

NCC Tender File #	AL1758
Project Description	GATINEAU PARK TRAIL 50 BRIDGE REPLACEMENT
Site Visit	<p>A NON MANDATORY site visit will be held on Tuesday, August 7, 2018 at 10am Ottawa Time. The meeting place will be the P16 Vallee-Meech parking lot in Gatineau Park, Chelsea, QC. Refer to Google maps link: https://goo.gl/maps/NXvDoQeJ57z . All costs incurred by the Bidder to attend the site visit will be at their expense. The NCC will not reimburse any Bidder for expenses related to the site visit. The bidder assumes all responsibility for obtaining sufficient information and hereby certifies that he/she has visited the above site and is fully content and satisfied that he/she has obtained full knowledge of all matters affecting the proper execution and completion of the work described in the specifications and drawings relating to the tender</p>
Closing date and time	Friday, August 17, 2018 at 3pm Ottawa time

RETURN TENDERS TO: National Capital Commission 40 Elgin Street, Security Office on the 2 nd floor Ottawa, ON K1P 1C7	NCC Tender Number AL1758
	NCC Contract Number
TENDER CLOSING DATE AND TIME: Friday, August 17, 2018 at 3:00 p.m., Ottawa time	

DESCRIPTION OF WORK: GATINEAU PARK TRAIL 50 BRIDGE REPLACEMENT

1. BUSINESS NAME AND ADDRESS OF BIDDER

Name: _____

Address: _____

Telephone number: _____ **Fax number:** _____

E-mail address: _____

2. THE OFFER

The Bidder offers to the National Capital Commission (NCC) to perform and complete the work for the above mentioned project in accordance with the tender documents for the total tender amount (to be expressed in numbers only) of:

Sub Total \$ _____

GST/QST –

14.975% \$ _____

TOTAL \$ _____

3. TENDER VALIDITY PERIOD

The tender shall not be withdrawn for a period of 60 days following the date and time of tender closing.

4. CONTRACT DOCUMENTS

1. The following are the contract documents:
 - (a) Invitation to Tender & Acceptance Form when signed by the NCC;
 - (b) Duly completed Invitation to Tender & Acceptance Form and any Appendices attached thereto;
 - (c) Drawings and Specifications;
 - (d) General Conditions (GC1 to GC10);
 - (e) Supplementary Conditions, if any;
 - (f) Insurance Terms;
 - (g) Occupational Health and Safety Requirements;
 - (h) Addenda
 - (i) Any amendments issued or any allowable tender revision received before the date and time set for tender closing;
 - (j) Any amendment incorporated by mutual agreement between the NCC and the Contractor before acceptance of the tender; and
 - (k) Any amendment or variation of the contract documents that is made in accordance with the General Conditions;
 - (l) Security Requirements.

2. The language of the contract documents shall be the language of the Invitation to Tender & Acceptance Form submitted.

NCC Tender Number AL1758

NCC Contract Number

5. APPENDICES

The tender includes Appendix(ces) Nos I and II to the Invitation to Tender & Acceptance Form.

6. ACCEPTANCE AND CONTRACT

Upon acceptance of the Contractor’s offer by the NCC, a binding Contract shall be formed between the NCC and the Contractor. The documents forming the Contract shall be the contract documents referred to in 4 – CONTRACT DOCUMENTS.

7. CONSTRUCTION TIME

The Contractor shall perform and complete the Work no later than November 16, 2018.

8. UNIT PRICE TABLE

The Bidder agrees that

- (a) the Unit Price Table designates that part of the Work to which a Unit Price Arrangement applies.
- (b) the Price per Unit (excluding taxes) and the Estimated Total Price (excluding taxes) must be entered for each item listed;
- (c) the Price per Unit (excluding taxes) as tender governs in calculating the Total Estimated Amount, and any errors in the extension of the Price per Unit (excluding taxes) and in the addition of the Estimated Total Prices shall be corrected by the NCC in order to obtain the Total Estimated Amount; and
- (d) the following table is the Unit Price Table for the purposes of the tender and the Contract:

UNIT PRICE TABLE

Note: Transfer the Total Estimated Amount from the Unit Price Table to item 2 – THE OFFER of this Invitation to Tender & Acceptance Form

			A	B	C = A X B
Item	Description	Units	Qty	Unit or lump sum prices excl taxes	Extended total
1	Mobilization, Sitework, and Demobilization	lump sum	1		
2	Environmental Protection and Remediation	lump sum	1		
3	Remove Existing Bridge Structure	lump sum	1		
4	Tree Stump Removal and Tree Planting	lump sum	1		
5	Earth Excavation for Structure	m ³	200		
6	Dewatering for Construction of Abutments	lump sum	1		

7	Construct Reinforced Tremie Concrete Mud Slab Below Abutments	m ³	35		
8	Place Concrete in Abutments	m ³	30		
9	Place Concrete in Wingwalls	m ³	18		
10	Reinforcing Steel	tonne	3.5		
11	Supply and Install New Steel Superstructure	lump sum	1		
12	Supply and Install New Hemlock Bridge Deck	lump sum	1		
13	Supply and Install New Elastomeric Bearings	lump sum	1		
14	Supply and Construct New Hemlock Barriers	m	47		
15	Supply and Install New Helical Piles	each	10		
16	Place Compacted MG-56 Granular Backfill	tonne	200		
17	Place Compacted MG-20 Granular Backfill	tonne	150		
18	Place and Grade 50mm Thick Stabilized Stone Dust on Trail at Approaches	m ²	120		
19	Place Rock Protection at Abutments and Along Approaches	m ³	150		
20	Place Earth Backfill	m ³	10		
21	Geotextile Below Rock Protection at Approach Embankments	m ²	130		
22	NCC Soil and Seed Mix	lump sum	1		
				Subtotal	

9. The basis of award is low total cost to the NCC including all taxes.

10. I/We acknowledge receipt of the following addenda: _____
 (Bidder to enter number of addenda issued, if any) and have included for the requirement of it/them in my/our tendered price.

11. TENDER SECURITY

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

We hereby offer to supply to the NCC in accordance with the terms and conditions set out herein, the construction work listed above and on any attached sheets at the submitted price(s).

Name and title of person authorized to sign on behalf of Bidder (please print or type)	Signature	Date
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Your tender is accepted to supply to the NCC, in accordance with the terms and conditions set out herein, referred to herein or attached hereto, the construction services listed herein and on any attached sheets at the price(s) set out therefore.

Name and title of the person authorized to sign on behalf of the NCC (please print or type)	Signature	Date
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INVITATION TO TENDER & ACCEPTANCE FORM

NCC Tender Number AL1758

NCC Contract Number

INVOICING

Send the original invoice and 1 copy to:

**Accounts Payable
National Capital Commission
202-40 Elgin Street
Ottawa, ON K1P 1C7**

Or by email at the following address: payables@ncc-ccn.ca

To ensure prompt payment, please prepare your invoice in accordance with the prices quoted. Errors in invoicing can cause delay of payment. Submit your invoice to the address shown above and clearly indicate the Purchase Order number.

INVITATION TO TENDER & ACCEPTANCE FORM	APPENDIX 1
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1) The Bidder will subcontract the parts of the work listed below to the subcontractor named for each part. The Bidder agrees not to make changes in the list of subcontractors without the written consent of the NCC Representative. The Bidder understands that for each part of the work identified as Mandatory, if more than one subcontractor is named or no subcontractor is named, or, the Bidder fails to state that the work will be done by its own forces where applicable, the tender will be disqualified.

2) The Bidder certifies that tenders for the part(s) of the Work listed below were received from the following sub-contractors:

MANDATORY REQUIREMENT: The subcontractors performing the work listed below must be identified. Failure to disclose the name of the sub-contractor for any work identified will result in the disqualification of your tender.

(a) **XXXX**

Sub-contractor: _____

Address: _____

(b) **XXXX**

Sub-contractor: _____

Address: _____

(c) **XXXX**

Sub-contractor: _____

Address: _____

(d) **XXXX**

Sub-contractor: _____

Address: _____

NON-MANDATORY REQUIREMENT:

(a) Any other work not listed above

Type of work: _____ Sub-contractor: _____

Type of work: _____ Sub-contractor: _____

Type of work: _____ Sub-contractor: _____

Type of work: _____ Sub-contractor: _____

Type of work: _____ Sub-contractor: _____

Type of work: _____ Sub-contractor: _____

Supplier No. / N° du fournisseur

New supplier / Nouveau fournisseur Update / Mise à jour

**SUPPLIER-DIRECT DEPOSIT PAYMENT AND TAX INFORMATION FORM
FOURNISSEUR-FORMULAIRE DE PAIEMENT PAR DÉPÔT DIRECT ET RENSEIGNEMENTS AUX FINS DE L'IMPÔT**

For NCC use only / À l'usage de la CCN seulement

PART 'A' - IDENTIFICATION / PARTIE 'A' - IDENTIFICATION

Legal name of entity or individual / Nom légal de l'entité ou du particulier	Operating name of entity or individual (if different from Legal Name) / Nom commercial de l'entité ou du particulier (s'il diffère du nom légal)
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Former Public Servant in receipt of a PSSA Pension / Ancien fonctionnaire qui reçoit une pension en vertu de la LPPF	<input type="checkbox"/> Yes / Oui	<input type="checkbox"/> No / Non
An entity, incorporated or sole proprietorship, which was created by a Former Public Servant in receipt of a PSSA pension or a partnership made of former public servants in receipt of PSSA pension or where the affected individual has a controlling or major interest in the entity. / Une entité, constituée en société ou à propriétaire unique, créée par un ancien fonctionnaire touchant une pension en vertu de la LPPF, ou un partenariat formé d'anciens fonctionnaires touchant une pension en vertu de la LPPF, où les entités dans lesquelles ils détiennent le contrôle ou un intérêt majoritaire.	<input type="checkbox"/> Yes / Oui	<input type="checkbox"/> No / Non

Address / Adresse	Telephone No. / N° de téléphone :	Fax No. / N° de télécopieur :
Postal code / Code postal	()	()

**PART 'B' - STATUS OF SUPPLIER / PARTIE 'B' - STATUT DU FOURNISSEUR
IMPORTANT : CHOOSE ONLY ONE OF THE FOLLOWING/CHOISIR SEULEMENT UNE DES OPTIONS SUIVANTES:**

(1) Sole proprietor / Propriétaire unique <input type="checkbox"/>	If sole proprietor, provide: / Si propriétaire unique, indiquez :	Last Name / Nom de famille	First name / Prénom	Initial / Initiale
(2) Partnership / Société de personnes <input type="checkbox"/>	(3) Corporation / Société <input type="checkbox"/>			

Business No. (BN) / N° de l'entreprise (NE) -	OR / OU	SIN / NAS -
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GST/HST / TPS et TVH	QST / TVQ (Québec)
Number / Numéro : Not registered / non inscrit <input type="checkbox"/>	Number / Numéro : Not registered / non inscrit <input type="checkbox"/>

Type of contract / Genre de contrat	Contract for services only / Contrat de services seulement <input type="checkbox"/>	Contract for mixed goods & services / Contrat de biens et services <input type="checkbox"/>	Contract for goods only / Contrat de biens seulement <input type="checkbox"/>
Type of goods and/or services offered / Genre de biens et / ou services rendus :			

PART 'C' - FINANCIAL INSTITUTION / PARTIE 'C' - RENSEIGNEMENTS SUR L'INSTITUTION FINANCIÈRE

Please send a void cheque with this form / Veuillez, s.v.p., envoyer un spécimen de chèque avec ce formulaire

Branch Number / N° de la succursale	Institution No. / N° de l'institution :	Account No. / N° de compte :
Institution name / Nom de l'institution :	Address / Adresse :	Postal Code / Code postal :

PART 'D' - DIRECT DEPOSIT PAYMENT NOTIFICATION / PARTIE 'D' - AVIS DE PAIEMENT PAR DÉPÔT DIRECT

E-mail address / Adresse courriel :

PART 'E' - EMAIL ADDRESS TO SEND CONTRACTS / PARTIE 'E' - ADRESSE COURRIEL POUR ENVOYER LES CONTRATS

E-mail address / Adresse courriel :

PART 'F' - CERTIFICATION / PARTIE 'F' - CERTIFICATION

I certify that I have examined the information provided above and it is correct and complete, and fully discloses the identification of this supplier.	Je déclare avoir examiné les renseignements susmentionnés et j'atteste qu'ils sont exacts et constituent une description complète, claire et véridique de l'identité de ce fournisseur.		
Where the supplier identified on this form completes part C, he hereby requests and authorizes the National Capital Commission to directly deposit into the bank account identified in part C, all amounts payable to the supplier.	Lorsque le fournisseur indiqué sur ce formulaire remplit la partie C, par la présente, il demande et autorise la Commission de la capitale nationale à déposer directement dans le compte bancaire indiqué à la partie C, tous les montants qui lui sont dus.		
Name of authorized person / Nom de la personne autorisée	Title / Titre	Signature	Date
Telephone number of contact person / Numéro de téléphone de la personne ressource : ()			

IMPORTANT

Please fill in and return to the National Capital Commission with one of your business cheque unsigned and marked « VOID » (for verification purposes).	Veillez remplir ce formulaire et le retourner à la Commission de la capitale nationale avec un spécimen de chèque de votre entreprise non signé et portant la mention « ANNULÉ » (à des fins de vérification).
Mail or fax to: Procurement Services National Capital Commission 202-40 Elgin Street Ottawa, ON K1P 1C7 Fax: (613) 239-5007	Poster ou télécopier à : Services de l'approvisionnement Commission de la capitale nationale 40, rue Elgin, pièce 202 Ottawa (Ontario) K1P 1C7 Télécopieur : (613) 239-5007

SUPPLIER – DIRECT DEPOSIT PAYMENT AND TAX INFORMATION FORM

FOURNISSEUR – FORMULAIRE DE PAIEMENT PAR DÉPÔT DIRECT ET RENSEIGNEMENTS AUX FINS DE L'IMPÔT

Supplier Tax Information

Pursuant to paragraph 221(1) (d) of the *Income Tax Act*, NCC must declare form T-1204, contractual payments of government for services, all payments made to suppliers during the calendar year in accordance to related service contracts (including contracts for mixed goods and services).

The paragraph 237(1) of the *Income Tax Act* and the article 235 of the Income Tax Regulations require the supplier to provide all necessary information below to the organization who prepares the fiscal information forms.

Questions: Sylvie Monette, Accounts Payable Supervisor
(613) 239-5678 ext. 5156 or sylvie.monette@ncc-ccn.ca

Direct deposit payment information

All amounts payable by NCC to the supplier will be deposited directly into the account you identified in part C. A NCC payment advice notice will also be sent to you by e-mail detailing the particularities of the payment to the address identified in part D.

Until we process your completed form, we will still pay you by check.

You must notify the NCC of any changes to your financial institution, branch or account number. You will then have to complete a new form.

The account you identified has to hold Canadian funds at a financial institution in Canada.

The advantages of direct deposit payment

Direct deposit payment is a convenient, dependable, safe and timesaving way to receive your invoice payment. Direct deposit payment is completely confidential.

There are fewer risks of direct deposit payment being lost, stolen, or damaged as may happen with cheques.

Funds made by direct deposit payment will be available in your bank account on the same day that we would have mailed your cheque.

Renseignements sur les fournisseurs aux fins de l'impôt

En vertu de l'alinéa 221(1) (d) de la *Loi de l'impôt sur le revenu*, la CCN est tenu de déclarer, à l'aide du formulaire T-1204, Paiements contractuels de services du gouvernement, tous paiements versés aux fournisseurs pendant une année civile en vertu de marchés de services pertinents (y compris les marchés composés à la fois de biens et de services).

Le paragraphe 237 (1) de la *Loi de l'impôt sur le revenu* et l'article 235 du Règlement de l'impôt sur le revenu obligent les fournisseurs à fournir toutes les informations demandées ci-dessous à l'organisme qui prépare les formulaires de renseignements fiscaux.

Questions : Sylvie Monette, Superviseure aux comptes payable
(613) 239-5678 poste 5156 ou sylvie.monette@ncc-ccn.ca

Renseignements sur le paiement par dépôt direct

Tous les montants versés par la CCN au fournisseur seront déposés directement dans le compte identifié à la partie C. Un avis de paiement de la CCN détaillant les particularités du paiement par dépôt direct vous sera envoyé par courriel à l'adresse courriel identifiée à la partie D.

Nous continuerons à vous payer par chèque jusqu'à ce que nous ayons traité votre formulaire.

Vous devez aviser la CCN de tout changement d'institution financière, de succursale ou de numéro de compte. Vous devrez donc remplir un nouveau formulaire.

Le compte que vous désignez doit être un compte en monnaie canadienne, détenu dans une institution financière au Canada.

Avantages du paiement par dépôt direct

Le paiement par dépôt direct est une méthode pratique, fiable et sécuritaire, qui permet de gagner du temps dans la réception de vos paiements de factures. Le paiement par dépôt direct est entièrement confidentiel.

Avec les paiements par dépôt direct, il y a moins de risques de perte, de vol ou de dommage, comme cela peut se produire dans le cas des chèques.

Les paiements effectués par paiement par dépôt direct sont versés dans votre compte le jour même où nous aurions posté votre chèque.

- SI01 Tender Documents
- SI02 Enquiries during the Solicitation Period
- SI03 [\[Non Mandatory\] Site Visit](#)
- SI04 Revision of Tender
- SI05 Tender Results
- SI06 Negotiations
- SI07 Tender Validity Period
- SI08 Construction Documents
- SI09 Public Tender Opening

SI01 TENDER DOCUMENTS

- 1) The following are the tender documents:

- (a) Invitation to Tender & Acceptance Form and any Appendices attached thereto;
- (b) Special Instructions to Bidders; and
- (c) General Instructions to Bidders.

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

SI02 ENQUIRIES DURING THE SOLICITATION PERIOD

- 1) Enquiries regarding this tender must be submitted in writing to the following: Sr. Contract Officer, Allan Lapensée e-mail address – allan.lapensee@ncc-ccn.ca as early as possible within the solicitation period. Except for the approval of alternative materials as described in GI15 of the General Instructions to Bidders, enquiries should be received no later than five (5) calendar days prior to the date set for solicitation closing to allow sufficient time to provide a response. Enquiries received after that time may result in an answer not being provided.
- 2) To ensure consistency and quality of the information provided to Bidders, the Sr. Contract Officer shall examine the content of the enquiry and shall decide whether or not to issue an amendment.
- 3) All enquiries and other communications related to this tender sent throughout the solicitation period are to be directed **ONLY** to the Sr. Contract Officer named above. Non-compliance with this requirement during the solicitation period can, for that reason alone, result in disqualification of a tender.

SI03 [\[NON MANDATORY\] SITE VISIT](#)

- 1) A NON MANDATORY site visit will be held on Tuesday, August 7, 2018 at 10am Ottawa Time. The meeting place will be the P16 Vallee-Meech parking lot in Gatineau Park, Chelsea, QC. Refer to Google maps link: <https://goo.gl/maps/NXvDoQeJ57z> . All costs incurred by the Bidder to attend the site visit will be at their expense. The NCC will not reimburse any Bidder for expenses related to the site visit. The bidder assumes all responsibility for obtaining sufficient information and hereby certifies that he/she has visited the above site and is fully content and satisfied that he/she has obtained full knowledge of all matters affecting the proper execution and completion of the work described in the specifications and drawings relating to the tender.

SI04 REVISION OF TENDER

- 1) A tender may be revised by letter or facsimile in accordance with GI10 of the General Instructions to Bidders. The facsimile number for receipt of revisions is 613-239-5012.

SI05 TENDER RESULTS

- 1) Following solicitation closing, tender results may be obtained by emailing the Sr. Contract Officer, Sr. Contract Officer, Allan Lapensee e-mail address – allan.lapensee@ncc-ccn.ca.

SI06 NEGOTIATIONS

- 1) In the event that the lowest compliant tender exceeds the amount of funding the NCC has allocated for the construction phase of the work:
 - (a) by 15% or less, the NCC, at its sole discretion, shall either:
 - (i) cancel the invitation to tender; or
 - (ii) obtain additional funding and, subject to the provisions of GI11 and GI09 of the General Instructions to Bidders, award the Contract to the Bidder submitting the lowest compliant tender; or
 - (iii) revise the scope of the work accordingly and negotiate, with the Bidder submitting the lowest compliant tender, a corresponding reduction in its tender price.
 - (b) by more than 15%, the NCC, at its sole discretion, shall either:
 - (i) cancel the invitation to tender; or
 - (ii) obtain additional funding and, subject to the provisions of GI11 and GI09 of the General Instructions to Bidders, award the Contract to the Bidder submitting the lowest compliant tender; or
 - (iii) revise the scope of the work accordingly and invite those who submitted compliant tenders at the original invitation to tender to re-tender the work.
- 2) If negotiations or a re-tender are undertaken as is contemplated in subparagraphs 1)(a)(iii) or 1)(b)(iii) above, Bidders shall retain the same subcontractors and suppliers as they carried in their original tenders.
- 3) If the NCC elects to negotiate a reduction in the tender price as is contemplated in subparagraph 1)(a)(iii) herein and the negotiations fail to reach an agreement, the NCC shall then exercise either of the options referred to subparagraphs 1)(a)(i) or 1)(a)(ii).

SI07 TENDER VALIDITY PERIOD

- 1) The NCC reserves the right to seek an extension to the tender validity period prescribed in 3 of the Invitation to Tender & Acceptance Form. Upon notification in writing from the NCC, Bidders shall have the option to either accept or reject the proposed extension.
- 2) If the extension referred to in paragraph 1) of SI07 is accepted, in writing, by all those who submitted tenders, then the NCC shall continue immediately with the evaluation of the tenders and its approvals processes.

- 3) If the extension referred to in paragraph 1) of SI07 is not accepted in writing by all those who submitted tenders then the NCC shall, at its sole discretion, either:
 - (a) continue to evaluate the tenders of those who have accepted the proposed extension and seek the necessary approvals; or
 - (b) cancel the invitation to tender.
- 4) The provisions expressed herein do not in any manner limit the NCC's rights in law or under GI11 of the General Instructions to Bidders.

SI08 CONSTRUCTION DOCUMENTS

- 1) The successful contractor will be provided with one paper copy of the sealed and signed plans, the specifications and the amendments upon acceptance of the offer. Additional copies, may be available free of charge upon request by the contractor. If not, obtaining more copies shall be the responsibility of the contractor including costs.

SI09 PUBLIC TENDER OPENING

- 1) A public tender opening will be held on [August 17, 2018 at 3:00pm](#) Ottawa time at 40 Elgin Street, Ottawa, ON beside the security office on the 2nd floor.

- GI01 Completion of Tender
- GI02 Identity or Legal Capacity of the Bidder
- GI03 Goods and Services Tax / Harmonized Sales Tax
- GI04 Québec Sales Tax
- GI05 Capital Development and Redevelopment Charges
- GI06 Registry and Pre-qualification of Floating Plant
- GI07 Listing of Subcontractors and Suppliers
- GI08 Tender Security Requirements
- GI09 Submission of Tender
- GI10 Revision of Tender
- GI11 Acceptance of Tender
- GI12 Procurement Business Number
- GI13 Bid Depository
- GI14 Compliance with Applicable Laws
- GI15 Approval of Alternative Materials
- GI16 Performance Evaluation

GI01 Completion of Tender

- 1) The tender shall be:
 - (a) submitted on the Invitation to Tender and Acceptance Form provided through the Government Electronic Tendering Service (GETS) or on a clear and legible reproduced copy of such Invitation to Tender and Acceptance Form that must be identical in content and format to the Invitation to Tender and Acceptance Form provided through GETS;
 - (b) based on the Tender Documents listed in the Special Instructions to Bidders;
 - (c) correctly completed in all respects;
 - (d) signed by a duly authorized representative of the Bidder; and
 - (e) accompanied by
 - (i) tender security as specified in GI08; and
 - (ii) any other document or documents specified elsewhere in the solicitation where it is stipulated that said documents are to accompany the tender.
- 2) Subject to paragraph 6) of GI11, any alteration to the pre-printed or pre-typed sections of the Invitation to Tender and Acceptance Form, or any condition or qualification placed upon the tender shall be cause for disqualification. Alterations, corrections, changes or erasures made to statements or figures entered on the Invitation to Tender and Acceptance Form by the Bidder shall be initialled by the person or persons signing the tender. Initials shall be original(s). Alterations, corrections, changes or erasures that are not initialled shall be deemed void and without effect.
- 3) Unless otherwise noted elsewhere in the Tender Documents, facsimile copies of tenders are not acceptable.

GI02 Identity or Legal Capacity of the Bidder

- 1) In order to confirm the authority of the person or persons signing the tender or to establish the legal capacity under which the Bidder proposes to enter into Contract, any Bidder who carries on business in other than its own personal name shall, if requested by the NCC prior to award of contract, provide satisfactory proof of:

- (a) such signing authority; and
- (b) the legal capacity under which it carries on business.

Proof of signing authority may be in the form of a certified copy of a resolution naming the signatory(ies) that is (are) authorized to sign this tender on behalf of the corporation or partnership. Proof of legal capacity may be in the form of a copy of the articles of incorporation or the registration of the business name of a sole proprietor or partnership.

