, LEED (Leadership in Energy and Environmental Design): Green Building Rating System Reference Guide For Commercial Interiors.
.3 LEED Canada 2009 for Design and Construction-2010, LEED Canada 2009 for Design and Construction Leadership in Energy and Environmental Design Green Building Rating System Reference Guide.

1.2 REFERENCE
STANDARDS
(Cont'd)

- .3 (Cont'd)
 - .4 LEED Canada for Existing Buildings, Operations and Maintenance-2009, LEED Canada 2009 Leadership In Energy and Environmental Design Green Building Rating System Reference Guide.
 - .4 CSA International
 - .1 CAN/CSA-ISO 14021-00(R2009), Environmental Labels and Declarations - Self-Declared Environmental Claims (Type II Environmental Labelling).
 - .2 CAN/CSA-Z809-08, Sustainable Forest Management.
 - .5 Carpet and Rug Institute (CRI)
 - .1 CRI Green Label Indoor Air Quality (IAQ) Test Program - Green Label Testing Program.
 - .6 Forest Stewardship Council (FSC)
 - .1 FSC-STD-01-001-2004, FSC Principle and Criteria for Forest Stewardship.
 - .7 Green Seal Environmental Standards (GS)
 - .1 GS-11-11, Paints and Coatings.
 - .8 Scientific Certification Systems (SCS)
 - .1 FloorScore Certification.
 - .9 South Coast Air Quality Management District (SCAQMD), California State
 - .1 SCAQMD Rule 1113-A2011, Architectural Coatings.
 - .2 SCAQMD Rule 1168-A2005, Adhesives and Sealants Applications.
 - .10 Sheet Metal and Air Conditioning Contractors National Association (SMACNA)
 - .1 ANSI/SMACNA 008-2008, IAQ Guideline for Occupied Buildings Under Construction.
 - .11 Sustainable Forestry Initiative (SFI)
 - .1 SFI-2010-2014 Standard.
 - .12 U.S. Environmental Protection Agency (EPA)
 - Compendium of Methods for the Determination of Pollutants in Indoor Air
 - .13 United States Federal Trade Commission (US Federal Trade Commission)
-

1.2 REFERENCE
STANDARDS
(Cont'd)

- .13 (Cont'd)
.1 16 CFR Part 260-2012, Guides for the Use
of Environmental Marketing Claims.

1.3 DEFINITIONS

- .1 FSC - Forest Stewardship Council.
- .2 CFC - Chlorofluorocarbons.
- .3 Chain-of-Custody Certification - certificates signed by manufacturers certifying that wood used to make products was obtained from FSC certified forests. Certificates include evidence that mill is certified for chain-of-custody by FSC-accredited certification body.
- .4 HCFC - Hydro Chlorofluorocarbons.
- .5 Rapidly Renewable Materials - materials made from agricultural products that are typically harvested within a ten-year or shorter cycle. Rapidly renewable materials include but are not limited to products made from bamboo, cotton, flax, jute, straw, sunflower seed hulls, vegetable oils, and wool.
- .6 Regionally Manufactured Materials - materials that are manufactured within a radius of 800 km, if transported by truck, or 2400 km if transported by rail or water from project location. Manufacturing refers to the final assembly of components into the building product that is installed at project site.
- .7 Recycled Content - percentage by weight of constituents that have been recovered or otherwise diverted from solid waste stream, either pre-consumer or post-consumer.
- .1 Wastes and scraps from manufacturing process that are combined with other materials after minimal amount of reprocessing for use in further production of same product are not recycled materials.
- .2 Discarded materials from one manufacturing process that are used as materials in another manufacturing process are pre-consumer recycled materials.
-

1.4 ACTION AND
INFORMATIONAL
SUBMITTALS

- .1 Submit in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Product Data:
 - .1 Submit manufacturer's instructions, printed product literature and data sheets for and include product characteristics, performance criteria, physical size, finish and limitations.
 - .2 Submit 2 copies of WHMIS MSDS in accordance with Section 01 35 29.06 - Health and Safety Requirements 01 35 43 - Environmental Procedures.
- .3 Shop Drawings:
 - .1 Submit drawings stamped and signed by professional engineer registered or licensed in Province Territory, Canada.
- .4 Sustainable Design Submittals:
 - .1 Submit required letters, calculations, spreadsheets and templates prepared by Departmental Representative Owner for submittal to CaGBC.
 - .2 Submit additional LEED submittal requirements included in other sections.
 - .1 When submitted items are duplicated to that submitted to comply with other requirements, submit duplicate copies as separate submittals for compliance with indicated LEED requirements.
 - .3 Submit Project Cost Data: provide statement for total cost for building materials used for project. Include cost breakdown indicating total cost of mechanical and electrical components.
 - .4 Submit: LEED Action Plans: provide preliminary submittals within 14 days of date for start of Work Award of contract indicating how the following requirements will be met.
 - .1 Materials and Resources Credit
 - MR-2.1 Construction Waste Management: Divert 50% From Landfill and MR-2.2 Construction Waste Management: Divert 75% From Landfill prepare Construction Waste Management plan in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.

1.4 ACTION AND
INFORMATIONAL
SUBMITTALS
(Cont'd)

- .4 (Cont'd)
- .4 (Cont'd)
 - .2 Materials and Resources Credit
 - MR-3.1 Resource Materials Reuse: 5% and
 - MR-3.2 Resource Materials Reuse 10 %.
 - Prepare list of proposed salvaged and refurbished materials.
 - .1 Identify materials that will be salvaged or refurbished.
 - .2 Identify source and cost of materials.
 - .1 .
 - .3 Materials and Resources Credit
 - MR-4.1 Recycled Content 7.5 10% (post consumer + ½ post-industrial) and MR-4.2 Recycle Content 15 20% (post consumer + ½ post-industrial) Recycled Content.
 - .1 Submit list of recycled content products used, including details of required percentages or recycled content materials and products, showing costs and percentages of post-consumer and post-industrial content, and total cost of materials for project.
 - .2 Submit verification documentation, when Supplementary Cementing Materials (SCMs) are used, certifying reduction in cement from Base Mix to Actual SCMs Mix, as percentage.
 - .4 Materials and Resources Credit
 - MR-5.1 Regionally Materials: 10% Extracted and Manufactured Regionally and
 - MR-5.2 Regionally Materials: 20% Extracted and Manufactured Regionally
 - Regional Materials Submit list of proposed regionally manufactured materials and regionally extracted, harvested, and recovered materials.
 - .1 Submit verification that project incorporates required percentage% of regional materials/products, showing cost, distance from project to furthest site of extraction or manufacture, and total cost of materials for project.

1.4 ACTION AND
INFORMATIONAL
SUBMITTALS
(Cont'd)

- .4 (Cont'd)
- .4 (Cont'd)
 - .5 Wood Certification: submit vendor's manufacturer's Chain-of-Custody Certificate number for CAN/CSA-Z809 or FSC or SFI certified wood.
 - .1 Submit vendor's manufacturer's FSC Chain-of-Custody Certificate number.
 - .1 Provide list of products containing wood.
 - .1 Indicate cost.
 - .6 Environment Quality Credit IEQ-3.1 Construction IAQ Management Plan. Submit Indoor Air Quality (IAQ) Plan for construction and pre-occupancy phases of construction.
 - .7 Low-Emitting Materials:
 - .1 Submit list of adhesives and sealants and paints and coatings and carpet flooring used in building, showing compliance with VOC and chemical component limits or restriction requirements.
 - .2 Submit list of composite wood products used in building, stating that they contain no added urea-formaldehyde resins, and laminate adhesives used in building, stating that they contain no urea-formaldehyde.
 - .8 Submit LEED Progress Reports: with Applications for Progress Payments, submit reports comparing actual construction and purchasing activities with LEED action plans for the following:
 - .1 Materials and Resources Credit
 - MR-2.1 Construction Waste Management: Divert 50% From Landfill and MR-2.2 Construction Waste Management: Divert 75% From Landfill Construction Waste Management. Submit Waste reduction progress reports in accordance with 01 74 21 - Construction/Demolition Waste Management and Disposal.

- 1.4 ACTION AND INFORMATIONAL SUBMITTALS (Cont'd)
- .4 (Cont'd)
- .2 Materials and Resources Credit MR-3.1 Resource Materials Reuse: 5% and MR-3.2 Resource Materials Reuse: 10%. Submit list of salvaged and refurbished materials.
- .3 Materials and Resources Credit MR-4.1 Recycled Content: 7.5 10% (post Consumer + ½ post-industrial) and 4.2 Recycle Content: 15 20% (post consumer + ½ post-industrial. Submit list of recycled content of materials.
- .4 Materials and Resources Credit MR-5.1 Regionally Materials: 10 % Extracted and Manufactured Regionally and 5.2 Regionally Materials: 20% Extracted and Manufactured Regionally Regionally Materials. Submit list of regionally manufactured materials and regionally extracted, harvested, or recovered materials.
- .9 LEED Documentation Submittals:
- .1 Submit product data for roofing materials for Sustainable Sites Credit SS-7.2 Heat Island Effect: Roof indicating Solar Reflective Index (SRI) of roofing materials as per ASTM E 1980 ASTM E 408 ASTM E 1918 ASTM C 1371green vegetated roof system.
- .2 Submit product data for lighting fixtures for Sustainable Sites Credit SS-8.0 Light Pollution Reduction. Submit data for exterior lighting fixtures.
- .3 Submit product data for plumbing fixture for Water Efficiency Credits WE-2 Innovative Wastewater TechnologiesWEp1 WE-3.1 Water Use Reduction: 20% Reduction and WE-3.2 Water Use Reduction: 30% Reduction. Submit Data for plumbing fixtures indicating water flow rates.
-

1.4 ACTION AND
INFORMATIONAL
SUBMITTALS
(Cont'd)

.4 (Cont'd)

.4 (Cont'd)

.4 Submit product data for Energy and Atmosphere Prerequisite EA-p3 CFC Reduction in HVAC&R Equipment and Elimination of Halons Fundamental Refrigerant Management.

.1 Include product data for new HVAC equipment indicating absence of CFC refrigerants and Phase-out plan to replace CFC refrigerants in HVAC&R systems with CFC-free refrigerants within the Construction Period.

.5 Submit product data for Energy and Atmosphere Credit EA-4 Ozone Protection Enhanced Refrigerant Management. Submit product data for new HVAC equipment indicating absence of HCFC refrigerants.

.6 Submit product data for Energy and Atmosphere Credit EA-5 Measurement and Verification. Submit product data and wiring diagrams for meters and data collection systems for metering of building energy and water consumption performance.

.7 Submit Construction Waste Management Plan for Materials and Resources Credit MR-2.1 Construction Waste Management :Divert 50% From Landfill and MR 2.2 Construction and Waste Management: Divert 75% From Landfill. Comply with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.

Include the following submittals:

.1 Submit receipts for Materials and Resources Credit MR-3.1 Resource Materials Reuse: 5% and MR-3.2 Resource Materials Reuse: 10%. Submit receipts for salvaged and refurbished materials used for project, indicating sources and costs for salvaged and refurbished materials.

1.4 ACTION AND .4 (Cont'd)
 INFORMATIONAL .4 (Cont'd)
 SUBMITTALS
 (Cont'd)

.2 Submit product data and certification letters for Materials and Resources Credit MR-4.1 Recycled Content: 7.5 10% and MR-4.2 Recycled Content: 15 20%. Submit product data and certification letter indicating percentages by weight of post-consumer and pre-consumer recycled content for products having recycled content. Include statement indicating costs for products having recycled content.

.3 Submit product data for Materials and Resources Credit MR-5.1 Regional Materials: 10% Extracted and Manufactured Regionally and MR-5.2 Regional Materials: 20% Extracted and Manufactured Regionally. Submit product data indicating location of material manufacturer for regionally manufactured materials. Include the following:

.1 Statement indicating material cost, distance and mode of transportation from manufacturer to project for each regionally manufactured material.

.2 Statement indicating cost and distance from point of extraction, harvest, or recovery to project for each raw material used in regionally manufactured materials.

.4 Submit product data for Materials and Resources Credit MR-6 Rapidly Renewable Materials. Submit product data for rapidly renewable materials.

- 1.4 ACTION AND INFORMATIONAL SUBMITTALS (Cont'd)
- .4 (Cont'd)
- .1 Include statement indicating costs for each rapidly renewable material.
 - .5 Submit product data and certificates for Materials and Resources Credit MR-7 Certified Wood. Submit product data and certificates of chain-of-custody for products containing certified wood.
 - .1 Include statement indicating costs for products containing certified wood.
 - .2 Include statement indicating total cost for wood-based materials used for project.
 - .8 Submit product data and shop drawing for Indoor Environmental Quality Credit EQ-1 Carbon Dioxide (CO₂) Monitoring Outdoor Air Delivery Monitoring. Submit product data and shop drawings for carbon dioxide monitoring system.
 - .9 Provide submittals for Indoor Environmental Quality Credit EQ-3.1 Construction IAQ Management Plan. Include the following:
 - .1 Construction indoor air quality management plan.
 - .2 MERV rating for temporary filtration media as per ASHRAE 52.2. used during construction period.
 - .3 Product data for filtration media installed before occupancy.
-

- 1.4 ACTION AND INFORMATIONAL SUBMITTALS (Cont'd)
- .4 (Cont'd)
- .4 Construction documentation submit 6 photographs at 3 different times during construction along with description of utilized IAQ measures in accordance with SMACNA, documenting protection of ducts and on-site stored or installed absorptive materials from moisture.
- .10 Provide submittals for Indoor Environmental Quality Credit EQ-3.2 Construction IAQ Management plan: Testing Before Occupancy. Include the following:
- .1 Signed statement describing building air flush-out procedures including start and completion dates of flush out and statement that filtration media was replaced after flush-out.
- .2 Product data for filtration media used during flush-out and during occupancy.
- .3 Report from testing and inspecting agency indicating results of IAQ testing and documentation showing conformance with IAQ testing procedures and requirements as per the US Environmental Protection Agency Compendium for the Determination of Indoor Air Pollutants.
- .11 Submit product data for Indoor Environmental Quality Credit EQ-4.1 Low-Emitting Materials: Adhesives and Sealants. Submit product data for interior adhesives and sealants indicating VOC content of product used. Indicate VOC content in g/L calculated in accordance with SCAQMD Rule 1168.
-

1.4 ACTION AND
INFORMATIONAL
SUBMITTALS
(Cont'd)

.4 (Cont'd)

.4 (Cont'd)

.12 Submit product data for Indoor Environmental Quality Credit EQ-4.2 Low-Emitting Materials: Paints and Coatings. Submit product data for interior paints and coatings indicating chemical composition and VOC content for products used.

Indicate VOC content in g/L calculated in accordance with GS-11 and SCAQMD Rule 1113.

.13 Submit product data for indoor Environmental Quality Credit EQ-4.3 Low-Emitting Materials: Carpet Low-Emitting Materials: Flooring Systems. Submit product data for carpet products indicating VOC content in accordance with CRI Green Label Indoor Air Quality Test Program.

.14 Submit product data for Indoor Environmental Quality Credit EQ-4.4 Low-Emitting Materials: Composite Wood and Laminates Adhesives. Submit product data for composite wood and agrifiber products indicating products contain no urea-formaldehyde resins.

.1 Include product data for adhesives use in fabrication of laminated assemblies.

.15 Submit product data and shop drawing for Indoor Environmental Quality Credit EQ-6.2 Controllability of Systems: Non-Perimeter Spaces. Submit product data and shop drawings for sensors and control systems used for individual airflow, temperature and lighting equipment.

.16 Submit product data and shop drawings for Indoor Environmental Quality Credit EQ-7.2 Thermal Comfort: Monitoring. Submit product data and shop drawings for permanent monitoring sensors and controls system for temperature and humidity.

PART 2 - PRODUCTS2.1 RECYCLED
CONTENT OF
MATERIALS

- .1 Materials and Resources Credit MR-4.1 Recycled Content: 7.5 10% (post-consumer + $\frac{1}{2}$ post industrial). Supply building materials with a minimum post-consumer recycled content of 5% of cost of project materials or with a minimum post-consumer recycled content plus 1/2 pre-consumer recycled content of 10% of cost of project materials.
- .2 Materials and Resources Credits MR4-1 Recycled Content: 7.5% (post-consumer + $\frac{1}{2}$ post industrial) and MR4-2 Recycled Content: 15 20% (post-consumer + $\frac{1}{2}$ post industrial). Supply building materials with a minimum post-consumer recycled content of 7.5 10% of cost of project materials or with a minimum post-consumer recycled content plus 1/2 pre-consumer recycled content of 15 20% of cost of project materials.
 - .1 Cost of post consumer recycled content plus one-half of pre-consumer recycled content of materials will be determined by dividing weight of post-consumer recycled content plus one-half of pre-consumer recycled content in material by total weight of material and multiplying by cost of material.
 - .2 Do not include mechanical and electrical components in calculations.
 - .3 Recycled content of materials in accordance with 16 CFR Part 260 CAN/CSA-ISO 1402.

2.2 REGIONAL
MATERIALS

- .1 Materials and Resources Credit MR5-1 Regional Materials: 10% Extracted and Manufactured Regionally. Supply 20% of building materials (by cost) that are regionally manufactured.
- .2 Materials and Resources Credit MR5-2 Regional Materials: 20% Extracted and Manufactured Regionally. Regionally manufactured materials required by paragraph 2.3.1, supply 50% (by cost) of building materials that are regionally extracted, harvested, or recovered.

- 2.3 CERTIFIED WOOD .1 Materials and Resources Credit MR-7 Certified Wood. Supply a minimum of 50% (by cost) of wood-based materials that are produced from wood obtained from forests certified by an FSC-accredited certification body to comply with FSC Principles and Criteria.
- .1 Wood-based materials include but not limited to the following materials when made from made wood, engineered wood products, or wood-based panel products:
- .1 Rough carpentry.
 - .2 Miscellaneous carpentry.
 - .3 Finish carpentry.
 - .4 Wood flooring.
- 2.4 LOW-EMITTING MATERIALS .1 Indoor Environmental Quality Credit EQ4-1 Low-Emitting Materials: Adhesives and Sealants. Interior applications requiring adhesives, sealants and sealant primers must comply with SCAQMD Rule 1168.
- .2 Indoor Environmental Quality Credit EQ4-2 Low-Emitting Materials: Paints and Coatings. Interior applications use paints and coatings must comply with the following limits for VOC content when calculated according to GS-11 and SCAQMD Rule 1113.
- .3 Indoor Environmental Quality Credit EQ4-3 Low-Emitting Materials: Carpet Flooring Systems.
- .1 All carpet must be in compliance with the Carpet and Rug Institute's Green Label Plus Certification Program.
 - .2 Hard surface flooring is to be in compliance with the Scientific Certification Systems FloorScore Program.
- .4 Indoor Environmental Quality Credit EQ4-4 Low Emitting Materials: Composite Wood and Laminate Adhesives. Do not use composite wood and agrifiber products that contain urea-formaldehyde resins.
-

PART 3 - EXECUTION

<u>3.1 CONSTRUCTION WASTE MANAGEMENT</u>	.1	Credit MR-2.1 Construction Waste Management: Divert 50% From Landfill and MR-2.2 Divert 75% From Landfill. Comply with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.
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<u>3.2 CONSTRUCTION INDOOR AIR QUALITY MANAGEMENT</u>	.1	Credit EQ3-1 Construction IAQ Management Plan: During Construction. Comply with SMACNA IAQ Guideline for Occupied Buildings under Construction.
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PART 1 - GENERAL1.1 REFERENCE
STANDARDS

- .1 Canada Labour Code, Part 2, Canada Occupational Safety and Health Regulations
- .2 Province of Nova Scotia
 - .1 Occupational Health and Safety Act, S.N.S. - Updated 2013.

1.2 ACTION AND
INFORMATIONAL
SUBMITTALS

- .1 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.
- .2 Submit 2 copies of Contractor's authorized representative's work site health and safety inspection reports to Departmental Representative and or authority having jurisdiction, daily weekly.
- .3 Submit copies of reports or directions issued by Federal, Provincial and Territorial health and safety inspectors.
- .4 Submit copies of incident and accident reports.
- .5 Submit WHMIS MSDS - Material Safety Data Sheets in accordance with Section 01 47 15 - Sustainable Requirements: Construction and Section 02 81 01 - Hazardous Materials.
- .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 7 days after receipt of comments from Departmental Representative .

1.2 ACTION AND
INFORMATIONAL
SUBMITTALS
(Cont'd)

- .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 SAFETY
ASSESSMENT

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

1.4 MEETINGS

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

1.5 REGULATORY
REQUIREMENTS

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

1.6 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.
-

- 1.7 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 Contractor will be responsible and assume the role Constructor as described in the Ontario Occupational Health and Safety Act and Regulations for Construction Projects.
 - .3 Contractor shall be the Principal Contractor as described in the Quebec Act Respecting Health and Safety code for the Construction for only their scope and areas of work as defined and described this project specification.
 - .4 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.
- 1.8 COMPLIANCE REQUIREMENTS
- .1 Comply with Occupational Health and Safety Act, Occupational Safety General Regulations, N.S. Reg..
 - .2 Comply with Canada Labour Code, Canada Occupational Safety and Health Regulations.
- 1.9 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 Province Territory having jurisdiction and advise Departmental Representative verbally and in writing.
-

1.10 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 flooring..
 - .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 Registered Occupational Hygienist Certified Industrial Hygienist and or site supervisor.

1.11 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 Province Territory having jurisdiction, and in consultation with Departmental Representative .

1.12 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.
-

1.13 POWDER .1 Use powder actuated devices only after receipt
ACTUATED DEVICES of written permission from Departmental
Representative .

1.14 WORK STOPPAGE .1 Give precedence to safety and health of public
and site personnel and protection of
environment over cost and schedule
considerations for Work.

PART 1 - GENERAL

- | | | |
|--|----|--|
| <u>1.1 FIRE DEPARTMENT BRIEFING</u> | .1 | Departmental Representative will co-ordinate arrangements for contractor for briefing on Fire Safety at pre-work conference by Fire Chief before work is commenced. |
| <u>1.2 REPORTING FIRES</u> | .1 | Know location of nearest fire alarm box and telephone, including emergency phone number. |
| | .2 | Report immediately fire incidents to Fire Department as follows: <ul style="list-style-type: none"> .1 Activate nearest fire alarm box; or .2 Telephone. |
| | .3 | When reporting fire by telephone, give location of fire, name or number of building and be prepared to verify location. |
| <u>1.3 INTERIOR AND EXTERIOR FIRE PROTECTION AND ALARM SYSTEMS</u> | .1 | Fire protection and alarm system will not be: <ul style="list-style-type: none"> .1 Obstructed; .2 Shut-off; and .3 Left inactive at end of working day or shift without authorization from Fire Chief. |
| | .2 | Fire hydrants, stand pipes and hose systems will not be used for other than fire-fighting purposes unless authorized by Fire Chief. |
| <u>1.4 FIRE EXTINGUISHERS</u> | .1 | Supply fire extinguishers, as scaled by Fire Chief, necessary to protect work in progress and contractor's physical plant on site. |
| <u>1.5 BLOCKAGE OF ROADWAYS</u> | .1 | Advise Fire Chief of work that would impede fire apparatus response. This includes violation of minimum overhead clearance, as prescribed by Fire Chief, erecting of barricades and digging of trenches. |
-

1.6 SMOKING
PRECAUTIONS

.1 Observe smoking regulations.

1.7 RUBBISH AND
WASTE MATERIALS

.1 Keep rubbish and waste materials at minimum quantities.

.2 Burning of rubbish is prohibited.

.3 Removal:
.1 Remove rubbish from work site at end of work day or shift or as directed.

.4 Storage:
.1 Store oily waste in approved receptacles to ensure maximum cleanliness and safety.
.2 Deposit greasy or oily rags and materials subject to spontaneous combustion in approved receptacles and remove specified.

1.8 FLAMMABLE AND
COMBUSTIBLE LIQUIDS

.1 Handling, storage and use of flammable and combustible liquids governed by current National Fire Code of Canada 2015 (NFC).

.2 Keep flammable and combustible liquids such as gasoline, kerosene and naphtha for ready use in quantities not exceeding 45 litres provided they are stored in approved safety cans bearing Underwriters' Laboratory of Canada or Factory Mutual seal of approval. Storage of quantities of flammable and combustible liquids exceeding 45 litres for work purposes requires permission of Fire Chief.

.3 Transfer of flammable and combustible liquids is prohibited within buildings or jetties.

.4 Transfer of flammable and combustible liquids will not be carried out in vicinity of open flames or any type of heat-producing devices.

.5 Do not use flammable liquids having flash point below 38 degrees C such as naphtha or gasoline as solvents or cleaning agents.

1.8 FLAMMABLE AND COMBUSTIBLE LIQUIDS (Cont'd)

.6 Store flammable and combustible waste liquids, for disposal, in approved containers located in safe ventilated area. Keep quantities minimum and Fire Department is to be notified when disposal is required.

1.9 HAZARDOUS SUBSTANCES

.1 Work entailing use of toxic or hazardous materials, chemicals and/or explosives, or otherwise creating hazard to life, safety or health, in accordance with National Fire Code of Canada (NFC).

.2 Obtain from Fire Chief a "Hot Work" permit for work involving welding, burning or use of blowtorches and salamanders, in buildings or facilities.

.3 When Work is carried out in dangerous or hazardous areas involving use of heat, provide fire watchers equipped with sufficient fire extinguishers. Determination of dangerous or hazardous areas along with level of protection necessary for Fire Watch is at discretion of Fire Chief. Contractors are responsible for providing fire watch service for work on scale established and in conjunction with Fire Chief at pre-work conference.

.4 Provide ventilation where flammable liquids, such as lacquers or urethanes are used, eliminate sources of ignition. Inform Fire Chief prior to and at cessation of such work.

1.10 QUESTIONS AND/OR CLARIFICATION

.1 Direct questions or clarification on Fire Safety in addition to above requirements to Fire Chief.

1.11 FIRE INSPECTION

.1 Co-ordinate site inspections by Fire Chief through Departmental Representative.

.2 Allow Fire Chief unrestricted access to work site.

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1.11 FIRE INSPECTION (Cont'd)	.3	Co-operate with Fire Chief during routine fire safety inspection of work site.
	.4	Immediately remedy unsafe fire situations observed by Fire Chief.

END OF SECTION

PART 1 - GENERAL

1.1 RELATED REQUIREMENTS .1 Section. 01 35 21, 01 74 11, 01 74 21, 09 68 13, 09 68 16.

1.2 REFERENCE STANDARDS .1 Canada Green Building Council (CaGBC)
.1 LEED Canada-NC Version 1.0-2004, LEED (Leadership in Energy and Environmental Design): Green Building Rating System Reference Package For New Construction and Major Renovations (including Addendum 2007).
.2 LEED Canada-2009, LEED (Leadership in Energy and Environmental Design): Green Building Rating System Reference Package For Design and Construction.
.3 LEED Canada-CI Version 1.0-2007, LEED (Leadership in Energy and Environmental Design): Green Building Rating System Reference Guide For Commercial Interiors.
.4 LEED Canada-EBOM 2009, LEED (Leadership in Energy and Environmental Design): Green Building Rating System Reference Guide For Existing Buildings: Operations and Maintenance.
.2 Carpet and Rug Institute (CRI)
.1 CRI Carpet Installation Standard - 2011.

1.3 DEFINITIONS .1 Closed-loop Recycling: a product which is re-manufactured into the same product.
.2 Open-loop Recycling: a product which is re-manufactured into different types of products.
.3 Nylon - Type 6: carpet fibre with one base ingredient: Caprolactam.
.4 Nylon - Type 6,6: carpet fibre with two base ingredients: Adipic Acid and Hexamethylene.

1.4 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submit control submittals.
- .2 Submit report outlining proposed dust control measures.
- .3 Submit carpet schedule using same room designations indicated on drawings.
- .4 Submit schedule of carpet recycling activities including the following:
 - .1 Sequence of carpet removal.
 - .2 Inventory of items to be removed and recycled.
 - .3 Indicate type of carpet fibre Nylon 6 Nylon 6,6.
 - .4 Recycling.
- .5 Sustainable Design Submittals:
 - .1 LEED Canada submittals: in accordance with Section 01 35 21 - LEED Requirements.
 - .2 Construction Waste Management:
 - .1 Submit project Waste Management Plan Waste Reduction Workplan highlighting recycling and salvage requirements.
 - .2 Submit calculations on end-of-project recycling rates, salvage rates, and landfill rates demonstrating that 50 75% of construction wastes were recycled or salvaged.

1.5 CLOSEOUT SUBMITTALS

- .1 Submit in accordance with Section 01 78 00 - Closeout Submittals.
 - .2 Submit schedule of carpet reclamation activities.
 - .1 Indicating the following:
 - .1 Detailed sequence of removal work.
 - .2 Areas of partial occupied floor space.
 - .3 Inventory of used carpet to be removed and reclaimed.
 - .4 Proposed packing and transportation measures.
 - .3 Reclamation Agencies' records indicating receipt and disposition of used carpet.
-

1.5 CLOSEOUT
SUBMITTALS
(Cont'd)

- .4 Certification: Reclamation Agency to verify in writing that used carpet was removed and recycled in accordance with carpet fibre manufacturers' reclamation program.
 - .1 Indicate type of recycling program:
 - .1 Closed-loopOpen-loop.
- .5 Record off-site removal of debris and materials and provide the following information regarding removed used carpet materials.
 - .1 Time and date of removal.
 - .2 Type of material Nylon 6 Nylon 6,6.
 - .3 Weight and quantity of materials.
 - .4 Final destination of materials.

1.6 QUALITY
ASSURANCE
SUBMITTALS

- .1 Certificates: submit from Reclamation Agency and Carpet remover certificates that used carpet was removed and recycled in accordance with Carpet Reclamation Program. Extraction of embodied energy by incineration is not acceptable.

1.7 ENVIRONMENT

- .1 Obtain written approval from Departmental Representative Owner Facilities Manager before performing operations which generate contaminants.

PART 2 - PRODUCTS

2.1 MATERIALS

- .1 Carpet adhesive removal solvents: in accordance with CRI Carpet Installation Standard.
 - .2 Used Carpet:
 - .1 Maintain possession of removed used carpet. Remove immediately from area of Work and place in container or trailer.
 - .3 Underlay Undercushion:
 - .1 Include recycling of carpet underlay undercushion where locally available as designated by Carpet Reclamation Agency.
-

2.1 MATERIALS

(Cont'd)

- .4 Disposal Container:
 .1 Reclamation Agency will supply m/³
 disposal container 16.15 m trailer.