GI03 Goods and Services Tax / Harmonized Sales Tax

- 1) The National Capital Commission (NCC) is a Crown Corporation subject to the Goods and Services Tax (GST), the Ontario Provincial Sales Tax (OST) and the Quebec Sales Tax (QST). The rates quoted are exclusive of the GST and the OST/QST. The successful firm will be required to indicate separately, on all invoices or requests for payments, the amount of Goods and Services Sales Tax (GST), the amount of Ontario Sales Tax (OST) and the amount of Quebec Sales Tax (QST), to the extent applicable, that the Commission must pay. These amounts will be paid to the successful Bidder who is required to make the appropriate remittances to Revenue Canada and the respective provincial governments.

Pursuant to paragraph 221 (1)(d) of the Income Tax Act, payments made by Crown Corporations under applicable service contracts (including contracts involving a mix of goods and services) must be reported on a "T1204" slip. To comply with this requirement, the Bidder is required to provide the following information on the "Supplier – Direct Payment and Tax Information Form" (see Appendix 11).

By signing this form, the Bidder/Proponent certifies that he/she has examined the information provided on the form and that it is correct, complete, and fully discloses the identification of the Contractor.

This "Supplier – Direct Payment and Tax Information Form" must be completed and returned to the Commission prior to any contract being awarded to your firm (see Appendix 11).

GI04 Quebec Sales Tax

- 1) See GI03.

GI05 Capital Development and Redevelopment Charges

- 1) For the purposes of GC1.8 LAWS, PERMITS AND TAXES in the General Conditions of the Contract, only fees or charges directly related to the processing and issuing of building permits shall be included. The Bidder shall not include any monies in the tender amount for special municipal development, redevelopment or other fees or charges which a municipal authority may seek as a prerequisite to the issuance of building permits.

GI06 Registry and Pre-qualification of Floating Plant

- 1) Dredges or other floating plant to be used in the performance of the Work must be on Canadian registry. For dredges or other floating plant that are not of Canadian make or manufacture, the Bidder must obtain a certificate of qualification from Industry Canada, if applicable, and this certificate must accompany the tender. Plant so qualified by Industry Canada may be accepted on this project.

GI07 Listing of Subcontractors and Suppliers

- 1) Notwithstanding any list of Subcontractors that the Bidder shall be required to submit as part of the tender, the Bidder submitting the lowest acceptable tender shall, within 24 hours of receipt of a notice to do so, submit all information requested in the said notice including the names of Subcontractors and Suppliers for the part or parts of the Work listed. Failure to do so may result in the disqualification of its tender.

GI08 Tender Security Requirements

- 1) The Bidder shall submit tender security with the tender in the form of a bid bond or a security deposit in an amount that is equal to not less than 10% of the tender amount including all applicable taxes.

The maximum amount of tender security required with any tender is \$2,000,000.00.

- 2) A bid bond shall be in an approved form, properly completed, with original signature(s) and issued by an approved company whose bonds are acceptable to the NCC either at the time of solicitation closing or as identified on the list displayed at the following Website:

<http://www.tbs-sct.gc.ca/pol/doc-eng.aspx?id=12027>

The approved form for the bid bond is enclosed at the end of this section.

- 3) A security deposit shall be an original, properly completed, signed where required and be either:
 - (a) a bill of exchange, bank draft or money order payable to the NCC;
 - (b) bonds of, or unconditionally guaranteed as to principal and interest by, the Government of Canada; or
- 4) A bill of exchange, bank draft or money order referred to in subparagraph 3)(a) of GI08 shall be certified by or drawn on:
 - (a) a corporation or institution that is a member of the Canadian Payments Association;
 - (b) a corporation that accepts public deposits and repayment of the deposits is unconditionally guaranteed by Her Majesty in right of a province;
 - (c) a corporation that accepts deposits that are insured by the Canada Deposit Insurance Corporation or the "Régie de l'assurance-dépôts du Québec" to the maximum permitted by law;
 - (d) a corporation, association or federation incorporated or organized as a credit union or cooperative credit society that conforms to the requirements of a credit union which are more particularly described in paragraph 137 (6)(b) of the *Income Tax Act*; or
 - (e) Canada Post Corporation.
- 5) If a bill of exchange, bank draft or money order is drawn on an institution or corporation other than a chartered bank, it must be accompanied by proof that the said institution or corporation meets at least one of the criteria described in paragraph 4) of GI08, either by letter or by a stamped certification on the bill of exchange, bank draft, or money order.
- 6) For the purposes of this section, a bill of exchange is an unconditional order in writing signed by the Bidder and addressed to an approved financial institution, requiring the said institution to pay, on demand, at a fixed or determinable time, a certain sum of money to, or to the order of, the NCC.

- 7) Bonds referred to in subparagraph 3)(b) of GI08 shall be provided on the basis of their market value current at the date of solicitation closing, and shall be:
 - (a) payable to bearer;
 - (b) accompanied by a duly executed instrument of transfer of the bonds to the NCC in the form prescribed by the Domestic Bonds of Canada Regulations; or
 - (c) registered as to principal or as to principal and interest in the name of the NCC pursuant to the Domestic Bonds of Canada Regulations.
- 8) As an alternative to a security deposit an irrevocable standby letter of credit is acceptable to the NCC and the amount shall be determined in the same manner as a security deposit referred to above.
- 9) An irrevocable standby letter of credit referred to in paragraph 8) of GI08 shall:
 - (a) be an arrangement, however named or described, whereby a financial institution (the “Issuer”) acting at the request and on the instructions of a customer (the “Applicant) or on its own behalf:
 - (i) is to make a payment to, or to the order of, the NCC as the beneficiary;
 - (ii) is to accept and pay bills of exchange drawn by the NCC;
 - (iii) authorizes another financial institution to effect such payment or accept and pay such bills of exchange; or
 - (iv) authorizes another financial institution to negotiate against written demand(s) for payment provided that the terms and conditions of the letter of credit are complied with.
 - (b) state the face amount which may be drawn against it;
 - (c) state its expiry date;
 - (d) provide for sight payment to the NCC by way of the financial institution’s draft against presentation of a written demand for payment signed by the NCC Contract Administrator identified in the letter of credit by his/her office;
 - (e) provide that more than one written demand for payment may be presented subject to the sum of those demands not exceeding the face value of the letter of credit;
 - (f) provide that it is subject to the International Chamber of Commerce (ICC) Uniform Customs and Practice for Documentary Credits, 2007 Revision, ICC Publication No. 600;
 - (g) clearly specify that it is irrevocable or deemed to be irrevocable pursuant to article 6 c) of the International Chamber of Commerce (ICC) Uniform Customs and Practice for Documentary Credits, 2007 Revision, ICC Publication No. 600; and
 - (h) be issued or confirmed, in either official language, by a financial institution which is a member of the Canadian Payments Association and is on the letterhead of the Issuer or Confirmer. The format is left to the discretion of the Issuer or Confirmer.
- 10) Tender security shall lapse or be returned as soon as practical following:
 - (a) the solicitation closing date, for those Bidders submitting non-compliant tenders; and

- (b) the administrative tender review, for those Bidders submitting compliant tenders ranked fourth to last on the schedule of tenders; and
 - (c) the award of contract, for those Bidders submitting the second and third ranked tenders; and
 - (d) the receipt of contract security for the successful Bidder; or
 - (e) the cancellation of the solicitation, for all Bidders.
- 11) Notwithstanding the provisions of paragraph 10) of GI08 and provided more than three (3) compliant tenders have been received, if one or more of the tenders ranked third to first is withdrawn or rejected for whatever reason, then the NCC reserves the right to hold the security of the next highest ranked compliant tender in order to retain the tender security of at least three (3) valid and compliant tenders.

GI09 Submission of Tender

- 1) The Invitation to Tender and Acceptance Form, duly completed with the bid security, shall be enclosed and sealed in an envelope provided by the Bidder, and shall be addressed and submitted to the office designated on the front page of the Invitation to Tender and Acceptance Form for the receipt of tenders.
- 2) Unless otherwise specified in the Special Instructions to Bidders:
 - (a) the tender shall be in Canadian currency;
 - (b) exchange rate fluctuation protection is not offered; and
 - (c) any request for exchange rate fluctuation protection shall not be considered.
- 3) Prior to submitting the tender, the Bidder shall ensure that the following information is clearly printed or typed on the face of the tender envelope:
 - (a) Solicitation Number;
 - (b) Name of Bidder.
- 5) Timely and correct delivery of the tender is the sole responsibility of the Bidder. The tender must be received on or before the date and time set for solicitation closing. Late tenders shall be disqualified.

GI10 Revision of Tender

- 1) A tender submitted in accordance with these instructions may be revised by letter or facsimile (fax number only 613-239-5012 provided the revision is received at the office designated for the receipt of tenders, on or before the date and time set for the closing of the solicitation. The letter or facsimile shall:
 - (a) be on the Bidder's letterhead or bear a signature that identifies the Bidder;
 - (b) for the Total Bid Amount, clearly identify the amount of the current revision. The total aggregate sum of all revisions submitted, including the current revision, shall be shown separately; and
 - (c) for the Price per unit portion of a tender, clearly identify the current revision(s) to the Price(s) per unit and the specific item(s) to which each revision applies. If a revision is to be applied to a specific Item that was previously amended then, in addition to the amount of the current

revision, the total aggregate sum of all revisions submitted, including the current revision, for that Item shall be shown separately.

- 2) A letter or facsimile submitted to confirm an earlier revision shall be clearly identified as "CONFIRMATION ONLY", for each contemplated change.
- 3) Failure to comply with any of the above provisions shall result in the rejection of the non-compliant revision(s) only. The tender shall be evaluated based on the original tender submitted and all other compliant revision(s).

GI11 Acceptance of Tender

- 1) The NCC may accept any tender, whether it is the lowest or not, or may reject any or all tenders.
- 2) Without limiting the generality of paragraph 1) of GI11, the NCC may reject a tender if any of the following circumstances are present:
 - (a) the Bidder, or any employee or subcontractor included as part of the tender, have been convicted under section 121 ("Frauds on the government" & "Contractor subscribing to election fund"), 124 ("Selling or purchasing office"), 380 (Fraud committed against Her Majesty) or 418 ("Selling defective stores to Her Majesty") of the Criminal Code of Canada, or under paragraph 80(1)(d) (False entry, certificate or return), subsection 80(2) (Fraud against her Majesty) or Section 154.01 (Fraud against her Majesty) of the Financial Administration Act;
 - (b) the Bidder's bidding privileges are suspended or are in the process of being suspended;
 - (c) the bidding privileges of any employee or subcontractor included as part of the tender are suspended or are in the process of being suspended, which suspension or pending suspension would render that employee or subcontractor ineligible to tender on the Work, or the portion of the Work the employee or subcontractor is to perform;
 - (d) with respect to current or prior transactions with the NCC
 - (i) the Bidder is bankrupt or if, for whatever reason, its activities are rendered inoperable for an extended period;
 - (ii) evidence, satisfactory to the NCC, of fraud, bribery, fraudulent misrepresentation or failure to comply with any law protecting individuals against any manner of discrimination, has been received with respect to the Bidder, any of its employees or any subcontractor included as part of its tender;
 - (iii) the NCC has exercised, or intends to exercise, the contractual remedy of taking the work out of the contractor's hands with respect to a contract with the Bidder, any of its employees or any subcontractor included as part of its tender; or
 - (iv) the NCC determines that the Bidder's performance on other contracts is sufficiently poor to jeopardize the successful completion of the requirement being tendered on.
- 3). In assessing the Bidder's performance on other contracts pursuant to subparagraph 2)(d)(iv) of GI11, the NCC may consider, but not be limited to, such matters as:
 - (a) the quality of workmanship in performing the Work;
 - (b) the timeliness of completion of the Work;

- (c) the overall management of the Work and its effect on the level of effort demanded of the NCC and its representative; and
 - (d) the completeness and effectiveness of the Contractor's safety program during the performance of the Work.
- 4) Without limiting the generality of paragraphs 1), 2) and 3) of GI11, the NCC may reject any based on an unfavourable assessment of the:
- (a) adequacy of the tender price to permit the work to be carried out and, in the case of a tender providing prices per unit, whether each such price reasonably reflects the cost of performing the part of the work to which that price applies;
 - (b) Bidder's ability to provide the necessary management structure, skilled personnel, experience and equipment to perform competently the work under the Contract; and
 - (c) Bidder's performance on other contracts.
- 5) If the NCC intends to reject a tender pursuant to a provision of paragraphs 1), 2), 3) or 4) of GI11, other than subparagraph 2)(b) of GI11, the NCC shall so inform the Bidder and provide the Bidder ten (10) days within which to make representation, prior to making a final decision on the tender rejection.
- 6) The NCC may waive informalities and minor irregularities in tenders received, if the NCC determines that the variation of the tender from the exact requirements set out in the Tender Documents can be corrected or waived without being prejudicial to other Bidders.

GI12 Procurement Business Number

- 1) Not applicable.

GI13 Bid Depository

- 1) If the solicitation advertisement states that a Bid Depository shall be used, the Bidder shall obtain bids in accordance with local Bid Depository rules and procedures.

GI14 Compliance with Applicable Laws

- 1) By submission of a tender, the Bidder certifies that the Bidder has the legal capacity to enter into a contract and is in possession of all valid licences, permits, registrations, certificates, declarations, filings, or other authorizations necessary to comply with all federal, provincial and municipal laws and regulations applicable to the submission of the tender and entry into any ensuing contract for the performance of the work.
- 2) For the purpose of validating the certification in paragraph 1) of GI14, a Bidder shall, if requested, provide a copy of every valid licence, permit, registration, certificate, declaration, filing or other authorization listed in the request, and shall provide such documentation within the time limit(s) set out in the said request.
- 3) Failure to comply with the requirements of paragraph 2) of GI14 shall result in the disqualification of the tender.

GI15 Approval of Alternative Materials

- 1) When materials are specified by trade names or trademarks, or by manufacturers' or suppliers' names, the tender shall be based on use of the named materials. During the solicitation period,

alternative materials may be considered provided full technical data is received in writing by the Contracting Officer at least seven (7) calendar days, unless otherwise noted in the Tender documents, prior to the solicitation closing date. If the alternative materials are approved for the purposes of the tender, an addendum to the tender documents shall be issued.

GI16 Performance Evaluation

- 1) Bidders shall take note that the performance of the Contractor during and upon completion of the work shall be evaluated by the NCC. The evaluation shall be based on the quality of workmanship, timeliness of completion of the work, project management, contract management and management of health and safety. Should the Contractor's performance be considered unsatisfactory, the Contractor's bidding privileges on future work may be suspended indefinitely. Contractor Evaluation Report Form is enclosed at the end of this section.

BID BOND

Bond Number _____

Amount \$ _____

KNOW ALL MEN BY THESE PRESENTS, that _____ as Principal, hereinafter called the Principal, and _____ as Surety, hereinafter called the Surety, are, subject to the conditions hereinafter contained, held and firmly bound unto the National Capital Commission as Obligee, hereinafter called the NCC, In the amount of _____ dollars (\$ _____), lawful money of Canada, for the payment of which sum, well and truly to be made, the Principal and the Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

SIGNED AND SEALED this _____ day of _____, _____. WHEREAS, the Principal has submitted a written tender to the NCC, dated the _____ day of _____, _____, for: _____.

NOW, THEREFORE, THE CONDITIONS OF THIS OBLIGATION are such that if:

- (a) The Principal, should his tender be accepted within the period be specified by the NCC, or, if no period be specified, within sixty (60) days after closing date of the tender:
 - 1. does execute within a period specified by the NCC, or, if no period be specified therein, within fourteen (14) days after the prescribed forms are presented to him for signature, execute such further contractual documents, if any, as may be required by the terms of the tender as accepted; and does
 - 2. furnish a Performance Bond and a Labour and Material Payment Bond, each in the amount of 50% of the Contract price and satisfactory to the NCC, or other security acceptable to the NCC; or
- (b) the Principal does pay to the NCC the difference between the amount of the Principal's tender and the amount of the Contract entered into by the NCC for the work, supplies and services which were specified in the said tender, if the latter amount be in excess of the former,

then, this obligation shall be void; otherwise it shall remain in full force and effect.

PROVIDED, HOWEVER, that the Surety and the Principal shall not be liable to the NCC for an amount greater than the amount specified in the bond.

PROVIDED FURTHER that the Surety shall not be subject to any suit or action unless such suit or action is instituted and process therefore served upon the Surety at its Head Office in Canada, within twelve (12) months from the date of this bond.

IN TESTIMONY WHEREOF, the Principal has hereto set its hand and affixed its seal, and the Surety has caused these presents to be sealed with its corporate seal duly attested by the signature of its authorized signing authority, the day and first above written.

SIGNED, SEALED AND DELIVERED in the presence of:

Principal _____

Witness _____

Surety _____

Note: Affix Corporate seal if applicable.



**CONTRACTOR PERFORMANCE EVALUATION REPORT FORM
FORMULAIRE - RAPPORT D'ÉVALUATION DU RENDEMENT DE L'ENTREPRENEUR**

Date		Contract no. / No du contrat	
Description of work / Description des travaux			
Contractor's business name / Nom de l'entreprise de l'entrepreneur		Contractor's site superintendent / Contremaître de l'entrepreneur	
Contractor's business address / Adresse de l'entreprise de l'entrepreneur			
NCC representative / Représentant de la CCN			
Name / Nom		Telephone no. / N ^o . de téléphone	E-mail address / Adresse électronique
Contract information / Information sur le contrat			
Contract award amount / Montant du marché adjugé		Contract award date / Date de l'adjudication du marché	
Final amount / Montant final		Actual contract completion date / Date réelle d'achèvement du contrat	
Number of change orders / Nombre d'ordres de changement		Final certificate date / Date du certificat final	
Quality of workmanship / Qualité des travaux exécutés			
<p>This is the rating of the quality of the workmanship. At final completion the quality of the materials and equipment incorporated in the work must meet the requirements set out in the plans and specifications.</p> <p>Il s'agit de l'évaluation de la qualité des travaux exécutés. À l'achèvement des travaux, la qualité des matériaux et de l'équipement doit satisfaire les exigences établies dans les plans et devis.</p>	Unacceptable / Inacceptable	0 – 5	<input type="text"/>
	Not satisfactory / Non-satisfaisant	6 – 10	
	Satisfactory / Satisfaisant	11 – 16	
	Superior / Supérieur	17 – 20	
Time / Délai d'exécution			
<p>This is the rating of the timeliness of completion considering the actual completion date compared with the original (or amended) contract completion date and allowing for conditions beyond the control of the contractor.</p> <p>Il s'agit de l'évaluation du délai d'exécution des travaux en prenant en considération la date actuelle d'achèvement des travaux par rapport à la date originale (ou modifiée) et en tenant compte des conditions indépendantes de la volonté de l'entrepreneur.</p>	Unacceptable / Inacceptable	0 – 5	<input type="text"/>
	Late / En retard	6 – 10	
	On time / À temps	11 – 16	
	Ahead of schedule / En avance sur le calendrier	17 – 20	
Project management / Gestion de projet			
<p>This is the rating of how the project, as described in the drawings and specifications, was managed including co-ordination, quality control, effective schedule development and implementation.</p> <p>Voici l'évaluation de la façon dont le projet décrit dans les documents contractuels a été géré, y compris la coordination, le contrôle de la qualité, l'élaboration d'un calendrier efficace et la mise en œuvre.</p>	Unacceptable / Inacceptable	0 – 5	<input type="text"/>
	Not satisfactory / Non-satisfaisant	6 – 10	
	Satisfactory / Satisfaisant	11 – 16	
	Superior / Supérieur	17 – 20	
		Criteria not applicable / Critère non-applicable	<input type="checkbox"/> N/A / S/O
Contract management / Gestion de contrat			
<p>This is the rating of how the contract was administered in accordance with the provisions expressed in the "front end" portion of the documents.</p> <p>Voici l'évaluation de la façon dont le contrat a été administré conformément aux dispositions comprises dans la partie « prioritaire » des documents.</p>	Unacceptable / Inacceptable	0 – 5	<input type="text"/>
	Not satisfactory / Non-satisfaisant	6 – 10	
	Satisfactory / Satisfaisant	11 – 16	
	Superior / Satisfaisant	17 – 20	
		Criteria not applicable / Critère non-applicable	<input type="checkbox"/> N/A / S/O
Health and safety / Santé et sécurité			
<p>This is the rating of the effectiveness of how the occupational health and safety provisions (whether identified in the contract or those of provincial legislation or those otherwise applicable) were managed and administered.</p> <p>Voici l'évaluation de l'efficacité avec laquelle les dispositions relatives à la santé et à la sécurité au travail (dans le contrat, dans les règlements provinciaux ou dans tout autre document) ont été gérées et administrées.</p>	Unacceptable / Inacceptable	0 – 5	<input type="text"/>
	Not satisfactory / Non-satisfaisant	6 – 10	
	Satisfactory / Satisfaisant	11 – 16	
	Superior / Satisfaisant	17 – 20	
		Criteria not applicable / Critère non-applicable	<input type="checkbox"/> N/A / S/O
Total points / Pointage total			/100
Comments / Commentaires			
Name / Nom		Title / Titre	Signature
			Date

INSTRUCTIONS AND ADDITIONAL INFORMATION (Contractor Performance Evaluation Report)
INSTRUCTIONS ET RENSEIGNEMENTS SUPPLÉMENTAIRES (Rapport d'évaluation du rendement de l'entrepreneur)

QUALITY OF WORKMANSHIP – QUALITÉ DES TRAVAUX EXÉCUTÉS

The NCC representative is to consider how the workmanship compares with:

- the norms in the area in which the work was carried out
- the contractor's compliance with any quality provisions outlined in the drawings and specification
- the quality of workmanship provided by other contractors on similar projects in the same facility/facilities

Le représentant de la CCN doit évaluer la qualité de l'exécution en fonction de ce qui suit :

- le respect des normes s'appliquant aux travaux réalisés
- la conformité de l'entrepreneur aux exigences de qualité comprises dans les dessins et dans les devis
- la qualité de l'exécution des travaux accomplis par d'autres entrepreneurs dans le cadre de projets similaires réalisés dans la même installation ou dans des installations semblables.

TIME / DÉLAIS D'EXÉCUTION

For the purpose of evaluation the contractor's time performance, consideration must be given to conditions beyond the contractor's control including NCC / Consultant / Client performance.

Afin d'évaluer le rendement de l'entrepreneur en matière de délai d'exécution, on doit prendre en considération les conditions indépendantes de la volonté de l'entrepreneur, y compris le rendement de la CCN, de l'expert-conseil et du client.

Consider conditions beyond the contractor's control, e.g.,

Prendre en considération les conditions indépendantes de la volonté de l'entrepreneur, par exemple :

- availability of, and access to the site
- changes in soil or site conditions
- weather extremes
- strikes
- material / equipment supply problems originating from manufacturers/suppliers
- quality of plans and specifications
- major change(s) in scope
- cumulative effect of changes
- was the NCC able to meet its obligations?
- timely decisions, clarifications, approvals, payments in due time
- delays caused by other contractors in the same facility

- disponibilité du chantier et accès au chantier
- modifications des conditions du sol ou du chantier
- température
- grèves
- problèmes d'approvisionnement en matériel et en équipement provenant des manufacturiers/fournisseurs
- qualité des plan et devis
- modifications importantes à l'étendue des travaux
- effets cumulatifs des modifications
- la CCN a-t-elle été capable de remplir ses obligations?
- décisions, clarifications, approbations, paiements en temps opportun
- les retards occasionnés par d'autres entrepreneurs travaillant dans la même installation.

The NCC representative's estimate of a reasonable maximum time allowance resulting from conditions beyond the contractor's control is
 L'estimation, par le représentant de la CCN, du temps maximum alloué pour les conditions indépendantes de la volonté de l'entrepreneur est



The period of delay attributable to the contractor is
 La période de retard attribuable à l'entrepreneur est



Did the contractor make an effective effort / Est-ce que l'entrepreneur s'est efforcé :

- to meet the schedule / de respecter l'échéancier des travaux
- to clean up deficiencies in a reasonable time / de corriger les vices dans un délai raisonnable

▶	<input type="checkbox"/>	Yes Oui	<input type="checkbox"/>	No Non
▶	<input type="checkbox"/>	Yes Oui	<input type="checkbox"/>	No Non

Have you recommended assessments and damages for late completion under the contract?
 Avez-vous recommandé des dédommagements pour retard d'exécution aux termes du marché?

▶	<input type="checkbox"/>	Yes Oui	<input type="checkbox"/>	No Non
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PROJECT MANAGEMENT / GESTION DU PROJET

The extent to which the contractor takes charge of and effectively manages the work has a direct effect on the inputs required of the NCC.

La mesure dans laquelle l'entrepreneur assume efficacement la gestion des travaux a une incidence directe sur les services qu'on attend de la CCN.

Consideration should be given to: Did the contractor

Il faut examiner si l'entrepreneur a :

- employ a knowledgeable site superintendent
- required additional input from the NCC staff above that which is normal for a project of similar size and nature
- promptly commence the work
- provide realistic schedules and updates in accordance with the terms of the contract
- provide a comprehensive work plan and adhere to its milestones
- order material promptly and in such a way as to expedite the progress of the work
- provide shop drawings promptly and were they of sufficient detail

- fait appel aux services d'un surintendant de chantier expérimenté
- demandé au personnel de la CCN une plus grande contribution que ce qui est normal pour un projet de cette importance et de cette nature
- commencé les travaux dans les plus brefs délais
- fourni un calendrier réaliste et des mises à jour conformément aux modalités du contrat
- présenté un plan de travail complet et a respecté les échéances
- commandé le matériel rapidement et de façon à accélérer l'avancement des travaux.
- fourni rapidement des dessins d'atelier comprenant suffisamment de détails

PROJECT MANAGEMENT (cont'd) / GESTION DU PROJET (suite)

- effectively manage and complete all Division 1 work site activities
 - promptly provide reasonable quotations for changes to the original scope of work
 - cooperate when issued directions by the NCC representative
 - interpret the contract documents accurately
 - establish effective quality control procedures
 - effectively coordinate and manage the work of its subcontractors
 - promptly correct defective work as the project progressed
 - promptly clean-up all deficiencies and incomplete work after issuance of the Interim Certificate of Completion
 - satisfactorily clean the work site periodically and at the completion of the project
- g r  et achev  efficacement toutes les activit s sur le chantier de la Division 1
 - propos  rapidement des prix raisonnables pour les modifications   l' nonc  des travaux initial
 - accept  les directives du repr sentant de la CCN
 - interpr t  les documents contractuels avec exactitude
 - mis en place des proc dures de contr le de la qualit  efficaces
 - coordonn  et g r  efficacement les travaux confi s   des sous-traitants
 - corrig  promptement le travail d fectueux en cours de projet
 - corrig  rapidement les travaux non acceptables et termin  les travaux incomplets apr s r ception du certificat provisoire d'ach vement
 - nettoy  de fa on satisfaisante le chantier p riodiquement ainsi qu'  la fin du projet.

CONTRACT MANAGEMENT / GESTION DU CONTRAT

The effectiveness of the contractor to administer the contract in accordance with the provisions expressed in the "front end" portion of the contract documents.

Consideration should be given to: Did the contractor

- in the time frame specified, provide its contract security, Insurance Certificate fully executed and WSIB form where applicable
- submit progress claims in the correct format, accurately representing the work successfully completed and material delivered to the site but not yet installed for each payment period
- submit a Statutory Declaration correctly completed with each progress claim
- submit an updated Schedule if so specified
- pay subcontractors and suppliers in a timely fashion in accordance with the terms and conditions of its subcontracts
- promptly appoint a competent site superintendent
- notify the NCC representative of all its subcontracting activities
- apply for, obtain and pay for all necessary permits, licenses and certificates
- cooperate with other contractors sent onto the site of the work
- remove a superintendent or unsuitable worker when requested by the NCC representative to do so
- effectively protect the work and the contract documents provided by the NCC
- comply with all warranty provisions up to the date of the Contractor Performance Evaluation Report Form (CPERF)
- effectively manage the site during a suspension or termination of the work to mitigate any additional costs to the NCC
- deal promptly with any claims from creditors
- maintain complete records of the project
- provide information promptly when requested to do so
- expedite and co-operate in the settlement of all disputes

Efficacit  avec laquelle l'entrepreneur a administr  le contrat conform ment aux dispositions continues dans la partie « prioritaire » des documents contractuels.

Il faut examiner si l'entrepreneur a :

- fourni, dans le d lai prescrit, une garantie contractuelle, un certificat d'assurance d ment sign s et le formulaire de la CSST, le cas  ch ant
- pr sent  des r clamations p riodiques dans le bon format, en d crivant avec pr cision les travaux ex cut s et le mat riel livr  sur le chantier mais non encore install , pour chaque p riode de paiement
- pr sent  une d claration solennelle correctement remplie avec chaque r clamation p riodique
- fourni un calendrier   jour, sur demande
- pay  rapidement les sous-traitants et les fournisseurs conform ment aux conditions des contrats de sous-traitance
- d sign  dans les plus brefs d lais un surintendant de chantier qualifi 
- tenu au courant le repr sentant de la CCN de toutes les activit s de sous-traitance
- demand , obtenu et pay  tous les permis, licences et certificats n cessaires
- collabor  avec les autres entrepreneurs envoy s sur le lieu des travaux
- remplac  un surintendant ou un travailleur inapte   la demande du repr sentant de la CCN
- prot g  efficacement les travaux et les documents relativement aux travaux et au contrat fournis par la CCN
- respect  toutes les dispositions de garantie jusqu'  la date du Formulaire Rapport d' valuation du rendement de l'entrepreneur (FRERE)
- g r  efficacement le chantier pendant une suspension des travaux ou lors de leur ach vement, afin de limiter tout c t  suppl mentaire pour la CCN
- trait  dans les plus brefs d lais les demandes de paiement des cr anciers
- tenu des dossiers complets sur le projet
- fourni promptement les renseignements demand s
- acc l re et coop re dans le r glement des diff rends

HEALTH AND SAFETY / SANTÉ ET SÉCURITÉ

The effectiveness to which the contractor managed and administered the occupational health and safety provisions as stipulated in the contract documents and those required by provincial legislation or those that would otherwise be applicable to the site of the work.

Consideration should be given to: Did the contractor

- provide the NCC with a copy of its health and safety program prior to award of contract
- provide the NCC with a copy of its site specific hazardous assessment prior to award of contract
- apply for and obtain the provincial Notice of Project prior to commencement of the work
- apply for and obtain the Building Permit prior to commencement of the work
- provide a competent superintendent who
 - is qualified in health and safety matters because of her/his knowledge, training and experience
 - is familiar with the OH&S Act and its Regulations that apply to the site of the work
 - remedies any potential or actual danger of health and safety to those employed at the work site
- respond in a timely manner to any non-compliance safety issues noted by the NCC or a representative of the authority having jurisdiction
- implement its safety program in a proactive manner

Efficacité avec laquelle l'entrepreneur a géré et administré les dispositions relatives à la santé et à la sécurité au travail telles que stipulées dans les documents contractuels et dans les règlements provinciaux ou ceux s'appliquant normalement au lieu des travaux.

Il faut examiner si l'entrepreneur a :

- fourni à la CCN une copie de son programme en matière de santé et de sécurité avant l'octroi du contrat
- fourni à la CCN une copie de son évaluation des dangers pouvant survenir sur les lieux avant l'octroi du contrat
- demandé et obtenu l'avis de projet provincial avant le début des travaux
- demandé et obtenu le permis de construction avant le début des travaux
- engagé un surintendant qui :
 - est qualifié en matière de santé et de sécurité de par ses connaissances, sa formation et son expérience
 - connaît bien les dispositions de la Loi sur la santé et la sécurité au travail et de son règlement qui s'applique sur le lieu des travaux
 - remédie à tout danger possible ou réel en matière de santé et de sécurité pouvant toucher toutes les personnes travaillant sur le lieu des travaux
- traité rapidement tous les problèmes de non-conformité à la sécurité relevés par la CCN ou par un représentant de l'autorité qui a juridiction
- mis en œuvre son programme de sécurité de façon proactive

- GC1.1 INTERPRETATION
 - GC1.1.1 Headings and References
 - GC1.1.2 Terminology
 - GC1.1.3 Application of Certain Provisions
 - GC1.1.4 Substantial Performance
 - GC1.1.5 Completion
- GC1.2 CONTRACT DOCUMENTS
 - GC1.2.1 General
 - GC1.2.2 Order of Precedence
 - GC1.2.3 Security and Protection of Documents and Work
- GC1.3 STATUS OF THE CONTRACTOR
- GC1.4 RIGHTS AND REMEDIES
- GC1.5 TIME OF THE ESSENCE
- GC1.6 INDEMNIFICATION BY CONTRACTOR
- GC1.7 INDEMNIFICATION BY the NCC
- GC1.8 LAWS, PERMITS AND TAXES
- GC1.9 WORKERS' COMPENSATION
- GC1.10 NATIONAL SECURITY
- GC1.11 UNSUITABLE WORKERS
- GC1.12 PUBLIC CEREMONIES AND SIGNS
- GC1.13 CONFLICT OF INTEREST
- GC1.14 AGREEMENTS AND AMENDMENTS
- GC1.15 SUCCESSION
- GC1.16 ASSIGNMENT
- GC1.17 NO BRIBE
- GC1.18 CERTIFICATION - CONTINGENCY FEES
- GC1.19 INTERNATIONAL SANCTIONS

GC1.1 INTERPRETATION

GC1.1.1 Headings and References

- 1) The headings in the contract documents, other than those in the drawings and specifications, form no part of the Contract but are inserted for convenience of reference only.
- 2) A reference made to a part of the Contract by means of numbers preceded by letters is a reference to the particular part of the Contract that is identified by that combination of letters and numbers and to any other part of the Contract referred to therein.
- 3) A reference to a paragraph or subparagraph followed by an identifying number, letter or combination thereof is, unless specifically stated otherwise, a reference to the paragraph or subparagraph that forms part of the clause within which the reference is made.

GC1.1.2 Terminology

- 1) In the Contract

"Contract" means the contract documents referred to as such therein and every other document specified or referred to in any of them as forming part of the Contract, all as amended by agreement of the parties;

"Contract Amount" means the amount set out in the Contract to be payable to the Contractor for the Work, subject to the terms and conditions of the Contract;

"Contract Security" means any security given by the Contractor to the NCC in accordance with the Contract;

"Contractor" means the person contracting with the NCC to provide or furnish all labour, Material and Plant for the execution of the Work under the Contract, and includes the Contractor's superintendent as designated in writing to the NCC;

"Certificate of Completion" means a certificate issued by the NCC when the Work reaches Completion;

"Certificate of Measurement" means a certificate issued by the NCC certifying the correctness of the final quantities, prices per unit and values of labour, Plant and Material performed, used and supplied by the Contractor for the construction of the part of the Work to which a Unit Price Arrangement applies;

"Certificate of Substantial Performance" means a certificate issued by the NCC when the Work reaches Substantial Performance;

"NCC Representative" means the person designated in the Contract, or by written notice to the Contractor, to act as the NCC Representative for the purposes of the Contract, and includes a person, designated and authorized in writing by the NCC Representative to the Contractor;

"herein", "hereby", "hereof", "hereunder" and similar expressions refer to the Contract as a whole and not to any particular section or part thereof;

"Lump Sum Arrangement" means that part of the Contract that prescribes a lump sum as payment for performance of the Work to which it relates;

"Material" includes all commodities, articles, machinery, equipment, fixtures and things required to be furnished in accordance with the Contract for incorporation into the Work;

"NCC" means the National Capital Commission;

"Person" also includes, unless there is an express stipulation in the Contract to the contrary, any partnership, proprietorship, firm, joint venture, consortium or corporation;

"Plant" includes all tools, implements, machinery, vehicles, structures, equipment, articles and things that are necessary for the performance of the Contract, other than Material and those tools customarily provided by a tradesperson in practicing a trade;

"Security screening" is a generic term that applies to all types and levels of personnel security screening including Reliability Status, Site Access, and CONFIDENTIAL, SECRET and TOP SECRET security clearances conducted by the NCC;

"Sensitive Information and Assets" means information or assets that have been identified by the NCC as TOP SECRET, SECRET, CONFIDENTIAL or protected;

"Subcontractor" means a person having a direct contract with the Contractor, subject to GC3.6 SUBCONTRACTING, to perform a part or parts of the Work, or to supply Material customized for the Work;

"Superintendent" means the employee or representative of the Contractor designated by the Contractor to act pursuant to GC2.6 SUPERINTENDENT;

"Supplementary Conditions" means the part of the Contract that amends or supplements the General Conditions;

"Supplier" means a person having a direct contract with the Contractor to supply Plant or Material not customized for the Work;

"Unit Price Arrangement" means that part of the Contract that prescribes the product of a price per unit of measurement multiplied by a number of units of measurement for performance of the Work to which it relates;

"Unit Price Table" means the table of prices per unit set out in the Contract;

"Work" means, subject only to any express stipulation in the Contract to the contrary, everything that is necessary to be done, furnished or delivered by the Contractor to perform the Contract in accordance with the contract documents; and

"Working Day" means a day other than a Saturday, Sunday, or a statutory holiday that is observed by the construction industry in the area of the place of the Work.

GC1.1.3 Application of Certain Provisions

- 1) Any provisions of the Contract that are expressly stipulated to be applicable only to a Unit Price Arrangement are not applicable to any part of the Work to which a Lump Sum Arrangement applies.
- 2) Any provisions of the Contract that are expressly stipulated to be applicable only to a Lump Sum Arrangement are not applicable to any part of the Work to which a Unit Price Arrangement applies.

GC1.1.4 Substantial Performance

- 1) The Work shall be considered to have reached Substantial Performance when:
 - (a) the Work or a substantial part thereof has passed inspection and testing and is, in the opinion of the NCC, ready for use by the NCC or is being used for the intended purposes; and
 - (b) the Work is, in the opinion of the NCC, capable of completion or correction at a cost of not more than
 - (i) 3% of the first \$500,000;
 - (ii) 2% of the next \$500,000; and
 - (iii) 1% of the balanceof the Contract Amount at the time this cost is calculated.
- 2) Where the Work or a substantial part thereof is ready for use or is being used for the purposes intended and:
 - (a) the remainder of the Work or a part thereof cannot be completed by the time specified in the Contract, or as amended in accordance with GC6.5 DELAYS AND EXTENSION OF TIME, for reasons beyond the control of the Contractor; or
 - (b) the NCC and the Contractor agree not to complete a part of the Work within the specified time;

the cost of that part of the Work that was either beyond the control of the Contractor to complete or the NCC and the Contractor have agreed not to complete by the time specified, shall be deducted from the value of the Contract referred to in subparagraph 1)(b) of GC1.1.4, and the said cost shall not form part of the cost of the Work remaining to be done in determining Substantial Performance.

GC1.1.5 Completion

- 1) The Work shall be deemed to have reached Completion when all labour, Plant and Material required have been performed, used or supplied, and the Contractor has complied with the Contract and all orders and directions made pursuant thereto, all to the satisfaction of the NCC.

GC1.2 CONTRACT DOCUMENTS**GC1.2.1 General**

- 1) The contract documents are complementary, and what is required by any one shall be as binding as if required by all.
- 2) References in the contract documents to the singular shall be considered to include the plural as the context requires.
- 3) Nothing contained in the contract documents shall create a contractual relationship between the NCC and any Subcontractor or Supplier, their subcontractors or suppliers, or their agents or employees.

GC1.2.2 Order of Precedence

- 1) In the event of any discrepancy or conflict in the contents of the following documents, such documents shall take precedence and govern in the following order:
 - (a) any amendment or variation of the contract documents that is made in accordance with the General Conditions;
 - (b) any amendment issued prior to tender closing;
 - (c) Supplementary Conditions;
 - (d) General Conditions;
 - (e) the duly completed Invitation to Tender and Acceptance Form when accepted;
 - (f) drawings and specifications.

later dates shall govern within each of the above categories of documents.

- 2) In the event of any discrepancy or conflict in the information contained in the drawings and specifications, the following rules shall apply:
 - (a) specifications shall govern over drawings;
 - (b) dimensions shown in figures on a drawings shall govern where they differ from dimensions scaled from the same drawing; and
 - (c) drawings of larger scale govern over those of smaller scale.

GC1.2.3 Security and Protection of Documents and Work

- 1) The Contractor shall guard and protect all sensitive contract information (TOP SECRET, SECRET, CONFIDENTIAL and PROTECTED) including printed and digital documents, drawings, information, models, copies thereof and processing systems, whether supplied by the NCC or the Contractor, against loss or compromise and damage from any cause.
- 2) The Contractor shall limit access to sensitive NCC information only to those with a “need-to-know” and who have been successfully security screened to at least the level of sensitivity of the information.
- 3) The Contractor shall ensure all contract information indicated in paragraph 1) is guarded and protected by any subcontractors, agents or suppliers and access limited only to those with a “need-to-know” and who have been successfully security screened to at least the level of sensitivity of the information.
- 4) The Contractor shall keep confidential all information provided to the Contractor by or on behalf of the NCC in connection with the Work, and all information developed by the Contractor as part of the Work, and shall not disclose any such information to any person without the written permission of the NCC, except that the Contractor may disclose to a subcontractor, authorized in accordance with the Contract, information necessary to the performance of a subcontract. This section does not apply to any information that:
 - (a) is publicly available from a source other than the Contractor; or
 - (b) is or becomes known to the Contractor from a source other than the NCC, except any source that is known to the Contractor to be under an obligation to the NCC not to disclose the information.
- 5) When the Contract, the Work, or any information referred to in paragraph 4) is identified as TOP SECRET, SECRET, CONFIDENTIAL or PROTECTED by the NCC, the Contractor shall, at all times, take all measures reasonably necessary for the safeguarding of the material so identified, including such measures as may be further specified elsewhere in the Contract or provided, in writing, from time to time by the NCC.
- 6) Without limiting the generality of paragraphs 4) and 5) of GC1.2.3, when the Contract, the Work, or any information referred to in paragraph 4) is identified as TOP SECRET, SECRET, CONFIDENTIAL or PROTECTED by the NCC, the NCC shall be entitled to inspect the Contractor's premises and the premises of its subcontractors or suppliers and any other person at any tier, for security purposes at any time during the term of the Contract, and the Contractor shall comply with, and ensure that any such subcontractors or suppliers comply with all written instructions issued by the NCC dealing with the material so identified, including any requirement that employees of the Contractor and its subcontractors and suppliers and any other person at any tier execute and deliver declarations relating to reliability status, site access security clearances and other procedures.
- 7) The Contractor shall report any suspected or actual security incidents immediately to the NCC involving loss, compromise or damage of NCC information or assets.
- 8) The Contractor shall safeguard the Work and the Contract, the specifications, drawings and any other information provided by the NCC to the Contractor, and shall be liable to the NCC for any loss or damage from any causes.

GC1.3 STATUS OF THE CONTRACTOR

- 1) The Contractor is engaged under the Contract as an independent contractor.
- 2) The Contractor, its subcontractors and suppliers and any other person at any tier and their employees are not engaged by the Contract as employees, servants or agents of the NCC.
- 3) For the purposes of the contract the Contractor shall be solely responsible for any and all payments and deductions required to be made by law including those required for Canada or Quebec Pension Plans, Employment Insurance, Worker's Compensation, provincial health or insurance plans, and Income Tax.

GC1.4 RIGHTS AND REMEDIES

- 1) Except as expressly provided in the Contract, the duties and obligations imposed by the Contract and the rights and remedies available thereunder shall be in addition to and not a limitation of any duties, obligations, rights, and remedies otherwise imposed or available by law.

GC1.5 TIME OF THE ESSENCE

- 1) Time is of the essence of the Contract.

GC1.6 INDEMNIFICATION BY CONTRACTOR

- 1) The Contractor shall pay all royalties and patent fees required for the performance of the Contract and, at the Contractor's expense, shall defend all claims, actions or proceedings against the NCC charging or claiming that the Work or any part thereof provided or furnished by the Contractor to the NCC infringes any patent, industrial design, copyright trademark, trade secret or other proprietary right enforceable in Canada.
- 2) The Contractor shall indemnify and save the NCC harmless from and against all claims, demands, losses, costs, damages, actions, suits, or proceedings by any third party, brought or prosecuted and in any manner based upon, arising out of, related to, occasioned by, or attributable to the activities of the Contractor, its subcontractors and suppliers and any other person at any tier, in performing the Work.
- 3) For the purposes of paragraph 2) of GC1.6, "activities" means any act improperly carried out, any omission to carry out an act and any delay in carrying out an act.

GC1.7 INDEMNIFICATION BY THE NCC

- 1) Subject to the Crown Liability and Proceedings Act, the Patent Act, and any other law that affects the NCC's rights, powers, privileges or obligations, the NCC shall indemnify and save the Contractor harmless from and against all claims, demands, losses, costs, damage, actions, suits or proceedings arising out of the Contractor's activities under the Contract that are directly attributable to:
 - (a) a lack of or a defect in the NCC's title to the Work site if owned by the NCC, whether real or alleged; or
 - (b) an infringement or an alleged infringement by the Contractor of any patent of invention or any other kind of intellectual property occurring while the Contractor was performing any act for the purposes of the Contract employing a model, plan or design or any other thing related to the Work that was supplied by the NCC to the Contractor.

GC1.8 LAWS, PERMITS AND TAXES

- 1) The Contractor shall comply with all federal, provincial and municipal laws and regulations applicable to the performance of the Work or any part thereof including, without limitation, all laws concerning health and labour conditions and the protection of the environment, and shall require compliance therewith by all of its subcontractors and suppliers at any tier as if the Work were being performed for an owner other than the NCC. The Contractor shall furnish evidence of compliance with such laws and regulations to the NCC at such times as the NCC may reasonably request.
- 2) Unless stipulated otherwise in the Contract, the Contractor shall obtain and maintain all permits, certificates, licences, registrations and authorizations required for the lawful performance of the Work.
- 3) Prior to the commencement of the Work at the site, the Contractor shall tender to a municipal authority an amount equal to all fees and charges that would be lawfully payable to that municipal authority in respect of building permits as if the Work were being performed for an owner other than the NCC.
- 4) Within 10 days of making a tender pursuant to paragraph 3) of GC1.8, the Contractor shall notify the NCC of the amount properly tendered and whether or not the municipal authority has accepted that amount.
- 5) If the municipal authority has not accepted the amount tendered, the Contractor shall pay that amount to the NCC within 6 days after the time stipulated in paragraph 4) of GC1.8.
- 6) For the purposes of this clause, "municipal authority" means any authority that would have jurisdiction respecting permission to perform the Work if the owner were not the NCC.
- 7) Notwithstanding the residency of the Contractor, the Contractor shall pay any applicable tax arising from or related to the performance of the Work under the Contract.
- 8) In accordance with the Statutory Declaration referred to in paragraph 4) of GC5.5 SUBSTANTIAL PERFORMANCE OF THE WORK, a Contractor who has neither residence nor place of business in the province or territory in which work under the Contract is being performed shall provide the NCC with proof of registration with the provincial sales tax authorities in the said province.
- 9) For the purpose of the payment of any applicable tax or the furnishing of security for the payment of any applicable tax arising from or related to the performance of the Work, and notwithstanding the provision that all Material, Plant and interest of the Contractor in all real property, licences, powers and privileges, become the property of the NCC after the time of purchase in accordance with GC3.10 MATERIAL PLANT AND REAL PROPERTY BECOME PROPERTY OF THE NCC, the Contractor shall be liable, as a user or consumer, for the payment or for the furnishing of security for the payment of any applicable tax payable, at the time of the use or consumption of that Material, Plant or interest of the Contractor in accordance with the relevant legislation.

GC1.9 WORKERS' COMPENSATION

- 1) Prior to award of contract, at the time of submitting its first progress claim, at the time of Substantial Performance of the Work, and prior to issuance of the Certificate of Completion, the Contractor shall provide evidence of compliance with workers' compensation legislation applicable to the place of the Work, including payments due thereunder.

- 2) At any time during the term of the Contract, when requested by the NCC, the Contractor shall provide such evidence of compliance by the Contractor, its subcontractors and any other person at any tier and any other person performing part of the Work who is required to comply with such legislation.

GC1.10 NATIONAL SECURITY

- 1) If the NCC determines that the Work is of a class or kind that involves national security, the NCC may order the Contractor to:
 - (a) provide the NCC with any information concerning persons employed or to be employed by the Contractor for purposes of the Contract; and
 - (b) remove any person from the site of the Work if, in the opinion of the NCC, that person may be a risk to the national security;and the Contractor shall comply with the order.
- 2) In all contracts with persons who are to be employed in the performance of the Contract, the Contractor shall make provision for the performance of any obligation that may be imposed upon the Contractor under paragraph 1) of GC1.10.

GC1.11 UNSUITABLE WORKERS

- 1) The NCC shall instruct the Contractor to remove from the site of the Work any person employed by the Contractor for purposes of the Contract who, in the opinion of the NCC, is incompetent or is guilty of improper conduct, and the Contractor shall not permit a person who has been removed to return to the site of the Work.

GC1.12 PUBLIC CEREMONIES AND SIGNS

- 1) The Contractor shall not permit any public ceremony in connection with the Work without the prior consent of the NCC.
- 2) The Contractor shall not erect nor permit the erection of any sign or advertising on the Work or its site without the prior consent of the NCC.

GC1.13 CONFLICT OF INTEREST

- 1) It is a term of the Contract that no individual, for whom the post-employment provisions of the Conflict of Interest and Post-Employment Code for Public Office Holders or the Values and Ethics Code for the Public Service apply, shall derive a direct benefit from the Contract unless that individual is in compliance with the applicable post-employment provisions.

GC1.14 AGREEMENTS AND AMENDMENTS

- 1) The Contract constitutes the entire and sole agreement between the parties with respect to the subject matter of the Contract and supersedes all previous negotiations, communications and other agreements, whether written or oral, relating to it, unless they are incorporated by reference in the Contract. There are no terms, covenants, representations, statements or conditions binding on the parties other than those contained in the Contract.
- 2) The failure of either party at any time to require performance by the other party of any provision hereof shall not affect the right thereafter to enforce such provision. Nor shall the waiver by either

party of any breach of any covenant, term or condition hereof be taken to be held to be a waiver of any further breach of the same covenant, term or condition.

- 3) The Contract may be amended only as provided for in the Contract.

GC1.15 SUCCESSION

- 1) The Contract shall inure to the benefit of and be binding upon the parties hereto and their lawful heirs, executors, administrators, successors and, subject to GC1.16 ASSIGNMENT, permitted assigns.

GC1.16 ASSIGNMENT

- 1) The Contractor shall not make any assignment of the Contract, either in whole or in part, without the written consent of the NCC.

GC1.17 NO BRIBE

- 1) The Contractor represents and covenants that no bribe, gift, benefit, nor other inducement has been nor shall be paid, given, promised or offered directly or indirectly to any official or employee of the NCC or to a member of the family of such a person, with a view to influencing the entry into the Contract or the administration of the Contract.