PART 3 - EXECUTION3.1 EXAMINATION

- .1 Examine and verify Work areas and conditions are suitable to perform work. Identify and report to Departmental Representative problems that will delay start and completion of Work.
 .1 Do not proceed until problems or conditions have been corrected, and instructed by Departmental Representative .

3.2 CARPET REMOVAL

- .1 Remove used broadloom carpet in large pieces.
 .1 Roll carpet tightly and pack neatly in disposal container trailer. Include carpet pieces and scraps from new carpet installation.
 .2 Remove used carpet tile stack pack in cardboard boxes and pack in trailer in container on pallets.
 .3 Pack only clean dry carpet tile in disposal container trailer. Clean is defined as carpet free from demolition debris, asbestos, garbage and tack strips.
 .4 Remove carpet adhesive according to CRI Carpet Installation Standard.

3.3 CONTAINER DISPOSAL

- .1 Place used carpet in m³ containers supplied by reclamation agency. Containers to be front end loaded and fully enclosed from elements. Place only used commercial carpet in container.
 .1 Containers to be locked and supervised at all times.
 .2 Maximize packing techniques of used carpet, container should hold between 1,500 to 2,500 m².
 .1 Re-pack used carpet in cardboard boxes prior to placing in containers.

- | | | |
|--|----|--|
| 3.3 CONTAINER
DISPOSAL
<u>(Cont'd)</u> | .3 | Co-ordinate with Reclamation Agency for pickup and drop off of replacement containers.
.1 Remove lock from container prior to pick up. |
| 3.4 TRUCK TRAILER
DISPOSAL
<u></u> | .1 | Place used carpet in trailer supplied by Reclamation Agency. Place only used commercial carpet in trailer.
.1 Keep trailer off limits to workers not involved in reclamation activities and from public |
| | .2 | Maximize packing techniques of used carpet.
.1 Do not stack carpet tiles more than 1.828 m high on trailer. |
| | .3 | Comply with Department of Transportation weight limit regulations.
.1 Maximum weight of used carpet on trailer is 20,455 kg. |
| | .4 | Co-ordinate with Reclamation Agency for pickup and drop off of replacement trailer.
.1 Remove lock from trailer prior to pick up. |
| 3.5 CARPET
INSTALLATION
<u></u> | .1 | Install new carpet in accordance with Section 09 68 13 - Tile Carpeting 09 68 16 - Sheet Carpeting. |
| 3.6 CLEANING
<u></u> | .1 | Progress Cleaning: clean in accordance with Section 01 74 11 - Cleaning.
.1 Leave Work area clean at end of each day. |
| | .2 | Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11 - Cleaning. |
| | .3 | Waste Management: separate waste materials for reuse and recycling in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal 01 35 21 - LEED Requirements. |
-

3.6 CLEANING .3 (Cont'd)
 (Cont'd) .1 Remove recycling containers and bins from
 site and dispose of materials at appropriate
 facility.

3.7 PROTECTION .1 Protect installed products and components from
 damage during reclamation activities.
 .2 Repair damage to adjacent materials caused by
 reclamation activities installation.

PART 1 - GENERAL

1.1 RELATED REQUIREMENTS .1 Section 01 35 29.06.

1.2 REFERENCES AND CODES .1 Perform Work in accordance with National Building Code of Canada (NBC) 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.

1.3 HAZARDOUS MATERIAL DISCOVERY .1 Asbestos: demolition of spray or trowel-applied asbestos is hazardous to health. Stop work immediately when material resembling spray or trowel-applied asbestos is encountered during demolition work. Notify Departmental Representative . Refer to Section 02 82 00.01 - Asbestos Abatement - Minimum Precautions 02 82 00.02 - Asbestos Abatement - Intermediate Precautions 02 82 00.03 - Asbestos Abatement - Maximum Precautions.

.2 PCB: Polychlorinated Biphenyl: stop work immediately when material resembling Polychlorinated Biphenyl is encountered during demolition work. Notify Departmental Representative . Refer to Section 02 84 00 - Polychlorinate Biphenyl Remediation.

1.3 HAZARDOUS
MATERIAL DISCOVERY
(Cont'd)

- .3 Mould: stop work immediately when material resembling mould is encountered during demolition work. Notify Departmental Representative . Refer to Section 02 85 00.01 - Mould Remediation - Minimum Precautions
02 85 00.02 Mould Remediation - Intermediate Precautions - Intermediate Precautions
02 85 00.03 - Mould Remediation - Maximum Precautions.

1.4 BUILDING
SMOKING ENVIRONMENT

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

PART 1 - GENERAL1.1 REFERENCE
STANDARDS

- .1 Canadian Construction Documents Committee (CCDC)
 - .1 CCDC 2-94, Stipulated Price Contract.

1.2 INSPECTION

- .1 Refer to CCDC 2, GC 2.3.
- .2 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.
- .3 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.
- .4 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.
- .5 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.

1.3 INDEPENDENT
INSPECTION AGENCIES

- .1 Independent Inspection/Testing Agencies will 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 .

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| 1.3 INDEPENDENT
INSPECTION AGENCIES
(Suite) | .2 | Allocated costs: to Section 01 21 00 - Allowances. |
| | .3 | Provide equipment required for executing inspection and testing by appointed agencies. |
| | .4 | Employment of inspection/testing agencies does not relax responsibility to perform Work in accordance with Contract Documents. |
| | .5 | 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. |
| 1.4 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. |
| 1.5 PROCEDURES | .1 | Notify appropriate agency and 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. |
| 1.6 REJECTED WORK | .1 | Refer to CCDC, GC 2.4. |
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| <u>1.6 REJECTED WORK
(Suite)</u> | .2 | 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. |
| | .3 | Make good other Contractor's work damaged by such removals or replacements promptly. |
| | .4 | 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 . |
| <u>1.7 REPORTS</u> | .1 | Submit 4 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. |
| <u>1.8 TESTS AND MIX
DESIGNS</u> | .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. |
| <u>1.9 MOCK-UPS</u> | .1 | Prepare mock-ups for Work specifically requested in specifications. Include for Work of Sections required to provide mock-ups. |
| | .2 | Construct in locations acceptable to Departmental Representative as specified in specific Section. |

1.9 MOCK-UPS
(Suite)

- .3 Prepare mock-ups for Departmental Representative review with reasonable promptness and in orderly sequence, to not cause delays in Work.
- .4 Failure to prepare mock-ups 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.
- .5 If requested, Departmental Representative will assist in preparing schedule fixing dates for preparation.
- .6 Remove mock-up at conclusion of Work or when acceptable to Departmental Representative.
- .7 Mock-ups may remain as part of Work.
- .8 Specification section identifies whether mock-up may remain as part of Work or if it is to be removed and when.

1.10 MILL TESTS

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

1.11 EQUIPMENT AND
SYSTEMS

- .1 Submit adjustment and balancing reports for mechanical, electrical and building equipment systems.
- .2 Refer to Section for definitive requirements.

PART 1 - GENERAL1.1 REFERENCE
STANDARDS

- .1 Canada Green Building Council (CaGBC)
 - .1 LEED Canada-NC Version 1.0-2004, LEED (Leadership in Energy and Environmental Design): Green Building Rating System Reference Package For New Construction and Major Renovations (including Addendum 2007).
 - .2 LEED Canada-CI Version 1.0-2007, LEED (Leadership in Energy and Environmental Design): Green Building Rating System Reference Guide For Commercial Interiors.
- .2 U.S. Environmental Protection Agency (EPA) / Office of Water
 - .1 EPA 832R92005, Storm Water Management for Construction Activities: Developing Pollution Prevention Plans and Best Management Practices.

1.2 ACTION AND
INFORMATIONAL
SUBMITTALS

- .1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2 LEED Submittals:
 - .1 Submit erosion and sedimentation control plan for Credit SSp1 in accordance with LEED Canada-NC.

1.3 INSTALLATION
AND REMOVAL

- .1 Provide temporary utilities controls in order to execute work expeditiously.
- .2 Remove from site all such work after use.

1.4 DEWATERING

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

1.5 WATER SUPPLY

- .1 Departmental Representative will Provide continuous supply of potable water for construction use.
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| 1.5 WATER SUPPLY
(Suite) | .2 | Arrange for connection with appropriate utility company and pay costs for installation, maintenance and removal. |
| | .3 | Departmental Representative will payPay for utility charges at prevailing rates. |
| 1.6 TEMPORARY
HEATING AND
VENTILATION | .1 | Provide temporary heating required during construction period, including attendance, maintenance and fuel. |
| | .2 | Construction heaters used inside building must be vented to outside or be non-flameless type. Solid fuel salamanders are not permitted. |
| | .3 | Provide temporary heat and ventilation in enclosed areas as required to: <ul style="list-style-type: none"> .1 Facilitate progress of Work. .2 Protect Work and products against dampness and cold. .3 Prevent moisture condensation on surfaces. .4 Provide ambient temperatures and humidity levels for storage, installation and curing of materials. .5 Provide adequate ventilation to meet health regulations for safe working environment. |
| | .4 | Maintain temperatures of minimum 10 degrees C in areas where construction is in progress. |
| | .5 | Ventilating: <ul style="list-style-type: none"> .1 Prevent accumulations of dust, fumes, mists, vapours or gases in areas occupied during construction. .2 Provide local exhaust ventilation to prevent harmful accumulation of hazardous substances into atmosphere of occupied areas. .3 Dispose of exhaust materials in manner that will not result in harmful exposure to persons. .4 Ventilate storage spaces containing hazardous or volatile materials. .5 Ventilate temporary sanitary facilities. |
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1.6 TEMPORARY
HEATING AND
VENTILATION
(Suite)

- .5 (Suite)
- .6 Continue operation of ventilation and exhaust system for time after cessation of work process to assure removal of harmful contaminants.
- .6 Permanent heating system of building, to not to be used when available. Be responsible for damage to heating system if use is permitted.
- .7 On completion of Work for which permanent heating system is used, replace filters, replace bearing in, clean and.
- .8 Ensure Date of Substantial Performance and Warranties for heating system do not commence until entire system is in as near original condition as possible and is certified by Departmental Representative .
- .9 Pay costs for maintaining temporary heat, when using permanent heating system Departmental Representative will pay utility charges when temporary heat source is existing building equipment.
- .10 Maintain strict supervision of operation of temporary heating and ventilating equipment to:
 - .1 Conform with applicable codes and standards.
 - .2 Enforce safe practices.
 - .3 Prevent abuse of services.
 - .4 Prevent damage to finishes.
 - .5 Vent direct-fired combustion units to outside.
- .11 Be responsible for damage to Work due to failure in providing adequate heat and protection during construction.

1.7 TEMPORARY POWER
AND LIGHT

- .1 Departmental Representative will pay Provide and pay for temporary power during construction for temporary lighting and operating of power tools, to a maximum supply of 230 volts 30 amps.
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| 1.7 TEMPORARY POWER
AND LIGHT
(Suite) | .2 | Arrange for connection with appropriate utility company. Pay costs for installation, maintenance and removal. |
| | .3 | Temporary power for electric cranes and other equipment requiring in excess of above is responsibility of Departmental Representative. |
| | .4 | Provide and maintain temporary lighting throughout project. Ensure level of illumination on all floors and stairs is not less than 162 lx. |
| | .5 | Maximum power supply of kVA, at V, phase, Hz is available and will be provided for construction use at no cost current cost rates. Connect to existing power supply in accordance with Canadian Electrical Code and provide meters and switching. |
| | .6 | Electrical power and lighting systems installed under this Contract may be used for construction requirements only with prior approval of Departmental Representative provided that guarantees are not affected. Make good damage to electrical system caused by use under this Contract. Replace lamps which have been used for more than 3 months. |
| 1.8 TEMPORARY
COMMUNICATION
FACILITIES | .1 | Provide and pay for temporary telephone fax data hook up, lines equipment necessary for own use and use of Departmental Representative . |
| 1.9 FIRE PROTECTION | .1 | Provide and maintain temporary fire protection equipment during performance of Work required by insurance companies having jurisdiction and governing codes, regulations and bylaws. |
| | .2 | Burning rubbish and construction waste materials is not permitted on site. |
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PART 3 - EXECUTION2.1 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 requirements of authorities having jurisdiction sediment and erosion control drawings sediment and erosion control plan, specific to site, that complies with EPA 832/R-92-005 or requirements of authorities having jurisdiction, whichever is more stringent.
- .2 Inspect, repair, and maintain erosion and sedimentation control measures during construction until permanent vegetation has been established.
- .3 Remove erosion and sedimentation controls and restore and stabilize areas disturbed during removal.

PART 1 - GENERAL1.1 REFERENCE
STANDARDS

- .1 Canadian Construction Documents Committee (CCDC)
 - .1 CCDC 2-94, Stipulated Price Contract.
 - .2 DOC 14-2000, Design-Build Stipulated Price Contract.
 - .3 DOC 15-2000, Design-Builder/ Consultant Contract.
- .2 Within text of each specifications section, reference may be made to reference standards. List of standards reference writing organizations is contained in Section.
- .3 Conform to these reference standards, in whole or in part as specifically requested in specifications.
- .4 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.
- .5 Cost for such testing will be born by Departmental Representative in event of conformance with Contract Documents or by Contractor Design-Builder in event of non-conformance.

1.2 QUALITY

- .1 Refer to CCDC 2.
 - .2 Refer to DOC 14 DOC 15.
 - .3 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.
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1.2 QUALITY
(Suite)

- .4 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.
- .5 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.
- .6 Should disputes arise as to quality or fitness of products, decision rests strictly with Departmental Representative based upon requirements of Contract Documents.
- .7 Unless otherwise indicated in specifications, maintain uniformity of manufacture for any particular or like item throughout building.
- .8 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.
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1.3 AVAILABILITY (Suite) .2 In event of failure to notify Departmental Representative 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 Store sheet materials, lumber and on flat, solid supports and keep clear of ground. Slope to shed moisture.

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

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

.9 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.
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- 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 Refer to CCDC 2DOC 14 DOC 15 and Section 01 73 00 - Execution Requirements.
- .2 Refer to DOC 14 DOC 15.
- .3 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.
- .4 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 LOCATION OF FIXTURES .1 Consider location of fixtures, outlets, and mechanical and electrical items indicated as approximate.
- .2 Inform Departmental Representative of conflicting installation. Install as directed.
- 1.12 FASTENINGS .1 Provide metal fastenings and accessories in same texture, colour and finish as adjacent materials, unless indicated otherwise.
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| 1.12 FASTENINGS
(Suite) | .2 | Prevent electrolytic action between dissimilar metals and materials. |
| | .3 | Use non-corrosive hot dip galvanized steel fasteners and anchors for securing exterior work, unless stainless steel or other material is specifically requested in affected specification Section. |
| | .4 | Space anchors within individual load limit or shear capacity and ensure they provide positive permanent anchorage. Wood, or any other organic material plugs are not acceptable. |
| | .5 | Keep exposed fastenings to a minimum, space evenly and install neatly. |
| | .6 | Fastenings which cause spalling or cracking of material to which anchorage is made are not acceptable. |
| 1.13 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. |
| 1.14 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 . |

1.15 EXISTING
UTILITIES

- .1 When breaking into or connecting to existing services or utilities, execute Work at times directed by local governing authorities, with minimum of disturbance to Work, and/or 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 1 - GENERAL1.1 RELATED
REQUIREMENTS

- .1 Section 01 33 00, 01 74 21, 07 84 00.

1.2 ACTION AND
INFORMATIONAL
SUBMITTALS

- .1 Submittals: in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Submit written request in advance of cutting or alteration which affects:
- .1 Structural integrity of elements of project.
 - .2 Integrity of weather-exposed or moisture-resistant elements.
 - .3 Efficiency, maintenance, or safety of operational elements.
 - .4 Visual qualities of sight-exposed elements.
 - .5 Work of Owner or separate contractor.
- .3 Include in request:
- .1 Identification of project.
 - .2 Location and description of affected Work.
 - .3 Statement on necessity for cutting or alteration.
 - .4 Description of proposed Work, and products to be used.
 - .5 Alternatives to cutting and patching.
 - .6 Effect on Work of Owner or separate contractor.
 - .7 Written permission of affected separate contractor.
 - .8 Date and time work will be executed.

1.3 MATERIALS

- .1 Required for original installation.
- .2 Change in Materials: Submit request for substitution in accordance with Section 01 33 00 - Submittal Procedures.
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1.4 PREPARATION

- .1 Inspect existing conditions, including elements subject to damage or movement during cutting and patching.
- .2 After uncovering, inspect conditions affecting performance of Work.
- .3 Beginning of cutting or patching means acceptance of existing conditions.
- .4 Provide supports to assure structural integrity of surroundings; provide devices and methods to protect other portions of project from damage.
- .5 Provide protection from elements for areas which are to be exposed by uncovering work; maintain excavations free of water.

1.5 EXECUTION

- .1 Execute cutting, fitting, and patching including excavation and fill, to complete Work.
 - .2 Fit several parts together, to integrate with other Work.
 - .3 Uncover Work to install ill-timed Work.
 - .4 Remove and replace defective and non-conforming Work.
 - .5 Remove samples of installed Work for testing.
 - .6 Provide openings in non-structural elements of Work for penetrations of mechanical and electrical Work.
 - .7 Execute Work by methods to avoid damage to other Work, and which will provide proper surfaces to receive patching and finishing.
 - .8 Employ original installer to perform cutting and patching for weather-exposed and moisture-resistant elements, and sight-exposed surfaces.
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1.5 EXECUTION
(Suite)

- .9 Cut rigid materials using masonry saw or core drill. Pneumatic or impact tools not allowed on masonry work without prior approval.
- .10 Restore work with new products in accordance with requirements of Contract Documents.
- .11 Fit Work airtight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.
- .12 At penetration of fire rated wall, ceiling, or floor construction, completely seal voids with firestopping material in accordance with Section 07 84 00 - Firestopping, full thickness of the construction element.
- .13 Refinish surfaces to match adjacent finishes: Refinish continuous surfaces to nearest intersection. Refinish assemblies by refinishing entire unit.
- .14 Conceal pipes, ducts and wiring in floor, wall and ceiling construction of finished areas except where indicated otherwise.

1.6 WASTE
MANAGEMENT AND
DISPOSAL

- .1 Separate waste materials for reuse and recycling in accordance with Section 01 74 21 Construction/Demolition Waste Management And Disposal.

PART 1 - GENERAL1.1 RELATED
REQUIREMENTS

- .1 Section 01 74 21.

1.2 REFERENCE
STANDARDS

- .1 Canadian Construction Documents Committee (CCDC)
.1 CCDC 2-94, Stipulated Price Contract.

1.3 PROJECT
CLEANLINESS

- .1 Maintain Work in tidy condition, free from accumulation of waste products and debris, including other than that caused by Owner or other 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, unless approved by Departmental Representative.
- .3 Make arrangements with and obtain permits from authorities having jurisdiction for disposal of waste and debris.
- .4 Provide on-site containers for collection of waste materials and debris.
- .5 Provide and use marked separate bins for recycling. Refer to Section 01 74 21 - Construction/Demolition Waste Management and Disposal.
- .6 Dispose of waste materials and debris at designated dumping areas on Crown property off site.
- .7 Clean interior areas prior to start of finishing work, and maintain areas free of dust and other contaminants during finishing operations.
- .8 Store volatile waste in covered metal containers, and remove from premises at end of each working day.
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1.3 PROJECT
CLEANLINESS
(Suite)

- .9 Provide adequate ventilation during use of volatile or noxious substances. Use of building ventilation systems is not permitted for this purpose.
- .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.

1.4 FINAL CLEANING

- .1 Refer to CCDC 2, GC 3.14.
 - .2 When Work is Substantially Performed remove surplus products, tools, construction machinery and equipment not required for performance of remaining Work.
 - .3 Remove waste products and debris other than that caused by others, and leave Work clean and suitable for occupancy.
 - .4 Prior to final review remove surplus products, tools, construction machinery and equipment.
 - .5 Remove waste products and debris other than including that caused by Owner or other Contractors.
 - .6 Remove waste materials from site at regularly scheduled times or dispose of as directed by Departmental Representative . Do not burn waste materials on site, unless approved by Departmental Representative .
 - .7 Make arrangements with and obtain permits from authorities having jurisdiction for disposal of waste and debris.
 - .8 Wax, seal, shampoo or prepare floor finishes, as recommended by manufacturer.
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1.5 WASTE	.1	Separate waste materials for reuse and
MANAGEMENT AND		recycling in accordance with Section 01 74 21
<u>DISPOSAL</u>		Construction/Demolition Waste Management And
		Disposal.

PART 1 - GENERAL1.1 WASTE
MANAGEMENT GOALS

- .1 Prior to start of Work conduct meeting with Departmental Representative to review and discuss PSPC's waste management goal and Contractor's proposed Waste Reduction Workplan for Construction, Renovation and /or Demolition (CRD) waste to be project generated.
- .2 PSPC's waste management goal: to divert a minimum 75 percent of total Project Waste from landfill sites. Prior to project completion provide Departmental Representative documentation certifying that waste management, recycling, reuse of recyclable and reusable materials have been extensively practiced. The overall waste diversion goal for this project is.
- .3 Target percentage goals are achievable for waste diversion. Contractor to review and confirm Departmental Representative's Waste Audit acceptable values.
- .4 Minimize amount of non-hazardous solid waste generated by project and accomplish maximum source reduction, reuse and recycling of solid waste produced by CRD activities.
- .5 Protect environment and prevent environmental pollution damage.

1.2 RELATED
REQUIREMENTS

- .1 Section 01 35 21, 01 74 11, 01 74 21.

1.3 REFERENCE
STANDARDS

- .1 Canada Green Building Council (CaGBC)
.1 LEED Canada-NC Version 1.0-2004, LEED (Leadership in Energy and Environmental Design): Green Building Rating System Reference Package For New Construction and Major Renovations (including Addendum 2007).

1.3 REFERENCE STANDARDS (Cont'd)

- .1 (Cont'd)
- .2 LEED Canada-CI Version 1.0-2007, LEED (Leadership in Energy and Environmental Design): Green Building Rating System Reference Guide For Commercial Interiors.
- .3 LEED Canada 2009 for Design and Construction-2010, LEED Canada 2009 for Design and Construction Leadership in Energy and Environmental Design Green Building Rating System Reference Guide.
- .4 LEED Canada for Existing Buildings, Operations and Maintenance-2009, LEED Canada 2009 Leadership In Energy and Environmental Design Green Building Rating System Reference Guide.

1.4 DEFINITIONS

- .1 Approved/Authorized recycling facility: waste recycler approved by applicable provincial authority or other users of material for recycling approved by the Departmental Representative .
- .2 Class III: non-hazardous waste - construction renovation and demolition waste.
- .3 Construction, Renovation and/or Demolition (CRD) Waste: Class III solid, non-hazardous waste materials generated during construction, demolition, and/or renovation activities
- .4 Cost/Revenue Analysis Workplan (CRAW): based on information from Waste Reduction Workplan, and intended as financial tracking tool for determining economic status of waste management practices (Schedule E).
- .5 Inert Fill: inert waste - exclusively asphalt and concrete.
- .6 Waste Source Separation Program (WSSP): implementation and co-ordination of ongoing activities to ensure designated waste materials will be sorted into pre-defined categories and sent for recycling and reuse, maximizing diversion and potential to reduce disposal costs.

1.4 DEFINITIONS (Cont'd)

- .7 Recyclable: ability of product or material to be recovered at end of its life cycle and re-manufactured into new product for reuse.
- .8 Recycle: process by which waste and recyclable materials are transformed or collected for purpose of being transferred into new products.
- .9 Recycling: process of sorting, cleansing, treating and reconstituting solid waste and other discarded materials for purpose of using in altered form. Recycling does not include burning, incinerating, or thermally destroying waste.
- .10 Reuse: repeated use of product in same form but not necessarily for same purpose. Reuse includes:
 - .1 Salvaging reusable materials from re-modelling projects, before demolition stage, for resale, reuse on current project or for storage for use on future projects.
 - .2 Returning reusable items including pallets or unused products to vendors.
- .11 Salvage: removal of structural and non-structural materials from deconstruction/disassembly projects for purpose of reuse or recycling.
- .12 Separate Condition: refers to waste sorted into individual types.
- .13 Source Separation: act of keeping different types of waste materials separate beginning from the point they became waste.
- .14 Waste Audit (WA): detailed inventory of estimated quantities of waste materials that will be generated during construction, demolition, deconstruction and/or renovation. Involves quantifying by volume/weight amounts of materials and wastes that will be reused, recycled or landfilled. Refer to Schedule A.

1.4 DEFINITIONS (Cont'd)

- .15 Waste Diversion Report: detailed report of final results, quantifying cumulative weights and percentages of waste materials reused, recycled and landfilled over course of project. Measures success against Waste Reduction Workplan (WRW) goals and identifies lessons learned.
- .16 Waste Management Co-ordinator (WMC): contractor representative responsible for supervising waste management activities as well as co-ordinating required submittal and reporting requirements.
- .17 Waste Reduction Workplan (WRW): written report which addresses opportunities for reduction, reuse, or recycling of materials generated by project. Specifies diversion goals, implementation and reporting procedures, anticipated results and responsibilities. Waste Reduction Workplan (Schedule B) information acquired from Waste Audit.

1.5 USE OF SITE AND FACILITIES

- .1 Execute Work with minimal interference and disturbance to normal use of premises.
- .2 Maintain security measures established by facility provide temporary security measures approved by Departmental Representative.

1.6 WASTE PROCESSING SITES

- .1 Contractor is responsible to research and locate waste diversion resources and service providers. Salvaged materials are to be transported off site to approved and/or authorized recycling facilities or to users of material for recycling.
- .2 Province/Territory of: Nova Scotia
 - .1 Name:.
 - .2 Telephone:.
 - .3 Fax:.

1.7 QUALITY ASSURANCE

- .1 After award of Contract, a mandatory site examination will be held for this Project for Contractor and/or sub-contractors responsible for construction, renovation demolition/deconstruction waste management.
.1 Date, time and location will be arranged by Departmental Representative .
- .2 Waste Management Meeting: Waste Management Co-ordinator is to provide an update on status of waste diversion and management activities at each meeting. Written bi-weekly monthly Waste Diversion Report summary to be provided by Waste Management Coordinator (refer to the Waste Diversion Report form in Schedule C and Waste Materials Tracking form in Schedule D).

1.8 STORAGE, HANDLING AND PROTECTION

- .1 Store, materials to be reused, recycled and salvaged in locations as directed by Departmental Representative .
- .2 Unless specified otherwise, materials for removal do not become Contractor's property.
- .3 Protect, stockpile, store and catalogue salvaged items.
- .4 Separate non-salvageable materials from salvaged items. Transport and deliver non-salvageable items to licensed disposal facility.
- .5 Protect structural components not removed and salvaged materials from movement or damage.
- .6 Support affected structures. If safety of building is endangered, cease operations and immediately notify Departmental Representative .
- .7 Protect surface drainage, mechanical and electrical from damage and blockage.
- .8 Provide on-site facilities and containers for collection and storage of reusable and recyclable materials.

- 1.9 DISPOSAL OF
WASTES
-
- .1 Do not bury rubbish or waste materials.
 - .2 Do not dispose of waste volatile materials mineral spirits oil paint thinner into waterways, storm, or sanitary sewers.
 - .3 Keep records of construction waste including:
 - .1 Number and size of bins.
 - .2 Waste type of each bin.
 - .3 Total tonnage generated.
 - .4 Tonnage reused or recycled.
 - .5 Reused or recycled waste destination.
 - .4 Remove materials on-site as Work progresses.
 - .5 Prepare project summary to verify destination and quantities on a material-by-material basis as identified in the waste audit.

- 2.1 APPLICATION .1 Do Work in compliance with WRW and WSSP.

- | | | |
|-------------------------------------|----|--|
| <u>2.1 APPLICATION
(Cont'd)</u> | .2 | Handle waste materials not reused, salvaged, or recycled in accordance with appropriate regulations and codes. |
| <u>2.2 CLEANING</u> | .1 | Progress Cleaning: clean in accordance with Section 01 74 11 - Cleaning.
.1 Leave Work area clean at end of each day. |
| | .2 | Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11 - Cleaning. |
| | .3 | Waste Management: separate waste materials for reuse and recycling in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal 01 35 21 - LEED Requirements.
.1 Remove recycling containers and bins from site and dispose of materials at appropriate facility.
.2 Source separate materials to be reused/recycled into specified sort areas. |
| <u>2.3 DIVERSION OF MATERIALS</u> | .1 | From following list, separate materials from general waste stream and stockpile in separate piles or containers, as reviewed by Departmental Representative , and consistent with applicable fire regulations.
.1 Mark containers or stockpile areas.
.2 Provide instruction on disposal practices. |
| | .2 | On-site sale of salvaged recovered reusable recyclable materials is permitted is not permitted. |
| <u>2.4 WASTE DIVERSION REPORT</u> | .1 | At completion of Project, prepare written Waste Diversion Report indicating quantities of materials reused, recycled or disposed of as well as the following:
.1 Identify final diversion results and measure success against goals from Waste Reduction Workplan. |
-

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2.4 WASTE DIVERSION .1 (Cont'd)

REPORT

(Cont'd)

.2 Compare final quantities/percentages diverted with initial projections in Waste Audit and Waste Reduction Workplan and explain variances.

.1 Supporting documentation.

.2 Waybills and tracking forms.

.3 Description of issues, resolutions and lessons learned.

END OF SECTION

PART 1 - GENERAL1.1 REFERENCE
STANDARDS

- .1 Canadian Environmental Protection Act (CEPA)
 - .1 SOR/2008-197, Storage Tank Systems for Petroleum Products and Allied Petroleum Products Regulations.

1.2 ADMINISTRATIVE
REQUIREMENTS

- .1 Pre-warranty Meeting:
 - .1 Convene meeting one week prior to contract completion with contractor's representative and Departmental Representative, in accordance with Project Meetings to:
 - .1 Verify Project requirements.
 - .2 Review manufacturer's installation instructions and warranty requirements.
 - .2 Departmental Representative to establish communication procedures for:
 - .1 Notifying construction warranty defects.
 - .2 Determine priorities for type of defects.
 - .3 Determine reasonable response time.
 - .3 Contact information for bonded and licensed company for warranty work action: provide name, telephone number and address of company authorized for construction warranty work action.
 - .4 Ensure contact is located within local service area of warranted construction, is continuously available, and is responsive to inquiries for warranty work action.