GC1.18 CERTIFICATION - CONTINGENCY FEES

- 1) In this clause:
 - (a) "contingency fee" means any payment or other compensation that is contingent upon or is calculated upon the basis of a degree of success in soliciting or obtaining a Government contract or negotiating the whole or any part of its terms;
 - (b) "employee" means a person with whom the Contractor has an employer/employee relationship; and
 - (c) "person" includes an individual or a group of individuals, a corporation, a partnership, an organization and an association and, without restricting the generality of the foregoing, includes any individual who is required to file a return with the registrar pursuant to section 5 of the Lobbyists Registration Act R.S.C. 1985 c.44 (4th Supplement) as the same may be amended from time to time.
- 2) The Contractor certifies that it has not directly or indirectly paid nor agreed to pay and covenants that it shall not directly or indirectly pay nor agree to pay a contingency fee for the solicitation, negotiation or obtaining of the Contract to any person other than an employee acting in the normal course of the employee's duties.
- 3) All accounts and records pertaining to payments of fees or other compensation for the solicitation, obtaining or negotiation of the Contract shall be subject to the accounts and audit provisions of the Contract.
- 4) If the Contractor certifies falsely under this section or is in default of the obligations contained therein, the NCC may either take the Work out of the Contractor's hands in accordance with the provisions of the Contract or recover from the Contractor by way of reduction to the Contract Amount or otherwise, the full amount of the contingency fee.

GC1.19 INTERNATIONAL SANCTIONS

- 1) Persons and companies in Canada, and Canadians outside of Canada are bound by economic sanctions imposed by the Government of Canada. As a result, the the NCC cannot accept delivery of goods or services that originate, either directly or indirectly, from the countries or persons subject to economic sanctions.

Details on existing sanctions can be found at:

<http://www.dfait-maeci.gc.ca/trade/sanctions-en.asp>.

- 2) It is a condition of the Contract that the Contractor not supply to the NCC any goods or services which are subject to economic sanctions.
- 3) By law, the Contractor must comply with changes to the regulations imposed during the life of the Contract. During the performance of the Contract should the imposition of sanctions against a country or person or the addition of a good or service to the list of sanctioned goods or services cause an impossibility of performance for the Contractor, the Contractor may request that the Contract be terminated in accordance with GC7.3 TERMINATION OF CONTRACT.

- GC2.1 NCC REPRESENTATIVE'S AUTHORITY
- GC2.2 INTERPRETATION OF CONTRACT
- GC2.3 NOTICES
- GC2.4 SITE MEETINGS
- GC2.5 REVIEW AND INSPECTION OF WORK
- GC2.6 SUPERINTENDENT
- GC2.7 NON-DISCRIMINATION IN HIRING AND EMPLOYMENT OF LABOUR
- GC2.8 ACCOUNTS AND AUDITS

GC2.1 NCC REPRESENTATIVE'S AUTHORITY

- 1) The NCC shall designate an NCC Representative and shall notify the Contractor of the name, address and telephone number of the NCC Representative.
- 2) The NCC Representative shall perform the NCC's duties and functions under the contract.
- 3) The NCC Representative shall be authorized to issue notices, instructions and directions to the Contractor and to accept on behalf of the NCC any notice, order or other communication from the contractor relating to the Work.
- 4) The NCC Representative shall, within a reasonable time, review and respond to submissions made by the Contractor in accordance with the requirements of the Contract.

GC2.2 INTERPRETATION OF CONTRACT

- 1) If, at any time before the NCC has issued a Certificate of Completion, any question arises between the parties about whether anything has been done as required by the Contract or about what the Contractor is required by the Contract to do, and in particular but without limiting the generality of the foregoing, about:
 - (a) the meaning of anything in the drawings and specifications;
 - (b) the meaning to be given to the drawings and specifications in case of any error therein, omission therefrom, or obscurity or discrepancy in their wording or intention;
 - (c) whether or not the quality or quantity of any Material or workmanship supplied or proposed to be supplied by the Contractor meets the requirements of the Contract;
 - (d) whether or not the labour, Plant or Material performed, used and supplied by the Contractor for performing the Work and carrying out the Contract are adequate to ensure that the Work shall be performed in accordance with the Contract and that the Contract shall be carried out in accordance with its terms;
 - (e) what quantity of any of the Work has been completed by the Contractor; or
 - (f) the timing and scheduling of the various phases of the performance of the Work as specified in the Contract;

the question shall be decided, subject to the provisions of GC8 DISPUTE RESOLUTION, by the NCC.

- 2) The Contractor shall perform the Work in accordance with any decisions of the NCC that are made under paragraph 1) of GC2.2 and in accordance with any consequential directions given by the NCC.

- 3) If the Contractor fails to comply with any instruction or direction issued by the NCC pursuant to the Contract, the NCC may employ such methods as the NCC deems advisable to do what the Contractor failed to do, and the Contractor shall, on demand, pay the NCC an amount that is equal to the aggregate of all costs, expenses and damages incurred or sustained by the NCC by reason of the Contractor's failure to comply with such instruction or direction, including the cost of any methods employed by the NCC in doing what the Contractor failed to do.

GC2.3 NOTICES

- 1) Subject to paragraph 3) of GC2.3, any notice, order or other communication may be given in any manner, and if required to be in writing, shall be addressed to the party to whom it is intended at the address in the Contract or at the last address of which the sender has received written notice in accordance with this section.
- 2) Any notice, order or other communication given in writing in accordance with paragraph 1) of GC2.3 shall be deemed to have been received by either party:
 - (a) if delivered personally, on the day that it was delivered;
 - (b) if forwarded by mail, on the earlier of the day it was received or the sixth day after it was mailed; and
 - (c) if forwarded by facsimile or electronic mail, 24 hours after it was transmitted.
- 3) A notice given under GC7.1 TAKING THE WORK OUT OF THE CONTRACTOR'S HANDS, GC7.2 SUSPENSION OF WORK, and GC7.3 TERMINATION OF CONTRACT shall be given in writing and, if delivered personally, shall be delivered, if the Contractor is a sole proprietor, to the Contractor or, if the Contractor is a partnership or corporation, to an officer thereof.

GC2.4 SITE MEETINGS

- 1) In consultation with the NCC, the Contractor shall arrange site meetings at regular intervals, with all involved parties who are to attend, in order to ensure, among other things, the proper co-ordination of the Work.

GC2.5 REVIEW AND INSPECTION OF WORK

- 1) The NCC shall review the Work to determine if it is proceeding in conformity with the Contract and to record the necessary data to make an assessment of the value of Work completed. The NCC shall measure and record the quantities of labour, Plant and Material performed, used or supplied by the Contractor in performing the Work or any part thereof that is subject to a Unit Price Arrangement and, on request, shall inform the Contractor of those measurements, and permit the Contractor to inspect any records pertaining thereto.
- 2) The NCC shall reject Work or Material which in the NCC's opinion does not conform to the requirements of the Contract, and shall require inspection or testing of Work, whether or not such Work is fabricated, installed, or completed. If such Work is not in accordance with the requirements of the Contract, the Contractor shall correct the Work and shall pay the NCC, on demand, all reasonable costs and expenses that were incurred by the NCC in having the examination performed.
- 3) The Contractor shall provide the NCC with access to the Work and its site at all times, and at all times shall provide sufficient, safe, and proper facilities for the review and inspection of the Work by persons authorized by the NCC and any representatives of those authorities having jurisdiction. If parts of the Work are in preparation at locations other than the site of the Work, the NCC shall be given access to such Work whenever it is in progress.

- 4) The Contractor shall furnish the NCC with such information respecting the performance of the Contract as the NCC may require, and render every possible assistance to enable the NCC to verify that the Work is performed in accordance with the Contract, carry out any other duties and exercise any powers in accordance with the Contract.
- 5) If Work is designated for tests, inspections, or approvals in the Contract or by the NCC's instructions, or by laws or ordinances of the place of the Work, the Contractor shall give the NCC reasonable notice of when such Work shall be ready for review and inspection. The Contractor shall arrange for and shall give the NCC reasonable notice of the date and time of inspections, tests or approvals.
- 6) If the Contractor covers, or permits to be covered, Work that has been designated for tests, inspections or approvals before such tests, inspections or approvals are made, completed or given, the Contractor shall, if so directed by the NCC, uncover such Work, have the inspections, tests or approvals satisfactorily made, completed or given and make good the covering of the Work at the Contractor's expense.

GC2.6 SUPERINTENDENT

- 1) Prior to commencing the Work, the Contractor shall designate a Superintendent and shall notify the NCC of the name, address and telephone number of the Superintendent. The Contractor shall keep the Superintendent at the Work site during working hours until the Work has reached completion.
- 2) The Superintendent shall be in full charge of the operations of the Contractor during the performance of the Work and shall be authorized to accept on behalf of the Contractor any notice, order or other communication given to the Superintendent or the Contractor relating to the Work.
- 3) Upon request of the NCC, the Contractor shall remove any Superintendent who, in the opinion of the NCC, is incompetent or has been guilty of improper conduct, and shall forthwith designate another Superintendent who is acceptable to the NCC.
- 4) The Contractor shall not substitute a Superintendent without the written consent of the NCC. If a Superintendent is substituted without such consent, the NCC shall be entitled to refuse to issue any documentation or certification relating to progress payments, Substantial Performance or Completion of the Work until the Superintendent has returned to the Work site or another Superintendent who is acceptable to the NCC has been substituted.

GC2.7 NON-DISCRIMINATION IN HIRING AND EMPLOYMENT OF LABOUR

- 1) For the purposes of this clause, "persons" include the Contractor, its subcontractors and suppliers at any tier and their respective employees, agents, licensees or invitees and any other individual involved in the performance of the Work or granted access to the Work site. A "person" includes any partnership, proprietorship, firm, joint venture, consortium and corporation.
- 2) Without restricting the provisions of paragraph 3) of GC2.6, SUPERINTENDENT, the Contractor shall not refuse to employ and shall not discriminate in any manner against any person because:
 - (a) of that person's race, national origin, colour, religion, age, sex or marital status;
 - (b) of the race, national origin, colour, religion, age, sex, or marital status of any person having any relationship or association with that person; or
 - (c) a complaint has been made or information has been given by or in respect of that person relating to an alleged failure by the Contractor to comply with subparagraphs 2)(a) and 2)(b) of GC2.7.

- 3) Within two Working Days immediately following receipt of a written complaint pursuant to paragraph 2) of GC2.7, the Contractor shall:
 - (a) cause to have issued a written direction to the person or persons named by the complainant to cease all actions that form the basis of the complaint;
 - (b) forward a copy of the complaint to the NCC by registered mail or courier service; and
 - (c) when the Labour Conditions are applicable under the circumstances of the complaint, forward a copy of the complaint to HRSDC - Labour to the attention of the appropriate Director as described in the Labour Conditions ("HRSDC - Labour" means the labour component of the federal Department of Human Resources and Skills Development).
- 4) Within twenty four (24) hours immediately following receipt of a direction from the NCC to do so, the Contractor shall cause to have removed from the site of the Work and from the performance of Work under the Contract, any person or persons whom the NCC believes to be in breach of the provisions of paragraph 2) of GC2.7.
- 5) No later than thirty (30) days after receipt of the direction referred to in paragraph 4) of GC2.7, the Contractor shall cause the necessary action to be commenced to remedy the breach described in the direction.
- 6) If a direction is issued pursuant to paragraph 4) of GC2.7, the NCC may withhold from monies that are due and payable to the Contractor or setoff pursuant to GC5.9 RIGHT OF SETOFF, whichever is applicable, an amount representing the sum of the costs and payment referred to in paragraph 8) of GC2.7.
- 7) If the Contractor fails to proceed in accordance with paragraph 5) of GC2.7, the NCC shall take the necessary action to have the breach remedied, and shall determine all supplementary costs incurred by the NCC as a result.
- 8) The NCC may make a payment directly to the complainant from monies that are due and payable to the Contractor upon receipt from the complainant of:
 - (a) a written award issued pursuant to the federal Commercial Arbitration Act, R.S.C. 1985, c. 17 (2nd Supp.);
 - (b) a written award issued pursuant to the Canadian Human Rights Act, R.S.C. 1985, c. H-6;
 - (c) a written award issued pursuant to provincial or territorial human rights legislation; or
 - (d) a judgement issued by a court of competent jurisdiction.
- 9) If the NCC is of the opinion that the Contractor has breached any of the provisions of this clause, the NCC may take the Work out of the Contractor's hands pursuant to GC7.1 TAKING THE WORK OUT OF THE CONTRACTOR'S HANDS.
- 10) Subject to paragraph 7) of GC3.6 SUBCONTRACTING, the Contractor shall ensure that the provisions of this clause are included in all agreements and contracts entered into as a consequence of the Work.

GC2.8 ACCOUNTS AND AUDITS

- 1) The Contractor shall, in addition to the requirements expressed in paragraph 6) of GC3.4 EXECUTION OF THE WORK, maintain full records of the Contractor's estimated and actual cost of the Work together with all tender calls, quotations, contracts, correspondence, invoices, receipts and vouchers relating thereto, and shall make them available on request to audit and inspection by the NCC or by persons designated to act on behalf of the NCC.
- 2) The Contractor shall allow any of the persons referred to in paragraph 1) of GC2.8 to make copies of and take extracts from any of the records and material, and shall furnish such persons or entities with any information those persons or entities may require from time to time in connection with such records and material.
- 3) The Contractor shall maintain and keep the records intact until the expiration of two years after the date that a Certificate of Completion has been issued or until the expiration of such other period of time as the NCC may direct.
- 4) The Contractor shall cause all subcontractors at any tier and all other persons directly or indirectly controlled by or affiliated with the Contractor and all persons directly or indirectly having control of the Contractor to comply with the requirements of this clause as if they were the Contractor.

- GC3.1 PROGRESS SCHEDULE
- GC3.2 ERRORS AND OMISSIONS
- GC3.3 CONSTRUCTION SAFETY
- GC3.4 EXECUTION OF THE WORK
- GC3.5 MATERIAL
- GC3.6 SUBCONTRACTING
- GC3.7 CONSTRUCTION BY OTHER CONTRACTORS OR WORKERS
- GC3.8 LABOUR
- GC3.9 TRUCK HAULAGE RATES **(CANCELLED)**
- GC3.10 MATERIAL, PLANT AND REAL PROPERTY BECOME PROPERTY OF THE NCC
- GC3.11 DEFECTIVE WORK
- GC3.12 CLEANUP OF SITE
- GC3.13 WARRANTY AND RECTIFICATION OF DEFECTS IN WORK

GC3.1 PROGRESS SCHEDULE

- 1) The Contractor shall:
 - (a) prepare and submit to the NCC, prior to the submission of the Contractor's first progress claim, a progress schedule in accordance with the requirements set out in the Contract;
 - (b) monitor the progress of the Work relative to the schedule and update the schedule as stipulated by the contract documents;
 - (c) advise the NCC of any revisions to the schedule required as the result of any extension of time for completion of the Contract that was approved by the NCC; and
 - (d) prepare and submit to the NCC, at the time of issuance of an Certificate of Substantial Performance, an update of any schedule clearly showing a detailed timetable that is acceptable to the NCC for the completion of any unfinished Work and the correction of all listed defects.

GC3.2 ERRORS AND OMISSIONS

- 1) The Contractor shall report promptly to the NCC any errors, discrepancies, or omissions the Contractor may discover when reviewing the contract documents. In making a review, the Contractor does not assume any responsibility to the NCC for the accuracy of the review. The Contractor shall not be liable for damage or costs resulting from such errors, discrepancies, or omissions in the contract documents prepared by or on behalf of the NCC that the Contractor did not discover.

GC3.3 CONSTRUCTION SAFETY

- 1) Subject to GC3.7 CONSTRUCTION BY OTHER CONTRACTORS OR WORKERS, the Contractor shall be solely responsible for construction safety at the place of the Work and for initiating, maintaining and supervising all safety precautions and programs in connection with the performance of the Work. In any emergency, the Contractor shall either, stop the Work, make changes or order extra work to ensure the safety of life and the protection of the Work and neighbouring property.
- 2) Prior to commencing the Work, the Contractor shall notify the authorities having jurisdiction for construction safety at the site of the Work with respect to the intended commencement of the Work, and shall provide such authority with whatever additional information may be required by that authority.

GC3.4 EXECUTION OF THE WORK

- 1) The Contractor shall perform, use or supply and pay for, all labour, Plant, Material, tools, construction machinery and equipment, water, heat, light, power, transportation and other facilities and services necessary for the performance of the Work in accordance with the Contract.
- 2) The Contractor shall, at all times, perform the Work in a proper, diligent and expeditious manner as is consistent with construction industry standards and in accordance with the progress schedule prepared pursuant to GC3.1 PROGRESS SCHEDULE and shall provide sufficient personnel to fulfil the Contractor's obligations in accordance with that schedule.
- 3) Subject to paragraph 4) of GC3.4, the Contractor shall have complete care, custody and control of the Work and shall direct and supervise the Work so as to ensure compliance with the Contract. The Contractor shall be responsible for construction means, methods, techniques, sequences and procedures and for co-ordinating the various parts of the Work.
- 4) When requested in writing by the NCC, the Contractor shall make appropriate alterations in the method, Plant or workforce at any time the NCC considers the Contractor's actions to be unsafe or damaging to either the Work, existing facilities, persons at the site of the Work or the environment.
- 5) The Contractor shall have sole responsibility for the design, erection, operation, maintenance and removal of temporary structures and other temporary facilities and for the construction methods used in their erection, operation, maintenance and removal. The Contractor shall engage and pay for registered professional engineering personnel, skilled in the appropriate discipline to perform these functions if required by law or by the Contract, and in all cases when such temporary facilities and their methods of construction are of such a nature that professional engineering skill is required to produce safe and satisfactory results.
- 6) The Contractor shall keep at least one copy of current contract documents, submittals, reports, and records of meetings at the site of the Work, in good order and available to the NCC.
- 7) Except for any part of the Work that is necessarily performed away from or off the site of the Work, the Contractor shall confine Plant, storage of Material, and operations of employees to limits indicated by laws, ordinances, permits or the contract documents.

GC3.5 MATERIAL

- 1) Unless otherwise specified in the Contract, all Material incorporated in the Work shall be new.
- 2) Subject to paragraph 3) of GC3.5, if a specified reused, refurbished, or recycled item of Material is not available, the Contractor shall apply to the NCC to substitute a similar item for the one specified.
- 3) If the NCC agrees that the Contractor's application for substitution of a reused, refurbished or recycled item is warranted, and that the substitute item is of acceptable quality and value to that specified and is suitable for the intended purpose, the NCC may approve the substitution, subject to the following:
 - (a) the request for substitution shall be made in writing to the NCC and shall be substantiated by information in the form of the manufacturer's literature, samples and other data that may be required by the NCC;
 - (b) the Contractor shall make the request for substitution in a manner that shall not negatively affect the progress schedule of the Contract and well in advance of the time the item of Material must be ordered;

- (c) substitution of Material shall be permitted only with the prior written approval of the NCC, and any substituted items that are supplied or installed without such approval shall be removed from the site of the Work at the expense of the Contractor, and specified items installed at no additional cost to the NCC; and
- (d) the Contractor shall be responsible for all additional expenses incurred by the NCC, the Contractor, its subcontractors and suppliers at any tier due to the Contractor's use of the substitute.

GC3.6 SUBCONTRACTING

- 1) Subject to the provisions of this clause, the Contractor may subcontract any part of the Work but not the whole of the Work.
- 2) The Contractor shall notify the NCC in writing of the Contractor's intention to subcontract.
- 3) A notification referred to in paragraph 2) of GC3.6 shall identify the part of the Work and the Subcontractor with whom the Contractor intends to subcontract.
- 4) The NCC may for reasonable cause, object to the intended subcontracting by notifying the Contractor in writing within six (6) days of receipt by the NCC of a notification referred to in paragraph 2) of GC3.6.
- 5) If the NCC objects to a subcontracting, the Contractor shall not enter into the intended subcontract.
- 6) The Contractor shall not change, nor permit to be changed, a Subcontractor engaged by the Contractor, in accordance with this clause, without the written consent of the NCC.
- 7) The Contractor shall ensure that all the terms and conditions of the Contract that are of general application shall be incorporated in every other contract issued as a consequence of the Contract, at whatever tier, except those contracts issued solely to suppliers at any tier for the supply of Plant or Material.
- 8) Neither a subcontracting nor the NCC's consent to a subcontracting shall be construed to relieve the Contractor from any obligation under the Contract or to impose any liability upon the NCC.

GC3.7 CONSTRUCTION BY OTHER CONTRACTORS OR WORKERS

- 1) The NCC reserves the right to send other contractors or workers, with or without Plant and Material, onto the site of the Work.
- 2) When other contractors or workers are sent on to the site of the Work, the NCC shall:
 - (a) enter into separate contracts, to the extent it is possible, with the other contractors under conditions of contract that are compatible with the conditions of the Contract;
 - (b) ensure that the insurance coverage provided by the other contractors is co-ordinated with the insurance coverage of the Contractor as it affects the Work; and
 - (c) take all reasonable precautions to avoid labour disputes or other disputes arising from the work of the other contractors or workers.
- 3) When other contractors or workers are sent on to the site of the Work, the Contractor shall:
 - (a) co-operate with them in the carrying out of their duties and obligations;

- (b) co-ordinate and schedule the Work with the work of the other contractors and workers;
 - (c) participate with other contractors and workers in reviewing their construction schedules when directed to do so;
 - (d) where part of the Work is affected by or depends upon the work of other contractors or workers for its proper execution, promptly report to the NCC in writing and prior to proceeding with that part of the Work, any apparent deficiencies in such work. Failure by the Contractor to so report shall invalidate any claims against the NCC by reason of the deficiencies in the work of other contractors or workers except those deficiencies that are not then reasonably discoverable; and
 - (e) when designated as being responsible for construction safety at the place for work, in accordance with the applicable provincial or territorial laws, carry out its duties in that role and in accordance with those laws.
- 4) If, when entering into the Contract, the Contractor could not have reasonably foreseen nor anticipated the sending of other contractors or workers on to the site of the Work and provided the Contractor:
- (a) incurs extra expense in complying with the requirements of paragraph 3) of GC3.7; and
 - (b) gives the NCC written notice of a claim for that extra expense within thirty (30) days of the date that the other contractors or workers were sent onto the Work or its site,

the NCC shall pay the Contractor the cost of the extra labour, Plant and Material that was necessarily incurred, calculated in accordance with GC6.4 DETERMINATION OF PRICE.

GC3.8 LABOUR

- 1) The Contractor shall maintain good order and discipline among the Contractor's employees and workers engaged in the Work shall not employ, on the site of the Work, anyone not skilled in the tasks assigned.

GC3.9 TRUCK HAULAGE RATES

CANCELLED

GC3.10 MATERIAL, PLANT AND REAL PROPERTY BECOME PROPERTY OF THE NCC

- 1) Subject to paragraph 9) of GC1.8 LAWS PERMITS AND TAXES, all Material and Plant and the interest of the Contractor in all real property, licences, powers and privileges purchased, used or consumed by the Contractor for the Work shall, immediately after the time of their purchase, use or consumption be the property of the NCC for the purposes of the Work and they shall continue to be the property of the NCC:
- (a) in the case of Material, until the NCC indicates that the Materials shall not be required for the Work; and
 - (b) in the case of Plant, real property, licences, powers and privileges, until the NCC indicates that the interest vested in the NCC therein is no longer required for the purposes of the Work.
- 2) Material or Plant, that is the property of the NCC by virtue of paragraph 1) of GC3.10, shall not be taken away from the site of the Work nor used nor disposed of except for the purposes of the Work without the written consent of the NCC.

- 3) The NCC is not liable for loss of nor damage from any cause to the Material or Plant referred to in paragraph 1) of GC3.10, and the Contractor is liable for such loss or damage notwithstanding that the Material or Plant is the property of the NCC.

GC3.11 DEFECTIVE WORK

- 1) The Contractor shall promptly remove from the site of the Work and replace or re-execute defective Work whether or not the defective Work has been incorporated in the Work and whether or not the defect is the result of poor workmanship, use of defective Material, or damage through carelessness or other act or omission of the Contractor.
- 2) The Contractor, at the Contractor's expense, shall promptly make good other work destroyed or damaged by such removals or replacements.
- 3) If, in the opinion of the NCC, it is not expedient to correct defective Work or Work not performed as provided for in the Contract documents, the NCC may deduct from the amount otherwise due to the Contractor the difference in value between the Work as performed and that called for by the Contract documents.
- 4) The failure of the NCC to reject any defective Work or Material shall not constitute acceptance of the defective Work or Material.

GC3.12 CLEANUP OF SITE

- 1) The Contractor shall maintain the Work and its site in a tidy condition and free from an accumulation of waste material and debris.
- 2) Before the issue of a Certificate of Substantial Performance, the Contractor shall remove waste material and debris, and all Plant and Material not required for the performance of the remaining Work and, unless otherwise stipulated in the Contract Documents, shall cause the Work and its site to be clean and suitable for occupancy by the NCC.
- 3) Before the issue of a Certificate of Completion, the Contractor shall remove all surplus Plant and Materials and any waste products and debris from the site of the Work.
- 4) The Contractor's obligations described in paragraphs 1) to 3) of GC3.12 do not extend to waste products and other debris caused by the NCC's servants, or by other contractors and workers referred to in GC3.7 CONSTRUCTION BY OTHER CONTRACTORS OR WORKERS.