1.3 AS -BUILT
DOCUMENTS AND
SAMPLES

- .1 Maintain, in addition to requirements in General Conditions, at site for Departmental Representative Owner one record copy of:
 - .1 Contract Drawings.
 - .2 Specifications.
 - .3 Addenda.
 - .4 Reviewed shop drawings, product data, and samples.
 - .5 Manufacturer's certificates.
-

1.3 AS -BUILT DOCUMENTS AND SAMPLES

(Cont'd)

- .2 Store record documents and samples in field office apart from documents used for construction.
 - .1 Provide files, racks, and secure storage.
- .3 Label record documents and file in accordance with Section number listings in List of Contents of this Project Manual.
 - .1 Label each document "PROJECT RECORD" in neat, large, printed letters.
- .4 Maintain record documents in clean, dry and legible condition.
 - .1 Do not use record documents for construction purposes.
- .5 Keep record documents and samples available for inspection by Departmental Representative.

1.4 MATERIALS AND FINISHES

- .1 Building products, applied materials, and finishes: include product data, with catalogue number, size, composition, and colour and texture designations.
 - .1 Provide information for re-ordering custom manufactured products.
- .2 Instructions for cleaning agents and methods, precautions against detrimental agents and methods, and recommended schedule for cleaning and maintenance.
- .3 Moisture-protection and weather-exposed products: include manufacturer's recommendations for cleaning agents and methods, precautions against detrimental agents and methods, and recommended schedule for cleaning and maintenance.
- .4 Additional requirements: as specified in individual specifications sections.

1.5 MAINTENANCE MATERIALS

- .1 Spare Parts:
 - .1 Provide spare parts, in quantities specified in individual specification sections.
-

- | | | |
|---|---------------------------|---|
| 1.5 MAINTENANCE
MATERIALS
<u>(Cont'd)</u> | .1 (Cont'd) | .2 Provide items of same manufacture and quality as items in Work. |
| | | .3 Deliver to site location as directed; place and store. |
| | | .4 Obtain receipt for delivered products and submit prior to final payment. |
| | .2 Extra Stock Materials: | |
| | .1 | Provide maintenance and extra materials, in quantities specified in individual specification sections. |
| | .2 | Provide items of same manufacture and quality as items in Work. |
| | .3 | Deliver to site location as directed; place and store. |
| | .4 | Obtain receipt for delivered products and submit prior to final payment. |
| 1.6 DELIVERY,
STORAGE AND
HANDLING | .1 | Store spare parts, maintenance materials, and special tools in manner to prevent damage or deterioration. |
| | .2 | Store in original and undamaged condition with manufacturer's seal and labels intact. |
| | .3 | Store components subject to damage from weather in weatherproof enclosures. |
| | .4 | Store paints and freezable materials in a heated and ventilated room. |
| | .5 | Remove and replace damaged products at own expense and for review by Departmental Representative . |
| 1.7 WARRANTIES AND
BONDS | .1 | Develop warranty management plan to contain information relevant to Warranties. |
| | .2 | Submit warranty management plan, 30 days before planned pre-warranty conference, to Departmental Representative approval. |
-

1.7 WARRANTIES AND
BONDS
(Cont'd)

- .3 Warranty management plan to include required actions and documents to assure that Departmental Representative receives warranties to which it is entitled.
- .4 Submit, warranty information made available during construction phase, to Departmental Representative for approval prior to each monthly pay estimate.
- .5 Except for items put into use with Owner's permission, leave date of beginning of time of warranty until Date of Substantial Performance is determined.
- .6 Respond in timely manner to oral or written notification of required construction warranty repair work.
- .7 Written verification to follow oral instructions.
 - .1 Failure to respond will be cause for the Departmental Representative to proceed with action against Contractor.

PART 1 - GENERAL
1.1 REFERENCE
STANDARDS

- .1 ASTM International
 - .1 ASTM C 919-08, Standard Practice for Use of Sealants in Acoustical Applications.
- .2 Canada Green Building Council (CaGBC)
 - .1 LEED Canada-NC Version 1.0-2004, LEED (Leadership in Energy and Environmental Design): Green Building Rating System for New Construction and Major Renovations (including Addendum 2007).
 - .2 LEED Canada-NC-2009, LEED (Leadership in Energy and Environmental Design): Green Building Rating System for New Construction and Major Renovations 2009.
 - .3 LEED Canada-CI Version 1.0-2007, LEED (Leadership in Energy and Environmental Design): Green Building Rating System for Commercial Interiors.
 - .4 LEED Canada-EB: O&M-2009, LEED (Leadership in Energy and Environmental Design): Green Building Rating System for Existing Buildings: Operations and Maintenance 2009.
- .3 Canadian General Standards Board (CGSB)
 - .1 CGSB 19-GP-5M-1984, Sealing Compound, One Component, Acrylic Base, Solvent Curing (Issue of 1976 reaffirmed, incorporating Amendment No. 1).
 - .2 CAN/CGSB-19.13-M87, Sealing Compound, One-component, Elastomeric, Chemical Curing.
 - .3 CGSB 19-GP-14M-1984, Sealing Compound, One Component, Butyl-Polyisobutylene Polymer Base, Solvent Curing (Reaffirmation of April 1976).
 - .4 CAN/CGSB-19.17-M90, One-Component Acrylic Emulsion Base Sealing Compound.
 - .5 CAN/CGSB-19.24-M90, Multi-component, Chemical Curing Sealing Compound.
- .4 General Services Administration (GSA) - Federal Specifications (FS)
 - .1 FS-SS-S-200-E(2)1993, Sealants, Joint, Two-Component, Jet-Blast-Resistant, Cold Applied, for Portland Cement Concrete Pavement.

1.1 REFERENCE
STANDARDS
(Suite)

- .5 Health Canada/Workplace Hazardous Materials Information System (WHMIS)
 - .1 Material Safety Data Sheets (MSDS).
- .6 South Coast Air Quality Management District (SCAQMD), California State, Regulation XI. Source Specific Standards
 - .1 SCAQMD Rule 1168-A2005, Adhesives and Sealants Applications.

1.2 ACTION AND
INFORMATIONAL
SUBMITTALS

- .1 Submit in accordance with Section 01 33 00 - Submittal Procedures.
 - .2 Product Data:
 - .1 Submit manufacturer's instructions, printed product literature and data sheets for joint sealants and include product characteristics, performance criteria, physical size, finish and limitations.
 - .2 Manufacturer's product to describe:
 - .1 Caulking compound.
 - .2 Primers.
 - .3 Sealing compound, each type, including compatibility when different sealants are in contact with each other.
 - .3 Submit 2 copies of WHMIS MSDS in accordance with Section 01 35 29.06 - Health and Safety Requirements 01 35 43 - Environmental Procedures.
 - .3 Samples:
 - .1 Submit 2 samples of each type of material and colour.
 - .2 Cured samples of exposed sealants for each colour where required to match adjacent material.
 - .4 Manufacturer's Instructions:
 - .1 Submit instructions to include installation instructions for each product used.
 - .5 Sustainable Design Submittals:
 - .1 LEED Canada submittals: in accordance with Section 01 35 21 - LEED Requirements.
 - .2 Construction Waste Management:
-

- | | | |
|--|------------|--|
| 1.2 ACTION AND
INFORMATIONAL
SUBMITTALS
(Suite) | .5 (Suite) | |
| | .2 (Suite) | |
| | .1 | Submit project Waste Management Plan Waste Reduction Workplan highlighting recycling and salvage requirements. |
| | .2 | Submit calculations on end-of-project recycling rates, salvage rates, and landfill rates demonstrating that 50 75% of construction wastes were recycled or salvaged. |
| 1.3 CLOSEOUT
SUBMITTALS | .1 | Submit in accordance with Section 01 78 00 - Closeout Submittals. |
| | .2 | Operation and Maintenance Data: submit operation and maintenance data for incorporation into manual. |
| 1.4 DELIVERY,
STORAGE AND
HANDLING | .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: deliver materials to site in original factory packaging, labelled with manufacturer's name and address. |
| | .3 | Storage and Handling Requirements:
.1 Store materials off ground indoors in dry location and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.
.2 Store and protect joint sealants from nicks, scratches, and blemishes.
.3 Replace defective or damaged materials with new. |
| | .4 | Develop Construction Waste Management Plan Waste Reduction Workplan related to Work of this Section and in accordance with Section 01 35 21 - LEED Requirements. |
-

1.4 DELIVERY, STORAGE AND HANDLING
(Suite)

.5 Packaging Waste Management: remove for reuse and return by manufacturer of pallets, crates, padding, and packaging materials as specified in Construction Waste Management Plan Waste Reduction Workplan in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal and Section 01 35 21 - LEED Requirements.

1.5 SITE CONDITIONS

.1 Ambient Conditions:

.1 Proceed with installation of joint sealants only when:

.1 Ambient and substrate temperature conditions are within limits permitted by joint sealant manufacturer or are above 4.4 degrees C.

.2 Joint substrates are dry.

.3 Conform to manufacturer's recommended temperatures, relative humidity, and substrate moisture content for application and curing of sealants including special conditions governing use.

.2 Joint-Width Conditions:

.1 Proceed with installation of joint sealants only where joint widths are more than those allowed by joint sealant manufacturer for applications indicated.

.3 Joint-Substrate Conditions:

.1 Proceed with installation of joint sealants only after contaminants capable of interfering with adhesion are removed from joint substrates.

1.6 ENVIRONMENTAL REQUIREMENTS

.1 Comply with requirements of Workplace Hazardous Materials Information System (WHMIS) regarding use, handling, storage, and disposal of hazardous materials; and regarding labelling and provision of Material Safety Data Sheets (MSDS) acceptable to Health Canada.

1.6 ENVIRONMENTAL
REQUIREMENTS
(Suite)

- .2 Departmental Representative will arrange for ventilation system to be operated on maximum outdoor air and exhaust during installation of caulking and sealants. Ventilate area of work as directed by Departmental Representative by use of approved portable supply and exhaust fans.

PART 2 - PRODUCTS2.1 SEALANT
MATERIALS

- .1 Do not use caulking that emits strong odours, contains toxic chemicals or is not certified as mould resistant in air handling units.
- .2 When low toxicity caulks are not possible, confine usage to areas which off gas to exterior, are contained behind air barriers, or are applied several months before occupancy to maximize off gas time.
- .3 Where sealants are qualified with primers use only these primers.

2.2 SEALANT
MATERIAL
DESIGNATIONS

- .1 Polysulfide two part:
.1 Self-levelling to CAN/CGSB-19.24, Type 1, Class B, colour TBD.
- .2 Polysulfide two part:
.1 Non-sag: to CAN/CGSB-19.24, Type 2, Class B, colour TBD.
- .3 Polysulfide one part:
.1 Self-levelling: to CAN/CGSB-19.13, MC-1-40-B-N MC-1-25-B-N, colour TBD.
- .4 Polysulfide one part:
.1 Non-sag: to CAN/CGSB-19.13, MC-2-40-B-N MC-2-25-B-N, colour TBD.
- .5 Urethanes two part:
.1 Self-levelling: to CAN/CGSB-19.24, Type 1, Class B, colour TBD.
- .6 Urethanes two part:

- 2.2 SEALANT MATERIAL DESIGNATIONS (Suite)
-
- .6 (Suite)
 - .1 Non-sag: to CAN/CGSB-19.24, Type 2, Class B, colour TBD.
 - .7 Urethanes one part:
 - .1 Self-levelling: to CAN/CGSB-19.13, Type 1, colour TBD.
 - .8 Urethanes one part:
 - .1 Non-sag: to CAN/CGSB-19.13, Type 2, MCG-2-25 MCG-2-40, colour TBD.
 - .9 Silicones one part: to CAN/CGSB-19.13.
 - .10 Acrylics one part: to CGSB 19-GP-5M.
 - .11 Acrylic latex one part: to CAN/CGSB-19.17.
 - .12 Acoustical sealant: to ASTM C 919.
 - .13 Butyl: to CGSB 19-GP-14M.
 - .14 Aviation fuel resistant: to FS-SS-S-200E Type 2.
 - .15 Preformed compressible and non-compressible back-up materials:
 - .1 Polyethylene, urethane, neoprene or vinyl foam:
 - .1 Extruded open closed cell foam backer rod.
 - .2 Size: oversize 30 to 50 %.
 - .2 Neoprene or butyl rubber:
 - .1 Round solid rod, Shore A hardness 70.
 - .3 High density foam:
 - .1 Extruded closed cell polyvinyl chloride (PVC), extruded polyethylene, closed cell, Shore A hardness 20, tensile strength 140 to 200 kPa, extruded polyolefin foam, 32 kg/m³ density, or neoprene foam backer, size as recommended by manufacturer.
 - .4 Bond breaker tape:
 - .1 Polyethylene bond breaker tape which will not bond to sealant.

2.3 SEALANT
SELECTION

- .1 Perimeters of exterior openings where frames meet exterior facade of building (i.e. brick, TBblock, precast masonry): sealant type:.
 - .2 Expansion and control joints in exterior surfaces of poured-in-place concrete walls: sealant type: TBD.
 - .3 Expansion and control joints in exterior surfaces of precast, architectural wall panels: sealant type: TBD.
 - .4 Control and expansion joints in exterior surfaces of unit masonry walls: sealant type: TBD.
 - .5 Coping joints and coping-to facade joints: sealant type: TBD.
 - .6 Cornice and wash (or horizontal surface joints): sealant type: TBD.
 - .7 Exterior joints in horizontal wearing surfaces (as itemized): sealant type: TBD.
 - .8 Seal interior perimeters of exterior openings TBD as detailed on drawings: sealant type:.
 - .9 Control and expansion joints on the interior of exterior poured-in place concrete walls: sealant type: TBD.
 - .10 Expansion and control joints on the interior of exterior precast, architectural wall panels: sealant type: TBD.
 - .11 Joints of underside of precast beams or planks: sealant type: TBD.
 - .12 Control and expansion joints on the interior of exterior surfaces of unit masonry walls: sealant type: TBD.
 - .13 Interior control and expansion joints in floor surfaces: sealant type: TBD.
 - .14 Perimeters of interior frames, as detailed and itemized: sealant type: TBD.
-

2.3 SEALANT
SELECTION
(Suite)

- .15 Interior masonry vertical control joints (block-to-block, block-to-concrete, and TBD intersecting masonry walls): sealant type:.
- .16 Joints at tops of non-load bearing masonry walls at the underside of poured concrete: sealant type: TBD.
- .17 Perimeter of bath fixtures (e.g. sinks, tubs, urinals, stools, water closets, basins, vanities): sealant type: TBD.
- .18 Exposed interior control joints in drywall: sealant type: TBD.

2.4 JOINT CLEANER

- .1 Non-corrosive and non-staining type, compatible with joint forming materials and sealant in accordance with sealant manufacturer's written recommendations.
- .2 Primer: in accordance with sealant manufacturer's written recommendations.

PART 3 - EXECUTION3.1 EXAMINATION

- .1 Verification of Conditions: verify that conditions of substrate previously installed under other Sections or Contracts are acceptable for joint sealants installation in accordance with manufacturer's written instructions.
 - .1 Visually inspect substrate in presence of Departmental Representative .
 - .2 Inform Departmental Representative of unacceptable conditions immediately upon discovery.
 - .3 Proceed with installation only after unacceptable conditions have been remedied and after receipt of written approval to proceed from Departmental Representative .

3.2 SURFACE
PREPARATION

- .1 Examine joint sizes and conditions to establish correct depth to width relationship for installation of backup materials and sealants.
- .2 Clean bonding joint surfaces of harmful matter substances including dust, rust, oil grease, and other matter which may impair Work.
- .3 Do not apply sealants to joint surfaces treated with sealer, curing compound, water repellent, or other coatings unless tests have been performed to ensure compatibility of materials. Remove coatings as required.
- .4 Ensure joint surfaces are dry and frost free.
- .5 Prepare surfaces in accordance with manufacturer's directions.

3.3 PRIMING

- .1 Where necessary to prevent staining, mask adjacent surfaces prior to priming and caulking.
- .2 Prime sides of joints in accordance with sealant manufacturer's instructions immediately prior to caulking.

3.4 BACKUP MATERIAL

- .1 Apply bond breaker tape where required to manufacturer's instructions.
- .2 Install joint filler to achieve correct joint depth and shape, with approximately 30% compression.

3.5 MIXING

- .1 Mix materials in strict accordance with sealant manufacturer's instructions.

3.6 APPLICATION

- .1 Sealant:
 - .1 Apply sealant in accordance with manufacturer's written instructions.
-

3.6 APPLICATION
(Suite)

- .1 (Suite)
 - .2 Mask edges of joint where irregular surface or sensitive joint border exists to provide neat joint.
 - .3 Apply sealant in continuous beads.
 - .4 Apply sealant using gun with proper size nozzle.
 - .5 Use sufficient pressure to fill voids and joints solid.
 - .6 Form surface of sealant with full bead, smooth, free from ridges, wrinkles, sags, air pockets, embedded impurities.
 - .7 Tool exposed surfaces before skinning begins to give slightly concave shape.
 - .8 Remove excess compound promptly as work progresses and upon completion.
- .2 Curing:
 - .1 Cure sealants in accordance with sealant manufacturer's instructions.
 - .2 Do not cover up sealants until proper curing has taken place.

3.7 CLEANING

- .1 Progress Cleaning: clean in accordance with Section 01 74 11 - Cleaning.
 - .1 Leave Work area clean at end of each day.
 - .2 Clean adjacent surfaces immediately.
 - .3 Remove excess and droppings, using recommended cleaners as work progresses.
 - .4 Remove masking tape after initial set of sealant.
 - .2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11 - Cleaning.
 - .3 Waste Management: separate waste materials for reuse and recycling in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal 01 35 21 - LEED Requirements.
 - .1 Remove recycling containers and bins from site and dispose of materials at appropriate facility.
-

- 3.8 PROTECTION
- .1 Protect installed products and components from damage during construction.
 - .2 Repair damage to adjacent materials caused by joint sealants installation.

PART 1 - GENERAL

- | | | |
|-----------------------------|----|--|
| 1.1 RELATED
REQUIREMENTS | .1 | Section 01 33 00, 01 35 21, 01 61 00, 01 74 11, 01 74 21, 07 92 00. |
| 1.2 REFERENCE
STANDARDS | .1 | American National Standards Institute (ANSI)/Ceramic Tile Institute (CTI) <ul style="list-style-type: none"> .1 ANSI A108.1-99, Specification for the Installation of Ceramic Tile (Includes ANSI A108.1A-C, 108.4-.13, A118.1-.10, ANSI A136.1). .2 CTI A118.3-92, Specification for Chemical Resistant, Water Cleanable Tile Setting and Grouting Epoxy and Water Cleanable Tile Setting Epoxy Adhesive (included in ANSI A108.1). .3 CTI A118.4-92, Specification for Latex Cement Mortar (included in ANSI A108.1). .4 CTI A118.5-92, Specification for Chemical Resistant Furan Resin Mortars and Grouts for Tile Installation (included in ANSI A108.1). .5 CTI A118.6-92, Specification for Ceramic Tile Grouts (included in ANSI A108.1). |
| | .2 | American Society for Testing and Materials International (ASTM) <ul style="list-style-type: none"> .1 ASTM C 144-04, Specification for Aggregate for Masonry Mortar. .2 ASTM C 207-06, Specification for Hydrated Lime for Masonry Purposes. .3 ASTM C 847-06, Specification for Metal Lath. .4 ASTM C 979-05, Specification for Pigments for Integrally Coloured Concrete. |
| | .3 | Canadian General Standards Board (CGSB) <ul style="list-style-type: none"> .1 CAN/CGSB-51.34-M86(R1988), Vapour Barrier, Polyethylene Sheet for Use in Building Construction. .2 CGSB 71-GP-22M-78(AMEND.), Adhesive, Organic, for Installation of Ceramic Wall Tile. .3 CAN/CGSB-75.1-M88, Tile, Ceramic. .4 CAN/CGSB-25.20-95, Surface Sealer for Floors. |

1.2 REFERENCE
STANDARDS
(Cont'd)

- .4 Canada Green Building Council (CaGBC)
 - .1 LEED Canada-NC Version 1.0-2004, LEED (Leadership in Energy and Environmental Design): Green Building Rating System Reference Package For New Construction and Major Renovations (including Addendum 2007).
 - .2 LEED Canada-CI Version 1.0-2007, LEED (Leadership in Energy and Environmental Design): Green Building Rating System Reference Guide For Commercial Interiors.
- .5 Canadian Standards Association (CSA International)
 - .1 CSA A123.3-05, Asphalt Saturated Organic Roofing Felt.
 - .2 CAN/CSA-A3000-03(R2006), Cementitious Materials Compendium (Consists of A3001, A3002, A3003, A3004 and A3005).
- .6 South Coast Air Quality Management District (SCAQMD), California State
 - .1 SCAQMD Rule 1168-05, Adhesives and Sealants Applications.
- .7 Terrazzo Tile and Marble Association of Canada (TTMAC)
 - .1 Tile Specification Guide 09 30 00 2006/2007, Tile Installation Manual.
 - .2 Tile Maintenance Guide 2000.

1.3 ACTION AND
INFORMATIONAL
SUBMITTALS

- .1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.
 - .2 Provide product data in accordance with Section 01 33 00 - Submittal Procedures.
 - .1 Include manufacturer's information on:
 - .1 Ceramic tile, marked to show each type, size, and shape required.
 - .2 Chemical resistant mortar and grout (Epoxy and Furan).
 - .3 Cementitious backer unit.
 - .4 Dry-set cement mortar and grout.
 - .5 Divider strip.
 - .6 Elastomeric membrane and bond coat.
 - .7 Reinforcing tape.
 - .8 Levelling compound.
 - .9 Latex cement mortar and grout.
 - .10 Commercial cement grout.
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1.3 ACTION AND
INFORMATIONAL
SUBMITTALS
(Cont'd)

- .2 (Cont'd)
 - .1 (Cont'd)
 - .11 Organic adhesive.
 - .12 Slip resistant tile.
 - .13 Waterproofing isolation membrane.
 - .14 Fasteners.
- .3 Provide samples in accordance with Section 01 33 00 - Submittal Procedures.
 - .1 Base tile: submit duplicate, 300 x 300 mm sample panels of each colour, texture, size, and pattern of tile.
 - .2 Floor tile: submit duplicate, 300 x 300 mm sample panels of each colour, texture, size, and pattern of tile.
 - .3 Trim shapes, bullnose cap and cove including bullnose cap and base pieces at internal and external corners of vertical surfaces, each type, colour, and size.
 - .4 Adhere tile samples to 11 mm thick plywood and grout joints to represent project installation.
- .4 Sustainable Design Submittals:
 - .1 LEED Canada-NC Version 1.0 CI Version 1.0 Submittals: in accordance with Section 01 35 21 - LEED Requirements.

1.4 QUALITY
ASSURANCE

- .1 Quality Assurance Submittals:
 - .1 Manufacturer's Instructions: manufacturer's installation instructions.
 - .2 Manufacturer's Field Reports: manufacturer's field reports specified.

1.5 DELIVERY,
STORAGE AND
HANDLING

- .1 Packing, shipping, handling and unloading:
 - .1 Deliver, store and handle materials in accordance with Section 01 61 00 - Common Product Requirements.
- .2 Waste Management and Disposal:
 - .1 Separate waste materials for reuse and recycling in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.

1.6 AMBIENT
CONDITIONS

- .1 Maintain air temperature and structural base temperature at ceramic tile installation area above 12 degrees C for 48 hours before, during, and 48 hours after, installation.
- .2 Do not install tiles at temperatures less than 12 degrees C or above 38 degrees C.
- .3 Do not apply epoxy mortar and grouts at temperatures below 15 degrees C or above 25 degrees C.

PART 2 - PRODUCTS2.1 FLOOR TILE

- .1 Ceramic tile: to CAN/CGSB-75.1, Type 7, Class MR, 300 x 300 x 10 mm size, square edges, smooth slip resistant surface, as specified pattern, as specified colour as selected by Departmental Representative . Matching coved square base, 150 x 100 mm high.
- .2 Ceramic mosaic tile: to CAN/CGSB-75.1, Type 1 2, Class MR , 300 x 300 x 8 mm size, square edges, smooth slip resistant surface, as specified pattern, as specified colour as selected by Departmental Representative . Matching coved square base, 150 x 100 mm high.
- .3 Porcelain tile: to CAN/CGSB-75.1 ANSI A118.4, Type, Class MR (02 -3.0%), 400 x 400 x 10 mm size, edges, smooth slip resistant surface, as specified pattern, as specified colour as selected by Departmental Representative . Matching coved square base, 150 x 100 mm high.

2.2 WALL AND
CEILING TILE

- .1 Ceramic tile: to CAN/CGSB-75.1, Type 3 5, Class MR as, 300 x 300 x 10 mm size, smooth edges, glazed matt glazed unglazed surface, as specified pattern, as specified colour as selected by Departmental Representative . Matching cushion bullnose square edge trim to suit application.

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|--|----|---|
| 2.2 WALL AND
CEILING TILE
(Cont'd) | .2 | Ceramic mosaic tile: to CAN/CGSB-75.1, Type 1 2, Class MR , 200 x 300 x 10mm size, smooth edges, as specified pattern, as specified colour as selected by Departmental Representative . |
| 2.3 BASE TILE | .1 | Base: coved; type, size, colour and texture to match adjacent flooring material. |
| 2.4 STAIR TREADS | .1 | Stair Treads: bull nosed edge, non-slip surface, matching floor tile, sized to suit stair tread configuration. |
| 2.5 TRIM SHAPES | .1 | Conform to applicable requirements of adjoining floor and wall tile. |
| | .2 | Use slip resistant trim shapes for horizontal surfaces of showers, overflow ledges, recessed steps, shower curbs, drying area curbs, and stools. |
| | .3 | Use trim shapes sizes conforming to size of adjoining field wall tile, including existing spaces, unless specified otherwise. |
| | .4 | Internal and External Corners: provide trim shapes as follows where indicated. |
| | .1 | Bullnose shapes for external corners including edges. |
| | .2 | Coved shapes for internal corners. |
| | .3 | Special shapes for: |
| | .1 | Base to floor internal corners to provide integral coved vertical and horizontal joint. |
| | .2 | Base to floor external corners to provide bullnose vertical edge with integral coved horizontal joint. Use as stop at bottom of openings having bullnose return to wall. |
| | .3 | Wall top edge internal corners to provide integral coved vertical joint with bullnose top edge. |

2.5 TRIM SHAPES
(Cont'd)

- .4 (Cont'd)
- .3 (Cont'd)
 - .4 Wall top edge external corners to provide bullnose vertical and horizontal joint edge.
- .5 Provide cove and bullnose shapes for countertops stools, and where indicated and required to complete tile work.

2.6 MORTAR AND ADHESIVE MATERIALS

- .1 Cement: to CSA-A5, type 10.
- .2 Sand: to ASTM C 144, passing 16 mesh.
- .3 Hydrated lime: to ASTM C 207, Type N NA S SA.
- .4 Latex additive: formulated for use in cement mortar and thin set bond coat.
- .5 Water: potable and free of minerals and chemicals which are detrimental to mortar and grout mixes.
- .6 Adhesives:
 - .1 Maximum VOC limit 65 g/L to SCAQMD Rule 1168.

2.7 BOND COAT

- .1 Dry set cement mortar: to ANSI A108.1.
- .2 Organic adhesive: to CGSB 71-GP-22M, Type 1 2 ANSI A136.1.
 - .1 Maximum VOC limit 65 g/L to SCAQMD Rule 1168.
- .3 Latex Cement mortar: to ANSI A108.1, two-component universal dry-set mortar.
- .4 Epoxy bond coat: non-toxic, non-flammable, non-hazardous during storage, mixing, application, and when cured. To produce shock and chemical resistant mortars having the following physical characteristics:
 - .1 Compressive Strength: 246 kg/cm².
 - .2 Bond Strength: 53 kg/cm².
 - .3 Water Absorption: 4.0% Max.

2.7 BOND COAT

(Cont'd)

- .4 (Cont'd)
 - .4 Ozone Resistance, 200 hours @ 200 ppm: no loss of strength.
 - .5 Smoke Contribution Factor: 0.
 - .6 Flame Contribution Factor: 0.
 - .7 Finished mortar and grout to be resistant to urine, dilute acid, dilute alkali, sugar, brine and food waste products, petroleum distillates, oil and aromatic solvents.
 - .8 Bond Coat: maximum VOC limit 65 g/L to SCAQMD Rule 1168.
- .5 Chemical-Resistant Bond Coat:
 - .1 Epoxy Resin Type: CTI A118.3.
 - .2 Furan Resin Type: CTI A118.5.
 - .3 Bond Coat: maximum VOC limit 65 g/L to SCAQMD Rule 1168.

2.8 GROUT

- .1 Colouring Pigments:
 - .1 Pure mineral pigments, limeproof and nonfading, complying with ASTM C 979.
 - .2 Colouring pigments to be added to grout by manufacturer.
 - .3 Job coloured grout are not acceptable.
 - .4 Use in Commercial Cement Grout, Dry-Set Grout, and Latex Cement Grout.
- .2 Cement Grout: to ANSI A108.1.
 - .1 Use one part white cement to one part white sand passing a number 30 screen.
- .3 Commercial Cement Grout: to CTI A118.6.
- .4 Dry-Set Grout: to CTI A118.6.
- .5 Latex Cement Grout: to ANSI A108.1, fast curing, high early strength, polymer-modified, stain resistant, sanded mix for floors, unsanded mix for walls and floors with polished tiles commercial tile grout.
- .6 Chemical-Resistant Grout:
 - .1 Epoxy grout: to ANSI A108.1, having quality, colour and characteristics to match epoxy bond coat. Adhesive and grout by same manufacturer.
 - .2 Furan grout: to CTI A118.5.

2.9 ACCESSORIES

- .1 Reinforcing mesh: 50 x 50 x 1.6 x 1.6 mm galvanized steel wire mesh, welded fabric design, in flat sheets.
- .2 Divider strips:
 - .1 Laminated strips, core 32 x 3 mm black neoprene, outsides (both sides) brass 32 x 1.29 mm complete with anchors, both sides spaced at 150 mm on centre.
 - .2 ZincBrass: 5/16" x 10 mm, complete with anchors, both sides spaced at 150 mm on centre.
 - .3 Plastic colour 5/16" x 10 mm, complete with anchors, both sides spaced at 150 mm on centre
- .3 Cleavage plane: polyethylene film to CGSB 51-34 No. 15 asphalt saturated felt to CSA A123.3.
- .4 Metal lath: to ASTM C 847 galvanized painted finish, 10 mm rib at 2.17 kg/m².
- .5 Transition Strips: purpose made metal extrusion; stainless steel brass zinc anodized aluminum type.
- .6 Reducer Strips: purpose made metal extrusion; stainless steel brass zinc anodized aluminum type; maximum slope of 1:2.
- .7 Prefabricated Movement Joints: purpose made, having a Shore A Hardness not less than 60 and elasticity of plus or minus 40 percent when used in accordance to TTMAC Detail 301EJ.
- .8 Sealant: in accordance with Section 07 92 00 - Joint Sealants.
 - .1 Sealants: maximum VOC limit 250 g/L to SCAQMD Rule 1168.
- .9 Floor sealer and protective coating: to CAN/CGSB-25.20, Type 1 2 to tile and grout manufacturers recommendations.
- .10 Thresholds: Gloss marble, 12 mm thick, rounded edges bevelled one side two sides, honed finish to exposed surfaces, size to suit door opening and frame width.

2.9 ACCESSORIES
(Cont'd)

- .11 Ceramic Accessories: soap holder; semi-recessed, 150 x 150 mm face dimension combination soap holder and grab bar, colour shall match surrounding wall tile.

2.10 MIXES

- .1 Cement:
- .1 Scratch coat: 1 part cement, 1/5 to 1/2 parts hydrated lime to suit job conditions, 4 parts sand, 1 part water, and latex additive where required. Adjust water volume depending on water content of sand.
 - .2 Slurry bond coat: cement and water mixed to creamy paste. Latex additive may be included.
 - .3 Mortar bed for floors: 1 part cement, 4 parts sand, 1 part water. Adjust water volume depending on water content of sand. Latex additive may be included.
 - .4 Mortar bed for walls and ceilings: 1 part cement, 1/5 to 1/2 parts hydrated lime to suit job conditions, 4 parts sand and 1 part water. Adjust water volume depending on water content of sand. Latex additive may be included.
 - .5 Levelling coat: 1 part cement, 4 parts sand, minimum 1/10 part latex additive, 1 part water including latex additive.
 - .6 Bond or setting coat: 1 part cement, 1/3 part hydrated lime, 1 part water.
 - .7 Measure mortar ingredients by volume.
- .2 Dry set mortar: mix to manufacturer's instructions.
- .3 Organic adhesive: pre-mixed.
- .1 Adhesives: maximum VOC limit 65 g/L to SCAQMD Rule 1168.
- .4 Mix bond and levelling coats, and grout to manufacturer's instructions.
- .5 Adjust water volumes to suit water content of sand.

2.11 PATCHING AND
LEVELLING COMPOUND

- .1 Cement base, acrylic polymer compound, manufactured specifically for resurfacing and leveling concrete floors. Products containing gypsum are not acceptable.
- .2 Have not less than the following physical properties:
 - .1 Compressive strength - 25 MPa.
 - .2 Tensile strength - 7 MPa.
 - .3 Flexural strength - 7 MPa.
 - .4 Density - 1.9.
- .3 Capable of being applied in layers up to 50 mm thick, being brought to feather edge, and being trowelled to smooth finish.
- .4 Ready for use in 48 hours after application.

2.12 CLEANING
COMPOUNDS

- .1 Specifically designed for cleaning masonry and concrete and which will not prevent bond of subsequent tile setting materials including patching and leveling compounds and elastomeric waterproofing membrane and coat.
- .2 Materials containing acid or caustic material are not acceptable.

PART 3 - EXECUTION3.1 MANUFACTURER'S
INSTRUCTIONS

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

3.2 WORKMANSHIP

- .1 Do tile work in accordance with TTMAC Tile Installation Manual 2006/2007, "Ceramic Tile", except where specified otherwise.
- .2 Apply tile or backing coats to clean and sound surfaces.

3.2 WORKMANSHIP
(Cont'd)

- .3 Fit tile around corners, fitments, fixtures, drains and other built-in objects. Maintain uniform joint appearance. Cut edges smooth and even. Do not split tiles.
- .4 Maximum surface tolerance 1:800.
- .5 Make joints between tile uniform and approximately 1.5 mm wide, plumb, straight, true, even and flush with adjacent tile. Ensure sheet layout not visible after installation. Align patterns.
- .6 Lay out tiles so perimeter tiles are minimum 1/2 size.
- .7 Sound tiles after setting and replace hollow-sounding units to obtain full bond.
- .8 Make internal angles square, external angles rounded bullnosed.
- .9 Use round bullnose edged tiles at termination of wall tile panels, except where panel abuts projecting surface or differing plane.
- .10 Install divider strips at junction of tile flooring and dissimilar materials.
- .11 Allow minimum 24 hours after installation of tiles, before grouting.
- .12 Clean installed tile surfaces after installation and grouting cured.
- .13 Make control joints at m in each direction where indicated. Make joint width same as tile joints. Fill control joints with sealant in accordance with Section 07 92 00 - Joint Sealants. Keep building expansion joints free of mortar and grout.

3.3 WALL TILE

- .1 Install in accordance with TTMAC detail.

3.4 FLOOR TILE

- .1 Install in accordance with TTMAC detail.

- | | | |
|--|----|--|
| <u>3.5 CEILING TILE</u> | .1 | Install in accordance with TTMAC detail. |
| <u>3.6 BASE TILE</u> | .1 | Install in accordance with TTMAC detail. |
| <u>3.7 STAIR TREADS</u> | .1 | Install in accordance with TTMAC detail. |
| <u>3.8 FLOOR SEALER
AND PROTECTIVE
COATING</u> | .1 | Apply in accordance with manufacturer's instructions. |
| <u>3.9 FIELD QUALITY
CONTROL</u> | .1 | Manufacturer's Field Services:
.1 Provide manufacturer's field services consisting of product use recommendations and periodic site visits for inspection of product installation in accordance with manufacturer's instructions. |
| <u>3.10 CLEANING</u> | .1 | Proceed in accordance with Section 01 74 11 - Cleaning. |

PART 1 - GENERAL

1.1 RELATED REQUIREMENTS	.1	01 33 00, 01 35 21, 01 35 29.06, 01 35 43, 01 45 00, 01 51 00, 01 61 00, 01 74 21, 01 78 00, 07 92 00 .
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1.2 REFERENCE STANDARDS	.1	ASTM International .1 ASTM D 2369-10e1, Standard Test Methods for Volatile Content of Coatings. .2 ASTM D 2832-2011, Standard Guide for Determining Volatile and Nonvolatile Content of Paint and Related Coatings.
	.2	Canada Green Building Council (CaGBC) .1 LEED Canada-NC Version 1.0-2004, LEED (Leadership in Energy and Environmental Design): Green Building Rating System for New Construction and Major Renovations (including Addendum 2007). .2 LEED Canada-NC-2009, LEED (Leadership in Energy and Environmental Design): Green Building Rating System for New Construction and Major Renovations 2009. .3 LEED Canada-CI Version 1.0-2007, LEED (Leadership in Energy and Environmental Design): Green Building Rating System for Commercial Interiors. .4 LEED Canada-EB: O&M-2009, LEED (Leadership in Energy and Environmental Design): Green Building Rating System for Existing Buildings: Operations and Maintenance 2009.
	.3	Canadian General Standards Board (CGSB) .1 CGSB 37-GP-9Ma-83, Primer, Asphalt, Unfilled, for Asphalt Roofing, Dampproofing and Waterproofing. .2 CAN/CGSB-51.34-M86, Vapour Barrier, Polyethylene Sheet for Use in Building Construction (and Amendment-88).
	.4	Canadian Lumbermen's Association (CLA) .1 CLA Grading Rules for Canadian Hardwood Strip Flooring 1997.
	.5	CSA International

1.2 REFERENCE
STANDARDS
(Cont'd)

- .5 (Cont'd)
 - .1 CSA A123.3-05(2010), Asphalt Saturated Organic Roofing Felt.
 - .2 CSA O151-09, Canadian Softwood Plywood.
 - .3 CSA O325-07, Construction Sheathing.
 - .4 CAN/CSA-Z809-08, Sustainable Forest Management.
- .6 Forest Stewardship Council (FSC)
 - .1 FSC-STD-01-001-2004, FSC Principle and Criteria for Forest Stewardship.
- .7 Health Canada/Workplace Hazardous Materials Information System (WHMIS)
 - .1 Material Safety Data Sheets (MSDS).
- .8 South Coast Air Quality Management District (SCAQMD), California State, Regulation XI. Source Specific Standards
 - .1 SCAQMD Rule 1113-A2011, Architectural Coatings.
 - .2 SCAQMD Rule 1168-A2005, Adhesives and Sealants Applications.
- .9 Sustainable Forestry Initiative (SFI)
 - .1 SFI-2010-2014 Standard.

1.3 ACTION AND
INFORMATIONAL
SUBMITTALS

- .1 Submit in accordance with Section 01 33 00 - Submittal Procedures.
 - .2 Product Data:
 - .1 Submit manufacturer's instructions, printed product literature and data sheets for wood strip plank flooring and include product characteristics, performance criteria, physical size, finish and limitations.
 - .2 Submit 2 copies of WHMIS MSDS in accordance with Section 01 35 29.06 - Health and Safety Requirements 01 35 43 - Environmental Procedures.
 - .3 Samples:
 - .1 Submit for review and acceptance of each unit.
 - .2 Samples will be returned for inclusion into work.
 - .3 Submit duplicate 300 mm long samples of finish flooring strips.
-

1.3 ACTION AND
INFORMATIONAL
SUBMITTALS
(Cont'd)

- .4 Certifications: submit product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements.
 - .5 Test Reports: certified test reports showing compliance with specified performance characteristics and physical properties.
 - .6 Manufacturers Reports:
 - .1 Manufacturer's Field Reports: submit manufacturer's written reports within 3 days of review, verifying compliance of Work, as described in PART 3 - FIELD QUALITY CONTROL.
 - .7 Sustainable Design Submittals:
 - .1 LEED Canada submittals: in accordance with Section 01 35 21 - LEED Requirements.
 - .2 Construction Waste Management:
 - .1 Submit project Waste Management Plan Waste Reduction Workplan highlighting recycling and salvage requirements.
 - .2 Submit calculations on end-of-project recycling rates, salvage rates, and landfill rates demonstrating that 50 75% of construction wastes were recycled or salvaged.
 - .3 Recycled Content:
 - .1 Submit listing of recycled content products used, including details of required percentages or recycled content materials and products, showing their costs and percentages of post-consumer and post-industrial content, and total cost of materials for project.
 - .4 Regional Materials: submit evidence that project incorporates required percentage 10 20 % of regional materials and products, showing their cost, distance from project to furthest site of extraction or manufacture, and total cost of materials for project.
 - .5 Wood Certification: submit vendor's manufacturer's Chain-of-Custody Certificate number for CAN/CSA-Z809 or FSC or SFI certified wood.
 - .6 Low-Emitting Materials:
-

- | | | |
|--|-------------|--|
| 1.3 ACTION AND
INFORMATIONAL
SUBMITTALS
<u>(Cont'd)</u> | .7 (Cont'd) | |
| | .6 (Cont'd) | |
| | .1 | Submit listing of adhesives and sealants and paints and coatings used in building, showing compliance with VOC and chemical component limits or restriction requirements. |
| | .2 | Submit listing of composite wood products used in building, stating that they contain no added urea-formaldehyde resins. |
| 1.4 CLOSEOUT
SUBMITTALS
<u></u> | .1 | Submit in accordance with Section 01 78 00 - Closeout Submittals. |
| | .2 | Operation and Maintenance Data: submit operation and maintenance data for wood strip plank flooring for incorporation into manual. |
| 1.5 QUALITY
ASSURANCE
<u></u> | .1 | Certifications: product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements. |
| | .2 | Sustainable Standards Certification: |
| | .1 | Certified Wood: submit listing of wood products and materials used in accordance with CAN/CSA-Z809 or FSC or SFI. |
| 1.6 MOCK-UPS
<u></u> | .1 | Construct mock-up in accordance with Section 01 45 00 - Quality Control. |
| | .2 | Construct mock-up 10 m ² minimum, of wood strip flooring including one inside corner and one outside corner base threshold. |
| | .3 | Mock-up will be used: |
| | .1 | To judge quality of work, substrate preparation, operation of equipment and material application. |
| | .4 | Locate mock-up where directed where indicated. |
-

- 1.6 MOCK-UPS
(Cont'd)
- .5 Allow 24 hours minimum for inspection of mock-up before proceeding with work.
 - .1 Proceed with work only after receipt of written acceptance by Departmental Representative .
 - .6 When accepted, mock-up will demonstrate minimum standard of quality required for this work.
 - .1 Approved mock-up may not remain as part of finished work. Remove mock-up and dispose of materials when no longer required and when directed by Departmental Representative .
- 1.7 DELIVERY,
STORAGE AND
HANDLING
- .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: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.
 - .1 Ensure concrete, masonry, sheet rock, paint and framing members are thoroughly dry before flooring is delivered.
 - .2 Do not truck or unload flooring in rain, snow or excessively humid conditions.
 - .3 Storage and Handling Requirements:
 - .1 Store materials in fully enclosed ventilated, clean and dry storage space for 72 hours minimum before starting of work.
 - .1 OpenRemove packaging and allow 72 hours for acclimation wood to acclimatize in accordance with manufacturer's written recommendations..
 - .2 Cover flooring with tarpaulin or vinyl if atmosphere is foggy or damp.
 - .3 Leave adequate room for good air circulation around stacks of flooring.
 - .4 Divide flooring into small lots and store in spaces where it will be installed.
 - .5 Store and protect wood strip flooring from nicks, scratches, and blemishes.
 - .6 Replace defective or damaged materials with new.
-

1.7 DELIVERY,
STORAGE AND
HANDLING
(Cont'd)

- .4 Develop Construction Waste Management Plan Waste Reduction Workplan related to Work of this Section and in accordance with Section 01 35 21 - LEED Requirements.
- .5 Packaging Waste Management: remove for reuse and return by manufacturer of pallets, crates, padding, and packaging materials as specified in Construction Waste Management Plan Waste Reduction Workplan in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal and Section 01 35 21 - LEED Requirements.

1.8 SITE CONDITIONS

- .1 Site Requirements:
 - .1 Safety: comply with requirements of Workplace Hazardous Materials Information System (WHMIS) regarding use, handling, storage, and disposal of materials.
 - .2 Ambient Conditions:
 - .1 Ventilation:
 - .1 Provide continuously during and after installation. Run system 24 hours per day during installation; provide continuous ventilation for 7 days after completion of installation.
 - .2 Ventilate enclosed spaces in accordance with Section 01 51 00 - Temporary Utilities.
 - .2 Temperature:
 - .1 Maintain ambient temperature minimum of 18 degrees C and minimum of 21 degrees C from 7 days before installation to at least 48 hours after completion of work and maintain relative humidity not higher than 40% during same period.
 - .2 Maintain minimum temperature 10 degrees C within area of installation until final acceptance of building.
 - .3 Ensure substrate is within moisture limits prescribed by flooring manufacturer.
 - .4 Maintain heat and humidity levels near occupancy levels for 5 days prior to delivery and until sanding and finishing are complete during winter months.
-

PART 2 - PRODUCTS2.1 MATERIALS

- .1 Sustainability Characteristics:
 - .1 Adhesives and Sealants:
 - .1 Adhesives in accordance with Section 07 92 00 - Joint Sealants.
 - .2 VOC limit 100 g/L maximum to SCAQMD Rule 1168.
 - .2 Coating:
 - .1 Coating in accordance with manufacturer's recommendations for surface conditions:
 - .2 VOC limit 275 g/L maximum to SCAQMD Rule 1113.
 - .3 Wood:
 - .1 CAN/CSA-Z809 or FSC or SFI certified.
 - .2 Urea-formaldehyde free.
- .2 RedWhite oak strip flooring: finished unfinished mm thick x TBD mm wide random lengths, tongue and groove edges and matched ends, sawn, grade to CLA Grading Rules for Canadian Hardwood Strip Flooring. Grade stamp each bundle of flooring.
- .3 Hard mapleBeechYellow BirchPine strip flooring: finished unfinished mm thick x 150 mm wide random lengths, tongue and groove edges and matched ends, grade to CLA Grading Rules for Canadian Hardwood Strip Flooring. Grade stamp each bundle of flooring.
- .4 Sleepers:
 - .1 38 mm x 89 mm group 1 density, pressure-treated, kiln-dried lumber.
 - .2 Preservative treated with product suitable for interior installation.
 - .3 450450 to 1200 mm long.
 - .4 Moisture content no greater than 12%.
- .5 Perimeter springs: flat spring steel, 2.5 mm thick x 25 x 225 mm size, attachment.
- .6 Nails: purpose designed barbed nails for power nailing, to manufactures specifications mm long.

2.1 MATERIALS
(Cont'd)

- .7 Subfloor:
 - .1 Sheathing:
 - .1 Plywood to CSA 0151, sheathing grade.
 - .2 No. 1 No. 2 group 1 softwood suitable for subfloors over wood joists Exterior sheathing grade plywood OSB board.
 - .3 15.87519 mm performance rated product.
 - .2 Boards:
 - .1 Group 1, dense, softwood board equivalent.
 - .2 Flat, dry, 19 mm, dressed, square edge boards.
 - .3 Width: 150 mm.
- .8 Mastic: type recommended by flooring material manufacturer.
- .9 Waterproofing Membrane:
 - .1 Polyethelene film: to CAN/CGSB-51.34 and CCD-126, Type 2, 0.15 mm thick.
 - .2 Asphalt saturated felt: to CSA A123.3, No.15 organic felt.
- .10 Asphalt primer: to CGSB 37-GP-9Ma.
- .11 Rubber angle base: moulded rubber, 75 x 100 mm angle profile, with 10 mm diameter ventilation holes, black brown colour.
- .12 Metal angle base: extruded aluminum, mill finish, 75 x 100 mm angle profile, 6 mm thick.
- .13 Wood base: 7.5 x 150 mm in height. Colonial style, Oak Pine species, clear finger-jointed grade.
- .14 Thresholds: 150 mm wide x full width of door opening, extruded aluminum bronze stainless steel mill finish, plain serrated surface, with thermal break of rigid PVC, with lip and vinyl door seal insert.
- .15 Floor finish: TBD.
 - .1 Test for acceptable VOC emissions to ASTM D 2369 and ASTM D 2832.

2.1 MATERIALS (Cont'd)

- .16 Game lines: in accordance with local N.S. regulations.
- .17 Floor sockets: cast metal housing to accept threaded inserts, double-hinged nickel-bronze lid, 50 mm socket diameter posts, supplied with threaded bushings, cast equipment hooks, hardware, and isolation gromet between socket and flooring.
- .18 Grout fill: (at floor sockets) Portland cement/sand/water mix to produce 15 MPa concrete with 75 to 100 mm slump.

PART 3 - EXECUTION

3.1 EXAMINATION

- .1 Verification of Conditions: verify conditions of substrates previously installed under other Sections or Contracts are acceptable for wood strip and plank flooring installation in accordance with manufacturer's written instructions.
 - .1 Visually inspect substrate in presence of Departmental Representative .
 - .2 Inform Departmental Representative of unacceptable conditions immediately upon discovery.
 - .3 Proceed with installation only after unacceptable conditions have been remedied and after receipt of written approval to proceed from Departmental Representative .

3.2 PREPARATION

- .1 Check and record moisture content of both flooring and subflooring before beginning installation.
 - .1 Ensure moisture content is within acceptable limits in accordance with manufacturer's written recommendations.
 - .2 Wood Subfloor:
 - .1 Sheet Underlayment:
 - .1 Install with grain of faces at right angles to joists.
 - .2 Nail every 150 mm along each joist.
-

- 3.2 PREPARATION .2 (Cont'd)
-
- (Cont'd) .1 (Cont'd)
- .3 Subfloor: flat, clean, dry, structurally sound and free of squeaks and protruding nails and/or staples.
 - .4 Nailing Schedule: adequate, typically every 150 mm along panel ends and every 300 mm along intermediate supports.
 - .5 Nail spacing evident on panel edges.
 - .6 Flatten edge swell as required.
 - .7 Sweep subfloor clean.
- .2 Solid Board Group:
- .1 Boards: no wider than 150 mm. Install boards at 45 degree angle.
 - .2 Leave expansion spaces of 6 10 mm between boards.
 - .3 Use two 8d nails and nail to every bearing point, including blocking.
 - .4 Rest all mitered joints on joists.
- .3 Concrete Subfloor:
- .1 Grind down high spots with 20 grit (no. 3 ½) paper.
 - .2 Fill low spots with proper levelling compound.
 - .3 Clean up grease, oil and other contaminants, and sweep slab clean.
 - .4 Vapour Retarder:
 - .1 Moisture test slab.
 - .2 Add moisture barrier for moisture levels above 12% before applying underlayment.
 - .3 Two Membrane Asphalt Felt or Building Paper System:
 - .1 Prime slab and apply 1 litre/square metre cold-type, cut-back asphalt mastic with notched trowel.
 - .2 Let mastic set 2 hours (Check manufacturer's recommendations).
 - .3 Roll out No. 15 asphalt felt/building paper, leaving 100 mm edge laps.
 - .4 Butt ends.
 - .5 Apply second coating of mastic as above.
-

3.2 PREPARATION

(Cont'd)

.3 (Cont'd)

.4 (Cont'd)

.6 Roll out second layer of asphalt felt/building paper in same direction as first with overlaps staggered.

.4 Polyethylene Method:

.1 Prime slab and apply 2 litre/square metre cold-type, cut-back asphalt mastic with straight edge or fine toothed trowel.

.2 Let mastic set 1 hour (check manufacturer's recommendations).

.3 Lay 4 6 mil polyethylene film on slab over screeds, overlapping edges 100 mm to 150 mm. Extend sheets under baseboards.

.4 Walk in or roll in film. Step on roll over every square mm of floor to ensure proper adhesion.

.4 Glue Down Underlayment:

.1 Two Layer System:

.1 Cut plywood into 1220 mm x 1220 mm squares 400 mm x 2440 mm planks.

.2 Score plywood backs 9.53 mm deep.

.3 Apply adhesive in accordance with manufacturer's recommendations.

.4 Place first plywood layer with edges parallel to wall. Place plywood with 6 mm to 13 mm gaps between sheets.

.5 Stagger panel joints 610 mm.

.6 Lay second layer perpendicular or at 45 degree angle to first.

.7 Cut plywood to fit within 3 mm near and around door jambs and other obstructions where finish trim will not be used.

.2 Single Layer System:

.1 Cut plywood into 1220 mm x 1220 mm squares 400 mm x 2440 mm planks.

.2 Score plywood backs 10 mm deep.

.3 Apply adhesive in accordance with manufacturer's recommendations.

.4 Place plywood with edges parallel to wall. Place plywood with 6 mm to 13 mm gaps between sheets.

.5 Stagger panel joints by 610 mm.

3.2 PREPARATION (Cont'd)

- .4 (Cont'd)
 - .2 (Cont'd)
 - .6 Cut plywood to fit within 3 mm near and around door jambs and other obstructions where finish trim will not be used.
 - .5 Nail Down Underlayment:
 - .1 Loose lay plywood panels diagonally over entire floor.
 - .2 Leave 6 mm to 13 mm gap between sheets.
 - .3 Leave 19 mm gap at all vertical obstructions.
 - .4 Cut plywood to fit within 3 mm near and around door jambs and other obstructions where finish trim will not be used.
 - .5 Fasten plywood with powder-actuated concrete nailer or hammer-driven concrete nails. Use minimum of 32 nails (shots) per 1220 mm x 2440 mm panel.
 - .6 Start nailing at centre of panel and work towards edges.
 - .6 Screed System:
 - .1 Sweep slab.
 - .2 Prime with asphalt primer according to manufacturer's directions, and allow to dry.
 - .3 Apply hot (pour) cold (cut-back) asphalt mastic.
 - .4 Set screeds (sleepers) in rivers of adhesive and lap ends by 100 mm minimum with 13 mm space between lapped edges.
 - .5 Ensure 100% contact between screeds and slab.
 - .6 Lay screeds (sleepers) 300 mm on centre at right angles to direction of finished floor.
 - .7 Leave 19 mm expansion space at vertical obstructions.
 - .8 Lay 6 mil polyethylene vapour barrier over screeds (sleepers) with edges overlapped.
 - .9 Install plywood OSB softwood board subfloor.
 - .7 Floated Subfloor:
 - .1 Place first layer of plywood with edges parallel to wall, without fastening.
 - .2 Install plywood with 2 mm gaps between sheets.
-

3.2 PREPARATION (Cont'd)

- .7 (Cont'd)
- .3 Lay second layer perpendicular or at 45 degree angle to first.
 - .4 Leave 2 mm gap between sheets.
 - .5 Leave 19 mm expansion space at vertical obstructions.
 - .6 Staple, screw or nail second layer to first layer on 300 mm grid pattern.

3.3 INSTALLATION

- .1 Manufacturer's Instructions: comply with manufacturer's written recommendations, including product technical bulletins, product catalogue installation instructions, product carton installation instructions, and data sheets.
 - .2 Install No.15 felt directly below finish flooring.
 - .3 Install finish flooring, as indicated, parallel to long dimension of room and at right angle to sleepers floor joists.
 - .4 Machine nail fastening. Maintain tight joints and board ends. Install to manufacturer's written instructions. Provide supplementary framing for floor socket lid/frame assembly.
 - .5 Maintain 50 mm expansion space at perimeter of floor surface install spring steel spacers attaching retaining clips to wall at 600 mm on centre.
 - .6 Power sand floor surface smooth and true. Vacuum clean and remove dust.
 - .7 Apply two coats of floor finish. Permit to dry thoroughly prior to permitting foot traffic.
 - .8 Install base continuously at floor perimeter. Secure to wall surface with screws and plugs. Ensure base does not contact floor surface and is not secured to it.
 - .9 Install thresholds at openings. Attach threshold to adjacent rigid floor surface. Threshold to act as ramp between floor surfaces over expansion space.
-

- 3.3 INSTALLATION
(Cont'd)
- .10 Apply game lines to floor surface to layout indicated. Follow colour schedule of court layouts with TBD mm wide lines.
 - .11 Install floor sockets at locations indicated. Secure socket housing in concrete sub-floor by grouting, ensuring vertical and plumb. Secure lid and frame in floating wood floor surface flush and square.
- 3.4 FIELD QUALITY CONTROL
- .1 Have manufacturer of products supplied under this Section review Work involved in handling, installation, protection and cleaning of its products, and submit written reports in acceptable format to verify compliance of Work with Contract within 3 days of review.
 - .2 Manufacturer's Field Services:
 - .1 Submit manufacturer's field services consisting of product use recommendations and periodic site visits for inspection of product installation in accordance with manufacturer's instructions.
 - .2 Ensure manufacturer's representative is present before and during critical periods of installation construction of field joints and testing.
 - .3 Schedule site visits:
 - .1 After delivery and storage of products, and when preparatory Work, or other Work, on which the Work of this Section depends, is complete but before installation begins.
 - .2 Twice during progress of Work at 25% and 60% complete.
 - .3 Upon completion of the Work, after cleaning is carried out.
- 3.5 CLEANING
- .1 Progress Cleaning: clean in accordance with Section 01 74 11 - Cleaning.
 - .1 Leave Work area clean at end of each day.
 - .2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11 - Cleaning.
-

- 3.5 CLEANING .1 (Cont'd)
- .2 (Cont'd)
- .1 Clean flooring and base surfaces to
 flooring manufacturer's printed
 instructions.
- .2 Waste Management: separate waste materials for
 reuse and recycling in accordance with Section
 01 74 21 - Construction/Demolition Waste
 Management and Disposal 01 35 21 - LEED
 Requirements.
- .1 Remove recycling containers and bins from
 site and dispose of materials at appropriate
 facility.
- 3.6 PROTECTION .1 Protect new floors from time of final set of
 adhesive after initial waxing until final
 waxing final inspection.
- .2 Prohibit traffic on floor for 48 hours after
 installation.
- .3 Repair damage to adjacent materials caused by
 wood strip plank flooring installation.

PART 1 - GENERAL

- | | | |
|---|----|---|
| 1.1 RELATED
REQUIREMENTS | .1 | Section 01 33 00, 01 35 21, 01 61 00, 01 74 11, 01 74 21 01 78 00. |
| 1.2 REFERENCE
STANDARDS | .1 | ASTM International
.1 ASTM F 1303-04(2014), Standard Specification for Sheet Vinyl Floor Covering with Backing. |
| | .2 | Canada Green Building Council (CaGBC)
.1 LEED Canada-NC Version 1.0-2004, LEED (Leadership in Energy and Environmental Design): Green Building Rating System Reference Package For New Construction and Major Renovations (including Addendum 2007).
.2 LEED Canada-CI Version 1.0-2007, LEED (Leadership in Energy and Environmental Design): Green Building Rating System Reference Guide For Commercial Interiors.
.3 LEED Canada 2009 for Design and Construction-2010, LEED Canada 2009 for Design and Construction Leadership in Energy and Environmental Design Green Building Rating System Reference Guide.
.4 LEED Canada for Existing Buildings, Operations and Maintenance-2009, LEED Canada 2009 Leadership In Energy and Environmental Design Green Building Rating System Reference Guide. |
| | .3 | South Coast Air Quality Management District (SCAQMD)
.1 SCAQMD Rule 1113-13, Architectural Coatings.
.2 SCAQMD Rule 1168-A2011, Adhesive and Sealant Applications. |
| 1.3 ACTION AND
INFORMATIONAL
SUBMITTALS | .1 | Submit in accordance with Section 01 33 00 - Submittal Procedures. |
| | .2 | Product Data: |
-

1.3 ACTION AND
INFORMATIONAL
SUBMITTALS
(Cont'd)

- .2 (Cont'd)
 - .1 Submit manufacturer's instructions, printed product literature and data sheets for resilient sheet flooring and include product characteristics, performance criteria, physical size, finish and limitations.
- .3 Samples:
 - .1 Submit duplicate 300 x 300 mm sample pieces of sheet material, 300 mm long base,nosing,feature strips,treads,edg e strips.
- .4 Sustainable Design Submittals:
 - .1 LEED Canada submittals: in accordance with Section 01 35 21 - LEED Requirements.
 - .2 Construction Waste Management:
 - .1 Submit project Waste Management PlanWaste Reduction Workplan highlighting recycling and salvage requirements.
 - .2 Submit calculations on end-of-project recycling rates, salvage rates, and landfill rates demonstrating that 50-75% of construction wastes were recycled or salvaged.
 - .3 Recycled Content:
 - .1 Submit listing of recycled content products used, including details of required percentages or recycled content materials and products, showing their costs and percentages of post-consumerandpost-industrial content, and total cost of materials for project.
 - .4 Regional Materials: submit evidence that project incorporates required percentage 10-20% of regional materials and products, showing their cost, distance from project to furthest site of extraction or manufacture, and total cost of materials for project.
 - .5 Low-Emitting Materials:
 - .1 Submit listing of adhesives and sealantsandpaints and coatings used in building, showing compliance with VOC and chemical component limits or restriction requirements.