GC3.13 WARRANTY AND RECTIFICATION OF DEFECTS IN WORK

- 1) Without restricting any warranty or guarantee implied or imposed by law or contained in the Contract, the Contractor shall, at the Contractor's expense:
 - (a) rectify and make good any defect or fault that appears in the Work or comes to the attention of the NCC with respect to those parts of the Work accepted in connection with the Certificate of Substantial Performance within 12 months from the date of Substantial Performance; and
 - (b) rectify and make good any defect or fault that appears in or comes to the attention of the NCC in connection with those parts of the Work described in the Certificate of Substantial Performance within 12 months from the date of the Certificate of Completion;
 - (c) transfer and assign, to the NCC, any subcontractor, manufacturer or supplier extended warranties or guarantees implied or imposed by law or contained in the Contract covering periods beyond the 12 months stipulated above. Extended warranties or guarantees referred to

herein shall not extend the 12-month period whereby the Contractor, except as may be provided elsewhere in the Contract, must rectify and make good any defect or fault that appears in the Work or comes to the attention of the NCC;

- (d) provide, to the NCC prior to the issuance of the Certificate of Completion, a list of all extended warranties and guarantees referred to in paragraph (c) above.
- 2) The NCC may direct the Contractor to rectify and make good any defect or fault referred to in paragraph 1) of GC3.13 or covered by any other expressed or implied warranty or guarantee and the Contractor shall rectify and make good such defect within the time stipulated in the direction.
- 3) A direction referred to in paragraph 2) GC3.13 shall be in writing and shall be given to the Contractor in accordance with GC2.3 NOTICES.

- GC4.1 PROTECTION OF WORK AND PROPERTY
- GC4.2 PRECAUTIONS AGAINST DAMAGE, INFRINGEMENT OF RIGHTS, FIRE AND OTHER HAZARDS
- GC4.3 MATERIAL, PLANT AND REAL PROPERTY SUPPLIED BY THE NCC
- GC4.4 CONTAMINATED SITE CONDITIONS

GC4.1 PROTECTION OF WORK AND PROPERTY

- 1) The Contractor shall protect the Work and its site against loss or damage from any cause and shall similarly protect all Material, Plant and real property under the Contractor's care, custody and control whether or not such Material, Plant and real property are supplied by the NCC to the Contractor.
- 2) The Contractor shall provide all facilities necessary for the purpose of maintaining security, and shall assist any person authorized by the NCC to inspect or to take security measures in respect of the Work and its site.
- 3) The NCC may direct the Contractor to do such things and to perform such work as the NCC considers reasonable and necessary to ensure compliance with or to remedy a breach of paragraphs 1) or 2) of GC4.1, and the Contractor, shall comply with such direction.

GC4.2 PRECAUTIONS AGAINST DAMAGE, INFRINGEMENT OF RIGHTS, FIRE AND OTHER HAZARDS

- 1) The Contractor shall do whatever is necessary to ensure that:
 - (a) no person, property, right, easement nor privilege is injured, damaged or infringed upon by reasons of the Contractor's activities in performing the Work;
 - (b) pedestrian and other traffic on any public or private road or waterway is not unduly impeded, interrupted nor endangered by the performance or existence of the Work, Material or Plant;
 - (c) fire hazards in or about the site of the Work are eliminated and any fire is promptly extinguished;
 - (d) the health and safety of all persons employed in the performance of the Work is not endangered by the methods nor means of their performance;
 - (e) adequate medical services are available to all persons employed on the Work or its site at all times during the performance of the Work;
 - (f) adequate sanitation measures are taken in respect of the Work and its site; and
 - (g) all stakes, buoys and marks placed on the Work or its site by the NCC are protected and are not removed, defaced, altered nor destroyed.
- 2) The NCC may direct the Contractor to do such things and to perform such work as the NCC considers reasonable and necessary to ensure compliance with or to remedy a breach of paragraph 1) of GC4.2, and the Contractor shall comply with the direction of the NCC.

GC4.3 MATERIAL, PLANT AND REAL PROPERTY SUPPLIED BY THE NCC

- 1) Subject to paragraph 2) of GC4.3, the Contractor is liable to the NCC for any loss of or damage to Material, Plant or real property that is supplied or placed in the care, custody and control of the Contractor by the NCC for use in connection with the Contract, whether or not that loss or damage is attributable to causes beyond the Contractor's control.

- 2) The Contractor is not liable to the NCC for any loss or damage to Material, Plant or real property referred to in paragraph 1) of GC4.3 if that loss or damage results from and is directly attributable to reasonable wear and tear.
- 3) The Contractor shall not use any Material, Plant or real property supplied by the NCC except for the purpose of performing the Contract.
- 4) When the Contractor fails to make good any loss or damage for which the Contractor is liable under paragraph 1) within a reasonable time, the NCC may cause the loss or damage to be made good at the Contractor's expense, and the Contractor shall thereupon be liable to the NCC for the cost thereof and shall, on demand, pay to the NCC an amount equal to that cost.
- 5) The Contractor shall keep records of all Material, Plant and real property supplied by the NCC as the NCC requires and shall satisfy the NCC, when requested, that such Material, Plant and real property are at the place and in the condition in which they ought to be.

GC4.4 CONTAMINATED SITE CONDITIONS

- 1) For the purposes of GC4.4, a contaminated site condition exists when a solid, liquid, gaseous, thermal or radioactive irritant or contaminant, or other hazardous or toxic substance or material, including moulds and other forms of fungi, is present at the site of the Work to an extent that constitutes a hazard, or potential hazard, to the environment, property, or the health or safety of any person.
- 2) If the Contractor encounters a contaminated site condition of which the Contractor is not aware or about which the Contractor has not been advised, or if the Contractor has reasonable grounds to believe that such a site condition exists at the site of the Work, the Contractor shall:
 - (a) take all reasonable steps, including stopping the Work, to ensure that no person suffers injury, sickness or death, and that neither property nor the environment is injured or destroyed as a result of the contaminated site condition;
 - (b) immediately notify the NCC of the circumstances in writing; and
 - (c) take all reasonable steps to minimize additional costs that may accrue as a result of any work stoppage.
- 3) Upon receipt of a notification from the Contractor, the NCC shall promptly determine whether a contaminated site condition exists, and shall notify the Contractor in writing of any action to be taken, or work to be performed, by the Contractor as a result of the NCC's determination.
- 4) If the Contractor's services are required by the NCC, the Contractor shall follow the direction of the NCC with regard to any excavation, treatment, removal and disposal of any polluting substance or material.
- 5) The NCC, at the NCC's sole discretion, may enlist the services of experts and specialty contractors to assist in determining the existence of, and the extent and treatment of contaminated site conditions, and the Contractor shall allow them access and co-operate with them in the carrying out of their duties and obligations.
- 6) Except as may be otherwise provided for in the Contract, the provisions of GC6.4 DETERMINATION OF PRICE shall apply to any additional work made necessary because of a contaminated site condition.

- GC5.1 INTERPRETATION
- GC5.2 AMOUNT PAYABLE
- GC5.3 INCREASED OR DECREASED COSTS
- GC5.4 PROGRESS PAYMENT
- GC5.5 SUBSTANTIAL PERFORMANCE OF THE WORK
- GC5.6 FINAL COMPLETION
- GC5.7 PAYMENT NOT BINDING ON THE NCC
- GC5.8 CLAIMS AND OBLIGATIONS
- GC5.9 RIGHT OF SETOFF
- GC5.10 ASSESSMENTS AND DAMAGES FOR LATE COMPLETION
- GC5.11 DELAY IN MAKING PAYMENT
- GC5.12 INTEREST ON SETTLED CLAIMS
- GC5.13 RETURN OF SECURITY DEPOSIT

GC5.1 INTERPRETATION

In these Terms of Payment

- 1) The "payment period" means a period of 30 consecutive days or such other longer period as may be agreed between the Contractor and the NCC.
- 2) An amount is "due and payable" when it is due and payable by the NCC to the Contractor according to GC5.4 PROGRESS PAYMENT, GC5.5 SUBSTANTIAL PERFORMANCE OF THE WORK or GC5.6 FINAL COMPLETION.
- 3) An amount is overdue when it remains unpaid on the first day following the day upon which it is due and payable.
- 4) The "date of payment" means the date of the negotiable instrument of an amount due and payable by the NCC.
- 5) The "Bank Rate" means the rate of interest established by the Bank of Canada as the minimum rate at which it makes short term advances to members of the Canadian Payments Association.
- 6) The "Average Bank Rate" means the simple arithmetic mean of the Bank Rate in effect at 4:00 p.m. Ottawa Time each day during the calendar month which immediately precedes the calendar month in which payment is made.

GC5.2 AMOUNT PAYABLE

- 1) Subject to any other provisions of the Contract, the NCC shall pay the Contractor, at the times and in the manner hereinafter set out, the amount by which the amounts payable by the NCC to the Contractor in accordance with the Contract exceed the amounts payable by the Contractor to the NCC, and the Contractor shall accept that amount as payment in full satisfaction for everything furnished and done by the Contractor in respect of the Work to which the payment relates.
- 2) When making any payment to the Contractor, the failure of the NCC to deduct an amount payable to the NCC by the Contractor shall not constitute a waiver of the right to do so, or an admission of lack of entitlement to do so in any subsequent payment to the Contractor.
- 3) No payment other than a payment that is expressly stipulated in the Contract, shall be made by the NCC to the Contractor for any extra expense or any loss or damage incurred or sustained by the Contractor.

GC5.3 INCREASED OR DECREASED COSTS

- 1) The Contract Amount shall not be increased nor decreased by reason of any increase or decrease in the cost of the Work that is brought about by an increase or decrease in the cost of labour, Plant, Material or any wage adjustment arising pursuant to the Labour Conditions.
- 2) Notwithstanding paragraph 1) of GC5.3, if any change, including a new imposition or repeal, of any tax, customs or other duty, charge, or any similar imposition that is imposed under sales, customs or excise tax legislation of the Government of Canada or any Provincial or Territorial legislation, affects the cost of the Work to the Contractor, and occurs:
 - (a) after the date of submission by the Contractor of its tender; or
 - (b) after the date of submission of the last revision, if the Contractor's tender was revised,
 the Contract Amount shall be adjusted in the manner provided in paragraph 3) of GC5.3.
- 3) If a change referred to in paragraph 2) of GC5.3 occurs, the Contract Amount shall be increased or decreased by an amount established by an examination by the NCC of the relevant records of the Contractor referred to in GC2.8 ACCOUNTS AND AUDITS to be the increase or decrease in the cost incurred by the Contractor that is directly attributable to that change.
- 4) For the purpose of paragraph 2) of GC5.3, if a tax is changed after the tender closing, but public notice of the change has been given by the Minister of Finance or the corresponding Provincial or Territorial authority before that closing, the change shall be deemed to have occurred before the solicitation closing.
- 5) Notwithstanding paragraphs 2) to 4) of GC5.3, no adjustment to the Contract Amount in respect of the Work or a part thereof shall be made for a change in any imposition referred to in this section that occurs after the date required by the Contract for completion of the Work or that part of the Work.

GC5.4 PROGRESS PAYMENT

- 1) On the expiration of a payment period, the Contractor shall deliver to the NCC:
 - (a) a written progress claim in a form acceptable to the NCC that fully describes any part of the Work that has been completed, and any Material that was delivered to the Work site but not incorporated into the Work, during that payment period: and
 - (b) a completed and signed statutory declaration containing a declaration that, up to the date of the progress claim, the Contractor has complied with all lawful obligations with respect to the Labour Conditions and that, in respect of the Work, all lawful obligations of the Contractor to its Subcontractors and Suppliers, referred to collectively in the declaration as "subcontractors and suppliers", have been fully discharged.
- 2) Within 10 days of receipt of a progress claim and statutory declaration from the Contractor, the NCC shall inspect, or cause to have inspected, the part of the Work and the Material described in the progress claim, and shall issue a progress report to the Contractor, that indicates the value of the part of the Work and the Material described in the progress claim that, in the opinion of the NCC:
 - (a) is in accordance with the Contract; and
 - (b) was not included in any other progress report relating to the Contract.

- 3) Subject to GC5.2 AMOUNT PAYABLE, and paragraph 5) of GC5.4, the NCC shall pay the Contractor an amount that is equal to:
 - (a) 95% of the value that is indicated in the NCC's progress report if a labour and material payment bond has been furnished by the Contractor; or
 - (b) 90% of the value that is indicated in the NCC's progress report if a labour and material payment bond has not been furnished by the Contractor.
- 4) Subject to GC5.2, "Amount Payable", and paragraph 5) of GC5.4, the NCC shall pay the Contractor an amount that is equal to 90% of the value that is indicated in the NCC's progress report
- 5) In the case of the Contractor's first progress claim, it is a condition precedent to the NCC's obligation under paragraph 3) of GC5.4 that the Contractor has provided all necessary documentation required by the Contract for the first progress claim and has provided evidence of compliance with workers' compensation legislation applicable to the place of the Work in accordance with GC1.9 WORKERS' COMPENSATION.

GC5.5 SUBSTANTIAL PERFORMANCE OF THE WORK

- 1) If, at any time before the issuance of a Certificate of Completion, the NCC determines that the Work has reached Substantial Performance as described in subparagraph 1) (b) of GC1.1.4 SUBSTANTIAL PERFORMANCE, the NCC shall issue a Certificate of Substantial Performance to the Contractor. The Certificate of Substantial Performance shall state or describe:
 - (a) the date of Substantial Performance;
 - (b) the parts of the Work not completed to the satisfaction of the NCC; and
 - (c) all things that must be done by the Contractor before a Certificate of Completion is issued and before the 12-month warranty period referred to in GC3.13 WARRANTY AND RECTIFICATION OF DEFECTS IN WORK commences for the said parts and all the said things.
- 2) The issuance of a Certificate of Substantial Performance does not relieve the Contractor from the Contractor's obligations under GC3.11 DEFECTIVE WORK.
- 3) Subject to GC5.2 AMOUNT PAYABLE and paragraph 4) of GC5.5, the NCC shall pay the Contractor the amount referred to in paragraph 1) of GC5.2 AMOUNT PAYABLE, less the aggregate of:
 - (a) the sum of all payments that were made pursuant to GC5.4 PROGRESS PAYMENT;
 - (b) an amount that is equal to the NCC's estimate of the cost to the NCC of rectifying defects described in the Certificate of Substantial Performance; and
 - (c) an amount that is equal to the NCC's estimate of the cost to the NCC of completing the parts of the Work described in the Certificate of Substantial Performance other than defects listed therein.
- 4) The NCC shall pay the amount referred to in paragraph 3) of GC5.5 not later than:
 - (a) 30 days after the date of issue of a Certificate of Substantial Performance, or
 - (b) 15 days after the Contractor has delivered to the NCC:

- (i) a statutory declaration containing a declaration by the Contractor that up to the date of the Certificate of Substantial Performance, the Contractor has complied with all lawful obligations with respect to the Labour Conditions, discharged all its lawful obligations to its Subcontractors and Suppliers in respect of the work under the Contract, and discharged its lawful obligations referred to in GC1.8 LAWS, PERMITS AND TAXES;
- (ii) evidence of compliance with workers' compensation legislation in accordance with GC1.9 WORKERS' COMPENSATION; and
- (iii) an update of the progress schedule in accordance with the requirements of GC3.1 PROGRESS SCHEDULE;

whichever is later.

GC5.6 FINAL COMPLETION

- 1) When the NCC is of the opinion that the Contractor has complied with the Contract and all orders and directions made pursuant thereto, and that the Work has been completed as described in GC1.1.5 COMPLETION, the NCC shall issue a Certificate of Completion to the Contractor and, if the Work or a portion of the Work is subject to a Unit Price Arrangement, the NCC shall issue a Certificate of Measurement that shall, subject to GC8, be binding upon and conclusive between the NCC and the Contractor as to the quantities referred to therein.
- 2) Subject to GC5.2 AMOUNT PAYABLE and paragraph 3) of GC5.6, the NCC shall pay the Contractor the amount referred to in GC5.2 AMOUNT PAYABLE, less the aggregate of the sum of all payments that were made pursuant to GC5.4 PROGRESS PAYMENT and GC5.5 SUBSTANTIAL PERFORMANCE OF WORK.
- 3) The NCC shall pay the amount referred to in paragraph 2) of GC5.6 not later than:
 - (a) 60 days after the date of issue of a Certificate of Completion; or
 - (b) 15 days after the Contractor has delivered to the NCC:
 - (i) a statutory declaration which contains a declaration by the Contractor that all of the Contractor's lawful obligations and any lawful claims against the Contractor that arose out of the performance of the Contract have been discharged and satisfied; and
 - (ii) evidence of compliance with workers' compensation legislation in accordance with GC1.9 WORKERS' COMPENSATION;

whichever is later.

GC5.7 PAYMENT NOT BINDING ON NCC

- 1) Neither acceptance of a progress claim or progress report, nor any payment made by the NCC under the Contract, nor partial or entire use or occupancy of the Work by the NCC shall constitute an acceptance by the NCC of any portion of the Work or Material that is not in accordance with the requirements of the Contract.

GC5.8 CLAIMS AND OBLIGATIONS

- 1) The Contractor shall discharge all the Contractor's lawful obligations and shall satisfy all lawful claims against the Contractor arising out of the performance of the Work at least as often as the Contract requires the NCC to pay the Contractor.

- 2) Whenever requested to do so by the NCC, the Contractor shall make a statutory declaration declaring to the existence and condition of any obligations and claims against the Contractor arising out of the performance of the Work.
- 3) In order to discharge lawful obligations of and satisfy lawful claims against the Contractor or its Subcontractors arising out of the performance of the Contract, the NCC may pay an amount that is due and payable to the Contractor directly to the claimant. Such payment is, to the extent of the payment, a discharge of the NCC's liability to the Contractor under the Contract and may be deducted from any amount payable to the Contractor under the Contract.
- 4) For the purposes of paragraph 3) of GC5.8, and subject to paragraph 6) of GC5.8, a claim or obligation shall be considered lawful when it is so determined by:
 - (a) a court of legal jurisdiction;
 - (b) an arbitrator duly appointed to arbitrate the claim; or
 - (c) the written consent of the Contractor authorizing payment of the claim or obligation.
- 5) If a claim or obligation would have been subject to the provisions of Provincial or Territorial lien legislation or, in the Province of Quebec, the law relating to legal hypothecs had the Contractor been performing the Work for an entity other than the NCC:
 - (a) such amount as may be paid by the NCC pursuant to paragraphs 3) and 4) of GC5.8 shall not exceed the amount that the Contractor would have been obliged to pay had the provisions of such legislation or law been applicable to the Work;
 - (b) a claimant need not comply with the provisions of such legislation, setting out the steps by way of notice, registration or otherwise as might have been necessary to preserve or perfect any claim for lien or privilege which the claimant might have had; and
 - (c) for the purposes of determining the entitlement of a claimant, the notice required by paragraph 8) of GC5.8 shall be deemed to replace the registration or provision of notice after the performance of work as required by any applicable legislation and no claim shall be deemed to have expired, become void or unenforceable by reason of the claimant not commencing any action within the time prescribed by such legislation.
- 6) The Contractor shall, at the request of any claimant, submit to binding arbitration those questions that need to be answered to establish the entitlement of the claimant to payment. The arbitration shall have as parties to it any Subcontractor or Supplier to whom the claimant supplied Material, performed work or rented equipment should such Subcontractor or Supplier wish to be adjoined, and the NCC shall not be a party to such arbitration. Subject to any agreement between the Contractor and the claimant, the arbitration shall be conducted in accordance with the governing Provincial or Territorial legislation applicable to the site of the Work.
- 7) Paragraph 3) of GC5.8 shall apply only to claims and obligations:
 - (a) the notification of which has set forth the amount claimed to be owing and the person who by contract is primarily liable and has been received by the NCC in writing before final payment is made to the Contractor pursuant to GC5.6 FINAL COMPLETION, and within 120 days of the date on which the claimant:

- (i) should have been paid in full under the claimant's contract with the Contractor, its Subcontractor or Supplier if the claim is for money that was lawfully required to be held back from the claimant; or
 - (ii) performed the last of the services, work or labour, or furnished the last of the Material pursuant to the claimant's contract with the Contractor or its Subcontractor or Supplier where the claim is for money not lawfully required to be held back from the claimant; and
- (b) the proceedings to determine the right to payment of which, pursuant to paragraph 5) of GC5.8, shall have commenced within one year from the date that the notification required by subparagraph 7)(a) of GC5.8 was received by the NCC.
- 8) Upon receipt of a notice of claim, the NCC may withhold, from any amount that is due and payable to the Contractor pursuant to the Contract, the full amount of the claim or any portion thereof.
- 9) The NCC shall notify the Contractor in writing in a timely manner of receipt of any claim and of the intention of the NCC to withhold funds. At any time thereafter and until payment is made to the claimant, the Contractor may be entitled to post, with the NCC, security in a form acceptable to the NCC in an amount equal to the value of the claim, and upon receipt of such security the NCC shall release to the Contractor any funds that would be otherwise payable to the Contractor, that were withheld pursuant to the provisions of this clause in respect of the claim of any claimant for whom the security stands.

GC5.9 RIGHT OF SETOFF

- 1) Without limiting any right of setoff or deduction given or implied by law or elsewhere in the Contract, the NCC may set off any amount payable to the NCC by the Contractor under the Contract, or under any current contract, against any amount payable to the Contractor under the Contract.
- 2) For the purposes of paragraph 1) of GC5.9, "current contract" means a contract between the NCC and the Contractor:
- (a) under which the Contractor has an undischarged obligation to perform or supply work, labour or material; or
 - (b) in respect of which the NCC has, since the date of the Contract, exercised any right to take the work that is the subject of that contract out of the Contractor's hands.

GC5.10 ASSESSMENTS AND DAMAGES FOR LATE COMPLETION

- 1) For the purposes of this clause:
- (a) the Work shall be deemed to be completed on the date of the Certificate of Completion; and
 - (b) the "period of delay" means the number of days commencing on the day fixed for completion of the Work and ending on the day immediately preceding the day on which the Work is completed but does not include any day within a period of extension granted pursuant to GC6.5 DELAYS AND EXTENSION OF TIME and any other day on which, in the opinion of the NCC, completion of the Work was delayed for reasons beyond the control of the Contractor.
- 2) If the Contractor does not complete the Work by the day fixed for its completion but completes it thereafter, the Contractor shall pay the NCC an amount equal to the aggregate of:
- (a) all salaries, wages and travelling expenses incurred by the NCC in respect of persons overseeing the performance of the Work during the period of delay;

- (b) the cost incurred by the NCC as a result of the inability to use the completed Work for the period of delay; and
 - (c) all other expenses and damages incurred or sustained by the NCC during the period of delay as a result of the Work not being completed by the day fixed for its completion.
- 3) The NCC may waive the right of the NCC to the whole or any part of the amount payable by the Contractor pursuant to paragraph 2) of GC5.10 if, in the opinion of the NCC, it is in the public interest to do so.

GC5.11 DELAY IN MAKING PAYMENT

- 1) Notwithstanding GC1.5 TIME OF THE ESSENCE, any delay by the NCC in making any payment when it is due pursuant to GC5 TERMS OF PAYMENT, shall not be a breach of the Contract by the NCC.
- 2) Subject to paragraph 3) of GC5.11, the NCC shall pay to the Contractor simple interest at the Average Bank Rate plus 3 percent per annum on any amount that is overdue pursuant to paragraph 3) of GC5.1 INTERPRETATION, and the interest shall apply from and include the day such amount became overdue until the day prior to the date of payment.
- 3) Interest shall be paid, on demand by the Contractor, except that:
- (a) in respect of amounts that are less than 15 days overdue, no interest shall be paid in respect of payment made within such 15 days; and
 - (b) interest shall not be payable or paid on overdue advance payments, if any.

GC5.12 INTEREST ON SETTLED CLAIMS

- 1) For the purposes of this clause, a claim means a disputed amount subject to negotiation between the NCC and the Contractor under the Contract.
- 2) A claim is deemed to have been settled when an agreement in writing is signed by the NCC and the Contractor setting out the amount of the claim to be paid by the NCC and the items of work for which the said amount is to be paid.
- 3) A settled claim is deemed to be outstanding from the day immediately following the date the said claim would have been due and payable under the Contract had it not been disputed.
- 4) The NCC shall pay to the Contractor simple interest on the amount of a settled claim at the Average Bank Rate plus 3 per cent per annum from the date the settled claim was deemed to be outstanding until the day prior to the date of payment.

GC5.13 RETURN OF SECURITY DEPOSIT

- 1) After a Certificate of Substantial Performance has been issued, and if the Contractor is not in breach of nor in default under the Contract, the NCC shall return to the Contractor all or any part of a Security Deposit that, in the opinion of the NCC, is not required for the purposes of the Contract.
- 2) After a Certificate of Completion has been issued, the NCC shall return to the Contractor the remainder of any security deposit unless the Contract stipulates otherwise.
- 3) If the security deposit was paid to the NCC, the NCC shall pay interest thereon to the Contractor at a rate established pursuant to section 21(2) of the Financial Administration Act.