1.4 MAINTENANCE
MATERIAL SUBMITTALS

- .1 Extra Materials:
- .1 Provide extra materials of resilient sheet flooring and adhesives in accordance with Section 01 78 00 - Closeout Submittals.
 - .2 Provide m² of each colour, pattern and type flooring material required for project for maintenance use.
 - .3 Extra materials one piece and from same production run as installed materials.
 - .4 Identify each roll of sheet flooring and each container of adhesive.
 - .5 Deliver to Departmental Representative, upon completion of the work of this section.
 - .6 Store where directed by Departmental Representative.

1.5 DELIVERY,
 STORAGE AND
HANDLING

- .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: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.
- .3 Storage and Handling Requirements:
- .1 Store materials off ground indoors in dry location and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.
 - .2 Store and protect specified materials from nicks, scratches, and blemishes.
 - .3 Replace defective or damaged materials with new.
- .4 Develop Construction Waste Management Plan Waste Reduction Workplan related to Work of this Section and in accordance with Section 01 35 21 - LEED Requirements.

1.5 DELIVERY, STORAGE AND HANDLING
(Cont'd)

.5 Packaging Waste Management: remove for reuse and return by manufacturer of pallets, crates, padding, and packaging materials as specified in Construction Waste Management Plan Waste Reduction Workplan in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal and Section 01 35 21 - LEED Requirements.

1.6 SITE CONDITIONS

.1 Ambient Conditions:
.1 Maintain air temperature and structural base temperature at flooring installation area above 20 degrees for 48 hours before, during and 48 hours after installation.

PART 2 - PRODUCTS

2.1 MATERIALS

.1 Sheet vinyl with backing: to ASTM F 1303, residential light commercial commercial.
.1 Type: I - PVC binder content 90% II - PVC binder content 34%.
.2 Grade: 123.
.3 Backing: A-fibrous (Non-asbestos formulated) B-non-foam plastic D-foamed plastic E-fibrous composition (non-asbestos).
.4 Pattern: smooth embossed.
.5 Texture: printed to simulate tile brick flag stone marble.
.6 Colour: indicated selected by Departmental Representative.
.7 Thickness: mm.
.8 Recycled Content: % post-consumer content, % pre-consumer content.

.2 Linoleum sheet flooring: composed of natural ingredients which are mixed and calendered onto a jute backing:
.1 Pattern: solid, uni-coloured marbleized.
.2 Thickness: 3.22.52.0 mm.
.3 Colour: indicated selected by Departmental Representative.

.3 Rubber sheet flooring:
.1 .

2.1 MATERIALS

(Cont'd)

- .3 (Cont'd)
- .2 Recycled Content:% post-consumer content,
% pre-consumer content.
- .4 Feature strips: of same material and thickness
as adjacent work mm wide, in colour
indicatedselected by Departmental
Representative .
- .5 Resilient base: continuous, top set, complete
with premoulded end stops and external
corners:
- .1 Type: vinylrubber.
- .2 Style: straightandcove.
- .3 Thickness: 2.032.363.17 mm.
- .4 Height: 63.5101.6152.4 mm.
- .5 Lengths: cut lengths minimum 2400 mm.
- .6 Colour:indicatedselected by Departmental
Representative .
- .6 Linoleum base: continuous, top set, complete
with premoulded end stops and external
corners.
- .1 Thickness: 2.02.53.2 mm.
- .2 Height: 100 mm.
- .3 Lengths: 2400 mm.
- .4 Colour:indicatedto match flooring.
- .7 Resilient stair nosing: squareround nose, 5 mm
thick, 30 mm vertical face, 40 mm horizontal
face ribbed, vinyl, rubber,overlay typerebated
type to receive tread finish one-piece length
for stair nosing,colour indicated or selected
by Departmental Representative .
- .8 Resilient stair tread: vinylrubber,30 mm
vertical face, squareround nose, full tread
deep, 5mm thick, smoothribbeddiam ond surface
with carborundum stripssolidmarbleized
pattern, colour indicatedselected by
Departmental Representative .
- .9 Resilient stair riser: top set
vinylrubber,3.22.0 mm thick, mm highfull riser
height,solidmarbleized pattern, colour
indicatedselecte d by Departmental
Representative .

2.1 MATERIALS

(Cont'd)

- .10 Resilient stair stringer: vinylrubber, 2.0 mm thick, solidmarbleized pattern, cut to profile, colour indicatedselected by Departmental Representative .
- .11 Primers and adhesives: of types recommended by resilient flooring manufacturer for specific material on applicable substrate, above, on or below grade.
 - .1 Rubber floor adhesives:
 - .1 Adhesive: maximum VOC limit 60 g/L to SCAQMD Rule 1168.
 - .2 Cove base adhesives:
 - .1 Adhesive: maximum VOC limit 50 g/L to SCAQMD Rule 1168.
- .12 Sub-floor filler and leveller: white premix latex requiring water only to produce cementitious paste2 part latex-type filler requiring no water as recommended by flooring manufacturer for use with their product.
- .13 Metal edge strips:
 - .1 Aluminum extruded, smooth, mill finishpolished stainless steel with lip to extend under floor finish, shoulder flush with top of adjacent floor finish.
- .14 External corner protectors: stainless steel, type recommended by flooring manufacturer.
- .15 Edging to floor penetrations: stainless steelaluminum. type recommended by flooring manufacturer.
- .16 Sealer and wax: type recommended by resilient flooring material manufacturer for material type and location.
 - .1 .
 - .2 Sealer: maximum VOC limit 100 g/L to SCAQMD Rule 1113.

PART 3 - EXECUTION3.1 EXAMINATION

- .1 Verification of Conditions: verify that conditions of substrate previously installed under other Sections or Contracts are acceptable for resilient sheet flooring installation in accordance with manufacturer's written instructions.
 - .1 Visually inspect substrate in presence of Departmental Representative.
 - .2 Inform Departmental Representative of unacceptable conditions immediately upon discovery.
 - .3 Proceed with installation only after unacceptable conditions have been remedied and after receipt of written approval to proceed from Departmental Representative .

3.2 SITE
VERIFICATION OF
CONDITIONS

- .1 Ensure concrete floors are clean and dry by using test methods recommended by flooring manufacturer.

3.3 PREPARATION

- .1 Remove existing resilient flooring.
- .2 Remove or treat old adhesives to prevent residual, old flooring adhesives from bleeding through to new flooring and/or interfering with the bonding of new adhesives.
- .3 Clean floor and apply filler; trowel and float to leave smooth, flat hard surface. Prohibit traffic until filler cured and dry.
- .4 Remove sub-floor ridges and bumps. Fill low spots, cracks, joints, holes and other defects with sub-floor filler.
- .5 Prime Seal concrete slabplywood sub-floor to resilient flooring manufacturer's printed instructions.

3.4 APPLICATION:
FLOORING

- .1 Provide high ventilation rate, with maximum outside air, during installation, and for 48 to 72 hours after installation. If possible, vent directly to outside. Do not let contaminated air recirculate through district or whole building air distribution system. Maintain extra ventilation for at least 1 month following building occupation.
 - .2 Apply adhesive uniformly using recommended trowel. Do not spread more adhesive than can be covered by flooring before initial set takes place.
 - .3 Lay flooring with seams parallel to building lines to produce a minimum number of seams. Border widths minimum 1/3 width of full material.
 - .4 Run sheets in direction of traffic. Double cut sheet joints and continuously seal heat weld according to manufacturer's printed instructions.
 - .5 Heat weld seams of linoleum sheet flooring in accordance with manufacturer's printed instructions.
 - .6 As installation progresses, and after installation roll flooring with 45 kg minimum roller to ensure full adhesion.
 - .7 Cut flooring around fixed objects.
 - .8 Install feature strips and floor markings where indicated. Fit joints tightly.
 - .9 Install flooring in pan type floor access covers. Maintain floor pattern.
 - .10 Continue flooring over areas which will be under built-in furniture.
 - .11 Continue flooring through areas to receive movable type partitions without interrupting floor pattern.
 - .12 Terminate flooring at centreline of door in openings where adjacent floor finish or colour is dissimilar.
-

3.4 APPLICATION:
FLOORING
(Cont'd)

- .13 Install metal edge strips at unprotected or exposed edges where flooring terminates.

3.5 APPLICATION:
STAIRS

- .1 Finish stair risersstair stringers with resilient sheet and install prior to tread material.
- .2 Install stair nosingsstair treadsstair risers one piece for full width of stair. Adhere over entire surface and fit accurately.

3.6 APPLICATION:
BASE

- .1 Lay out base to keep number of joints at minimum.
- .2 Clean substrate and prime with one coat of adhesive.
- .3 Apply adhesive to back of base.
- .4 Set base against wall and floor surfaces tightly by using 3 kg hand roller.
- .5 Install straight and level to variation of 1:1000.
- .6 Scribe and fit to door frames and other obstructions. Use premoulded end pieces at flush door frames.
- .7 Cope internal corners. Use premoulded corner units for right angle external corners. Use formed straight base material for external corners of other angles.
- .8 Use toeless type base where floor finish will be carpet, coved type elsewhere.
- .9 Install toeless type base before installation of carpet on floors.
- .10 Heat weld base in accordance with manufacturer's printed instructions.
-

- 3.7 CLEANING
- .1 Progress Cleaning: clean in accordance with Section 01 74 11 - Cleaning.
 - .1 Leave Work area clean at end of each day.
 - .2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11 - Cleaning.
 - .1 Clean flooring and base surfaces to flooring manufacturer's printed instructions.
 - .3 Waste Management: separate waste materials for reuse and recycling in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal 01 35 21 - LEED Requirements.
 - .1 Remove recycling containers and bins from site and dispose of materials at appropriate facility.

- 3.8 PROTECTION
- .1 Protect new floors from time of final set of adhesive after initial waxing until final waxing final inspection.
 - .2 Prohibit traffic on floor for 48 hours after installation.
 - .3 Use only water-based coating for linoleum.

PART 1 - GENERAL

1.1 RELATED
 REQUIREMENTS 1.2
REFERENCE STANDARDS

- .1 ASTM International
 - .1 ASTM F 1066-04(2010)e1, Standard Specification for Vinyl Composition Floor Tile.
 - .2 ASTM F 1344-12e1, Standard Specification for Rubber Floor Tile.
- .2 Canada Green Building Council (CaGBC)
 - .1 LEED Canada-NC Version 1.0-2004, LEED (Leadership in Energy and Environmental Design): Green Building Rating System Reference Package For New Construction and Major Renovations (including Addendum 2007).
 - .2 LEED Canada-CI Version 1.0-2007, LEED (Leadership in Energy and Environmental Design): Green Building Rating System Reference Guide For Commercial Interiors.
 - .3 LEED Canada 2009 for Design and Construction-2010, LEED Canada 2009 for Design and Construction Leadership in Energy and Environmental Design Green Building Rating System Reference Guide.
 - .4 LEED Canada for Existing Buildings, Operations and Maintenance-2009, LEED Canada 2009 Leadership In Energy and Environmental Design Green Building Rating System Reference Guide.
- .3 Canadian General Standards Board (CGSB)
 - .1 CAN/CGSB-25.20-95, Surface Sealer for Floors.
 - .2 CAN/CGSB-25.21-95, Detergent-Resistant Floor Polish.
- .4 South Coast Air Quality Management District (SCAQMD)
 - .1 SCAQMD Rule 1168-A2011, Adhesive and Sealant Applications.

1.2 ACTION AND
 INFORMATIONAL
SUBMITTALS

- .1 Submit in accordance with Section 01 33 00 - Submittal Procedures.
 - .2 Product Data:
-

1.2 ACTION AND
INFORMATIONAL
SUBMITTALS

(Cont'd)

- .2 (Cont'd)
 - .1 Submit manufacturer's instructions, printed product literature and data sheets for resilient tile flooring and include product characteristics, performance criteria, physical size, finish and limitations.
 - .3 Samples:
 - .1 Submit duplicate tile in size specified, 300 mm longbase,nosing,feature strips,treads,edge strips.
 - .4 Sustainable Design Submittals:
 - .1 LEED Canada submittals: in accordance with Section 01 35 21 - LEED Requirements.
 - .2 Construction Waste Management:
 - .1 Submit project Waste Management PlanWaste Reduction Workplan highlighting recycling and salvage requirements.
 - .2 Submit calculations on end-of-project recycling rates, salvage rates, and landfill rates demonstrating that 50-75% of construction wastes were recycled or salvaged.
 - .3 Recycled Content:
 - .1 Submit listing of recycled content products used, including details of required percentages or recycled content materials and products, showing their costs and percentages of post-consumerandpost-industrial content, and total cost of materials for project.
 - .4 Regional Materials: submit evidence that project incorporates required percentage 10-20% of regional materials and products, showing their cost, distance from project to furthest site of extraction or manufacture, and total cost of materials for project.
 - .5 Low-Emitting Materials:
 - .1 Submit listing of adhesives and sealantsandpaints and coatings used in building, showing compliance with VOC and chemical component limits or restriction requirements.
-

1.3 MAINTENANCE
MATERIAL SUBMITTALS

- .1 Extra Materials:
- .1 Provide maintenance materials of resilient tile flooring, base and adhesive in accordance with Section 01 78 00 - Closeout Submittals.
 - .2 Provide 30 m² of each colour, pattern and type flooring material required for this project for maintenance use.
 - .3 Extra materials from same production run as installed materials.
 - .4 Identify each container of floor tile and each container of adhesive.
 - .5 Deliver to Departmental Representative, upon completion of the work of this section.
 - .6 Store where directed by Departmental Representative.

1.4 DELIVERY,
STORAGE AND
HANDLING

- .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: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.
- .3 Storage and Handling Requirements:
- .1 Store materials off ground indoors in dry location and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.
 - .2 Store and protect specified materials from nicks, scratches, and blemishes.
 - .3 Replace defective or damaged materials with new.
- .4 Develop Construction Waste Management Plan Waste Reduction Workplan related to Work of this Section and in accordance with Section 01 35 21 - LEED Requirements.
-

1.4 DELIVERY,
STORAGE AND
HANDLING

(Cont'd)

- .5 Packaging Waste Management: remove for reuse and return by manufacturer of pallets, crates, padding, and packaging materials as specified in Construction Waste Management Plan Waste Reduction Workplan in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal and Section 01 35 21 - LEED Requirements.

1.5 SITE CONDITIONS

- .1 Ambient Conditions:
.1 Maintain air temperature and structural base temperature at flooring installation area above 20 degrees C for 48 hours before, during and for 48 hours after installation.

PART 2 - PRODUCTS

2.1 MATERIALS

- .1 Vinyl composition tile: to ASTM F 1066, Composition 1 - non asbestos Class 1 - solid colour Class 2 - through pattern tile Class 3 - surface patterned, plain embossed, 1.523 mm, 300 x 300 mm size, in standard colour indicated selected by Departmental Representative .
- .2 High vinyl tile: to ASTM F 1066, Composition 1 - non asbestos Class 1 - solid colour Class 2 - through pattern tile Class 3 - surface patterned, plain embossed, 1.523 mm, 300 x 300 mm size, in standard colour indicated selected by Departmental Representative .
- .3 Rubber tile: to ASTM F 1344, Class 1 - Homogeneous rubber tile, A-solid colour B-through pattern Class 2 - Laminated wear layer, A-solid colour wear layer mottled wear layer, smooth moulded pattern, surface design, 2.0 mm base thickness 905 x 905 mm size, in standard colour indicated selected by Departmental Representative .
- .4 Linoleum tile flooring: composed of natural ingredients which are mixed and calendered onto a jute backing:

2.1 MATERIALS
(Cont'd)

- .4 (Cont'd)
 - .1 Pattern: solid, uni-colouredmarbleized .
 - .2 Thickness: 2.02.53.2 mm.
 - .3 Colour: asindicatedselected by Departmental Representative .
- .5 Cork tile flooring: composed of agglomerated cork granules bound together with resins, baked in a mould and then sliced, rested, split and sanded on all surfaces.
 - .1 Colour: as directed by Departmental Representative.
 - .2 Texture: as directed.
 - .3 Weight/Density: TBD.
 - .4 Tile Dimensions: TBD.
- .6 Finish:
 - .1 Factory prefinished.
 - .2 Applied on-site as indicated:
 - .1 Four coatspolyurethane.
 - .2 Apply polyurethane at a coverage of not less than 5 m² per litre.
 - .3 Check for obvious limps, bugs, dust etc.
 - .4 When dry sand lightly, using 120 grit paper to ensure adhesion of subsequent application of finish.
 - .5 Vacuum thoroughly.
 - .6 Apply additional finish coatings as required.
 - .7 Allow 24 hours for the finish to dry before permitting foot traffic and 7 days for the finish to cure before placing furniture and other heavy objects.
- .7 Feature strips: of same material and thickness as adjacent work 2.0 2.5 3.2 mm wide, in colour indicatedselected by Departmental Representative .
- .8 Resilient base: to vinylrubber, straight coved, minimum 1200 mm length and 100mm high x 2.0 mm thick, including premoulded end stops and external corners for coved base only, of colour indicatedselected by Departmental Representative .
- .9 Linoleum base: continuous, top set, complete with premoulded end stops and external corners.

2.1 MATERIALS
(Cont'd)

- .9 (Cont'd)
- .1 Thickness: 2.02.53.2 mm.
 - .2 Height: 100 mm.
 - .3 Lengths: 2400 mm.
 - .4 Colour: indicated to match flooring.
- .10 Resilient stair nosing: square round nose, 5 mm thick, 30 mm vertical face, 40 mm horizontal face ribbed, vinyl rubber overlay type rebated type to receive tread finish one-piece length for stair nosing, of colour indicated selected by Departmental Representative .
- .11 Resilient stair tread: vinyl rubber, 30 mm vertical face, square round nose, full tread deep, 2.5 mm thick, smooth ribbed diamond surface solid marbleized pattern, of colour indicated selected by Departmental Representative .
- .12 Resilient stair riser: top set vinyl rubber , 3.22.0 mm thick, mm high full riser height, solid marbleized pattern, of colour indicated selected by Departmental Representative .
- .13 Resilient stair stringer: vinyl rubber, 2.0 mm thick, solid marbleized pattern, of colour indicated selected by Departmental Representative .
- .14 Primers and adhesives: waterproof, recommended by flooring manufacturer for specific material on applicable substrate, above, at or below grade.
- .1 Flooring adhesives:
 - .1 Adhesive: maximum VOC limit 5060 g/L to SCAQMD Rule 1168.
 - .2 Cove base adhesives:
 - .1 Adhesive: maximum VOC limit 50 g/L to SCAQMD Rule 1168.
- .15 Sub-floor filler and leveller: white premix latex requiring water only to produce cementitious paste 2 part latex-type filler requiring no water as recommended by flooring manufacturer for use with their product.

2.1 MATERIALS
(Cont'd)

- .16 Metal edge strips: aluminum extruded, smooth, mill finish polished with lip to extend under floor finish, shoulder flush with top of adjacent floor finish.
- .17 Sealer: to CAN/CGSB-25.20, Type 2-water based type recommended by flooring manufacturer.
 - .1 Sealant:
 - .1 Sealant: maximum VOC limit 50 g/L to SCAQMD Rule 1168.
- .18 Wax: to CAN/CGSB-25.21 type recommended by flooring manufacturer.

PART 3 - EXECUTION3.1 EXAMINATION

- .1 Verification of Conditions: verify that conditions of substrate previously installed under other Sections or Contracts are acceptable for resilient tile flooring installation in accordance with manufacturer's written instructions.
 - .1 Visually inspect substrate in presence of Departmental Representative.
 - .2 Inform Departmental Representative of unacceptable conditions immediately upon discovery.
 - .3 Proceed with installation only after unacceptable conditions have been remedied and after receipt of written approval to proceed from Departmental Representative.

3.2 INSPECTION

- .1 Ensure concrete floors are dry, by using test methods recommended by tile manufacturer.

3.3 SUB-FLOOR
TREATMENT

- .1 Remove existing resilient flooring.
- .2 Remove or treat old adhesives to prevent residual, old flooring adhesives from bleeding through to new flooring and/or interfering with the bonding of new adhesives.

3.3 SUB-FLOOR
TREATMENT
(Cont'd)

- .3 Clean floor and apply filler; trowel and float to leave smooth, flat hard surface. Prohibit traffic until filler cured and dry.
- .4 Remove sub-floor ridges and bumps. Fill low spots, cracks, joints, holes and other defects with sub-floor filler.
- .5 PrimeSealconcreteplywood sub-floor to flooring manufacturer's printed instructions.

3.4 TILE
APPLICATION

- .1 Provide high ventilation rate, with maximum outside air, during installation, and for 48 to 72 hours after installation. If possible, vent directly to outside. Do not let contaminated air recirculate through district or whole building air distribution system. Maintain extra ventilation for at least one month following building occupation.
- .2 Apply adhesive uniformly using recommended trowel in accordance with flooring manufacturer's instructions. Do not spread more adhesive than can be covered by flooring before initial set takes place.
- .3 Lay flooring with joints parallel to building lines to produce symmetrical tile pattern. Border tiles minimum half tile width.
- .4 Install flooring to square grid pattern with joints aligned to ashlar/staggered pattern with continuous joints flowing with direction of mottle with pattern grain alternating to produce basket weave pattern with pattern grain parallel for units and parallel to length width of room.
- .5 As installation progresses, and after installation, roll flooring in 2 directions except including resilient tile with 45 kg minimum roller to ensure full adhesion.
- .6 Cut tile and fit neatly around fixed objects.
- .7 Install feature strips and floor markings where indicated. Fit joints tightly.

3.4 TILE
APPLICATION
(Cont'd)

- .8 Install flooring in pan type floor access covers. Maintain floor pattern.
- .9 Continue flooring through areas to receive movable type partitions without interrupting floor pattern.
- .10 Terminate flooring at centerline of door in openings where adjacent floor finish or colour is dissimilar.
- .11 Install metal edge strips at unprotected or exposed edges where flooring terminates.

3.5 STAIR
APPLICATION

- .1 Finish stair risersstair stringers with resilient tile and install prior to tread material.
- .2 Install stair nosingsstair treadsstair risers one piece for full width of stair. Adhere over entire surface and fit accurately.

3.6 BASE
APPLICATION

- .1 Lay out base to keep number of joints at minimum. Base joints at maximum length available or at internal or premoulded corners.
- .2 Clean substrate and prime with one coat of adhesive.
- .3 Apply adhesive to back of base.
- .4 Set base against wall and floor surfaces tightly by using 3 kg hand roller.
- .5 Install straight and level to variation of 1:1000.
- .6 Scribe and fit to door frames and other obstructions. Use premoulded end pieces at flush door frames.

3.6 BASE APPLICATION (Cont'd)

- .7 Cope internal corners. Use premoulded corner units for right angle external corners. Use formed straight base material for external corners of other angles, minimum 300 mm each leg. Wrap around toeless base at external corners.
- .8 Install toeless type base before installation of carpet on floors.

3.7 CLEANING

- .1 Progress Cleaning: clean in accordance with Section 01 74 11 - Cleaning.
 - .1 Leave Work area clean at end of each day.
- .2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11 - Cleaning.
 - .1 Clean flooring and base surfaces to flooring manufacturer's printed instructions.
- .3 Remove excess adhesive from floor, base and wall surfaces without damage.
- .4 Clean, seal and wax floor and base surface to flooring manufacturer's instructions. In carpeted areas clean, seal and wax base surface before carpet installation.
- .5 Waste Management: separate waste materials for reuse and recycling in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal 01 35 21 - LEED Requirements.
 - .1 Remove recycling containers and bins from site and dispose of materials at appropriate facility.

3.8 PROTECTION

- .1 Protect new floors from time of final set of adhesive after initial waxing until final waxing final inspection.
- .2 Prohibit traffic on floor for 48 hours after installation.
- .3 Use only water-based coating for linoleum.

PART 1 - GENERAL
1.1 REFERENCE
STANDARDS

- .1 ASTM International
 - .1 ASTM C 501-84(2009), Standard Test Method for Relative Resistance to Wear of Unglazed Ceramic Tile by Taber Abraser.
 - .2 ASTM D 2047-04, Standard Test Method for Static Coefficient of Friction of Polish-Coated Flooring Surfaces as Measured by the James Machine.
 - .3 ASTM F1066-04, Standard Specification for Vinyl Composition Floor Tile.
 - .4 ASTM F 1303-04(2009), Standard Specification for Sheet Vinyl Floor Covering with Backing.
 - .5 ASTM F 1344-10, Standard Specification for Rubber Floor Tile.
- .2 Canada Green Building Council (CaGBC)
 - .1 LEED Canada-NC Version 1.0-2004, LEED (Leadership in Energy and Environmental Design): Green Building Rating System Reference Package For New Construction and Major Renovations (including Addendum 2007).
 - .2 LEED Canada-CI Version 1.0-2007, LEED (Leadership in Energy and Environmental Design): Green Building Rating System Reference Guide For Commercial Interiors.
- .3 South Coast Air Quality Management District (SCAQMD), California State, Regulation XI. Source Specific Standards
 - .1 SCAQMD Rule 1113-A2007, Architectural Coatings.
 - .2 SCAQMD Rule 1168-A2005, Adhesives and Sealants Applications.

1.2 ACTION AND
INFORMATIONAL
SUBMITTALS

- .1 Submit in accordance with Section 01 33 00 - Submittal Procedures.
 - .2 Product Data:
-

1.2 ACTION AND
INFORMATIONAL
SUBMITTALS
(Cont'd)

- .2 (Cont'd)
 - .1 Submit manufacturer's instructions, printed product literature and data sheets for flooring, adhesive, primer, sealer, and include product characteristics, performance criteria, physical size, finish and limitations.
 - .2 Submit 2 copies of WHMIS MSDS in accordance with Section 01 35 29.06 - Health and Safety Requirements 01 35 43 - Environmental Procedures.
 - .3 Samples:
 - .1 Submit for review and acceptance of each unit.
 - .2 Samples will be returned for inclusion into work.
 - .3 Submit duplicate 300 x 300 mm sample pieces of sheet material.
 - .4 Submit duplicate full size samples of each type of tile.
 - .5 Submit 300 mm long base and edge strips.
 - .4 Sustainable Design Submittals:
 - .1 LEED Canada-NC Version 1.0 CI Version 1.0 Submittals: in accordance with Section 01 35 21 - LEED Requirements.
 - .2 Construction Waste Management:
 - .1 Submit project Waste Management Plan Waste Reduction Workplan highlighting recycling and salvage requirements.
 - .2 Submit calculations on end-of-project recycling rates, salvage rates, and landfill rates demonstrating that 50 75% of construction wastes were recycled or salvaged.
 - .3 Recycled Content:
 - .1 Submit listing of recycled content products used, including details of required percentages or recycled content materials and products, showing their costs and percentages of post-consumer and post-industrial content, and total cost of materials for project.
 - .4 Regional Materials: submit evidence that project incorporates required percentage 10 20% of regional materials and products, showing their cost, distance from project to furthest site of extraction or manufacture, and total cost of materials for project.
-

1.2 ACTION AND
INFORMATIONAL
SUBMITTALS
(Cont'd)

- .4 (Cont'd)
- .5 Low-Emitting Materials:
 - .1 Submit listing of adhesives primers and coatings used in building, showing compliance with VOC and chemical component limits or restriction requirements.

1.3 CLOSEOUT
SUBMITTALS

- .1 Submit in accordance with Section 01 78 00 - Closeout Submittals.
- .2 Operation and Maintenance Data: submit operation and maintenance data for resilient flooring for incorporation into manual.

1.4 DELIVERY,
STORAGE AND
HANDLING

- .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: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.
 - .3 Storage and Handling Requirements:
 - .1 Store materials off ground indoors in dry location and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.
 - .2 Store and protect resilient flooring from nicks, scratches, and blemishes.
 - .3 Replace defective or damaged materials with new.
 - .4 Develop Construction Waste Management Plan Waste Reduction Workplan related to Work of this Section and in accordance with Section 01 35 21 - LEED Requirements.
-

1.4 DELIVERY,
STORAGE AND
HANDLING
(Cont'd)

.5 Packaging Waste Management: remove for reuse and return by manufacturer of pallets, crates, padding, and packaging materials as specified in Construction Waste Management Plan Waste Reduction Workplan in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal and Section 01 35 21 - LEED Requirements.

1.5 SITE CONDITIONS

.1 Ensure high ventilation rate, with maximum outside air, during installation.

.1 Vent directly to outside.

.2 Do not let contaminated air recirculate through a district or whole building air distribution system.

.3 Maintain extra ventilation for 1 month minimum after building occupation.

PART 2 - PRODUCTS

2.1 RESILIENT SHEET FLOORING MATERIALS

.1 Linoleum sheet flooring: composed of natural ingredients which are mixed and calendered onto a jute backing:

.1 Pattern: solid, uni-coloured marbleized.

.2 Thickness: 3.2 2.5 2.0 mm.

.3 Colour: as indicated as selected by Departmental Representative from manufacturer's standard colour range.

.4 Slip resistance: static coefficient of friction to ASTM D 2047.

.5 Wear resistance to ASTM C 501.

2.2 RESILIENT TILE FLOORING MATERIALS

.1 Vinyl composition tile: to ASTM F 1066, Composition 1 - non asbestos Class 1 - solid colour Class 2 - through pattern tile Class 3 - surface patterned, plain embossed, 1.5 2 3 mm, 300 x 300 mm size, in standard colour as indicated as selected by Departmental Representative from manufacturer's standard colour range.

2.2 RESILIENT TILE FLOORING MATERIALS (Cont'd)

- .2 Rubber tile: to ASTM F 1344, Class 1 - Homogeneous rubber tile, A-solid colour B-through pattern Class 2 - Laminated wear layer, A-solid colour wear layer mottled wear layer, smooth moulded pattern, surface design, mm base thickness 905 x 905 mm size, in colour as indicated as selected by Departmental Representative from manufacturer's standard colour range.
- .1 Recycled Content: minimum% post-consumer, % post-industrial.

2.3 ACCESSORIES

- .1 Resilient base: continuous, top set, complete with premoulded end stops and external corners:
- .1 Type: vinyl, 2.0 mm thick rubber, 3.0 mm thick.
- .2 Style: straight and cove.
- .3 Height: 101.6 mm.
- .4 Lengths: cut lengths minimum 2400 mm.
- .5 Colour: as indicated as selected by Departmental Representative from manufacturer's standard colour range.
- .2 Primers and adhesives: of types recommended by resilient flooring manufacturer for specific material on applicable substrate, above, on or below grade.
- .1 Adhesives: VOC limit 50 60 150 g/L maximum to SCAQMD Rule 1168.
- .2 Primer: in accordance with manufacturer's recommendations for surface conditions:
- .1 VOC limit: 100 g/L maximum to SCAQMD Rule 1113
- .3 Sub-floor filler and leveller: white premix latex requiring water only to produce cementitious paste 2 part latex-type filler requiring no water as recommended by flooring manufacturer for use with their product.
- .4 Metal edge strips: extruded aluminum, smooth, mill finish polished stainless steel with lip to extend under floor finish, shoulder flush with top of adjacent floor finish.

- | | | |
|-----------------|----|--|
| 2.3 ACCESSORIES | .5 | Sealer and wax: type recommended by resilient flooring material manufacturer for material type and location. |
| <u>(Cont'd)</u> | | .1 Coating: VOC limit 50 100 g/L maximum to SCAQMD Rule 1113. |

3.1 EXAMINATION

- .1 Examine conditions, substrates and work to receive work of this Section, co-ordinate with Section 01 71 00 - Examination and Preparation.
- .2 Verification of Conditions: verify conditions of substrates previously installed under other Sections or Contracts are acceptable for product installation in accordance with manufacturer's written instructions.
 - .1 Visually inspect substrate in presence of Departmental Representative
 - .2 Inform Departmental Representative of unacceptable conditions immediately upon discovery.
 - .3 Proceed with installation only after unacceptable conditions have been remedied and after receipt of written approval to proceed from Departmental Representative.
- .3 Ensure concrete floors are clean and dry by using test methods recommended by flooring manufacturer.

- .1 Prepare for installation in accordance with manufacturer's written recommendations.
- .2 Remove sub-floor ridges and bumps and fill low spots, cracks, joints, holes and other defects with sub-floor filler.
- .3 Clean floor and apply filler; trowel and float to leave smooth, flat hard surface.
 - .1 Prohibit traffic until filler is completely cured and dry.

3.2 PREPARATION
(Cont'd)

- .4 Ensure existing vinyl flooring is removed by trained personnel.
- .5 Remove or treat existing adhesives to prevent residual bleeding through to new flooring or interfering with bonding of new adhesives.
- .6 PrimeSealconcrete slabplywood sub-floor as recommended by resilient flooring manufacturer's written instructions.

3.3 APPLICATION:
FLOORING

- .1 Apply adhesive uniformly using recommended trowel. Do not spread more adhesive that can be covered by flooring before initial set takes place.
- .2 Resilient sheet flooring:
 - .1 Lay flooring with seams parallel to building lines to produce minimum number of seams.
 - .2 Border widths: 1/3 minimum width of full material.
- .3 Run sheets in direction of traffic. Double cut sheet joints and continuously seal heat weld according to manufacturer's written instructions.
- .4 Heat weld seams of linoleum sheet flooring in accordance with manufacturer's written instructions.
- .5 Resilient tile flooring:
 - .1 Lay flooring with joints parallel to building lines to produce symmetrical tile pattern.
 - .2 Border tiles: half tile width minimum.
 - .3 Install flooring to square grid pattern with joints aligned.
- .6 As installation progresses, and after installation roll flooring with 45 kg minimum roller to ensure full adhesion.
- .7 Cut flooring neatly around fixed objects.
- .8 Continue flooring over areas which will be under built-in furniture.

3.3 APPLICATION:
FLOORING
(Cont'd)

- .9 Continue flooring through areas to receive movable type partitions without interrupting floor pattern.
- .10 Terminate resilient flooring at centreline of door in openings where adjacent floor finish or colour is dissimilar.
- .11 Install metal edge strips at unprotected or exposed edges where flooring terminates.

3.4 APPLICATION:
BASE

- .1 Lay out base to keep number of joints at minimum.
- .2 Clean substrate and prime with one coat of adhesive.
- .3 Apply adhesive to back of base.
- .4 Set base against wall and floor surfaces tightly by using 3 kg hand roller.
- .5 Install straight and level to variation of 1:1000.
- .6 Scribe and fit to door frames and other obstructions. Use premoulded end pieces at flush door frames.
- .7 Cope internal corners using premoulded corner units for right angle external corners and formed straight base material for external corners of other angles.
- .8 Use toeless type base where floor finish will be carpet, coved type elsewhere.
- .9 Install toeless type base before installation of carpet on floors.

3.5 CLEANING

- .1 Progress Cleaning: clean in accordance with Section 01 74 11 - Cleaning.
 - .1 Leave Work area clean at end of each day.

3.5 CLEANING
(Cont'd)

- .2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11 - Cleaning.
 - .1 Remove excess adhesive from floor, base and wall surfaces without damage.
 - .2 Clean, seal and wax floor and base surface to flooring manufacturer's printed instructions.
- .3 Waste Management: separate waste materials for reuse and recycling in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal 01 35 21 - LEED Requirements.
 - .1 Remove recycling containers and bins from site and dispose of materials at appropriate facility.

3.6 PROTECTION

- .1 Protect installed products and components from damage during construction.
- .2 Protect new floors in accordance with manufacturer's printed instructions.
- .3 Repair damage to adjacent materials caused by resilient flooring installation.

PART 1 - GENERAL
1.1 REFERENCE
STANDARDS

- .1 ASTM International
 - .1 ASTM C 241/C 241M-13, Standard Test Method for Abrasion Resistance of Stone Subject to Foot Traffic.
 - .2 ASTM D 2370-98(R2010), Standard Test Method for Tensile Properties of Organic Coatings.
- .2 Canada Green Building Council (CaGBC)
 - .1 LEED Canada-NC Version 1.0-2004, LEED (Leadership in Energy and Environmental Design): Green Building Rating System Reference Package For New Construction and Major Renovations (including Addendum 2007).
 - .2 LEED Canada-CI Version 1.0-2007, LEED (Leadership in Energy and Environmental Design): Green Building Rating System Reference Guide for Commercial Interiors.
 - .3 LEED Canada 2009 for Design and Construction-2010, LEED Canada 2009 for Design and Construction Leadership in Energy and Environmental Design Green Building Rating System Reference Guide.
 - .4 LEED Canada for Existing Buildings, Operations and Maintenance-2009, LEED Canada 2009 Leadership In Energy and Environmental Design Green Building Rating System Reference Guide.
- .3 Canadian General Standards Board (CGSB)
 - .1 CAN/CGSB-51.34-M86(R1988), Vapour Barrier, Polyethylene Sheet for Use in Building Construction.
 - .2 CAN/CGSB-25.20-95, Surface Sealer for Floors.
- .4 CSA Group
 - .1 CSA A23.1/A23.2-09(R2014), Concrete Materials and Methods of Concrete Construction/Test Methods and Standard Practices for Concrete.
 - .2 CSA A3000-13, Cementitious Materials Compendium (Consists of A3001, A3002, A3003, A3004 and A3005).

1.1 REFERENCE
STANDARDS
(Cont'd)

- .5 Health Canada/Workplace Hazardous Materials Information System (WHMIS)
 - .1 Material Safety Data Sheets (MSDS).
- .6 South Coast Air Quality Management District (SCAQMD)
 - .1 SCAQMD Rule 1168-A2011, Adhesive and Sealant Applications.
- .7 Terrazzo, Tile and Marble Association of Canada (TTMAC)
 - .1 Maintenance Guide.
 - .2 TTMAC/CSCTEK-AID 09 40 00, Portland Cement Terrazzo Digest.
 - .3 TTMAC 2012/2014 Specification Guide 09 30 00 Tile Installation Manual.
 - .4 TTMAC 09 66 00 Terrazzo Installation Manual.

1.2 ACTION AND
INFORMATIONAL
SUBMITTALS

- .1 Submit in accordance with Section 01 33 00 - Submittal Procedures.
 - .2 Product Data:
 - .1 Submit manufacturer's instructions, printed product literature and data sheets for Portland cement terrazzo flooring and include product characteristics, performance criteria, physical size, finish and limitations.
 - .2 Submit 4 copies of TTMAC Maintenance Guide for inclusion in operations and maintenance manual prepared and submitted in Section. Provide specific warning of maintenance practices or materials that may damage or disfigure finished work.
 - .3 Submit WHMIS MSDS sheets for floor sealer products.
 - .3 Samples:
 - .1 Submit duplicate 300 x 300 x 20 mm thick samples of each colour terrazzo.
 - .4 Sustainable Design Submittals:
 - .1 LEED Canada submittals: in accordance with Section 01 35 21 - LEED Requirements.
 - .2 Construction Waste Management:
 - .1 Submit project Waste Management Plan Waste Reduction Workplan highlighting recycling and salvage requirements.
-

1.2 ACTION AND
INFORMATIONAL
SUBMITTALS
(Cont'd)

- .4 (Cont'd)
 - .2 (Cont'd)
 - .2 Submit calculations on end-of-project recycling rates, salvage rates, and landfill rates demonstrating that 5075% of construction wastes were recycled or salvaged.
 - .3 Recycled Content:
 - .1 Submit listing of recycled content products used, including details of required percentages or recycled content materials and products, showing their costs and percentages of post-consumer and post-industrial content, and total cost of materials for project.
 - .4 Regional Materials: submit evidence that project incorporates required percentage 1020% of regional materials and products, showing their cost, distance from project to furthest site of extraction or manufacture, and total cost of materials for project.
 - .5 Low-Emitting Materials:
 - .1 Submit listing of adhesives and sealants and paints and coatings used in building, showing compliance with VOC and chemical component limits or restriction requirements.

1.3 CLOSEOUT
SUBMITTALS

- .1 Provide maintenance data as set out in TTMAC publication for terrazzo work for incorporation into manual specified in Section 01 78 00 - Closeout Submittals.

1.4 QUALITY
ASSURANCE

- .1 Qualifications:
 - .1 Installer: trained and experienced in tile work. Company must be registered as members in good standing with Terrazzo, Tile and Marble Association of Canada. If requested by, Departmental Representatives submit listing of at least three previously completed projects of similar size and scope.
- .2 Supplier: a member in good standing with Terrazzo, Tile and Marble Association of Canada, providing materials meeting the minimum standards of TTMAC.

1.4 QUALITY
ASSURANCE
(Cont'd)

- .3 Mock-ups:
- .1 Construct mock-up in accordance with Section 01 45 00 - Quality Control.
 - .2 Provide mock-up for evaluation of surface finishes and quality of work.
 - .3 Construct mock-up 10 m² of each type of Portland cement terrazzo including one inside corner, one outside corner, change of material, door threshold, stair tread and riser.
 - .4 Construct mock-up where directed.
 - .5 Allow 24 hours for inspection of mock-up by Departmental Representative before proceeding with work.
 - .6 When accepted, mock-up will demonstrate minimum standard for this work. Mock-up may not remain as part of finished work.

1.5 DELIVERY,
STORAGE AND
HANDLING

- .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: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.
- .3 Storage and Handling Requirements:
 - .1 Store materials off ground indoors in dry location and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.
 - .2 Store and protect specified materials from nicks, scratches, and blemishes.
 - .3 Replace defective or damaged materials with new.
- .4 Develop Construction Waste Management Plan Waste Reduction Workplan related to Work of this Section and in accordance with Section 01 35 21 - LEED Requirements.

- 1.5 DELIVERY,
STORAGE AND
HANDLING
(Cont'd)
- .5 Packaging Waste Management: remove for reuse and return by manufacturer of pallets, crates, padding, and packaging materials as specified in Construction Waste Management Plan Waste Reduction Workplan in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal and Section 01 35 21 - LEED Requirements.
- 1.6 SITE CONDITIONS
- .1 Safety: comply with requirements of Workplace Hazardous Materials Information System (WHMIS) regarding use, handling, storage, and disposal of materials.
- .2 Ventilation:
- .1 Provide continuously during and after installation. Run system 24 hours per day during installation; provide continuous ventilation for 7 days after completion of installation.
- .2 Ventilate enclosed spaces in accordance with Section 01 51 00 - Temporary Utilities.
- .3 Ambient Conditions:
- .1 Maintain air temperature and structural base temperature at terrazzo installation area above 12 degrees C for 24 hours prior to, during, and for 24 hours following installation.

PART 2 - PRODUCTS

- 2.1 MATERIALS
- .1 Cement:
- .1 To CSA A3000.
- .2 Type 10, grey for underbed.
- .3 White for topping.
- .4 6% air-entrainment.
- .2 Sand, fine and coarse aggregates:
- .1 To CSA A23.1/A23.2.
- .2 Clean, washed, locally available.
- .3 Oval aggregate.
- .3 Water: potable.
-

2.1 MATERIALS
(Cont'd)

- .4 Marble chips:
 - .1 Graded in accordance with TTMAC standard.
 - .2 Abrasion resistance to ASTM C 241/C 241M.
 - .3 No deleterious or foreign matter.
 - .5 Pigments:
 - .1 Compatible with Portland cement.
 - .2 Alkali-resistant, colour-stable.
 - .3 Lime-proof mineral.
 - .6 Epoxy bonding agent: two components, epoxy resin and epoxy hardener conforming to following performance properties after cure schedule of 28 days at 25 degrees C.
 - .1 Viscosity: mixed viscosity not less than 0.04 Pa.s or more than 0.5 Pa.s.
 - .2 Gel time: not less than half hour at 20 degrees C.
 - .3 Flexibility: Gardiner flexibility test, passes bending over 12 mm mandrel, without cracking.
 - .4 Elongation: ASTM D 2370, minimum 10%.
 - .5 Bond strength: 2 MPa, with 100% concrete failure at minimum coverage, test concrete specimen minimum compressive strength 20 MPa.
 - .6 Coverage: 0.3 L/m² minimum, dry film thickness not less than 0.2 mm.
 - .7 Divider strips: 2 mm thick zincbrassplastic in colour with depth of 6 mm.
 - .8 Accessories: base caps and base divider strips, separator strips, purpose made and of same material to match divider strips.
 - .9 Reinforcing steel: billet steel, grade 300plaindeformed bars.
 - .10 Welded steel wire fabric: to 50 x 50 x 1.6 x 1.6 mm wire, galvanized, in flat sheets only.
 - .11 Slip sheet: polyethylene sheet to CAN/CGSB-51.34, Type 2, 0.05 mm thick.
 - .12 Non-slip aggregate: aluminum oxide of size and colour to match marble chips.
 - .13 Non-slip inserts: zincbrass10 x 10 x 0.8 mm thick, dove-tail shaped channels, with anchors.
-

2.1 MATERIALS (Cont'd)

- .14 Non-slip material for inserts: fine aluminum oxide and cementepoxy mixture in selected colours.
- .15 Curing compound: to manufacturer's standard.
- .16 Cleaning compound: to TTMAC standard 1001100210031004.
- .17 Sealants:
 - .1 To CAN/CGSB-25.20.
 - .2 Sealants:
 - .1 Maximum VOC limit 50 g/L to SCAQMD Rule 1168.
- .18 Finishing compound: to TTMAC standard 3001.
 - .1 Sealant.

2.2 MIXES

- .1 Slurry coat: cement and water mixed to creamy paste.
- .2 Underbed: 1 part cement to 4 parts sand by volume.
- .3 Terrazzo topping: to match TTMAC colour plate No.100 kg chips to 40 kg cement, mixed dry, using 25% No. 1 and 75% No. 2 chips of colours selected by Departmental Representative .

PART 3 - EXECUTION

3.1 EXAMINATION

- .1 Verification of Conditions: verify that conditions of substrate previously installed under other Sections or Contracts are acceptable for Portland cement terrazzo flooring installation in accordance with manufacturer's written instructions.
 - .1 Visually inspect substrate in presence of Departmental Representative.
 - .2 Inform Departmental Representative of unacceptable conditions immediately upon discovery.

.1 (Cont'd)

.3 Proceed with installation only after unacceptable conditions have been remedied and after receipt of written approval to proceed from Departmental Representative .

- .1 Examine area to receive terrazzo for defects in existing work which will affect proper execution of terrazzo work.
- .2 Ensure tolerances of concrete slab work do not deviate from tolerance set for finished terrazzo floor.
- .3 Terrazzo contractor to start work only when all defects are corrected.

- .1 Do terrazzo work in accordance with TTMAC 09 66 00 Terrazzo Installation Manual.
- .2 Install terrazzo after concrete slabs have cured 28 days.
- .3 Install divider strips true and level to detailed pattern.
- .4 Install non-slip channel inserts aggregate on ramps and stairs where indicated.
- .5 Apply non-slip aggregate at rate of 1.25 kg/m² to designated surfaces.
- .6 Install covers at building expansion joints.
- .7 Install control joints above control joints in subfloor.
- .8 Provide mat recesses with frames made up using divider strips.
- .9 Slope finished terrazzo floors to drains.
- .10 Produce terrazzo finished surfaces to match samples.
- .11 Floors:

3.3 INSTALLATION (Cont'd)

- .11 (Cont'd)
 - .1 Monolithic terrazzo: provide 16 mm minimum terrazzo topping bonded to concrete base slab.
 - .2 Bonded terrazzo: to TTMAC detail No. 1.
 - .3 Floating standard terrazzo: to TTMAC detail No. 2.
 - .4 Venetian terrazzo: to TTMAC detail No. 2V.
 - .5 Epoxy bonded terrazzo: provide 16 mm maximum topping and epoxy concrete adhesive underbed bonded to concrete base slab.
- .12 Bases:
 - .1 Terrazzo bases: to TTMAC detail No. as indicated.
- .13 Stairs:
 - .1 Precast:
 - .1 2 abrasive safety lines.
 - .2 Use biodegradable, phosphate-free terrazzo cleaners, with ph between 7and10.
 - .3 Apply non-discolouring sealer with ph between 7and10.
 - .2 Poured-in-place:
 - .1 Place terrazzo mixture in panels formed by divider strips on landings and on treads, risers, curbs, and stringers as detailed. Trowel mixture to top level of strips.
 - .2 Cover sufficiently set terrazzo with water,wet sand,polyethylene sheeting and cure until topping develops sufficient strength to prevent lifting or pulling of terrazzo chips during grinding.
 - .3 Rough grind: use 24,finer grit stones for initial grind; use 80,finer grit stones for second grinding.
 - .4 Grouting:
 - .1 Remove excess rinse water from terrazzo after cleaning and rinsing.
 - .2 Apply grout using identical Portland cement and colour pigments as in topping to fill voids.
 - .3 Cure grout:
 - .5 Fine grind: use 80,finer grit stones to remove all grout from surface to show minimum of 70% marble chips.

- 3.3 INSTALLATION .13 (Cont'd)
- (Cont'd) .2 (Cont'd)
- .6 Install 2carborundum or similar grit abrasive inserts for safety lines.
- .7 Use biodegradable, phosphate-free terrazzo cleaners, with ph between 7and10.
- .8 Apply non-discolouring sealer with ph between 7and10.
- 3.4 FIELD QUALITY .1 Manufacturer's Field Services:
- CONTROL .1 Provide manufacturer's field services consisting of product use recommendations and periodic site visits for inspection of product installation in accordance with manufacturer's instructions.
- 3.5 CLEANING .1 Progress Cleaning: clean in accordance with Section 01 74 11 - Cleaning.
- .1 Leave Work area clean at end of each day.
- .2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11 - Cleaning.
- .1 Clean flooring andbase surfaces to flooring manufacturer's printed instructions.
- .3 Remove excess adhesive from floor, base and wall surfaces without damage.
- .4 Clean, seal and wax floor and base surface to flooring manufacturer's instructions. In carpeted areas clean, seal and wax base surface before carpet installation.
- .5 Waste Management: separate waste materials for reuseandrecycling in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal01 35 21 - LEED Requirements.
- .1 Remove recycling containers and bins from site and dispose of materials at appropriate facility.

PART 1 - GENERAL

1.1 RELATED .1 01 31 19, 01 33 00, 01 35 21, 01 35 29.06, 01 35 43, 01 35 43.10, 01 45 00, 01 47 15, 01 61 00, 01 71 00, 01 73 00, 01 74 11, 01 74 21, 01 78 00, 09 65 16 .

REQUIREMENTS

1.2 REFERENCE STANDARDS .1 American Association of Textile Chemists and Colorists (AATCC)

.1 AATCC Test Method 16-2004, Colorfastness to Light.

.2 AATCC Test Method 23-2005, Colorfastness to Burn Gas Fumes.

.3 AATCC Test Method 129-2005, Colourfastness to Ozone in the Atmosphere Under High Humidities.

.4 AATCC Test Method 134-2006, Electrostatic Propensity of Carpets.

.5 AATCC Test Method 171-2005, Carpets: Cleaning of; Hot Water Extraction Method.

.6 AATCC Test Method 175-2008, Stain Resistance: Pile Floor Coverings.

.7 AATCC Test Method 189-2007, Fluorine Content of Carpet Fibers.

.2 ASTM International

.1 ASTM D 297-93(2006), Standard Test Methods for Rubber Products-Chemical Analysis.

.2 ASTM D 1335-05, Standard Test Method for Tuft Bind of Pile Yarn Floor Coverings.

.3 ASTM D 2661-08, Standard Specification for Acrylonitrile-Butadiene-Styrene (ABS) Schedule 40 Plastic Drain, Waste, and Vent Pipe and Fittings.

.4 ASTM D 1667-05, Standard Specification for Flexible Cellular Materials-Vinyl Chloride Polymers and Copolymers (Closed-Cell Foam).

.5 ASTM D 3574-08, Standard Test Methods for Flexible Cellular Materials - Slab, Bonded, and Molded Urethane Foams.

.6 ASTM D 3936-05, Standard Test Method for Resistance to Delamination of the Secondary Backing of Pile Yarn Floor Covering.

.3 Canada Green Building Council (CaGBC)

1.2 REFERENCE
STANDARDS
(Cont'd)

- .3 (Cont'd)
 - .1 LEED Canada-NC Version 1.0-2004, LEED (Leadership in Energy and Environmental Design): Green Building Rating System Reference Package For New Construction and Major Renovations (including Addendum 2007).
 - .2 LEED Canada-CI Version 1.0-2007, LEED (Leadership in Energy and Environmental Design): Green Building Rating System Reference Guide For Commercial Interiors.
- .4 Canadian General Standards Board (CGSB)
 - .1 CAN/CGSB-4.2 No. 22-2004, Textile Test Methods - Colourfastness to Rubbing (Crocking).
 - .2 CAN/CGSB-4.2 No.27.6M-2004, Textile Test Methods - Flame Resistance - Methemine Tablet Test for Textile Floor Coverings.
 - .3 CAN/CGSB-4.2 No. 76-94/ISO 2551: 1981 , Textile Test Methods - Machine-Made Textile Floor Coverings - Determination of Dimensional Changes Due to the Effects of Varied Water and Heat Conditions.
 - .4 CAN/CGSB-4.2 No.77.1-94/ISO 4919:2000 , Textile Test Methods - Carpets - Determination of Tuft Withdrawal Force.
 - .5 CAN/CGSB-4.129-93(R1997), Carpets for Commercial Use.
- .5 Carpet and Rug Institute (CRI)
 - .1 CRI Carpet Installation Standard 2009.
 - .2 CRI Green Label Indoor Air Quality Testing Program.
 - .3 CRI Green Label Plus Indoor Air Quality Testing Program.
- .6 Environmental Choice Program (ECP)
 - .1 CCD-152-2009, Flooring Products, Commercial Non-modular Textile Flooring.
- .7 Health Canada
 - .1 C.R.C., c.923-10, Hazardous Products Act - Carpet Regulations, Part II of Schedule 1.
- .8 Health Canada / Workplace Hazardous Materials Information System (WHMIS)
 - .1 Material Safety Data Sheets (MSDS).
- .9 National Floor Covering Association (NFCA)

1.2 REFERENCE
STANDARDS
(Cont'd)

- .9 (Cont'd)
 - .1 National Floor Covering Specification Manual 2007.
- .10 South Coast Air Quality Management District (SCAQMD), California State, Regulation XI. Source Specific Standards
 - .1 SCAQMD Rule 1113-A2007, Architectural Coatings.
 - .2 SCAQMD Rule 1168-A2005, Adhesives and Sealants Applications.
- .11 Underwriters' Laboratories of Canada (ULC)
 - .1 CAN/ULC-S102-07, Standard Method of Test for Surface Burning Characteristics of Building Materials and Assemblies.
 - .2 CAN/ULC-S102.2-07, Standard Method of Test for Surface Burning Characteristics of Flooring, Floor Coverings and Miscellaneous Materials and Assemblies.

1.3 ADMINISTRATIVE
REQUIREMENTS

- .1 Pre-Installation Meetings:
 - .1 Convene pre-installation meeting 1 week prior to beginning work of this Section and on-site installation, with Contractor's Representative and Departmental Representative in accordance with Section 01 31 19 - Project Meetings to:
 - .1 Verify project requirements.
 - .2 Review installation and substrate conditions.
 - .3 Co-ordination with other construction subtrades.
 - .4 Review manufacturer's written installation instructions and warranty requirements.

1.4 ACTION AND
INFORMATIONAL
SUBMITTALS

- .1 Submit in accordance with Section 01 33 00 - Submittal Procedures.
 - .2 Product Data:
-

1.4 ACTION AND
INFORMATIONAL
SUBMITTALS
(Cont'd)

- .2 (Cont'd)
 - .1 Submit manufacturer's instructions, printed product literature and data sheets for each carpet tile undercushion adhesive carpet protection subfloor patching compound and include product characteristics, performance criteria, physical size, finish and limitations.
 - .2 Submit 2 copies of WHMIS MSDS in accordance with Section 01 35 29.06 - Health and Safety Requirements 01 35 43 - Environmental Procedures.
 - .3 Shop Drawings:
 - .1 Submit drawings stamped and signed by professional engineer registered or licensed in Province Territory, Canada.
 - .2 Information on shop drawings to indicate:
 - .1 Nap: direction, open edges, special patterns.
 - .2 Cutouts: show locations where cutouts are required.
 - .3 Edgings: show location of edge moldings and edge bindings.
 - .4 Samples:
 - .1 Submit for review and acceptance of each unit.
 - .2 Samples will be returned for inclusion into work.
 - .3 Submit duplicate samples of each type of carpet tile specified and duplicate tiles for each colour selected, 150 mm length binder bars base divider strips.
 - .5 Certificates: submit product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements.
 - .6 Manufacturer's Instructions: submit manufacturer's installation and storage instructions.
 - .7 Manufacturers Reports:
 - .1 Manufacturer's Field Reports: submit manufacturer's written reports within 3 days of review, verifying compliance with specifications.
-

1.4 ACTION AND
INFORMATIONAL
SUBMITTALS
(Cont'd)

- .8 Qualification Statements:
- .1 Compliance: to CAN/ULC-S102 and CAN/ULC-S102.2.
 - .2 Testing: passes testing requirements of:
 - .1 Green Label Plus Indoor Air Quality Testing Program.
 - .3 Tuft bind: meets requirements of CAN/CGSB-4.129 when tested to CAN/CGSB-4.2 No.77.1.

1.5 SITE CONDITIONS

- .1 Ambient Conditions:
- .1 Moisture: ensure substrate is within moisture limits and alkalinity limits recommended by manufacturer. Prepare moisture testing and provide report to Departmental Representative .
 - .2 Temperature: maintain ambient temperature of not less than 18 degrees C from 48 hours before installation to at least 48 hours after completion of work.
 - .3 Relative humidity: maintain between 10% and 65% for 48 hours before, during and 48 hours after installation.
 - .4 Ventilation:
 - .1 Departmental Representative will co-ordinate operation of ventilation system during installation of carpet. Ventilate area of work as directed by Departmental Representative by use of approved portable supply and exhaust fans.
 - .2 Ventilate enclosed spaces in accordance with Section 01 51 00 - Temporary Utilities. Provide fans with HEPA filters.
 - .3 Provide continuous ventilation during and after carpet application. Run ventilation system 24 hours per day during installation; provide continuous ventilation for 7 days after completion of carpet installation.
 - .5 Install carpet after space is enclosed and weatherproof, wet-work in space is completed and nominally dry, work above ceilings is complete.
-

- 1.6 WARRANTY
- .1 Manufacturer's warranty: submit, for Departmental Representative's acceptance, manufacturer's standard warranty document executed by authorized company official. Manufacturer's warranty is in addition to and does not limit other rights Owner may have under Contract Documents.
 - .2 Warranty period: 1 year, commencing on date of substantial performance of work.
 - .1 Warranty covers labour and repair or replacement of defective components for 1 year after date of substantial performance.

PART 2 - PRODUCTS

- 2.1 MATERIALS
- .1 Manufacturers:
 - .1 Ensure manufacturer has minimum 5 years experience in manufacturing components similar to or exceeding requirements of project.

- 2.2 PERFORMANCE
- .1 Flammability: certified for flammability to Health Canada regulations under "Hazardous Products - Carpet Regulations", Part II of Schedule 1.
 - .2 Flame Spread: maximum flame spread rating 300, maximum smoke developed classification 500, when tested to CAN/ULC-S102.2.
 - .3 Smoke Development: 450 or less per ASTM E 662.
 - .4 Dry Breaking Strength: to ASTM D 2661, minimum acceptable tear strength in both length and width:
 - .1 11.3 kg for carpets installed by glue down installation.
 - .5 Wear: maximum 10% of pile face fibre by weight for 10 years.
 - .6 Edge Ravel: none for 10 years.
-

2.2 PERFORMANCE

(Cont'd)

- .7 Static Resistance: permanent static control to AATCC 134, 3000 V maximum at 20% RH and 22 degrees C.
- .8 Static Generation: less than 3.0 kV per AATCC 134 for 10 years.
- .9 Tuft Bind: Tuft Lock: to ASTM D 1335
CAN/CGSB-4.129, minimum acceptable 1.6 kilograms for cut pile product 3.6 for loop pile product.
- .10 De-lamination of Secondary Backing: Lamination Strength of Secondary Backing: to ASTM D 3936, minimum acceptable peel strength of 1.6 kg/25 mm.
- .11 Stain resistance: to AATCC 175, 8.
- .12 Soil Resistance: 350 ppm fluorine minimum Fluorine Durability Level to AATCC 189.
- .13 Colourfastness to light: to CAN/CGSB-4.2 No.18.3 AATCC 16.
- .14 Colourfastness to atmosphere: to AATCC 129 and AATCC 23.
- .15 Colourfastness to crocking: to CAN/CGSB-4.2 No. 22.
- .16 Indoor Air Quality Certification: certified to CRI Green Label Plus IAQ requirements.