- GC6.1 CHANGES IN THE WORK
- GC6.2 CHANGES IN SUBSURFACE CONDITIONS
- GC6.3 HUMAN REMAINS, ARCHAEOLOGICAL REMAINS AND ITEMS OF HISTORICAL OR SCIENTIFIC INTEREST
- GC6.4 DETERMINATION OF PRICE
 - GC6.4.1 Price Determination Prior to Undertaking Changes
 - GC6.4.2 Price Determination Following Completion of Changes
 - GC6.4.3 Price Determination - Variations in Tendered Quantities
- GC6.5 DELAYS AND EXTENSION OF TIME
- GC6.6 ALLOWABLE COSTS FOR CONTRACT CHANGES UNDER GC6.4.1
 - GC6.6.1 General
 - GC6.6.2 Hourly Labour Rates
 - GC6.6.3 Material, Plant and Equipment Costs
 - GC6.6.4 Allowance to the Contractor or Subcontractor

GC6.1 CHANGES IN THE WORK

- 1) At any time before issuance of a Certificate of Completion, Canada may issue orders for additions, deletions or other changes to the Work, or changes in the location or position of the whole or any part of the Work, if the addition, deletion, change or other revision is deemed by Canada to be consistent with the general intent of the Contract.
- 2) An order referred to in paragraph 1) of GC6.1 shall be in writing and given to the Contractor in accordance with GC2.3 NOTICES.
- 3) Upon receipt of an order, the Contractor shall promptly perform the work in accordance with the order as if the order had appeared in and been part of the original Contract.
- 4) If anything done or omitted by the Contractor pursuant to an order increases or decreases the cost of the Work to the Contractor, payment for the work shall be made in accordance with GC6.4 DETERMINATION OF PRICE.

GC6.2 CHANGES IN SUBSURFACE CONDITIONS

- 1) If, during the performance of the Work, the Contractor encounters subsurface conditions that are substantially different from the subsurface conditions described in the tender documents supplied to the Contractor, or a reasonable assumption of fact based thereon, the Contractor shall give notice to Canada immediately upon becoming aware of the situation.
- 2) If the Contractor is of the opinion that the Contractor may incur or sustain any extra expense or any loss or damage that is directly attributable to the changed subsurface conditions, the Contractor shall within 10 days of the date the changed subsurface conditions were encountered, give Canada written notice of intention to claim for that extra expense, loss or damage.
- 3) If the Contractor has given a notice referred to in paragraph 2) of GC6.2, the Contractor shall give Canada a written claim for extra expense, loss or damage no later than 30 days after the date that a Certificate of Substantial Performance is issued.
- 4) A written claim referred to in paragraph 3) of GC6.2 shall contain a sufficient description of the facts and circumstances of the occurrence that is the subject of the claim to enable Canada to determine whether or not the claim is justified, and the Contractor shall supply such further and other information for that purpose as Canada requires.

- 5) If Canada determines that a claim referred to in paragraph 3) of GC6.2 is justified, Canada shall make an extra payment to the Contractor in an amount that is calculated in accordance with GC6.4 DETERMINATION OF PRICE.
- 6) If, in the opinion of Canada, the Contractor effects a saving of expenditure that is directly attributable to a substantial difference between the information relating to subsurface conditions at the site of the Work that is contained in the tender documents, or a reasonable assumption of fact based thereon, and the actual subsurface conditions encountered by the Contractor, the Contract Amount shall be reduced by the amount of the saving of expenditure determined in accordance with GC6.4 DETERMINATION OF PRICE.
- 7) If the Contractor fails to give a notice referred to in paragraph 2) of GC6.2 and a claim referred to in paragraph 3) of GC6.2 within the times stipulated, an extra payment shall not be made to the Contractor in respect of the occurrence.
- 8) Canada does not warrant the content expressed in any subsurface report available for the perusal of the Contractor that does not form part of the tender and contract documents.

GC6.3 HUMAN REMAINS, ARCHAEOLOGICAL REMAINS AND ITEMS OF HISTORICAL OR SCIENTIFIC INTEREST

- 1) For the purposes of this clause
 - (a) "human remains" means the whole or any part of a deceased human being, irrespective of the time of death;
 - (b) "archaeological remains" are items, artefacts or things made, modified or used by human beings in antiquity and may include, but not be limited to, stone, wood or iron structures or monuments, dump deposits, bone artefacts, weapons, tools, coins, and pottery; and
 - (c) "items of historical or scientific interest" are naturally occurring or manufactured objects or things of any age that are not archaeological remains but may be of interest to society because of their historical or scientific significance, value, rarity, natural beauty, or other quality.
- 2) If, during the course of the Work, the Contractor encounters any object, item or thing which is described in paragraph 1) of GC6.3 or which resembles any object, item or thing described in paragraph 1) of GC6.3, the Contractor shall
 - (a) take all reasonable steps, including stopping work in the affected area, to protect and preserve the object, item or thing;
 - (b) immediately notify Canada of the circumstances in writing; and
 - (c) take all reasonable steps to minimize additional costs that may accrue as a result of any work stoppage.
- 3) Upon receipt of a notification in accordance with subparagraph 2)(b) of GC6.3, Canada shall promptly determine whether the object, item or thing is one described in, or contemplated by paragraph 1) of GC6.3, and shall notify the Contractor in writing of any action to be performed, or work to be carried out, by the Contractor as a result of Canada's determination.
- 4) Canada may, at any time, enlist the services of experts to assist in the investigation, examination, taking of measurements or other such recordings, placing of permanent protection around or removing of the object, item or thing encountered by the Contractor, and the Contractor shall, to the satisfaction

of Canada, allow them access and co-operate with them in the carrying out of their duties and obligations.

- 5) Human remains, archaeological remains and items of historical or scientific interest encountered at the site of the Work shall be deemed to be the property of Canada.
- 6) Except as may be otherwise provided for in the Contract, the provisions of GC6.4 DETERMINATION OF PRICE and GC6.5 DELAYS AND EXTENSION OF TIME shall apply.

GC6.4 DETERMINATION OF PRICE

GC6.4.1 Price Determination Prior to Undertaking Changes

- 1) If a Lump Sum Arrangement applies to the Contract or a part thereof, the price of any change shall be the aggregate estimated cost of labour, Plant and Material that is required for the change as agreed upon in writing by the Contractor and Canada plus an allowance for supervision, co-ordination, administration, overhead, margin and the risk of undertaking the work within the stipulated amount, which allowance shall be equal to
 - (a) 20% of the aggregate costs referred to herein for that portion of the Work done by the Contractor's own forces, if the aggregate cost of the Work does not exceed \$50,000;
 - (b) 15% of the aggregate costs referred to herein for that portion of the Work that is done by subcontract, if the aggregate cost of the Work does not exceed \$50,000; or
 - (c) a negotiated percentage of the aggregate costs referred to herein or a negotiated amount
 - (i) if the aggregate cost of the Work exceeds \$50,000; or
 - (ii) if the Contractor and Canada agree in writing.
- 2) If a Unit Price Arrangement applies to the Contract or a part thereof, the Contractor and Canada may, by agreement in writing, add items, units of measurement, estimated quantities and prices per unit to the Unit Price Table.
- 3) A price per unit referred to in paragraph 2) of GC6.4.1 shall be determined on the basis of the aggregate estimated cost of labour, Plant and Material that is required for the additional item as agreed upon by the Contractor and Canada, plus an allowance determined in accordance with paragraph 1) of GC6.4.1.
- 4) To facilitate approval of the price of the change or the additional price per unit as applicable, the Contractor shall submit a cost estimate breakdown identifying, as a minimum, the estimated cost of labour, Plant, Material, each subcontract amount, and the amount of the allowance.
- 5) If no agreement is reached as contemplated in paragraph 1) of GC6.4.1, the price shall be determined in accordance with GC6.4.2.
- 6) If no agreement is reached, as contemplated in paragraphs 2) and 3) of GC6.4.1, Canada shall determine the class and the unit of measurement of the item of labour, Plant or Material and the price per unit shall be determined in accordance with GC6.4.2.

GC6.4.2 Price Determination Following Completion of Changes

- 1) If it is not possible to predetermine, or if there is failure to agree upon the price of a change in the Work, the price of the change shall be equal to the aggregate of

- (a) all reasonable and proper amounts actually expended or legally payable by the Contractor in respect of the labour, Plant and Material that fall within one of the classes of expenditure described in paragraph 2) of GC6.4.2, that are directly attributable to the performance of the Contract;
 - (b) an allowance for profit and all other expenditures or costs, including overhead, general administration costs, financing and interest charges, in an amount that is equal to 10% of the sum of the expenses referred to in subparagraph 1)(a) of GC6.4.2; and
 - (c) interest on the amounts determined under subparagraphs 1)(a) and 1)(b) of GC6.4.2 calculated in accordance with GC5.12 INTEREST ON SETTLED CLAIMS;
- 2) The cost of labour, Plant and Material referred to in subparagraph 1)(a) of GC6.4.2 shall be limited to the following categories of expenditure:
- (a) payments to Subcontractors and Suppliers;
 - (b) wages, salaries, bonuses and, if applicable, travel and lodging expenses of employees of the Contractor located at the site of the Work and that portion of wages, salaries, bonuses and, if applicable, travel and lodging expenses of personnel of the Contractor generally employed at the head office or at a general office of the Contractor provided they are actually and properly engaged on the Work under the Contract;
 - (c) assessments payable under any statutory authority relating to workers' compensation, employment insurance, pension plan or holidays with pay, provincial health or insurance plans, environmental reviews, and GST / HST collection costs;
 - (d) rent that is paid for Plant, or an amount equivalent to the said rent if the Plant is owned by the Contractor, that is necessary for and used in the performance of the Work, if the rent or the equivalent amount is reasonable and use of that Plant has been approved by Canada;
 - (e) payments for maintaining and operating Plant necessary for and used in the performance of the Work, and payments for effecting repairs thereto that, in the opinion of Canada, are necessary for the proper performance of the Contract, other than payments for any repairs to the Plant arising out of defects existing before its allocation to the Work;
 - (f) payments for Material that is necessary for and incorporated in the Work, or that is necessary for and consumed in the performance of the Contract;
 - (g) payments for preparation, delivery, handling, erection, installation, inspection, protection and removal of the Plant and Material necessary for and used in the performance of the Contract; and
 - (h) any other payments made by the Contractor with the approval Canada that are necessary for the performance of the Contract in accordance with the Contract Documents.

GC6.4.3 Price Determination - Variations in Tendered Quantities

- 1) Except as provided in paragraphs 2), 3), 4) and 5) of GC6.4.3, if it appears that the final quantity of labour, Plant and Material under a price per unit item shall exceed or be less than the estimated tendered quantity, the Contractor shall perform the Work or supply the Plant and Material required to complete the item and payment shall be made for the actual Work performed or Plant and Material supplied at the price per unit set out in the Contract.
- 2) If the final quantity of the price per unit item exceeds the estimated tendered quantity by more than 15%, either party to the Contract may make a written request to the other party to negotiate an

amended price per unit for that portion of the item which exceeds 115% of the estimated tendered quantity, and to facilitate approval of any amended price per unit, the Contractor shall, on request, provide Canada with

- (a) detailed records of the actual cost to the Contractor of performing or supplying the tendered quantity for the price per unit item up to the time the negotiation was requested; and
 - (b) the estimated unit cost of labour, Plant and Material required for the portion of the item that is in excess of 115% of the tendered quantity.
- 3) If agreement is not reached as contemplated in paragraph 2) of GC6.4.3, the price per unit shall be determined in accordance with GC6.4.2.
- 4) If it appears that the final quantity of labour, Plant and Material under a price per unit item shall be less than 85% of the estimated tendered quantity, either party to the Contract may make a written request to the other party to negotiate a change to the price per unit for the item if
- (a) there is a demonstrable difference between the unit cost to the Contractor of performing or supplying the estimated tendered quantity and the unit cost to the Contractor for performing or supplying the final quantity; and
 - (b) the difference in unit cost is due solely to the decrease in quantity and not to any other cause.
- 5) For the purposes of the negotiation referred to in paragraph 4) of GC6.4.3
- (a) the onus of establishing, justifying and quantifying a proposed change lies with the party making the request for negotiation; and
 - (b) in no event shall the total price for an item that has been amended as a result of a reduction in quantity pursuant to paragraph 4) of GC6.4.3 exceed the amount that would have been payable to the Contractor had 85% of the tendered quantity actually been performed or supplied.

GC6.5 DELAYS AND EXTENSION OF TIME

- 1) Upon application of the Contractor made before the date first fixed for completion of the Work or before any other date previously fixed under this clause, Canada may extend the time for completion of the Work by fixing a new date if Canada determines that causes beyond the control of the Contractor have delayed its completion.
- 2) The Contractor's application shall be accompanied by the written consent of the bonding company whose bond forms part of the Contract Security.
- 3) Subject to paragraph 4) of GC6.5, no payment, other than a payment that is expressly stipulated in the Contract, shall be made by Canada to the Contractor for any extra expense, loss or damage incurred or sustained by the Contractor due to delay, whether or not the delay is caused by circumstances beyond the control of the Contractor.
- 4) If the Contractor incurs or sustains any extra expense or any loss or damage that is directly attributable to any neglect or delay that occurs after the date of the Contract on the part of Canada in providing any information or in doing any act that the Contract either expressly requires Canada to do or that would ordinarily be done by an owner in accordance with the practice of the trade, the Contractor shall give Canada written notice of intention to claim for that extra expense or loss or damage within ten working days of the date the neglect or delay first occurred.

- 5) When the Contractor has given a notice referred to in paragraph 4) of GC6.5, the Contractor shall give Canada a written claim for the extra expense, loss or damage no later than 30 days after the date that a Certificate of Completion is issued and not afterwards.
- 6) A written claim referred to in paragraph 5) of GC6.5 shall contain a sufficient description of the facts and circumstances of the occurrence that is the subject of the claim to enable Canada to determine whether or not the claim is justified and the Contractor shall supply such further and other information for that purpose as Canada may require.
- 7) If Canada determines that a claim referred to in paragraph 5) of GC6.5 is justified, Canada shall make an extra payment to the Contractor in an amount that is calculated in accordance with GC6.4 DETERMINATION OF PRICE.
- 8) If the Contractor fails to give a notice referred to in paragraph 4) and a claim referred to in paragraph 5) of GC6.5 within the times stipulated, an extra payment shall not be made to the Contractor in respect of the occurrence.

GC6.6 ALLOWABLE COSTS FOR CONTRACT CHANGES UNDER GC6.4.1

GC6.6.1 General

- 1) The Contractor shall submit a cost estimate breakdown for each contemplated change, in accordance with paragraph 4) of GC6.4.1 PRICE DETERMINATION PRIOR TO UNDERTAKING CHANGES. The breakdown shall itemize all labour, material, plant and equipment costs estimated by the Contractor and subcontractors, and the amount of each allowance.
- 2) It is the responsibility of the Contractor to ensure that all prices included in the Contractor's breakdown to the NCC, including those of subcontractors, are fair and reasonable in view of the terms expressed herein.
- 3) The labour hours required for the contemplated change shall be based on the estimated number of hours to perform the work.
- 4) Time spent by a working foreman may be included in the number of labour hours, at a rate agreed to in writing by the Contractor and the NCC.
- 5) Time attributable to material handling, productivity factors and approved rest periods is to be included in the number of hours required by the contemplated change and will not be paid as a separate item under hourly rates.
- 6) Allowances referred to in section 04 below are not to be included in the hourly labour rates.
- 7) Credit for work deleted will only be for the work directly associated with the change.
- 8) When a change deletes work which has not yet been performed, the NCC is entitled to an adjustment in the Contract Amount equal to the cost the Contractor would have incurred had the work not been deleted.
- 9) Allowances referred to in Section 04 below shall not be applied to any credit amounts for deleted work.
- 10) In those cases where the change involves additions and deletions to the work, the allowances referred to in section 04 below shall apply only when the cost of the additions minus the cost of the deletions would result in an increase in the Contract Amount. The percentage allowance shall only be applied to that portion of the costs of the additions that is in excess of the cost of the deletions.

- 11) If the contemplated change in the work necessitates a change in the contract completion date, or has an impact on the work, the Contractor shall identify and include the resulting cost in the breakdown.

GC6.6.2 Hourly Labour Rates

- 1) The hourly labour rates listed in the Contractor's breakdown shall be determined in accordance with the collective agreements that are applicable at the site of the work and shall include:
- (a) the base rate of pay;
 - (b) vacation pay;
 - (c) benefits which includes:
 - (i) welfare contributions;
 - (ii) pension contributions;
 - (iii) union dues;
 - (iv) training and industry funds contributions; and
 - (v) other applicable benefits, if any, that can be substantiated by the Contractor.
 - (d) statutory and legislated requirements, assessed and payable under statutory authority, which includes:
 - (i) Employment Insurance contributions;
 - (ii) Canada Pension Plan or Québec Pension Plan contributions;
 - (ii) Worker's Compensation Board or Commission de la santé et de la sécurité du travail premiums;
 - (iv) Public Liability and Property Damage insurance premiums; and
 - (v) health tax premiums.
- 2) In the case of nonunion labour, all rates claimed shall be in accordance with the terms of the Labour Conditions forming part of this contract and the Contractor must provide satisfactory proof of the rates actually paid.

GC6.6.3 Material, Plant and Equipment Costs

- 1) The costs of all purchases and rentals must be based on the actual amount paid to the suppliers by the Contractor or subcontractor and said costs are to include all applicable discounts.

GC6.6.4 Allowance to the Contractor or Subcontractor

- 1) The allowances determined in accordance with paragraph 1) of GC6.4.1 PRICE DETERMINATION PRIOR TO UNDERTAKING CHANGES shall be considered as full compensation for:
- (a) supervision, co-ordination, administration, overhead, margin and the risk of undertaking the work within the stipulated amount; and

- (b) miscellaneous additional costs related to:
 - (i) the purchase or rental of material, plant and equipment;
 - (ii) the purchase of small tools and supplies;
 - (iii) safety and protection measures; and
 - (iv) permits, bonds, insurance, engineering, as built drawings, commissioning and site office.

- GC7.1 TAKING THE WORK OUT OF THE CONTRACTOR'S HANDS
- GC7.2 SUSPENSION OF WORK
- GC7.3 TERMINATION OF CONTRACT
- GC7.4 SECURITY DEPOSIT - FORFEITURE OR RETURN

GC7.1 TAKING THE WORK OUT OF THE CONTRACTOR'S HANDS

- 1) By giving notice in writing to the Contractor in accordance with GC2.3 NOTICES, the NCC, without any other authorization, may take all or any part of the Work out of the Contractor's hands, and may employ such means as the NCC sees fit to have the Work completed if the Contractor:
 - (a) fails to remedy any delay in the commencement or default in the diligent performance of the Work to the satisfaction of the NCC within six days of the NCC giving notice to the Contractor in writing in accordance with GC2.3 NOTICES;
 - (b) defaults in the completion of any part of the Work within the time fixed for its completion by the Contract;
 - (c) becomes insolvent, or has committed an act of bankruptcy, and has neither made a proposal to its creditors nor filed a notice of intention to make such a proposal, pursuant to the Bankruptcy and Insolvency Act;
 - (d) abandons the work;
 - (e) makes an assignment of the Contract without the consent required by GC1.16 ASSIGNMENT;
or
 - (f) otherwise fails to observe or perform any of the provisions of the Contract.
- 2) If the whole or any part of the Work is taken out of the Contractor's hands, the Contractor's right to any further payment that is due or accruing due under the Contract is, subject only to paragraph 3) of GC7.1, extinguished, and the Contractor is liable to pay the NCC, upon demand, an amount that is equal to the amount of all loss and damage incurred or sustained by the NCC in respect of the Contractor's failure to complete the Work.
- 3) If the whole or any part of the Work that is taken out of the Contractor's hands is completed by the NCC, the NCC may pay the Contractor the amount, if any, of the holdback or a progress claim as determined by the NCC that had accrued and was due prior to the date on which the Work was taken out of the Contractor's hands and that is not required for the purposes of having the Work performed or of compensating the NCC for any other loss or damage incurred or sustained by reason of the Contractor's default.
- 4) The taking of the Work or any part thereof out of the Contractor's hands does not relieve the Contractor from any obligation under the Contract or imposed by law except the obligation to complete the performance of that part of the Work that was taken out of the Contractor's hands.
- 5) If the Work or any part thereof is taken out of the Contractor's hands, all Plant and Material and the interest of the Contractor, or its suppliers or subcontractors at any tier, in all real property, licences, powers and privileges acquired, used or provided by the Contractor, or its suppliers or subcontractors at any tier, under the Contract shall continue to be the property of the NCC without compensation.
- 6) When the NCC certifies that any Plant, Material, or any interest of the Contractor is no longer required for the purposes of the Work, or that it is not in the interests of the NCC to retain that Plant, Material, or interest, it shall revert to the Contractor.

- 7) If the Contractor has become insolvent or has committed an act of bankruptcy, and has either made a proposal to its creditors or filed a notice of intention to make such a proposal, pursuant to the Bankruptcy and Insolvency Act, the Contractor shall immediately forward a copy of the proposal or the notice of intention to the NCC.

GC7.2 SUSPENSION OF WORK

- 1) When, in the NCC's opinion, it is in the public interest to do so, the NCC may require the Contractor to suspend performance of the Work either for a specified or an unspecified period, by giving a notice of suspension in writing to the Contractor in accordance with GC2.3 NOTICES.
- 2) When a notice of suspension is received by the Contractor, the Contractor shall suspend all operations in respect of the Work except those that the NCC determines are necessary for the care and preservation of the Work, Plant and Material.
- 3) During a period of suspension, the Contractor shall not remove any part of the Work, Plant or Material from its site without the consent of the NCC.
- 4) If a period of suspension is 60 days or less, the Contractor shall resume the performance of the Work on the expiration of that period, and the Contractor is entitled to be paid the extra costs necessarily incurred by the Contractor as a result of the suspension, determined in accordance with GC6.4 DETERMINATION OF PRICE.
- 5) If a period of suspension is more than 60 days, the NCC and the Contractor may agree that the performance of the Work shall be continued by the Contractor, and the Contractor shall resume performance of the Work subject to any terms and conditions agreed upon by the NCC and the Contractor. If the NCC and the Contractor do not agree that performance of the Work shall be continued by the Contractor, or upon the terms and conditions under which the Contractor shall continue the Work, the notice of suspension shall be deemed to be a notice of termination pursuant to GC7.3 TERMINATION OF CONTRACT.

GC7.3 TERMINATION OF CONTRACT

- 1) The NCC may terminate the Contract at any time by giving a notice of termination in writing to the Contractor in accordance with GC2.3 NOTICES.
- 2) If the Contractor receives a notice of termination, the Contractor shall forthwith cease all operations in performance of the Contract, subject to any conditions stipulated in the notice.
- 3) Subject to paragraph 4) of GC7.3, if the Contract is terminated, the NCC shall pay the Contractor an amount determined to be due to the Contractor pursuant to GC6.4 DETERMINATION OF PRICE less the aggregate of all amounts that were paid to the Contractor by the NCC and all amounts that are due to the NCC from the Contractor pursuant to the Contract.
- 4) In no event shall the total amount payable by the NCC to the Contractor exceed the amount, calculated in accordance with GC5 TERMS OF PAYMENT, that would have been payable to the Contractor had the Contractor completed the Work.
- 5) Payment to the Contractor, if any, shall be made as soon as practicable under the circumstances.

GC7.4 SECURITY DEPOSIT - FORFEITURE OR RETURN

- 1) If the Work is taken out of the Contractor's hands, or the Contractor is in breach of, or in default under, the Contract, the NCC may convert a security deposit to the NCC's own use.

- 2) If the NCC converts a security deposit, the amount realized shall be deemed to be an amount due from the NCC to the Contractor under the Contract.
- 3) Any balance of the amount realized that remains after payment of all losses, damage and claims of the NCC and others shall be paid by the NCC to the Contractor if, in the opinion of the NCC, it is not required for the purposes of the Contract.

- 1) The Contractor may, within 10 days after the communication to the Contractor of any decision or direction referred to in GC6.1 CHANGES IN THE WORK and GC2.2 INTERPRETATION OF CONTRACT, protest that decision or direction.
- 2) A protest referred to in paragraph 1) of GC8 shall be in writing, contain full reasons for the protest, be signed by the Contractor and be given to the NCC.
- 3) If the Contractor gives a protest pursuant to paragraph 2) of GC8, any compliance by the Contractor with the decision or direction that was protested shall not be construed as an admission by the Contractor of the correctness of that decision or direction, or prevent the Contractor from taking whatever action the Contractor considers appropriate in the circumstances.
- 4) The giving of a protest by the Contractor pursuant to paragraph 2) of GC8 shall not relieve the Contractor from complying with the decision or direction that is the subject of the protest.
- 5) Subject to paragraph 6) of GC8, the Contractor shall take any action referred to in paragraph 3) of GC8 within 3 months after the date of the Certificate of Completion referred to in GC5.6 FINAL COMPLETION and not afterwards, except where it is otherwise provided by law.
- 6) The Contractor shall take any action referred to in paragraph 3) of GC8 resulting from a direction under GC3.13 WARRANTY AND RECTIFICATION OF DEFECTS IN WORK, within 3 months after the expiry of a warranty or guarantee period and not afterwards, except where it is otherwise provided by law.
- 7) Subject to paragraph 8) of GC8, if the NCC determines that the Contractor's protest is justified, the NCC shall pay the Contractor the cost of the additional labour, Plant and Material necessarily incurred by the Contractor in carrying out the protested decision or direction.
- 8) Costs referred to in paragraph 7) of GC8 shall be calculated in accordance with GC6.4 DETERMINATION OF PRICE.

- GC9.1 OBLIGATION TO PROVIDE CONTRACT SECURITY
- GC9.2 TYPES AND AMOUNTS OF CONTRACT SECURITY
- GC9.3 IRREVOCABLE STANDBY LETTER OF CREDIT

GC9.1 OBLIGATION TO PROVIDE CONTRACT SECURITY

- 1) The Contractor shall, at the Contractor's expense and within 7 days after the date that the Contractor receives notice that the Contractor's bid was accepted by the NCC, obtain and deliver Contract Security to the NCC in one or more of the forms prescribed in GC9.2 TYPES AND AMOUNTS OF CONTRACT SECURITY.
- 2) If the whole or a part of the Contract Security provided is in the form of a security deposit, it shall be held and disposed of in accordance with GC5.13 RETURN OF SECURITY DEPOSIT and GC7.4 SECURITY DEPOSIT - FORFEITURE OR RETURN.
- 3) If a part of the Contract Security provided is in the form of a labour and material payment bond, the Contractor shall post a copy of that bond at the site of the Work.
- 4) It is a condition precedent to the release of the first progress payment that the Contractor has provided the Contract Security as specified herein.
- 5) In addition to the limitation imposed in paragraph 4) of GC9.1, the Contractor further acknowledges and agrees that it will not be entitled to have access to the site, nor to commence work pursuant to this contract until it has delivered the Contract Security as specified herein.

GC9.2 TYPES AND AMOUNTS OF CONTRACT SECURITY

- 1) The Contractor shall deliver to the NCC (a), (b) or (c):
 - (a) A performance bond and a labour and material payment bond each in an amount that is equal to not less than 50% of the Contract Amount including taxes
 - (b) A labour and material payment bond in an amount that is equal to not less than 50% of the Contract Amount including taxes, and a security deposit in an amount that is equal to not less than 10% of the Contract Amount including taxes.
 - (c) A security deposit in an amount prescribed by subparagraph 1)(b) of GC9.2, plus an additional amount that is equal to 10% of the Contract Amount including taxes.
- 2) The amount of a security deposit referred to in subparagraph 1)(b) of GC9.2 shall not exceed \$2,000,000 regardless of the Contract Amount including taxes.
- 3) A performance bond and a labour and material payment bond referred to in paragraph 1) of GC9.2 shall be in a form and be issued by a bonding or surety company that is approved by the NCC.
 - (a) The approved form for the performance bond is enclosed at the end of GC9.
 - (b) The approved form for the labour and material payment bond is enclosed at the end of GC9
 - (c) The list of approved bonding or surety companies is displayed at the following Website:
<http://www.tbs-sct.gc.ca/pol/doc-eng.aspx?id=12027> .
- 4) A security deposit referred to in subparagraphs 1)(b) and 1)(c) of GC9.2 shall be in the form of:

- (a) a bill of exchange, bank draft or money order made payable to the NCC and certified by an approved financial institution or drawn by an approved financial institution on itself; or
 - (b) bonds of, or unconditionally guaranteed as to principal and interest by, the Government of Canada.
- 5) For the purposes of subparagraph 4)(a) of GC9.2:
- (a) a bill of exchange is an unconditional order in writing signed by the Contractor and addressed to an approved financial institution, requiring the said institution to pay, on demand, at a fixed or determinable future time a certain sum of money to, or to the order of, the NCC;
 - (b) if a bill of exchange, bank draft or money order is certified by or drawn on an institution or corporation other than a chartered bank, it must be accompanied by proof that the said institution or corporation meets at least one of the criteria described in subparagraph 5)(c) of GC9.2, either by letter or by a stamped certification on the bill of exchange, bank draft or money; and
 - (c) An approved financial institution is:
 - (i) a corporation or institution that is a member of the Canadian Payments Association as defined in the Canadian Payments Act;
 - (ii) a corporation that accepts deposits that are insured, to the maximum permitted by law, by the Canada Deposit Insurance Corporation or the Régie de l'assurance-dépôts du Québec;
 - (iii) a corporation that accepts deposits from the public if repayment of the deposit is guaranteed by Her Majesty the Queen in right of a province;
 - (iv) a corporation, association or federation incorporated or organized as a credit union or co-operative credit society that conforms to the requirements of a credit union which are more particularly described in paragraph 137(6) of the Income Tax Act; or
 - (v) Canada Post Corporation.
- 6) Bonds referred to in subparagraph 4)(b) of GC9.2 shall be provided on the basis of their market value current at the date of the Contract, and shall be:
- (a) made payable to bearer; or
 - (b) accompanied by a duly executed instrument of transfer of the bonds to the NCC in the form prescribed by the Domestic Bonds of Canada Regulations; or
 - (c) registered as to principal, or as to principal and interest, in the name of the NCC pursuant to the Domestic Bonds of Canada Regulations.

GC9.3 IRREVOCABLE STANDBY LETTER OF CREDIT

- 1) As an alternative to a security deposit, an irrevocable standby letter of credit is acceptable to the NCC, the amount of which shall be determined in the same manner as a security deposit referred to in GC9.2
TYPES AND AMOUNTS OF CONTRACT SECURITY.
- 2) An irrevocable standby letter of credit shall:
 - (a) be an arrangement, however named or described, whereby a financial institution (the "Issuer") acting at the request and on the instructions of a customer (the "Applicant") or on its own behalf:

- (i) is to make a payment to, or to the order of, the NCC as the beneficiary;
- (ii) is to accept and pay bills of exchange drawn by the NCC;
- (ii) authorizes another financial institution to effect such payment or accept and pay such bills of exchange; or
- (iv) authorizes another financial institution to negotiate against written demand(s) for payment provided that the terms and conditions of the letter of credit are complied with;
- (b) state the face amount that may be drawn against it;
- (c) state its expiry date;
- (d) provide for sight payment to the NCC by way of the financial institution's draft against presentation of a written demand for payment signed by the NCC;
- (e) provide that more than one written demand for payment may be presented subject to the sum of those demands not exceeding the face value of the letter of credit;
- (f) provide that it is subject to the International Chamber of Commerce (ICC) Uniform Customs and Practice for Documentary Credits, 2007 Revision, ICC Publication No. 600;
- (g) clearly specify that it is irrevocable or deemed to be irrevocable pursuant to article 6 c) of the International Chamber of Commerce (ICC) Uniform Customs and Practice for Documentary Credits, 2007 Revision, ICC Publication No. 600; and
- (h) be issued or confirmed, in either official language in a format left to the discretion of the issuer or confirmer, by an approved financial institution on its letterhead.

PERFORMANCE BOND

Bond Number _____

Amount \$ _____

KNOW ALL MEN BY THESE PRESENTS, that _____ as Principal,
hereinafter called the Principal, and _____ as Surety, hereinafter

called the Surety, are, subject to the conditions hereinafter contained, held and firmly bound unto the National Capital Commission as

Obligee, hereinafter called the NCC, In the amount of _____ dollars

(\$ _____), lawful money of Canada, for the payment of which sum, well and truly to be made, the Principal and the

Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

SIGNED AND SEALED this _____ day of _____, _____. WHEREAS, the Principal has

entered into a Contract with the NCC, dated the _____ day of _____, _____,

for: _____.

NOW, THEREFORE, THE CONDITIONS OF THIS OBLIGATION are such that if the Principal shall well and faithfully observe and perform all the obligations on the part of the Principal to be observed and performed in connection with the Contract, then this obligation shall be void, otherwise it shall remain in full force and effect, subject, however, to the following conditions:

1. Whenever the Principal shall be, and declared by the NCC to be, in default under the Contract, the Surety shall
 - (a) if the work is not taken out of the Principal's hands, remedy the default of the Principal,
 - (b) if the work is taken out of the Principal's hands and the NCC directs the Surety to undertake the completion of the work, complete the work in accordance with the Contract provided that if a contract is entered into for the completion of the work,
 - (i) it shall be between the Surety and the completing contractor, and
 - (ii) the selection of such completing contractor shall be subject to the approval of the NCC,
 - (c) if the work is taken out of the Principal's hands and the NCC, after reasonable notice to the Surety, does not direct the Surety to undertake the completion of the work, assume the financial responsibility for the cost of completion in excess of the moneys available to the NCC under the Contract,
 - (d) be liable for and pay all the excess costs of completion of the Contract, and
 - (e) not be entitled to any Contract moneys earned by the Principal, up to the date of his default on the Contract and any holdbacks relating to such earned Contract moneys held by the NCC, and the liability of the Surety under this Bond shall remain unchanged provided, however, and without restricting the generality of the foregoing, upon the completion of the Contract to the satisfaction of the NCC, any Contract moneys earned by the Principal or holdbacks related thereto held by the NCC may be paid to the Surety by the NCC.
2. The Surety shall not be liable for a greater sum than the amount specified in this Bond.
3. No suit or action shall be instituted by the NCC herein against the Surety pursuant to these presents after the expiration of two (2) years from the date on which final payment under the Contract is payable.

IN TESTIMONY WHEREOF, the Principal has hereto set its hand and affixed its seal, and the Surety has caused these presents to be sealed with its corporate seal duly attested by the signature of its authorized signing authority, the day and year first above written.

SIGNED, SEALED AND DELIVERED in the presence of:

Principal _____

Witness _____

Surety _____

Note: Affix Corporate seal if applicable.

LABOUR AND MATERIAL PAYMENT BOND

Bond Number _____

Amount \$ _____

KNOW ALL MEN BY THESE PRESENTS, that _____ as Principal,
 hereinafter called the Principal, and _____ as Surety, hereinafter
 called the Surety, are, subject to the conditions hereinafter contained, held and firmly bound unto the National Capital Commission as Oblige, hereinafter called the NCC, In the amount of _____ dollars

(\$ _____), lawful money of Canada, for the payment of which sum, well and truly to be made, the Principal and the Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

SIGNED AND SEALED this _____ day of _____, _____ . WHEREAS, the Principal has entered into a Contract with the NCC, dated the _____ day of _____, _____, for: _____
 _____ which contract is by reference made a part hereof, and is hereinafter referred to as the Contract.

NOW, THEREFORE, THE CONDITIONS OF THIS OBLIGATION are such that, if payment is promptly made to all Claimants who have performed labour or services or supplied material in connection with the Contract and any and all duly authorized modifications and extensions of the Contract that may hereafter be made, notice of which modifications and extensions to the Surety being hereby waived, then this obligation shall be void; otherwise it shall remain in full force and effect, subject, however, to the following conditions:

1. For the purpose of this bond, a Claimant is defined as one having a direct contract with the Principal or any Sub-Contractor of the Principal for labour, material or both, used or reasonably required for use in the performance of the Contract, labour and material being construed to include that part of water, gas, power, light, heat, oil, gasoline, telephone services or rental of equipment (but excluding rental of equipment where the rent pursuant to an agreement is to be applied towards the purchase price thereof) directly applicable to the Contract.
2. For the purpose of this Bond, no payment is required to be made in respect of a claim for payment for labour or services performed or material supplied in connection with the Contract that represents a capital expenditure, overhead or general administration costs incurred by the Principal during the currency or in respect of the Contract.
3. The Principal and the Surety hereby jointly and severally agree with the NCC that if any Claimant has not been paid as provided for under the terms of his contract with the Principal or a Sub-Contractor of the Principal before the expiration of a period of ninety (90) days after the date on which the last of such Claimant's labour or service was done or performed or materials were supplied by such Claimant, the NCC may sue on this bond, have the right to prosecute the suit to final judgment for such sum or sums as may be due and have execution thereon; and such right of the NCC is assigned by virtue of Part VIII of the Financial Administration Act to such Claimant.
4. For the purpose of this bond the liability of the Surety and the Principal to make payment to any claimant not having a contract directly with the Principal shall be limited to that amount which the Principal would have been obliged to pay to such claimant had the provisions of the applicable provincial or territorial legislation on lien or privileges been applicable to the work. A claimant need not comply with provisions of such legislation setting out steps by way of notice, registration or otherwise as might have been necessary to preserve or perfect any claim for lien or privilege which the claimant might have had. Any such claimant shall be entitled to pursue a claim and to recover judgment hereunder subject to the terms and notification provisions of the Bond.
5. Any material change in the Contract between the Principal and the NCC shall not prejudice the rights or interest of any Claimant under this Bond who is not instrumental in bringing about or has not caused such change.
6. No suit or action shall be commenced hereunder by any Claimant:
 - (a) Unless such Claimant shall have given written notice within the time limits hereinafter set forth to the Principal and the Surety above named, stating with substantial accuracy the amount claimed. Such notice shall be served by mailing the same by registered mail to the Principal and the Surety at any place where an office is regularly maintained for the transaction of business by such persons or served in any manner in which legal process may be served in the Province or other part of Canada in which the subject matter of the Contract is located. Such notice shall be given
 - (i) in respect of any claim for the amount or any portion thereof required to be held back from the Claimant by the Principal or by the Sub-Contractor of the Principal under either the terms of the Claimant's Contract with the Principal or the Claimant's Contract with the Sub-Contractor of the Principal within one hundred and twenty (120) days after such Claimant should have been paid in full under this Contract;

- (ii) in respect of any claim other than for the holdback or portion thereof referred to above within one hundred and twenty (120) days after the date upon which such Claimant did or performed the last of the service, work or labour or furnished the last of the materials for which such claim is made under the Claimant's Contract with the Principal or a Sub-Contractor of the Principal
 - (b) After the expiration of one (1) year following the date on which the Principal ceased work on the said Contract, including work performed under the guarantees provided in the Contract;
 - (c) Other than in a court of competent jurisdiction in the province or district of Canada in which the subject matter of the Contract or any part thereof is situated and not elsewhere, and the parties hereto hereby agree to submit to the jurisdiction of such court.
7. The amount of this bond shall be reduced by and to the extent of any payment or payments made in good faith hereunder.
 8. The Surety shall not be entitled to claim any moneys relating to the Contract and the liability of the Surety under this Bond shall remain unchanged and, without restricting the generality of the foregoing, the Surety shall pay all valid claims of Claimants under this Bond before any moneys relating to the Contract held by the NCC are paid to the Surety by the NCC.
 9. The Surety shall not be liable for a greater sum than the amount specified in this bond.

IN TESTIMONY WHEREOF, the Principal has hereto set its hand and affixed its seal, and the Surety has caused these presents to be sealed with its corporate seal duly attested by the signature of its authorized signing authority, the day and year first above written.

SIGNED, SEALED AND DELIVERED in the presence of:

Principal _____

Witness _____

Surety _____

Note: Affix Corporate seal if applicable.

- GC10.1 INSURANCE CONTRACTS
- GC10.2 INSURANCE PROCEEDS
- GC10.3 INSURANCE TERMS
 - GC10.3.1 General
 - GC10.3.1.1 Proof of Insurance
 - GC10.3.1.2 Payment of Deductible
 - GC10.3.2 Commercial General Liability
 - GC10.3.2.1 Scope of Policy
 - GC10.3.2.2 Insured
 - GC10.3.2.3 Period of Insurance
 - GC10.3.3 Builder's Risk / Installation Floater
 - GC10.3.3.1 Scope of Policy
 - GC10.3.3.2 Amount of Insurance
 - GC10.3.3.3 Insurance Proceeds

GC10.1 INSURANCE CONTRACTS

- 1) The Contractor shall, at the Contractor's expense, obtain and maintain insurance contracts in respect of the work and shall provide evidence thereof to the NCC in accordance with the requirements of GC10.
- 2) The insurance contracts referred to in paragraph 1) of GC10.1 shall:
 - (a) be in a form, of the nature, in the amounts, for the periods and containing the terms and conditions specified in GC10; and
 - (b) provide for the payment of claims under such insurance contracts in accordance with GC10.2 INSURANCE PROCEEDS.

GC10.2 INSURANCE PROCEEDS

- 1) In the case of a claim payable under a Builders Risk/Installation (All Risks) insurance contract maintained by the Contractor pursuant to GC10.1 INSURANCE CONTRACTS, the proceeds of the claim shall be paid directly to the NCC, and:
 - (a) the monies so paid shall be held by the NCC for the purposes of the contract; or
 - (b) if the NCC elects, shall be retained by the NCC, in which event they vest in the NCC absolutely.
- 2) In the case of a claim payable under a General Liability insurance contract maintained by the Contractor pursuant to GC10.1 INSURANCE CONTRACTS, the proceeds of the claim shall be paid by the insurer directly to the claimant.
- 3) If an election is made pursuant to paragraph 1) of GC10.2, the NCC may cause an audit to be made of the accounts of the Contractor and of the NCC in respect of the part of the work that was lost, damaged or destroyed for the purpose of establishing the difference, if any, between:
 - (a) the aggregate of the amount of the loss or damage suffered or sustained by the NCC, including any costs incurred in respect of the clearing of the work and its site and any other amount that is payable by the Contractor to the NCC under the contract, minus any monies retained pursuant to subparagraph 1)(b) of GC10.2; and
 - (b) the aggregate of the amounts payable by the NCC to the Contractor pursuant to the contract up to the date of the loss or damage.

- 4) A difference that is established pursuant to paragraph 3) of GC10.2 shall be paid forthwith by the party who is determined by the audit to be the debtor to the party who is determined by the audit to be the creditor.
- 5) When payment of a deficiency has been made pursuant to paragraph 4) of GC10.2, all rights and obligations of the NCC and the Contractor under the contract shall, with respect only to the part of the work that was the subject of the audit referred to in paragraph 3) of GC10.2, be deemed to have been expended and discharged.
- 6) If an election is not made pursuant to subparagraph 1)(b) of GC10.2, the Contractor shall, subject to paragraph 7) of GC10.2, clear and clean the work and its site and restore and replace the part of the work that was lost, damaged or destroyed at the Contractor's expense as if that part of the work had not yet been performed.
- 7) When the Contractor clears and cleans the work and its site and restores and replaces the work referred to in paragraph 6) of GC10.2, the NCC shall pay the Contractor out of the monies referred to in paragraph 1) of GC10.2 so far as they will thereunto extend.
- 8) Subject to paragraph 7) of GC10.2, payment by the NCC pursuant to paragraph 7) of GC10.2 shall be made in accordance with the contract but the amount of each payment shall be 100% of the amount claimed notwithstanding subparagraphs 3)(a) and 3)(b) of GC5.4 PROGRESS PAYMENT.

GC10.3 INSURANCE TERMS

GC10.3.1 General

GC10.3.1.1 Proof of Insurance

- 1) Before commencement of the Work, and prior to contract award, the Contractor shall deposit with the NCC a Certificate of Insurance (approved Insurance form is enclosed at the end of this section).
- 2) Upon request by the NCC, the Contractor shall provide originals or certified true copies of all contracts of insurance maintained by the Contractor pursuant to the provisions contained herein.
- 3) The insurance policies shall be endorsed to provide the NCC with no less than 30 days notice in writing in advance of a cancellation of insurance or any reduction in coverage.

GC10.3.1.2 Payment of Deductible

- 1) Any moneys paid or payable in respect of a deductible amount shall be borne exclusively by the Contractor.

GC10.3.2 Commercial General Liability

GC10.3.2.1 Scope of Policy

- 1) The insurance coverage provided shall not be less than that provided by IBC Form 2100, as amended from time to time, and shall have:
 - (a) an Each Occurrence Limit of not less than \$5,000,000;
 - (b) a Products/Completed Operations Aggregate Limit of not less than \$5,000,000; and
 - (c) a General Aggregate Limit of not be less than \$10,000,000 per policy year, if the policy is subject to such a limit.

- 2) The policy shall either include or be endorsed to include coverage for the following exposures or hazards if the Work is subject thereto:
 - (a) Blasting;
 - (b) Pile driving and caisson work;
 - (c) Underpinning;
 - (d) Removal or weakening of support of any building or land whether such support be natural or otherwise if the work is performed by the insured Contractor.

GC10.3.2.2 Insured

- 1) The policy shall insure the Contractor and shall include the NCC as an additional Insured, with respect to liability arising out of the operations of the Contractor with regard to the work.

GC10.3.2.3 Period of Insurance

- 1) Unless otherwise directed in writing by the NCC, or, otherwise stipulated elsewhere herein, the policy required herein shall be in force and be maintained from the date of contract award until the day of issue of the Certificate of Completion except that the coverage for Completed Operations Liability shall, in any event, be maintained for a period of at least six (6) years beyond the date of the Certificate of Substantial Performance.

GC10.3.3 Builder's Risk / Installation Floater

GC10.3.3.1 Scope of Policy

- 1) The insurance coverage provided by a Builder's Risk policy or an Installation Floater policy shall not be less than that provided by IBC Forms 4042 and 4047, as amended from time to time.
- 2) The policy shall permit use and occupancy of the project, or any part thereof, where such use and occupancy is for the purposes for which the project is intended upon completion.
- 3) The policy may exclude or be endorsed to exclude coverage for loss or damage caused by any of the following:
 - (a) Asbestos;
 - (b) Fungi or spores;
 - (c) Cyber;
 - (d) Terrorism.

GC10.3.3.2 Amount of Insurance

- 1) The amount of insurance shall not be less than the sum of the contract value plus the declared value (if any) set forth in the contract documents of all material and equipment supplied by the NCC at the site of the project to be incorporated into and form part of the finished Work. If the value of the Work is changed, the policy shall be changed to reflect the revised contract value.

GC10.3.3.3 Insurance Proceeds

- 1) The policy shall provide that the proceeds thereof are payable to the NCC may direct in accordance with GC10.2, "Insurance Proceeds".
- 2) The Contractor shall, without delay, do such things and execute such documents as are necessary to effect payment of the proceeds.

• To be completed by the insurer / À être rempli par l'assureur

CONTRACT / MARCHÉ					
Description and location of work / Description et endroit des travaux				Contract no. / N° de contrat	
INSURER / ASSUREUR					
Name / Nom					
Address / Adresse					
No., Street / N°, rue		City / Ville		Province	Postal code / Code postal
BROKER / COURTIER					
Name / Nom					
Address / Adresse					
No., Street / N°, rue		City / Ville		Province	Postal code / Code postal
INSURED / ASSURÉ					
Name of contractor / Nom de l'entrepreneur					
Address / Adresse					
No., Street / N°, rue		City / Ville		Province	Postal code / Code postal
ADDITIONAL INSURED / ASSURÉ ADDITIONNEL					
The National Capital Commission / La Commission de la capitale nationale					
<p>This insurer certifies that the following policies of insurance are at present in force covering all operations of the Insured, in connection with the contract made between the named insured and the National Capital Commission.</p> <p>L'assureur atteste que les polices d'assurances suivantes sont présentement en vigueur et couvrent toutes les activités de l'assuré en fonction du marché conclu entre l'Assuré dénommé la Commission de la capitale nationale</p>					
POLICY / POLICE					
	Type Genre	Number Numéro	Inception Date Date d'effet	Expiry Date Date d'expiration	Limit of Liability Limites de garantie
	Commercial General Liability Responsabilité civile des entreprises				
	Builder's Risk "All Risks" Assurance des chantiers « tous risques »				
	Installation Floater "All Risks" Risques d'installation « tous risques »				
	Other (list) / Autre (énumérer)				
<p>Each of these policies includes the coverages and provisions as specified in Insurance Terms and each policy has been endorsed to cover the National Capital Commission as an Additional Insured. The Insurer agrees to notify the National Capital Commission in writing thirty (30) days prior to any material change in, or cancellation of any policy or coverage.</p>			<p>Chacune des présentes polices renferment des garanties et dispositions spécifiées aux Conditions d'assurance, et chaque police a été amendée pour couvrir la Commission de la capitale nationale en tant qu'assuré additionnel. L'assureur convient de donner un préavis de trente (30) jours à la Commission de la capitale nationale en cas de changement visant la garantie d'assurance ou les conditions ou de l'annulation de n'importe quelle police ou garantie.</p>		
<p>_____ Name of Insurer's Office or Authorized Employee / Nom du cadre ou de la personne autorisée</p>			<p>_____ Telephone number / Numéro de téléphone</p>		
<p>_____ Signature</p>			<p>_____ Date</p>		

1. General

- 1.1 In this Contract “OHS” means “occupational health and safety”.
- 1.2 With respect to the work to be performed under the Contract, the Contractor covenants and agrees to perform at, and to enforce conformity with, a standard equivalent to or greater than the best practices prevailing in the construction industry at that time.
- 1.3 The Contractor acknowledges that, to the extent that the following matters may be affected by conduct of the work, it is responsible for the:
- 1.3.1 health and safety of persons on site;
 - 1.3.2 safety of property on site;
 - 1.3.3 protection of persons adjacent to the site; and,
 - 1.3.4 protection of the environment.
- 1.4 Without limiting the generality of section 1.3, the Contractor acknowledges that it is required to, and covenants and agrees to, comply and to enforce compliance with all laws or regulations that may be applicable to the conduct of the work including, without limitation:
- (a) the provisions of the *Occupational Health and Safety Act* of Ontario and all regulations, policies or directives issued thereunder for work performed in Ontario;
 - (b) *La Loi sur la santé et la sécurité du travail* of Québec and all regulations, policies or directives issued thereunder for work performed in Québec;
 - (c) Applicable provisions of the *Canada Labour Code, Part II*;
 - (d) Employment standards legislation in the province(s) in which any part of the work is performed; and
 - (e) Any policies or directives issued by the NCC in respect of the subject matter of the contract.
- The NCC will present any such policies or directives referred to in paragraph (e) to the Contractor in written form by not later than the pre-construction meeting. The Contractor is obliged to ensure that the relevant policies and directives have been communicated to and acknowledged by all its employees and that they will be complied with. The NCC reserves the right to require the Contractor to produce evidence satisfactory to the NCC acting reasonably that the Contractor has discharged the foregoing obligations.
- 1.5 By entering into the Contract with the NCC, the Contractor represents and warrants to the NCC that it has informed itself of and is knowledgeable about the obligations imposed by the legislation referred to in 1.4. above.
- 1.6 For purposes of the relevant provincial OHS legislative regime the Contractor acknowledges and agrees that it is the “Constructor” and covenants to discharge and accept all liability for the performance of the obligations of the “Constructor” in respect of the work provided for in the Contract. Notwithstanding a determination by the relevant authority having jurisdiction that the NCC is the “Constructor” in the event of a dispute between the Contractor and the NCC, the Contractor acknowledges and agrees that the Contractor shall be financially responsible for the implementation of protective measures necessary to fulfill the obligations of the “Constructor”.