2.3 FABRICATION

- .1 Face construction:
 - .1 WovenTuftedNeedle punched.
- .2 Pile Surface Appearance:
 - .1 Level loop:non-textured textured.
 - .2 Multi-level loop: concealed-pile sculptured.
 - .3 Cut and loop: plush Saxony.
 - .4 Cut pile: plain plush plain Saxony.
- .3 Pile fibre: to CAN/CGSB-4.129.
 - .1 Nylon: BCF staple.
 - .1 Type: Nylon 6 Nylon 6.6.

2.3 FABRICATION (Cont'd)	.3 (Cont'd)	
	.1 (Cont'd)	
	.4 Face Fiber Denier: minimum 18.	
	.5 Dyeing Method: piece yarn stock printed solution dyed.	
	.6 Tufted Carpet Backing: to CAN/CGSB-4.129.	
	.1 Primary backing:	
	.1 Polypropylene: Cut Pile Carpet: 100% woven spunbonded polypropylene at a minimum weight of 126 g/m ² .	
	.2 Polypropylene: Loop Pile Carpet: 100% woven spunbonded polypropylene at a minimum weight of 109 g/m ² .	
	.7 Woven Carpet Backing: to CAN/CGSB-4.129.	
	.1 100% moisture resistant warp, filling and stuffer yarns.	
	.8 Secondary and Unitary Backings: to CAN/CGSB-4.129.	
	.9 Finished Pile Height: minimum 0.5 mm average.	
	.10 Surface Pile Weight: minimum 474 g.	
	.11 Performance Rating: 3.0 minimum at 12,000 cycles to Hexapod test 22,000 cycles to Vetterman test.	
	.12 Dimensional Stability: maximum + 0.15% to CAN/CGSB-4.2 No. 76/ISO 2551.	
2.4 TILE CUSHION BACKING	.1 Density: urethane 224 kg/m ³ ; EVA and PVC 240 kg/m ³ to ASTM D 3574.	
	.2 Compression force deflection, minimum: urethane 34.5 kN/m ² to ASTM D 3574.	
	.3 Compression deflection, minimum: EVA and PVC 48.3 kN/m ² to ASTM D 1667.	
	.4 Compression set at 50%, maximum: urethane 15% to ASTM D 3574.	
	.5 Compression set at 25%, maximum: EVA and PVC 10% to ASTM D 3574.	

2.4 TILE CUSHION BACKING

(Cont'd)

- .6 Ash content, maximum: urethane 50%; EVA and PVC 50% to ASTM D 297.
- .7 Anti-microbial Resistance: to AATCC 174, 2 mm minimum halo of inhibition for gram positive bacteria.
 - .1 1 mm minimum halo of inhibition for gram negative bacteria.
 - .2 Ensure no fungal growth.

2.5 ACCESSORIES

- .1 Base:
 - .1 Carpet Base: mm high, same material, colour, pattern and texture as adjoining carpet tile. Bound exposed edge. Vinyl Metal cap strip to accommodate carpet base thickness, colour to match carpet.
 - .2 Wall Carpet Base: cove toeless.
 - .3 Resilient Base:
 - .2 Binder Bars: aluminum brass finish plastic colour aluminum and colour plastic combination.
 - .3 Edge Strips:
 - .1 Metal:
 - .1 Hammered surface aluminumPinless Clamp down typeDesigned for carpet being installed.
 - .2 Floor flange minimum 38 mm wide, face minimum 16 mm wide.
 - .3 Finish: clear anodic coating.
 - .2 Vinyl:
 - .1 Beveled floor flange minimum 50 mm wide.
 - .2 Beveled surface to finish flush with carpet tile for tight joint and other side to floor finish.
 - .3 Colour: TBD.
 - .3 Carpet Base Top Edge Strip:
 - .1 Vinyl "J" strip wall flange minimum 38 mm wide with cap beveled from wall to finish flush with carpet being installed.
 - .2 Colour: TBD.
 - .4 Adhesive:
 - .1 Multi-purpose Adhesive Type: recommended by carpet tile manufacturer for direct glue down installation.
-

- 2.5 ACCESSORIES (Cont'd)
- .4 (Cont'd)
 - .2 Pressure Sensitive Type: recommended by carpet tile manufacturer for direct glue down installation of speciality backed carpet tiles.
 - .3 Mill-applied Adhesive Type: fully cured. Combination of pre-applied adhesive and tile to meet carpet only VOC emissions criteria of Carpet and Rug Institute Green Label Plus Indoor Air Quality Certification Program.
 - .4 Pre-applied Adhesive: non-transferable.
 - .5 On site application VOC limit: 50 150 g/L maximum to SCAQMD Rule 1168.
 - .6 Adhesive in compliance with CCD-152.
 - .5 Transition Mouldings:
 - .1 Carpet edge / reducer strip: TBD.
 - .6 Stair nosing:
 - .1 TBD.
 - .7 Carpet protection: non-staining heavy duty kraft paper.
 - .8 Concrete floor sealer primer:
 - .1 As per manufactures recommendation.
 - .2 VOC limit: 100 g/L maximum to SCAQMD Rule 1113.
 - .9 Subfloor patching compound: Portland cement base filler, mix with latex and water to form cementitious paste.

PART 3 - EXECUTION

- 3.1 INSTALLERS
- .1 Use experienced and qualified technicians to carry out assembly and installation of tile carpet.
- 3.2 EXAMINATION
- .1 Verification of Conditions: verify conditions of substrates previously installed under other Sections or Contracts are acceptable for carpet tile installation in accordance with manufacturer's written instructions.

- 3.2 EXAMINATION .1 (Cont'd)
-
- (Cont'd)
- .1 Inform Departmental Representative of unacceptable conditions immediately upon discovery.
- .2 Proceed with installation only after unacceptable conditions have been remedied and after receipt of written approval to proceed from Departmental Representative .
-
- 3.3 PREPARATION .1 Subfloor Preparation:
- .1 Inspect concrete and determine special care required to make it a suitable for carpet.
- .2 Fill and level cracks 3 mm wide or protrusions over 0.8 mm with appropriate and compatible latex polymer fortified patching compound.
- .3 Comply with manufacturer's written recommendations for maximum patch thickness.
- .4 Prime large patch areas with compatible primer.
- .5 Ensure concrete substrates are cured, clean and dry.
- .6 Ensure concrete substrates are free of paint, dirt, grease, oil, curing or parting agents, and other contaminants, including sealers, that interfere with the bonding of adhesive.
- .7 Where powdery or porous concrete surface is encountered, apply primer compatible with adhesive to provide a suitable surface for glue-down installation.
- .2 Tile Carpeting Preparation:
- .1 Pre-condition carpeting: following manufacturer's written instructions.
- .3 Demolition / Removal:
- .1 Remove and divert return carpet for reuse recycling reclamation in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal 01 35 43.10 - Carpet Reclamation and with Waste Reduction Workplan. Co-ordinate with Departmental Representative .
- .2 Vacuum used carpet before removal.
- .3 Maintain possession of removed used carpet.
-

3.3 PREPARATION
(Cont'd)

- .3 (Cont'd)
- .4 Remove used tiles and pack in container trailer pallets. Use effective packing techniques to maximize amount of material in container.
- .5 Sort only clean, dry carpet tiles for reclamation. Clean is defined as carpet free from demolition debris, asbestos contamination, garbage, knife blades and tack strips.
- .6 Carpet undercushion: provide recycling of carpet padding where locally available or as designated by carpet reclamation program.

3.4 INSTALLATION

- .1 Install carpet tiles in accordance with manufacturer's written instructions, and CRI Carpet Installation Standard and co-ordinate with Section 01 73 00 - Execution.
- .2 Co-ordinate tile carpeting work with work of other trades, for proper time and sequence to avoid construction delays.
- .3 Install carpet tile after finishing work is completed but before demountable office partitions and telephone and electrical pedestal outlets are installed.
- .4 Install carpet tile as per manufacturer's recommendation. This can include quarter-turn 90 degree format, monolithic, random, quarter turn ashlar, horizontal, herringbone or vertical ashlar.
- .5 Snugly join carpet tiles in completed installation.
- .1 Measure distance covered by 11 carpet tiles (10 joints) and ensure distance is in compliance with manufacturer specifications.
- .2 Do not trap yarn between carpet tiles.
- .6 Apply thin film of pressure-sensitive adhesive according to manufacturer's recommendations.
- .7 Ensure finished installation presents smooth wearing surface free from conspicuous seams, burring and other faults.
-

3.4 INSTALLATION
(Cont'd)

- .8 Use material from same dye lot.
 - .1 Ensure colour, pattern and texture match within visual areas.
 - .2 Maintain constant pile direction.
- .9 Fit around architectural, mechanical, electrical and telephone outlets, and furniture fitments, around perimeter of rooms into recesses, and around projections.
- .10 Install carpet tiles to underfloor duct system and to access covers.
- .11 Install carpeting in pan type floor access covers.
- .12 Extend carpet tiles into toe spaces, door reveals, closets, open-bottomed obstructions, removable flanges, alcoves, and similar openings.
- .13 Install carpet tiles smooth and free from bubbles, puckers, and other defects.
- .14 Protect exposed carpet tile edges at transition to other flooring materials with suitable transition strips.
- .15 Base Installation: as per manufactures recommendation.

3.5 SITE QUALITY CONTROL

- .1 Site Tests and Inspections:
 - .1 Co-ordinate site test with Section 01 45 00 - Quality Control.
- .2 Manufacturer's Field Services:
 - .1 Co-ordinate manufacturer's services with Section 01 45 00 - Quality Control. Have manufacturer review work involved in handling, installation / application, protection and cleaning of its products, and submit written reports, in acceptable format, to verify compliance of work with Contract.

- 3.5 SITE QUALITY CONTROL
(Cont'd)
- .2 (Cont'd)
- .2 Manufacturer's field services: provide manufacturer's field services, consisting of product use recommendations and periodic site visits for inspection of product installation, in accordance with manufacturer's instructions.
- .3 Schedule site visits:
- .1 After delivery and storage of products, and when preparatory Work, or other Work, on which the Work of this Section depends, is complete but before installation begins.
- .2 Twice during progress of Work at 25% and 60% complete.
- .3 Upon completion of Work, after cleaning is carried out.
- .4 Obtain reports within 3 days of review and submit immediately to Departmental Representative.
- 3.6 CLEANING
- .1 Progress Cleaning: clean in accordance with Section 01 74 11 - Cleaning.
- .1 Leave Work area clean at end of each day.
- .2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11 - Cleaning.
- .1 Vacuum carpets clean immediately after completion of installation.
- .2 Waste Management: separate waste materials for reuse and recycling in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal 01 35 21 - LEED Requirements 01 35 43.10 - Carpet Reclamation.
- .1 Remove recycling containers and bins from site and dispose of materials at appropriate facility.
- 3.7 PROTECTION
- .1 Protect installed products and components from damage during construction.
- .2 Prohibit traffic on carpet for period of 24 hours minimum after installation and until adhesive is cured.

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3.7 PROTECTION
(Cont'd)

- .3 Install carpet protection to satisfaction of Departmental Representative .
- .4 Repair damage to adjacent materials caused by tile carpeting installation.

————— END OF SECTION —————

PART 1 - GENERAL

1.1 RELATED REQUIREMENTS	.1	01 31 19, 01 33 00, 01 35 21, 01 35 29.06, 01 35 43, 01 35 43.10, 01 45 00, 01 47 15, 01 61 00, 01 71 00, 01 73 00, 01 74 11, 01 74 21, 01 78 00, 09 65 16 .
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1.2 REFERENCE STANDARDS	.1	American Association of Textile Chemists and Colorists (AATCC) .1 AATCC Test Method 16-2004, Colorfastness to Light. .2 AATCC Test Method 23-2005, Colorfastness to Burn Gas Fumes. .3 AATCC Test Method 129-2005, Colourfastness to Ozone in the Atmosphere Under High Humidities. .4 AATCC Test Method 134-2006, Electrostatic Propensity of Carpets. .5 AATCC Test Method 174-2007, Antimicrobial Activity Assessment of Carpets. .6 AATCC Test Method 175-2008, Stain Resistance: Pile Floor Coverings. .7 AATCC Test Method 189-2007, Fluorine Content of Carpet Fibers.
	.2	ASTM International .1 ASTM D 1055-09, Specification for Flexible Cellular Materials - Latex Foam. .2 ASTM D 1335-05, Standard Test Method for Tuft Bind of Pile Yarn Floor Coverings. .3 ASTM D 2661-08, Standard Specification for Acrylonitrile-Butadiene-Styrene (ABS) Schedule 40 Plastic Drain, Waste, and Vent Pipe and Fittings. .4 ASTM D 3574-08, Standard Test Methods for Flexible Cellular Materials - Slab, Bonded, and Molded Urethane Foams. .5 ASTM D 3936-05, Standard Test Method for Resistance to Delamination of the Secondary Backing of Pile Yarn Floor Covering. .6 ASTM E 84-10, Test Method for Surface Burning Characteristics of Building Materials. .7 ASTM E 648-10, Standard Test Method for Critical Radiant Flux of Floor-Covering Systems Using a Radiant Heat Energy Source.

1.2 REFERENCE

STANDARDS

(Cont'd)

- .2 (Cont'd)
 - .8 ASTM E 662-09, Standard Test Method for Specific Optical Density of Smoke Generated by Solid Materials.
- .3 Canada Green Building Council (CaGBC)
 - .1 LEED Canada-NC Version 1.0-2004, LEED (Leadership in Energy and Environmental Design): Green Building Rating System Reference Package For New Construction and Major Renovations (including Addendum 2007).
 - .2 LEED Canada-CI Version 1.0-2007, LEED (Leadership in Energy and Environmental Design): Green Building Rating System Reference Guide For Commercial Interiors.
- .4 Canadian General Standards Board (CGSB)
 - .1 CAN/CGSB-4.2 No. 22-2004, Textile Test Methods - Colourfastness to Rubbing (Crocking).
 - .2 CAN/CGSB-4.2 No.27.6M-2004, Textile Test Methods - Flame Resistance - Methemine Tablet Test for Textile Floor Coverings.
 - .3 CAN/CGSB-4.2 No.77.1-94/ISO 4919:2000 , Textile Test Methods - Carpets - Determination of Tuft Withdrawal Force.
 - .4 CGSB 4-GP-36M-78, Carpet Underlay, Fiber Type.
 - .5 CAN/CGSB-4.129-93(R1997), Carpets for Commercial Use.
- .5 Carpet and Rug Institute (CRI)
 - .1 CRI Carpet Installation Standard 2009.
 - .2 CRI Green Label Indoor Air Quality Testing Program.
 - .3 CRI Green Label Plus Indoor Air Quality Testing Program.
- .6 Health Canada
 - .1 C.R.C., c.923-10, Hazardous Products Act - Carpet Regulations, Part II of Schedule 1.
- .7 Health Canada / Workplace Hazardous Materials Information System (WHMIS)
 - .1 Material Safety Data Sheets (MSDS).
- .8 National Floor Covering Association (NFCA)
 - .1 National Floor Covering Specification Manual 2007.

1.2 REFERENCE
STANDARDS
(Cont'd)

- .9 South Coast Air Quality Management District (SCAQMD), California State, Regulation XI. Source Specific Standards
 - .1 SCAQMD Rule 1113-A2007, Architectural Coatings.
 - .2 SCAQMD Rule 1168-A2005, Adhesives and Sealants Applications.
- .10 Underwriters' Laboratories of Canada (ULC)
 - .1 CAN/ULC-S102-07, Standard Method of Test for Surface Burning Characteristics of Building Materials and Assemblies.
 - .2 CAN/ULC-S102.2-07, Standard Method of Test for Surface Burning Characteristics of Flooring, Floor Coverings and Miscellaneous Materials and Assemblies.

1.3 ADMINISTRATIVE
REQUIREMENTS

- .1 Pre-Installation Meetings:
 - .1 Convene pre-installation meeting 1 week prior to beginning work of this Section and on-site installation, with Contractor's Representative and Departmental Representative in accordance with Section 01 31 19 - Project Meetings to:
 - .1 Verify project requirements.
 - .2 Review installation and substrate conditions.
 - .3 Co-ordination with other construction subtrades.
 - .4 Review manufacturer's written installation instructions and warranty requirements.

1.4 ACTION AND
INFORMATIONAL
SUBMITTALS

- .1 Submit in accordance with Section 01 33 00 - Submittal Procedures.
 - .2 Product Data:
 - .1 Submit manufacturer's instructions, printed product literature and data sheets for each carpet undercushion adhesive carpet protection subfloor patching compound and include product characteristics, performance criteria, physical size, finish and limitations.
-

1.4 ACTION AND
INFORMATIONAL
SUBMITTALS
(Cont'd)

- .2 (Cont'd)
 - .2 Submit 2 copies of WHMIS MSDS in accordance with Section 01 35 29.06 - Health and Safety Requirements 01 35 43 - Environmental Procedures.
 - .3 Samples:
 - .1 Submit for review and acceptance of each unit.
 - .2 Samples will be returned for inclusion into work.
 - .3 Submit duplicate 675 x 900 mm pieces of each type carpet specified, duplicate 225 x 225 mm pieces for each colour selected, 300 mm square pieces of undercushion, 150 mm lengths of carpet gripper and binder bars base divider strips.
 - .4 Certificates: submit product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements.
 - .5 Test and Evaluation Reports:
 - .1 Certified test reports showing compliance with specified performance characteristics and physical properties.
 - .6 Manufacturer's Instructions: submit manufacturer's installation and storage instructions.
 - .7 Manufacturers Reports:
 - .1 Manufacturer's Field Reports: submit manufacturer's written reports within 3 days of review, verifying compliance of Work, as described in PART 3 - FIELD QUALITY CONTROL.
 - .8 Sustainable Design Submittals:
 - .1 LEED Canada-NC Version 1.0 CI Version 1.0 Submittals: in accordance with Section 01 35 21 - LEED Requirements.
 - .2 Construction Waste Management:
 - .1 Submit project Waste Management Plan Waste Reduction Workplan highlighting recycling and salvage requirements.
-

1.4 ACTION AND
INFORMATIONAL
SUBMITTALS
(Cont'd)

- .8 (Cont'd)
- .2 (Cont'd)
 - .2 Submit calculations on end-of-project recycling rates, salvage rates, and landfill rates demonstrating that 50 75% of construction wastes were recycled or salvaged.
- .3 Recycled Content:
 - .1 Submit listing of recycled content products used, including details of required percentages or recycled content materials and products, showing their costs and percentages of post-consumer and post-industrial content, and total cost of materials for project.
 - .4 Regional Materials: submit evidence that project incorporates required percentage 10 20% of regional materials and products, showing their cost, distance from project to furthest site of extraction or manufacture, and total cost of materials for project.
 - .5 Low-Emitting Materials:
 - .1 Submit listing of adhesives and sealants and paints and coatings used in building, showing compliance with VOC and chemical component limits or restriction requirements.
 - .2 Submit listing of carpet , carpet backer and adhesive used in building, showing compliance with CRI Green Label Green Label Plus Indoor Air Quality Test Program.
- .9 Qualification Statements:
 - .1 Compliance: to CAN/ULC-S102 and CAN/ULC-S102.2.
 - .2 Testing: passes testing requirements of:
 - .1 Green Label Plus Indoor Air Quality Testing Program.
 - .3 Tuft bind: meets requirements of CAN/CGSB-4.129 when tested to CAN/CGSB-4.2 No.77.1.

1.5 CLOSEOUT
SUBMITTALS

- .1 Submit in accordance with Section 01 78 00 - Closeout Submittals.
-

- 1.5 CLOSEOUT SUBMITTALS
(Cont'd)
- .2 Operation and Maintenance Data: submit operation and maintenance data for installed products for incorporation into manual.
 - .3 Warranty Documentation: submit warranty documents specified.
 - .1 Indicate: Length and Conditions.
 - .4 Carpet Reclamation:
 - .1 Co-ordinate carpet reclamation in accordance with Section 01 35 43.10 - Carpet Reclamation.
 - .2 Schedule of carpet reclamation activities indicating following:
 - .1 Detailed sequence of removal work.
 - .2 Inventory of items to be removed and reclaimed.
 - .3 Proposed packing and transportation measures.
 - .3 Reclamation agencies' records indicating receipt and disposition of used carpet.
 - .4 Certification: Reclamation Agency to verify in writing that used carpet was removed and recycled in accordance with carpet fibre manufacturers' reclamation program.
 - .1 Record off-site removal of debris and materials and provide following information regarding removed materials.
 - .1 Time and date of removal.
 - .2 Type of material.
 - .3 Weight and quantity of materials.
 - .4 Final destination of materials.
- 1.6 MAINTENANCE MATERIAL SUBMITTALS
- .1 Extra Stock Materials in accordance with Section 01 78 00: deliver to Owner extra materials from same production run as products installed. Package products with protective covering and identify with descriptive labels. Comply with Section 01 78 00 - Closeout Submittals.
 - .1 Quantity: provide minimum 5% of:
 - .1 Carpet:.
 - .2 Carpet base:.
 - .3 Adhesives:.
 - .2 Delivery, storage and protection: comply with Owner's requirements for delivery and storage of extra materials.

1.7 QUALITY
ASSURANCE

- .1 Regulatory Requirements:
 - .1 Prequalification: compliance with Health Canada regulations under "Hazardous Products Act", Part II of Schedule 1, to CAN/CGSB-4.2 No. 27.6.
- .2 Qualifications:
 - .1 Manufacturer: capable of providing field service representation during construction and approving application method.
 - .2 Flooring Installer Applicator Contractor:
 - .1 Experienced in performing work of this Section who has specialized in installation of work similar to that required for this project.
 - .2 Certified by carpet manufacturer prior to tender bid submission.
 - .3 Must not sub-contract labour without written approval of Departmental Representative .
 - .4 Responsible for proper product installation, including floor testing and preparation as specified and in accordance with carpet manufacturers written instructions.

1.8 DELIVERY,
STORAGE AND
HANDLING

- .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: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.
- .3 Storage and Handling Requirements:
 - .1 Store materials off ground indoors in dry location and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.
 - .2 Store materials protected from exposure to harmful weather conditions and at temperature conditions recommended by manufacturer.
 - .3 Store and protect carpet and adhesive in original containers or wrapping with manufacturer's seals and labels intact.

1.8 DELIVERY,
STORAGE AND
HANDLING(Cont'd)

- .3 (Cont'd)
 - .4 Store and protect carpeting and accessories in location as directed by Departmental Representative .
 - .5 Store carpet and adhesive at minimum temperature of 18 degrees C and relative humidity of maximum 65% for minimum of 48 hours before installation.
 - .6 Prevent damage to materials during handling and storage. Keep materials under cover and free from dampness.
 - .7 Safety: comply with requirements of Workplace Hazardous Materials Information System (WHMIS) regarding use, handling, storage, and disposal of hazardous materials.
 - .8 Replace defective or damaged materials with new.
- .4 Develop Construction Waste Management Plan Waste Reduction Workplan related to Work of this Section and in accordance with Section 01 35 21 - LEED Requirements.
- .5 Packaging Waste Management: remove for reuse and return by manufacturer of pallets, crates, padding, and packaging materials as specified in Construction Waste Management Plan Waste Reduction Workplan in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal and Section 01 35 21 - LEED Requirements.

1.9 SITE CONDITIONS

- .1 Ambient Conditions:
 - .1 Moisture: ensure substrate is within moisture limits and alkalinity limits recommended by manufacturer. Prepare moisture testing and provide report to Departmental Representative .
 - .2 Temperature: maintain ambient temperature of not less than 18 degrees C from 48 hours before installation to at least 48 hours after completion of work.
 - .3 Relative humidity: maintain between 10 and 65% for 48 hours before, during and 48 hours after installation.
 - .4 Ventilation:

- 1.9 SITE CONDITIONS .1 (Cont'd)
-
- (Cont'd)
- .4 (Cont'd)
- .1 Departmental Representative will co-ordinate operation of ventilation system during installation of carpet. Ventilate area of work as directed by Departmental Representative by use of approved portable supply and exhaust fans.
- .2 Ventilate enclosed spaces in accordance with Section 01 51 00 - Temporary Utilities. Provide fans with HEPA filters.
- .3 Provide continuous ventilation during and after carpet application. Run ventilation system 24 hours per day during installation; provide continuous ventilation for 7 days after completion of carpet installation.
- .5 Install carpet after space is enclosed and weatherproof, wet-work in space is completed and nominally dry, work above ceilings is complete.

- 1.10 WARRANTY
-
- .1 Manufacturer's warranty: submit, for Departmental Representative's acceptance, manufacturer's standard warranty document executed by authorized company official. Manufacturer's warranty is in addition to and does not limit other rights Owner may have under Contract Documents.
- .2 Warranty period: 1 year, commencing on date of substantial performance of work.
- .1 Warranty covers labour and repair or replacement of defective components for 1 year after date of substantial performance.

PART 2 - PRODUCTS

- 2.1 MATERIALS
-
- .1 Manufacturers:
- .1 Ensure manufacturer has minimum 5 years experience in manufacturing components similar to or exceeding requirements of project.
- .1 Certification: to be provided.
-

- 2.1 MATERIALS
-
- (Cont'd)
- .1 (Cont'd)
 - .1 (Cont'd)
 - .2 Description:
 - .1 Sustainability Characteristics:
 - .1 Materials and products in accordance with Section 01 47 15 - Sustainable Requirements: Construction 01 35 21 - LEED Requirements.
 - .2 Sealants: VOC limit 50 150 g/L maximum to SCAQMD Rule 1168 GS-36.
 - .3 PrimerSealer: in accordance with manufacturer's recommendations for surface conditions:
 - .1 VOC limit: 100 g/L maximum to SCAQMD Rule 1113
 - .4 Carpet and Accessories:
 - .1 Green LabelGreen Label Plus certified.

- 2.2 PERFORMANCE
-
- .1 Flammability: certified for flammability to Health Canada regulations under "Hazardous Products - Carpet Regulations", Part II of Schedule 1.
 - .2 Flame Spread: maximum flame spread rating 300, maximum smoke developed classification 500, when tested to CAN/ULC S102.2.
 - .3 Smoke Development: 450 or less per ASTM E 662.
 - .4 Dry Breaking Strength: to ASTM D 2661, minimum acceptable tear strength in both length and width:
 - .1 11.3 kg for carpets installed by glue down installation.
 - .2 15.9 kg for carpet installed by power stretch.
 - .5 Wear: maximum 10% of pile face fibre by weight for 10 years.
 - .6 Edge Ravel: none for 10 years.
 - .7 Static Resistance: permanent static control to AATCC 134, 3000 V maximum at 20% RH and 22 degrees C.
-

2.2 PERFORMANCE
(Cont'd)

- .8 Static Generation: less than 3.0 kV per AATCC 134 for 10 years.
- .9 Tuft Bind: Tuft Lock: to ASTM D 1335
CAN/CGSB-4.129, minimum acceptable 1.6 kilograms for cut pile product 3.6 for loop pile product.
- .10 De-lamination of Secondary Backing: Lamination Strength of Secondary Backing: to ASTM D 3936, minimum acceptable peel strength of 1.6 kg/25 mm.
- .11 Stain resistance: to AATCC 175, 8.
- .12 Soil Resistance: 350 ppm fluorine minimum Fluorine Durability Level to AATCC 189.
- .13 Colourfastness to light: to CAN/CGSB 4.2 No.18.3 AATCC 16.
- .14 Colourfastness to atmosphere: to AATCC 129 and AATCC 23.
- .15 Colourfastness to crocking: to CAN/CGSB 4.2 No. 22.
- .16 Indoor Air Quality Certification: certified to CRI Green Label Plus IAQ requirements.

2.3 FABRICATION

- .1 Face construction:
 - .1 WovenTuftedNeedle punched.
- .2 Pile Surface Appearance:
 - .1 Level loop:non-textured textured.
 - .2 Multi-level loop: concealed-pile sculptured.
 - .3 Cut and loop: plush Saxony.
 - .4 Cut pile: plain plush plain Saxony.
- .3 Pile fibre: to CAN/CGSB 4.129.
 - .1 Nylon: BCF staple.
 - .1 Type: Nylon 6 Nylon 6.6.
- .4 Face Fiber Denier: minimum 18.
- .5 Dyeing Method: piece yarn stock printed solution dyed.

2.3 FABRICATION

(Cont'd)

- .6 Tufted Carpet Backing: to CAN/CGSB 4.129.
 - .1 Primary backing:
 - .1 Polypropylene: Cut Pile Carpet: 100% woven spunbonded polypropylene at a minimum weight of 126 g/m².
 - .2 Polypropylene: Loop Pile Carpet: 100% woven spunbonded polypropylene at a minimum weight of 109 g/m².
- .7 Woven Carpet Backing: to CAN/CGSB 4.129.
 - .1 100% moisture resistant warp, filling and stuffer yarns.
- .8 Secondary and Unitary Backings: to CAN/CGSB 4.129.
- .9 Finished Pile Height: minimum 3.5 mm average.
- .10 Surface Pile Weight: minimum 566 g.
- .11 Performance Rating: 3.0 minimum at 12,000 cycles to Hexapod test 22,000 cycles to Vetterman test.

2.4 CARPET CUSHION

- .1 Carpet Cushion Construction:
 - .1 Material:
 - .1 Fibre Type: to CAN/CGSB 4-GP-36M, minimum 1090 g/m².
 - .2 Polyurethane type: urethane foam particles bonded with adhesive, 4-ply, polyethylene and non-woven nylon top side, double film polypropylene netting bottom, 6 mm thick, maximum flame spread 25 to ASTM E 84.
 - .3 Cellular rubber type: to CAN/CGSB 20-GP-23M, Type 1-Firm 2-Medium 3-Soft, open cellular rubber, reinforced with solid rubber particles, poly backing, 5 6 7 10 mm thick, mass: 22 kg/m², compression set 80% to ASTM D 1055.
 - .2 Traffic Classification: light medium heavy very heavy.
 - .3 Anti-microbial Resistance: to AATCC 174 , 2 mm minimum halo of inhibition for gram positive bacteria.
 - .1 1 mm minimum halo of inhibition for gram negative bacteria.
 - .2 Ensure no fungal growth.

2.5 ACCESSORIES

- .1 Base: TBD.
 - .1 Carpet Base: TBD mm high, same material, colour, pattern and texture as adjoining carpet. Bound exposed edge. Vinyl Metal cap strip to accommodate carpet base thickness, TBD colour to match carpet.
 - .2 Wall Carpet Base: cove toeless.
 - .3 Resilient Base: TBD.
 - .2 Carpet Tack Strips: type in accordance with carpet manufacturer's written instructions.
 - .3 Seaming Tape: type in accordance with carpet manufacturer's written instructions for purpose intended.
 - .4 Seaming Sealer Adhesive:
 - .1 Type in accordance with carpet manufacturer's written instructions for purpose intended.
 - .1 VOC limit: 50 150 g/L maximum to SCAQMD Rule 1168.
 - .5 Binder bars: aluminum brass finish plastic TBD colour aluminum and TBD colour plastic combination.
 - .6 Adhesive:
 - .1 Multi-purpose adhesive type: in accordance with carpet manufacturer's written instructions for direct glue down installation.
 - .2 Pressure sensitive type: in accordance with carpet manufacturer's written instructions for direct glue down installation of speciality backed carpets.
 - .3 On site application VOC limit: 50 150 g/L maximum to SCAQMD Rule 1168.
 - .7 Transition Mouldings:
 - .1 Carpet edge/reducer strip: TBD.
 - .8 Stair nosing:
 - .1 TBD.
 - .9 Carpet protection: non-staining heavy duty kraft paper.
 - .10 Concrete floor sealer primer:
 - .1 As per manufactures recommendation.
-

- 2.5 ACCESSORIES .10 (Cont'd)
(Cont'd) .2 VOC limit: 100 g/L maximum to SCAQMD Rule 1113.
- .11 Subfloor patching compound: Portland cement base filler, mix with latex and water to form cementitious paste.

PART 3 - EXECUTION

- 3.1 INSTALLERS .1 Use experienced and qualified technicians to carry out assembly and installation of sheet carpet.

- 3.2 EXAMINATION .1 Examine conditions, substrates and work to receive work of this Section, co-ordinate with Section 01 71 00 - Examination and Preparation.
- .2 Verification of Conditions: verify conditions of substrates previously installed under other Sections or Contracts are acceptable for sheet carpet installation in accordance with manufacturer's written instructions.
- .1 Inform Departmental Representative of unacceptable conditions immediately upon discovery.
- .2 Proceed with installation only after unacceptable conditions have been remedied and after receipt of written approval to proceed from Departmental Representative .

- 3.3 PREPARATION .1 Subfloor Preparation:
- .1 Inspect concrete and determine special care required to make it suitable for carpet.
- .2 Fill and level cracks 3 mm wide or protrusions over 0.8 mm with appropriate and compatible latex polymer fortified patching compound.
- .3 Comply with manufacturer's written recommendations for maximum patch thickness.
- .4 Prime large patch areas with compatible primer.

3.3 PREPARATION
(Cont'd)

- .1 (Cont'd)
 - .5 Ensure concrete substrates are cured, clean and dry.
 - .6 Ensure concrete substrates are free of paint, dirt, grease, oil, curing or parting agents, and other contaminants, including sealers, that interfere with the bonding of adhesive.
 - .7 Where powdery or porous concrete surface is encountered, apply primer compatible with adhesive to provide a suitable surface for glue-down installation.
 - .2 Surface Preparation: prepare surface in accordance with manufacturer's written recommendations and co-ordinate with Section 01 71 00 - Examination and Preparation.
 - .1 Prepare floor surfaces in accordance with CRI Carpet Installation Standard.
 - .3 Sheet Carpet Preparation:
 - .1 Pre-condition carpeting: following manufacturer's written instructions.
 - .4 Demolition / Removal:
 - .1 Remove and divert return carpet for reuse recycling reclamation in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal 01 35 43.10 - Carpet Reclamation and with Waste Reduction Workplan. Co-ordinate with Departmental Representative .
 - .2 Vacuum used carpet before removal.
 - .3 Maintain possession of removed used carpet.
 - .4 Remove used tiles and pack in container trailer pallets. Use effective packing techniques to maximize amount of material in container.
 - .5 Sort only clean, dry carpet sheets for reclamation. Clean is defined as carpet free from demolition debris, asbestos contamination, garbage, knife blades and tack strips.
 - .6 Carpet undercushion: provide recycling of carpet padding where locally available or as designated by carpet reclamation program.
-

3.4 INSTALLATION

- .1 Install sheet carpet in accordance with manufacturer's written instructions, and CRI Carpet Installation Standard and co-ordinate with Section 01 73 00 - Execution.
 - .2 Co-ordinate sheet carpet work with work of other trades, for proper time and sequence to avoid construction delays.
 - .3 Install carpeting and undercushion using minimum of pieces.
 - .4 Install carpet and undercushion after finishing work is completed but before demountable office partitions and telephone and electrical pedestal outlets are installed.
 - .5 Inspect finished installation for smooth wearing surface free from conspicuous seams, burring and other faults.
 - .6 Use material from same dye lot.
 - .1 Ensure colour, pattern and texture match within visual areas.
 - .2 Maintain constant pile direction.
 - .7 Hot meltAdhesive seams and cross-joints.
 - .1 Ensure seams are sealed.
 - .8 Fit around architectural, mechanical, electrical and telephone outlets, and furniture fitments, around perimeter of rooms into recesses, and around projections.
 - .9 Install carpeting to underfloor duct system and to access covers.
 - .10 Install carpeting in pan type floor access covers.
 - .11 Extend carpet into toe spaces, door reveals, closets, open-bottomed obstructions, removable flanges, alcoves, and similar openings.
 - .12 Install carpet smooth and free from bubbles, puckers, and other defects.
-

3.5 CARPET TACK
STRIPS AND BINDER
BARS

- .1 Carpet grippers: install carpet grippers at junctions of walls and vertical surfaces. Secure gripper to prevent movement.
 - .1 Secure gripper to prevent movement.
- .2 Binder bars: install binder bars at exposed carpet edges and centre under doors in door openings.

3.6 CARPET
TRANSITION STRIPS

- .1 Protect exposed carper edges at transition to other flooring materials with suitable transition strips.

3.7 UNDERCUSHION
INSTALLATION

- .1 Install undercushion fully adhered using minimum number of pieces. Secure undercushion to prevent shifting.
- .2 Butt edges firmly together.
 - .1 Install to edge of gripper and tape top of joints.
 - .2 Remove bubbles and slightly stretch.
- .3 Secure undercushion at projections and penetrations, and where cut to contours and ramps.
- .4 Offset undercushion seams at least 300 mm from carpet seams.

3.8 DIRECT GLUE
DOWN CARPET

- .1 Apply adhesive and install carpeting over undercushion in accordance with manufacturer's written instructions, by direct glue-down method.

3.9 STRETCH-IN
CARPET

- .1 Install carpeting over undercushion and secure to carpet grippers in accordance with manufacturer's written instructions.

3.10 SEAMS

- .1 Seal edges of cut-outs with latex binding method.

- | | | |
|-------------------------------------|----|--|
| 3.10 SEAMS
<u>(Cont'd)</u> | .2 | Ensure visibility of carpet seams and joints are acceptable industry standards. |
| 3.11 BASE
<u>INSTALLATION</u> | .1 | Install bound edge carpet base to match adjacent carpeting base capstrip aligned straight and level at base height.
.1 Install cove at junction of floor and wall. |
| | .2 | Attach carpet to wall with adhesive.
.1 Neatly fit against floor carpet and into cap strip. |
| | .3 | Extend floor carpeting over cove, up wall and into capstrip to form cove carpet base. |
| | .4 | Install resilient base in accordance with Section 09 65 16 - Resilient Sheet Flooring. |
| 3.12 SITE QUALITY
<u>CONTROL</u> | .1 | Site Tests and Inspections:
.1 Co-ordinate site test with Section 01 45 00 - Quality Control.
.2 Obtain reports within 3 days of review and submit immediately to Departmental Representative. |
| | .2 | Manufacturer's Field Services:
.1 Co-ordinate manufacturer's services with Section 01 45 00 - Quality Control. Have manufacturer review work involved in handling, installation / application, protection and cleaning of its products, and submit written reports, in acceptable format, to verify compliance of work with Contract.
.2 Manufacturer's field services: provide manufacturer's field services, consisting of product use recommendations and periodic site visits for inspection of product installation, in accordance with manufacturer's instructions.
.3 Schedule site visits:
.1 After delivery and storage of products, and when preparatory Work, or other Work, on which the Work of this Section depends, is complete but before installation begins. |
-

3.12 SITE QUALITY CONTROL (Cont'd)

.2 (Cont'd)

.3 (Cont'd)

.2 Twice during progress of Work at 25% and 60% complete.

.3 Upon completion of Work, after cleaning is carried out.

3.13 CLEANING

.1 Progress Cleaning: clean in accordance with Section 01 74 11 - Cleaning.

.1 Leave Work area clean at end of each day.

.2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11 - Cleaning.

.1 Vacuum carpets clean immediately after completion of installation.

.2 Waste Management: separate waste materials for reuse and recycling in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal 01 35 21 - LEED Requirements 01 35 43.10 - Carpet Reclamation.

.1 Remove recycling containers and bins from site and dispose of materials at appropriate facility.

3.14 PROTECTION

.1 Protect installed products and components from damage during construction.

.2 Prohibit traffic on carpet for period of 24 hours minimum after installation and until adhesive is completely cured.

.3 Install carpet protection to satisfaction of Departmental Representative .

.4 Repair damage to adjacent materials caused by sheet carpeting installation.

PART 1 - GENERAL
1.1 REFERENCE
STANDARDS

- .1 Aluminum Association (AA)
 - .1 DAF 45-03, Designation System for Aluminum Finishes.
 - .2 Canada Green Building Council (CaGBC)
 - .1 LEED Canada-NC Version 1.0-2004, LEED (Leadership in Energy and Environmental Design): Green Building Rating System Reference Package For New Construction and Major Renovations (including Addendum 2007).
 - .2 LEED Canada-CI Version 1.0-2007, LEED (Leadership in Energy and Environmental Design): Green Building Rating System Reference Guide For Commercial Interiors.
 - .3 LEED Canada 2009 for Design and Construction-2010, LEED Canada 2009 for Design and Construction Leadership in Energy and Environmental Design Green Building Rating System Reference Guide.
 - .4 LEED Canada for Existing Buildings, Operations and Maintenance-2009, LEED Canada 2009 Leadership In Energy and Environmental Design Green Building Rating System Reference Guide.
 - .3 Canadian General Standards Board (CGSB)
 - .1 CAN/CGSB-1.81-M90, Air Drying and Baking Alkyd Primer for Vehicles and Equipment.
 - .2 CAN/CGSB-1.88-92, Gloss Alkyd Enamel Air Drying and Baking.
 - .3 CAN/CGSB-1.104-M91, Semigloss Alkyd Air Drying and Baking Enamel.
 - .4 CAN/CGSB-51.34-M86, Vapour Barrier, Polyethylene Sheet, for Use in Building Construction.
 - .4 CSA International
 - .1 CAN/CSA-Z809-08, Sustainable Forest Management.
 - .5 Ceilings and Interior Systems Construction Association (CISCA)
 - .1 Recommended Test Procedures for Access Floors - 2007.
 - .6 Environmental Choice Program (ECP)
-

1.1 REFERENCE
STANDARDS
(Cont'd)

- .6 (Cont'd)
 - .1 CCD-046-95, Adhesives.
 - .2 CCD-126-95, Construction Film (Polyethylene Plastic Film Product).
- .7 Forest Stewardship Council (FSC)
 - .1 FSC-STD-01-001-2004, FSC Principle and Criteria for Forest Stewardship.
- .8 Green Seal Environmental Standards (GS)
 - .1 GS-36-11, Standard for Adhesives for Commercial Use.
- .9 National Research Council Canada (NRC)
 - .1 National Building Code of Canada 2015 (NBC).
- .10 Health Canada/Workplace Hazardous Materials Information System (WHMIS)
 - .1 Material Safety Data Sheets (MSDS).
- .11 South Coast Air Quality Management District (SCAQMD), California State, Regulation XI. Source Specific Standards
 - .1 SCAQMD Rule 1168-A2005, Adhesives and Sealants Applications.

1.2 ADMINISTRATIVE
REQUIREMENTS

- .1 Pre-installation Meetings: convene pre-installation meeting after Award of Contract and 1 week prior to commencing work of this Section to verify project requirements, substrate conditions and co-ordination with other building sub-trades, and to review manufacturer's written installation instructions.
 - .1 Convene pre-installation meeting 1 week prior to beginning work of this Section and on-site installation, in accordance with Section 01 31 19 - Project Meetings.
 - .2 Notify attendees 2 weeks prior to meeting and ensure meeting attendees include as minimum:
 - .1 Departmental Representative.
 - .2 Access flooring subcontractor.
 - .3 Manufacturer's Technical Representative.
-

- 1.2 ADMINISTRATIVE REQUIREMENTS
(Cont'd)
- .1 (Cont'd)
- .3 Ensure meeting agenda includes review of methods and procedures related to access flooring installation including co-ordination with related work.
- .4 Record meeting proceedings including corrective measures and other actions required to ensure successful completion of work and distribute to each attendee within 1 week of meeting.
- 1.3 ACTION AND INFORMATIONAL SUBMITTALS
- .1 Submit in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Product Data:
- .1 Submit manufacturer's instructions, printed product literature and data sheets for access flooring and include product characteristics, performance criteria, physical size, finish and limitations.
- .2 Submit 2 copies of WHMIS MSDS in accordance with Section 01 35 29.06 - Health and Safety Requirements 01 35 43 - Environmental Procedures. Indicate VOC's:
- .1 For caulking materials during application and curing.
- .2 For adhesives.
- .3 Shop Drawings:
- .1 Submit drawings stamped and signed by professional engineer registered or licensed in Province Territory, Canada.
- .2 Take measurements from finished area at site. Indicate where applicable information as follows:
- .1 Layout of work.
- .2 Sizes and details of components.
- .3 Anchorage methods.
- .4 Edge and fascia details.
- .5 Elevation differences.
- .6 Stair, handrail and ramp framing and details.
- .7 Lateral bracing.
- .8 Typical cutout details.
- .9 Gasketting, return air details, supply air registers and perforated panels. Include air transfer capacity of grilles, registers and panels.
-

1.3 ACTION AND
INFORMATIONAL
SUBMITTALS
(Cont'd)

- .3 (Cont'd)
 - .2 (Cont'd)
 - .10 Floor finishes.
 - .11 Location of connection to building grounding electrode.
 - .3 Structural Computations:
 - .1 Submit data on earthquake resistance in the form of structural computations that have been signed and sealed by a qualified professional. Include structural computations, material properties and other information required for structural analysis and verifications that access flooring system will withstand earthquake loads indicated.
- .4 Samples:
 - .1 Submit one full size sample consisting of 4 panels of complete access flooring system, including finishes.
 - .2 Submit one of each of following components.
 - .1 FullQuarter size floor panel.
 - .2 Pedestal.
 - .3 Stringer member.
 - .4 High pressure laminateCarpet.
 - .5 Fasteners.
 - .6 Cove base 300 mm long.
 - .7 Accessories.
 - .8 Handrail.
 - .3 Submit duplicate samples of each type floor covering.
 - .1 Colour chips from manufacturer's standard range of colours for specified floor covering material.
 - .2 Carpet: 200 x 300 mm, of each type of carpet specified.
- .5 Manufacturers' Field Reports: submit copies of manufacturers field reports.
- .6 Test Reports: submit certified test reports from approved independent testing laboratories indicating compliance with specifications for specified performance characteristics and physical properties.
- .7 Certificates: submit certification, to demonstrate compliance of access flooring system to specification as follows:

1.3 ACTION AND
INFORMATIONAL
SUBMITTALS
(Cont'd)

- .7 (Cont'd)
 - .1 CSA or ULC certification.
 - .2 Independent testing agency test reports certifying that the product meets standard.
 - .3 Letter of certification from responsible official of manufacturer.
 - .4 Method for testing access flooring in accordance with Ceilings and Interior Systems Construction Association (CISCA) standard test procedures.
 - .1 Have tests performed by an independent testing laboratory regularly engaged in testing of access floor components.
- .8 Sustainable Design Submittals:
 - .1 LEED Canada submittals: in accordance with Section 01 35 21 - LEED Requirements.
 - .2 Construction Waste Management:
 - .1 Submit project Waste Management Plan Waste Reduction Workplan highlighting recycling and salvage requirements.
 - .2 Submit calculations on end-of-project recycling rates, salvage rates, and landfill rates demonstrating that 50 75% of construction wastes were recycled or salvaged.
 - .3 Recycled Content:
 - .1 Submit listing of recycled content products used, including details of required percentages or recycled content materials and products, showing their costs and percentages of post-consumer and post-industrial content, and total cost of materials for project.
 - .4 Wood Certification: submit vendor's manufacturer's Chain-of-Custody Certificate number for CAN/CSA-Z809 or FSC or SFI certified wood.
 - .5 Low-Emitting Materials:
 - .1 Submit listing of adhesives and sealants and carpet used in building, comply with VOC and chemical component limits or restriction requirements.
 - .2 Submit listing of composite wood products used in building, stating that they contain no added urea-formaldehyde resins, and laminate adhesives used in building, stating that they contain no urea-formaldehyde.

PART 2 - PRODUCTS2.1 SYSTEM
DESCRIPTION

- .1 Design Requirements:
 - .1 Pedestals: pedestal assembly to support a concentrated load of 22 kN without going out of alignment.
 - .1 Pedestals, when secured to subfloor, to resist a 0.09 kN force applied horizontally at top of pedestal.
 - .2 Ultimate load carrying capacity: not less than twice design strength.
 - .2 Stringers:
 - .1 Assembly to remain completely braced and rigid after a maximum of eight abutting panels are removed.
 - .2 Stringers to support a mid-span force of 0.66 kN minimum.
 - .3 Floor Panels:
 - .1 Uniformly distributed load of 12 kPa minimum: maximum deflection of 1 mm.
 - .2 Concentrated load of 4.4 kN applied over area of 25 x 25 mm at any location: maximum deflection of 2.54 mm.
 - .3 Rolling load of 2.2 kN on 76 mm diameter caster with bearing area of 1.27 mm² anywhere on panel without damage maximum deflection of 2.54 mm.
 - .4 Permanent deflection: 0.5 mm maximum at design load.
 - .5 Ultimate strength of the panel: provide safety factor of 3.0 times its design load without failure.
 - .4 Allowable Tolerances:
 - .1 Flatness of floor panels: plus or minus 0.5 mm in any direction.
 - .2 Surface Dimension: plus or minus 0.5 mm of all panels.
 - .3 Finished floor level tolerance: plus or minus 3 mm for overall floor, and plus or minus 1 mm in 2000 mm in any direction.
 - .4 Squareness: plus or minus 0.5 mm in surface dimension and 0.25 mm measured diagonally.
 - .5 Fire Resistance:

- 2.1 SYSTEM DESCRIPTION (Cont'd)
- .1 (Cont'd)
 - .5 (Cont'd)
 - .1 Floor panels, less finished flooring: flame spread rating of 5; fuel contribution of 10 and smoke development of 15.
 - .6 Electrical Resistance:
 - .1 From surface of floor covering through to understructure shall not exceed 2×10^{10} ohms nor be less than 5×10^5 ohms.
- 2.2 MATERIALS
- .1 Pedestals: steel aluminum assembly with minimum 10,000 mm² base plate. Pedestal head cast alloy formed steel. Threaded supporting rod and vibration-proof lock nut to permit 38 mm adjustment. Galvanized Manufacturer's standard finish.
 - .2 Panels:
 - .1 Steel floor panels: die formed, reinforced steel bottom plate welded to flat steel top plate and die cut to 600 x 600mm size, bonderized and baked enamel finish, integral applied edge trim for plastic laminate finish without edge trims edge trim for carpet complete with grounding connector.
 - .2 Composite steel floor panels: particle board plywood core encased with galvanized sheet steel, structurally bonded with thermosetting adhesive to both faces to form 600 x 600 mm size panel, integral applied edge trim for plastic laminate finish without edge trims edge trim for carpet.
 - .1 Specify material.
 - .2 CAN/CSA-Z809 or FSC or SFI certified.
 - .3 Urea-formaldehyde free.
 - .3 Lightweight concrete floor panels: moulded, panel formed by combination of cementitious silicate compounds, steel and fibre reinforcements, 600 x 600 mm size panel, edge trim for carpet integral applied edge trim for plastic laminate finish without edge trims.

2.2 MATERIALS

(Cont'd)

- .2 (Cont'd)
- .4 Aluminum panels: die cast 600 x 600 mm size panels, rough spots and cast imperfections removed and edges machined, edge trim for carpet integral applied edge trim for plastic laminate finish without edge trims.
- .5 Cementitious core steel floor panel: die formed, reinforced steel top plate, bottom plate filled with cementitious silicate compound, 600 x 600 mm size panel, edge trim for carpet integral applied edge trim for plastic laminate finish without edge trims.
- .3 Stringers:
- .1 Stringers: steel aluminum channel tube sections, galvanized manufacturer's standard finish, snap lock screw lock type.
- .1 Shape stringers to receive integrally extruded vinyl seal on top surface. Seal to be electrically conductive, function as cushion between floor panels and understructure and seal plenum below.
- .4 Fascia panels:
- .1 Closure panels made up of:
- .1 1.6 mm extruded aluminum.
- .2 0.6 mm galvanized sheet steel.
- .3 Plywood.
- .4 Particle board.
- .5 12 mm core encased with 0.6 mm galvanized sheet steel bonded to both faces.
- .6 As indicated.
- .2 Include corner pieces, trim, reinforcing and fixing angles required.
- .3 Finish with baked enamel finish to match floor panels anodized finish.
- .4 Steps: support system of same materials, structural strength and construction as floor panels. Include aluminum angle nosing, fascia/closure plate, tread finish.
- .5 Ramps and support system: of same materials, structural strength, and construction as floor panels. Cover open joints with flush aluminum stainless steel cover plates. Provide rubber flooring on ramp portion.

2.2 MATERIALS(Cont'd)

- .5 (Cont'd)
 - .1 Terminate ramp with ramp shoe and threshold transition plate; include fascia/closure plate.
- .6 Railings: posts and rails of extruded aluminum galvanized steel assembled with welded sleeved connections. Include cast metal end caps, floor sockets and collars, brackets and fittings. Finish with baked enamel finish anodized finish, colour selected by Departmental Representative .

2.3 ACCESSORIES

- .1 Base:.
 - .2 Panel lifting device: 1 2 per enclosed area, manufacturer's standard equipment, type recommended for each panel type. Include wall mounting bracket for panel lifter.
 - .3 Perforated floor panels: with slide damper same size, materials, and construction as floor panels with 10 25% free area, quantity.
 - .4 Air grilles: x mm floor register with straight deflecting vanes and shut-off damper.
 - .1 Fabricate in galvanized sheet steel extruded aluminum with baked enamel anodized finish.
 - .2 Designed for live load of 4.8 kN/m² quantity.
 - .5 Grounding connectors: solid copper.
 - .6 Adhesives: moisture resistant waterproof electrically conductive type as recommended by manufacturer of material to be bonded.
 - .1 Adhesives: VOC limit 30 70 250 g/L maximum to SCAQMD Rule 1168 GS-36.
 - .7 Cable cutout protection: extruded polyvinyl chloride or neoprene edging closed cell neoprene sheet 9.5 mm thick, self-extinguishing and non-burning soft rubber.
 - .8 Access grommets: textured plastic, sized to suit power and communication outlets colour.
-

2.3 ACCESSORIES
(Cont'd)

- .9 Plenum divider: galvanized steel sheet 0.46 mm minimum thick to 300 mm high; 0.6 mm thick above 300 mm high.
- .10 Plenum divider: aluminum plate 0.51 mm minimum thick up to 300 mm high; 0.6 mm thick above 300 mm high.
- .11 Plenum seal: closed cell neoprene, self-extinguishing and non-burning, designed to seal between panel and plenum divider.
- .12 Polyethylene sheet: to CAN/CGSB-51.34 CCD-126.
- .13 Pedestal stringer pad: resilient, electrically conductive.

2.4 FINISHES

- .1 Aluminum finishes:
 - .1 Finish exposed surfaces of aluminum components in accordance with Aluminum Association Designation System for Aluminum Finishes.
 - .1 As fabricated or mill finish: designation AA-.
 - .2 Clear anodic finish: designation AA-.
 - .3 Integral colour anodic finish: designation AA-, colour to match Departmental Representative's DCC Representative's Consultant's sample.
 - .4 Impregnated colour anodic finish: designation AA-, colour to match Departmental Representative's DCC Representative's Consultant's sample.
 - .5 Electrolytically deposited colour anodic finish: designation AA-, colour to match Departmental Representative's sample.
 - .2 Appearance and properties of anodized finishes designated by the Aluminum Association as Architectural Class 1, Architectural Class 2, and Protective and Decorative.
- .2 Metal finishes:
 - .1 Steel components:

- 2.4 FINISHES .2 (Cont'd)
- (Cont'd) .1 (Cont'd)
- .1 Exposed steel components: thoroughly clean surfaces, spray apply 1 coat CAN/CGSB-1.81 primer and two coats CAN/CGSB-1.88 type 2, gloss CAN/CGSB-1.104 type 2 semi-gloss paint, colour selected by Departmental Representative . Individually bake each coat.
- .2 Concealed steel components: 1 coat CAN/CGSB-1.81 baked primer.

PART 3 - EXECUTION

- 3.1 EXAMINATION .1 Verification of Conditions: verify that conditions of substrate previously installed under other Sections or Contracts are acceptable for access flooring installation in accordance with manufacturer's written instructions.
- .1 Visually inspect substrate in presence of Departmental Representative .
- .2 Inform Departmental Representative of unacceptable conditions immediately upon discovery.
- .3 Proceed with installation only after unacceptable conditions have been remedied and after receipt of written approval to proceed from Departmental Representative .
- 3.2 MANUFACTURER'S INSTRUCTIONS .1 Compliance: comply with manufacturer's written data, including product technical bulletins, product catalogue installation instructions, product carton installation instructions, and data sheets.
- 3.3 INSTALLATION .1 Install components in accordance with system manufacturer's written recommendations.
- .2 Pedestals and stringers:
- .1 Arrange pedestal assemblies to meet grid spacing required.

3.3 INSTALLATION
(Cont'd)

- .2 (Cont'd)
- .2 Bond pedestals base plate to structural floor with adhesive. Secure base plate to concrete floor with power activated fasteners after adhesive has cured.
- .3 When adhesive is cured no bond impairment acceptable when 178 N horizontal force is applied to 300 mm high pedestals.
- .1 Install additional pedestal assemblies where grid pattern is disturbed by columns, walls, ramps, openings, and steps, and at cut-outs that impair floor load capacity.
- .4 Install stringers rigidly brace floor pedestals four ways.
- .3 Floor panels:
- .1 Install floor panels and floor finish solidly on pedestals, level to maximum variation over entire floor of 1:2000.
- .2 Install grilles perforated panels where indicated.
- .3 Install ramp and step tread panels similar to floor panels, securely fixed. Include shoe at top and bottom of ramp.
- .4 Seal field cuts with plastic angles or channels. No exposed cut edges permitted.
- .5 Allow for cutting holes in floor panels for installation of computer equipment and air conditioning units. Include cable protection edging or sheet.
- .1 Number: hundred.
- .2 Size: mm diameter.
- .3 Shape:.
- .4 Cut panels: 1/3 panel, number 1/2 panel, number 1/4 panel, number.
- .5 Location:.
- .6 Provide floor, ramp and steps complete with necessary edge trims, end closures and lateral bracing at step edges and other locations where pedestal is not braced four ways.
- .4 Fascia panels:
- .1 Install fascia panels at exposed sides ramp sides step risers where indicated.
- .2 Secure panels to continuous angles mechanically secured to structural floor and to edge of floor panels.
-

3.3 INSTALLATION
(Cont'd)

- .4 (Cont'd)
 - .3 Install metal trim at intersection of fascia panels and access floor and at abutting walls and columns.
- .5 Railings:
 - .1 Extend railing posts through floor panels to structural floor below, set into and secure to flanged fittings bolted to structural floor.
 - .2 Bolt posts in position at floor panels with retaining floor collar.
 - .3 Install railings at walls set into flanged fittings bolted to walls.
 - .4 Electrically insulate railings from, or directly ground to, access flooring system.
- .6 Isolate floor system from RF shielded wall and floor with.
- .7 Provide electrical grounding connectors.
- .8 Install plenum dividers where indicated to provide positive air seal between sub-floor and elevated floor. Include purpose made sponge rubber cut-out panels to ensure air-tight seal where holes are cut in elevated floor for wires.
- .9 Adhere base to wall at intersection of walls and access floor panels.
- .10 Adjust floor panel system for smooth, quiet operation.

3.4 CLEANING

- .1 Progress Cleaning: clean in accordance with Section 01 74 11 - Cleaning.
 - .1 Leave Work area clean at end of each day.
 - .2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11 - Cleaning.
 - .1 Clean surfaces after installation using manufacturer's recommended cleaning procedures.
 - .2 Clean aluminum with damp rag and approved non-abrasive cleaner.
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3.4 CLEANING
(Cont'd)

- .3 Waste Management: separate waste materials for reuse and recycling in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal 01 35 21 - LEED Requirements.
- .1 Remove recycling containers and bins from site and dispose of materials at appropriate facility.

3.5 PROTECTION

- .1 Protect installed products and components from damage during construction.
- .1 Protect finished access floor with 0.15 mm thick polyethylene film kraft paper, sealed at edges to prevent tearing.
- .2 Protect finished access floor with mm plywood. Reinforce access floor as per manufacturer's recommendations.
- .2 Repair damage to adjacent materials caused by access flooring installation.