- 1.7 As between the NCC and the Contractor, the NCC's decision as to whether the Contractor is discharging its obligations in respect of OHS issues shall be definitive. Without limiting the generality of the foregoing, in the event of any dispute with respect to instructions given by the NCC's designated representative, the Contractor may note such dispute, but must nevertheless forthwith comply with any such instructions.
- 1.8 The Contractor hereby indemnifies and agrees to hold harmless the NCC, its agents and employees, from and against any and all claims, demands, losses, costs (including legal fees on a full indemnity basis), damages, actions, suits or proceedings (hereinafter collectively referred to as "claims") by third parties that arise out of or are attributable to the Contractor's errors or omissions in the performance of the Contract. Without limiting the generality of the foregoing, this indemnification extends to any claims related to any violation of any statute or regulation relating to OHS matters.
- 1.9 The NCC shall provide the contractor:
- 1.9.1 a written description of every known and foreseeable health and safety hazard to which persons employed in the performance of the work may be exposed because of the nature of the site;
 - 1.9.2 a list of any prescribed materials, equipment, devices and clothing necessary because of the nature of the site;
 - 1.9.3 with written information indicating the prescribed circumstances and manner to use all prescribed materials, equipment, devices and clothing listed pursuant to 1.9.2; and,
 - 1.9.4 with a copy of any NCC policies and procedures that may be applicable in relation to the work site.
- 1.10 Without limiting the generality of 1.9, prior to the commencement of the work by the contractor, the contractor shall, at the contractor's expense:
- 1.10.1 take all reasonable care to ensure that all persons employed in the performance of the work or granted access to the work or its site are informed of any health and safety hazard described pursuant to 1.9.1;
 - 1.10.2 provide all persons employed in the performance of the work or granted access to the work or its site with prescribed materials, equipment, devices and clothing listed pursuant to 1.9.2;
 - 1.10.3 take all reasonable care to ensure that all persons employed in the performance of the work or granted access to the work or its site are familiar with the prescribed circumstances and manner all prescribed materials, equipment, devices and clothing listed pursuant to 1.9.2; and
 - 1.10.4 take all reasonable care to ensure that all persons employed in the performance of the work or granted access to the work or its site are familiar with policies and procedures referred to in 1.9.4.

2. Qualifications of Personnel

- 2.1 By entering into this agreement the contractor represents and warrants that it has the requisite experience, training, formal certification and equipment to enable it to discharge the obligations enumerated in sections 1.3, 1.4, 1.5 and 1.6 above.
- 2.2 The Contractor represents and warrants that supervisory personnel employed by the Contractor in respect of performance of any part of the work have the requisite experience, authority, training, formal certification and equipment to ensure that the obligations enumerated in sections 1.3, 1.4, 1.5

and 1.6 above are discharged and agrees to deliver such evidence as may be required by the NCC from time to time to verify same.

3. Certification

- 3.1 After receiving notification that its bid has been retained and prior to and as a condition of contract award, the Contractor covenants and agrees to deliver a Worker's Compensation Clearance Certificate. Where the duration of the project is greater than sixty days, the Contractor covenants and agrees to deliver up-dated certificates at least every 60 days. In the event of a failure by the Contractor to deliver up-dated certificates, the NCC shall be entitled to immediately terminate the contract without notice and without incurring any liability to the Contractor.
- 3.2 After receiving notification that its bid has been retained and prior to and as a condition of contract award, the Contractor covenants and agrees to deliver historical information on its injury experience including any pertinent Worker's Compensation Experience Reports. Such historical information shall report data for the previous three years.

4. Plans Policies and Procedures

- 4.1 After receiving notification that its bid has been retained and prior to and as a condition of contract award, the Contractor covenants and agrees to deliver for the review and approval of the NCC:
- (a) A copy of the contractor's OHS policy;
 - (b) A safety program and plan specific to the work to be performed pursuant to the Contract which plan shall include a risk assessment and analysis, a description of safe working methods, injury and incident reporting protocols, regular periodic reporting on compliance with OHS obligations including any policies, practices and procedures otherwise provided for herein, and a site-specific contingency and emergency response plan; and
 - (c) Health and safety training records of personnel and alternates responsible for OHS issues on site.

The Contractor covenants and agrees to deliver the necessary material safety data sheets for the review and approval of the NCC prior to entering the site to perform work related to the relevant material.

Approval by the NCC does not amend the provisions of the Contract with respect to the allocation of liability for discharging or failing to discharge OHS obligations. Such liability remains with the Contractor notwithstanding the granting of such approval.

- 4.2 The Contractor acknowledges and agrees that prior to commencement of work it must attend a pre-construction briefing at which any special or additional practices and procedures to be followed in completing the work are to be established. Without limiting the provisions of section 1.4(e) above, the representatives of the Contractor attending the briefing will be required to deliver a signed acknowledgement that the practices and procedures set out in the pre-construction briefing have been understood and will be complied with.
- 4.3 At any time and from time to time during the performance of the work, the NCC shall have the right to audit the manner in which the Contractor is discharging its OHS obligations and to determine whether the project specification and/or OHS policies, practices and procedures are being complied with. In the event that the audit discloses any failure by the Contractor to discharge such OHS obligations, the NCC shall be entitled to forthwith rectify at the Contractor's expense any such deficiency and the NCC shall have the further right to immediately terminate the contract without notice and without incurring any liability to the Contractor.

- 4.4 The Contractor covenants and agrees to conform with all requirements of the Workplace Hazardous Materials Information System.
- 4.5 The Contractor acknowledges and agrees that where required by any law or regulation applicable to the performance of the work it must establish and maintain a project health and safety committee. The contractor further acknowledges and agrees that it must enable staff to attend all relevant safety meetings, and that the cost of same, including costs attributable to standing down equipment is included in its bid price and is not independently recoverable.
- 4.6 Where required by the relevant provincial regulatory regime, the Contractor acknowledges and agrees that it is responsible for delivery of notice of the project to the relevant regulatory authority, and for the performance of any other administrative activity required to meet the obligations imposed in the pertinent provincial regulatory regime.
- 4.7 **(Optional depending on hazard or scope of project)**. The contractor covenants and agrees that it shall employ and assign to the work, a competent OHS professional as Health and Safety Coordinator that must:
- (a) have a minimum two (2) years' site-related working experience specific to activities associated with.(identify specific subject matter)
 - (b) have basic working knowledge of specified occupational safety and health regulations,
 - (c) be responsible for completing health and safety training session and ensuring that personnel not successfully completing the required training are not permitted to enter the site to perform the Work,
 - (d) be responsible for implementing, enforcing daily and monitoring the site-specific Health and Safety Plan, and
 - (e) be on site during execution of the Work.

The parties acknowledge that in lieu of employing an OHS professional, the Contractor may provide same by sub-contracting for such services.

- 4.8 Upon completion of the work the Contractor covenants and agrees to participate with the NCC in a post performance interview to evaluate the performance of the Contractor in respect of the OHS obligations under the contract. Without limiting the generality of the foregoing, the interview will identify areas of compliance and non-compliance in terms of:
- (a) actual performance of the work;
 - (b) reporting or procedural requirements;
 - (c) resolution of deficiencies.

The contractor acknowledges and agrees that the results of the post-completion interview may be relied upon by the NCC in evaluating bids subsequently submitted by the Contractor on other NCC projects.

Security Requirements

The NCC complies with Treasury Board's *Policy on Government Security* and consequently, it will require that the Contractor's employees submit to a personal security screening process (Security Clearance Form TBS/SCT 330-60E). The NCC may also perform a credit check when the duties or tasks to be performed require it or in the event of a criminal record containing a charge/offence of a financial nature.

The NCC reserves the right to not award the Contract until such time as the Contractor's core employees have obtained the required level of security screening as identified by the NCC's Corporate Security. In this case the level of security required will be **Reliability/Site Access/Secret**.

The NCC also reserves the right to request that the Contractor submit to a *Designated Organisation Screening* and/or *Facility Security Clearance*— depending on the nature of the information it will be entrusted with. In the event that the Contractor does not meet the requirements to obtain the requested clearance, the Contractor shall take the corrective measures recommended by the Canadian Industrial Security Directorate (of PWGSC) or by the NCC's Corporate Security in order to meet these requirements. If no corrective measures are possible or if the Contractor fails to take the recommended measures, then the Contractor shall be in default of its obligations under this Contract and the NCC shall have the rights and remedies listed in section 2.14, including the right to terminate the Contract without further notice to the Contractor.

Additional information

As part of their personal screening, individuals may be required to provide evidence of their status as a Canadian citizen or permanent resident as well as any other information/documentation requested by the NCC's Corporate Security in order to complete the screening.

The NCC reserves the right to refuse access to personnel who fail to obtain the required level of security screening.

The NCC reserves the right to impose additional security measures with respect to this Contract as the need arises.

Company Security Representative

The Contractor shall appoint one Company Security Representative (CSR) as well as one alternate (for companies who have more than five employees).

Selection criteria for the CSR and the alternate are the following:

- They must be employees of the Contractor;
- They must have a security clearance (the NCC will process the clearances once the individuals have been identified).

Responsibilities of the Company Security Representative

The CSR's responsibilities are the following:

- Act as liaison between the NCC's Corporate Security and the Contractor to ensure coordination;
- In collaboration with the NCC's Corporate Security, identify the Contractor's employees who will require access to NCC information/assets/sites **as well as any recurring subcontractors** (and their employees) who will require similar access and may not be supervised by the Contractor at all times during such access. Ensure that accurate and complete Personnel Security Screening documentation is

SECURITY REQUIREMENTS

submitted to the NCC's Corporate Security for the employees/subcontractors who have been identified;

- Ensure that employees/subcontractors, upon notification of having been granted a reliability status, sign the *Security Screening Certificate and Briefing Form* and return to the NCC's Corporate Security;
- Ensure that only persons who have been security screened to the appropriate level and who are on a "need-to-know basis" will have access to information and assets;
- Maintain a current list of security screened employees/subcontractors;
- Ensure proper safeguard of all information and assets, including any information/assets entrusted to subcontractors;
- If a Security incident or suspected breach of security occurs, prepare and submit to the NCC an occurrence report as soon as possible.

Client

National Capital Commission Gatineau Park

Scott Rd, Gatineau, QC

Type of Document:

Construction Specifications

Project Name:

GATINEAU PARK TRAIL 50 BRIDGE REPLACEMENT

Project Number:

DC3062-11

Prepared By:

National Capital Commission
202-40 Elgin Street
Ottawa, ON K1P 1C7
Canada

Date Submitted:

July 3rd, 2018

List of Specifications

SECTION	TITLE	NO. OF PAGES
DIVISION 0 – PROCUREMENT AND CONTRACTING REQUIREMENTS		
00 01 00	Lists of Specifications, Drawings, and Documents	3
00 01 05	Instructions to Bidders	2
DIVISION 1 – GENERAL REQUIREMENTS		
01 11 00	General Instructions	6
01 11 01	Pay Item Descriptions and Unit Price Table	10
01 29 83	Payment Procedures for Testing Laboratory Services	1
01 33 00	Submittal Procedures	4
01 35 30	Health and Safety Requirements	5
01 35 43	Environmental Protection	17
01 52 00	Construction Facilities	2
01 61 00	Common Product Requirements	7
01 74 11	Cleaning	1
01 74 21	Waste Management and Disposal	14
01 78 00	Closeout Submittals	1
DIVISION 2 – EXISTING CONDITIONS		
02 22 50	Demolition and Removal	2
DIVISION 3 – CONCRETE		
03 10 00	Concrete Forming and Accessories	4
03 20 00	Concrete Reinforcing	4
03 30 00	Cast-in-place Concrete	3
DIVISION 5 – METALS		
05 12 33	Structural Steel for Bridges	3
DIVISION 6 – WOODS, PLASTICS, AND COMPOSITES		
06 10 11	Timber	2
DIVISION 31 – EARTHWORK		
31 23 10	Excavating, Trenching, and Backfilling	6
31 32 21	Geotextiles	2
31 61 13	Pile Foundations	5
DIVISION 32 – EXTERIOR IMPROVEMENTS		
32 11 23_01	Approach Trail Reconstruction	2

32 11 23_02	Granular Material Specifications	3
32 91 21	Topsoil and Finish Grading	3
32 93 10	Planting	6

DIVISION 35 – WATERWAY AND MARINE CONSTRUCTION

35 20 22	Dewatering	5
35 31 19	Rock Protection	2
35 49 29	Turbidity Curtain	5

APPENDIX 1 – Soil Investigation: Gatineau Park Trail 50 Bridge Replacement, Englobe, January, 2018.

List of Drawings

Dwg No.

Cover Sheet	
Scope of Work and General Notes	01
General Arrangement – Existing Structure to be Demolished	02
General Arrangement – New Structure	03
Vertical Profile and Approach Cross-Sections	04
North Abutment – Dimensions and Pile Details	05
South Abutment – Dimensions and Pile Details	06
North Abutment – Reinforcing	07
South Abutment – Reinforcing	08
Barrier Details	09
Bearing and Miscellaneous Details	10
Bridge Deck Details	11
Tree Protection / Removals / Planting Plan	12

END OF SECTION

PART I - GENERAL

1.1 Invitation

- .1 The National Capital Commission (NCC) is requesting bids from qualified firms for the replacement of the pedestrian bridge and reconstruction of approach trails at trail #50 in the Gatineau Park, 0.2m southwest past the end of Chemin Pine (P16 Vallée-Meech, Gatineau, QC).

1.2 Intent

- .1 Intent of this Bid call is to obtain an offer to completely remove the existing bridge and construct a new substructure and superstructure, including reconstruction of the approach trails and all other related work.
- .2 This work shall be performed in an environmentally sustainable manner maximizing the reuse and/or recycling of materials. All work shall be carried out in accordance with the requirements contained herein.

1.3 Contract Documents Identification

- .1 Contract Documents are identified as:
Gatineau Park Trail 50 Bridge Replacement

1.4 Site Assessment

- .1 Visit project site and surrounding area before submitting Bid.
- .2 A Site Visit will be held at the bridge site during tendering.
- .3 During the site visit, bidders will have the opportunity to ask questions on any aspect of this project including the project scope, tendering procedures, etc.
- .4 Representatives of the NCC will be in attendance to provide access to the site and to address all questions related to the project.

1.5 Bid Submission

- .1 The Bid Submission is comprised of a Firm Price Quotation Submission.
- .2 Firm Price Quotation Submission
 - .1 **Submit one copy of executed firm price quotation on the attached Tender Form provided by the National Capital Commission, as well as a completed copy of the Pay Item List located Section 01 11 01, signed and with corporate seal together**

with required bid security in the separate sealed opaque envelope, clearly identified with Bidder's name, project name and Owner's name on outside.

- .2 The total price, in Canadian dollars, including GST and QST are to be quoted in the tender form.
- .3 Bidders are advised that they are responsible for their own quantities and take-off for the purpose of bidding.

END OF SECTION

1. References

- .1 Section 01 11 01 - Pay Item Descriptions
- .2 National Capital Commission (NCC) Standard Drawings
- .3 Cahier des charges et devis généraux – Infrastructures routières – Construction et réparation (CCDG 2010)
- .4 Normes – Ouvrages routiers (Tomes I à VII) de Transports Québec (MTQ)
- .5 **Soil Investigation: Gatineau Park Trail 50 Bridge Replacement**, Englobe, January, 2018.

2. Description of Work

- .1 Work under this contract covers the following:

Replacement of the Gatineau Park Visitor's Centre Pedestrian Bridge includes:
 - .1 Mobilize to site
 - .2 Install construction enclosures and environmental protection measures
 - .3 Establish site access / crane access
 - .4 Demolish and remove existing bridge structure including abutments
 - .5 Excavate for new abutments and wingwalls, including dewatering as required
 - .6 Supply and install new helical piles at abutments
 - .7 Construct new abutments and wingwalls
 - .8 Backfill excavated areas at new abutments and wingwalls
 - .9 Supply and place new rip-rap protection at new abutments and wingwalls
 - .10 Fabricate, supply, and install new steel superstructure and bearing assemblies
 - .11 Supply and install new timber bridge deck and timber curbs
 - .12 Supply and install new timber barrier and related anchorage along bridge deck and wingwalls
 - .13 Build-up / modify north and south approaches as required to provide smooth transition to new superstructure
 - .14 Supply and plant seven (7) trees.
 - .15 Place topsoil and seed at all areas disturbed by work, and restore site to existing conditions
 - .16 Remove environmental protection measures and construction enclosures
 - .17 Demobilize from site
 - .18 Other related works

3. Codes

- .1 Perform work in accordance with the contract specifications, “Cahier des charges et devis généraux (CCDG)” and National Capital Commission Standards and any other code of provincial or local application provided that in any case of conflict or discrepancy, the more stringent requirements shall apply.
- .2 Meet or exceed requirements of:
 - .1 contract documents,
 - .2 specified standards, codes and referenced documents.

4. Documents Required

- .1 Maintain at job site, one copy each of following:
 - .1 Contract drawings
 - .2 Specifications
 - .3 Addenda
 - .4 Approved work schedule
 - .5 Reviewed shop drawings
 - .6 Change orders
 - .7 Other modifications to Contract
 - .8 Field test reports
 - .9 Manufacturers' installation and application instructions
 - .10 Safety and Environmental protection documentation as required by Federal and Provincial legislation and regulations.

5. Work Schedule

- .1 Provide in a form acceptable to the NCC Project Manager (PM), within 5 working days after Contract award, a detailed schedule that complies with timings required by Contract documents and shows at a minimum mobilization date(s), start of work, delivery of equipment and materials, anticipated progress stages if appropriate, and final completion of work. Any work by subcontractors shall be shown in similar detail.
- .2 Construction works shall be done within the hours of 7h00 and 19h00 Monday to Saturday understanding that NCC and Gatineau Park staff will only be available for consultation during the hours of 08h00 to 16h30 Monday to Friday.
- .3 Interim reviews of work progress based on work schedule will be conducted as decided by NCC Project Manager and schedule updated by Contractor in conjunction with and to approval of NCC Project Manager.
- .4 Site work shall not commence until the Contractor has received a copy of the Certificate of Authorization from

Ministère du Développement Durable, de l'Environnement et de la Lutte contre les Changements Climatiques (MDDELCC) from NCC.

- .5 Site work shall not commence prior to August 21, 2018 with the granting of environmental authorization certificate which will be provided by the NCC.
- .6 Contractor shall schedule work in order to achieve substantial completion of site work by November 16, 2018. This is to allow the build-up of natural snow for cross-country skiing.

6. Contractor's Use of Site

- .1 Within the confines of site described within this specification, on the drawings provided, and in additional written direction from NCC, propose and seek pre-approval of the location and extent of all project related activities from the NCC Project Manager.
- .2 Use areas as directed by the NCC Project Manager for storage. A 20m x 20m area at the northeast corner of the nearby P16 parking lot may be used for storage as well as for parking by the Contractor.
- .3 Contractor's vehicles and equipment will remain on designated parking, trail, and staging areas; no incursion onto naturalized areas is permitted except where specified in the scope of work. Main access to the work area will be from P16 Vallée-Meech.
- .4 Limit construction activity to the limits identified on the contract drawings. No construction activity shall be done within the existing watercourse.
- .5 Contractor shall give one week notice prior to beginning of excavation to allow NCC's archaeologist to schedule monitoring for the on-site excavation activities.

7. Project Meetings

- .1 Hold project meetings at times and locations approved by NCC Project Manager.
- .2 Provide 48 hour notice to participants of date and time of meetings.
- .3 Record minutes of meetings, and distribute to participants within 7 days of meeting. NCC Project Manager

8. Existing Utilities

- .1 Where unknown services are encountered, immediately

advise NCC Project Manager and confirm findings in writing.

- .2 Contractor is responsible for any damage to any existing and temporary utility.

9. Additional Drawings

- .1 NCC Project Manager may furnish additional drawings for clarification. These additional drawings have same meaning and intent as if they were included with plans referred to in Contract documents.

10. Payment

- .1 Any minor or miscellaneous items indicated on the drawing as being part of the work of this Contract and for which there are no specific pay items listed on the unit price table must be included by the Contractor in his overhead and indirect charges and incorporated into the unit prices which are listed on the unit price tables.
- .2 No separate payment will be made for work performed in respect to any of the specifications for which there is no specific pay item on the unit price table. The cost of these works must be appropriated among, and included in, the unit prices bid for the pay items listed.
- .3 Included in the unit prices bid for the respective items shall be, in addition to the actual cost of construction, all other items of work required to complete the Contract to the extent indicated on the drawings and specified herein.
- .4 Unit prices shall not be adjusted regardless of quantities of work done on site (+ or -).

11. Damages

- .1 Existing plant material, landscaping, roadways, curbs, pathways, structures, finishes and public utilities damaged during the execution of the work of this Contract, will be restored to their original condition, replaced, or adequate compensation made to affected parties by the Contractor.
- .2 It is understood that restored or replaced work includes labour, equipment and material costs.

12. Permits and By-Laws

- .1 The Contractor shall make himself fully acquainted with all Provincial, Local and other By-laws relating to the work of this Contract, as he will be required to comply with such by-laws without extra compensation of any nature.
- .2 Obtain and pay for permits, factory inspector's approval, and other licenses required for this project and also pay any other

charges incidental to such permits.

13. Taxes

- .1 Include in the tender amount all sales taxes and other taxes levied by the Federal, Provincial and Municipal government or other Authority. There will be no refunds made by the National Capital Commission to the Contractor for taxes paid by the Contractor.

14. Measurement for Payment

- .1 The NCC Project Manager shall take measurements prior to commencement in all areas and additional measurements as required to determine pay quantities. The NCC Project Manager and Contractor shall take measurements at the same time (when practical) and endeavour to agree on all quantities prior to the submission of invoices.
- .2 The Contractor shall notify the NCC Project Manager two (2) full work days in advance of any requirements for survey work to be done by the NCC Project Manager.
- .3 The Contractor shall ensure that the NCC Project Manager has obtained the necessary measurements prior to commencement of subsequent operations.

15. Addenda

- .1 Answers to questions directed to the NCC Project Manager, and any amendments to the drawings and specifications during the Tender period will be communicated in the Form of "Addenda" to all General Contractors tendering. Such "Addenda" to be considered as and read as part of the specifications, and thereby included in the Contract Documents.

16. Interpretation of Bilingual Documents

- .1 If the two (2) language versions of these specifications differ, the preference shall be given to the version thereof, that according to the true spirit, intent, and meaning of the text best insures the attainment of its objective.

17. Relics and Antiquities

- .1 Protect relics, archaeological evidence, antiquities, items of historical or scientific interest such as cornerstones and contents, commemorative plaques, inscribed tablets, and similar objects found during course of work.
- .2 Give immediate notice to NCC Project Manager and await NCC Project Manager's written instructions before proceeding with work in this area.
- .3 Relics, antiquities and items of historical or scientific interest remain her Majesty's property.

18. Setting Out of Work .1 Assume full responsibilities for, and execute complete layout of work to locations, lines, and elevations indicated.

.2 Provide devices needed for lay out, construction, and demolition work including means of collecting and removing debris.

19. Written Warranties .1 Contractor will warranty installation and material such as geotextiles, fencing, vegetation, stone, etc, required to return site to original use or natural condition and stabilize the site against erosion for a period of twelve (12) months from satisfactory inspection of the work by the PM.

20. Interpretation of “Engineer” .1 Unless otherwise distinguished the designation “Engineer” in subsequent Sections is interchangeable with “NCC Project Manager (PM)” or “PM”.

END OF SECTION

0. General

- .1 The cost of the work shown on the drawings or implicitly required without items in the tender price table must be included in the cost of the items in the tender price table or be included in the *Mobilization, Sitework, and Demobilization* cost.
- .2 There will be measurement for payment in accordance with the Unit Price Table submitted. Payment at the contract unit or lump sum prices tendered shall be full compensation for all labour, materials, and equipment to do the work.

1. Mobilization, Sitework, and Demobilization

- .1 This item deals with the work, protection measures, and temporary infrastructure required to ensure:
 - the safety of workers and the public,
 - the security of contractor and NCC property,
 - protection of public traffic,
 - optimal access to construction work areas,
 - a safe and clean site during and at the end of contract,
 - re-instatement site to original condition.
- .2 This item includes the following mobilization, sitework, and demobilization activities:
 - Supply and install construction enclosures to secure the site
 - Supply and install vehicular and pedestrian traffic signs, traffic barriers, and fencing.
 - Secure the staging area
 - Improve ground for staging area if required to suit contractor's operations
 - Removal and transportation off-site of debris and demolition materials (except where specifically covered under other items)
 - Reinstatement of the staging area to previously existing condition.
- .3 The cost of the work shown on the drawings or implicitly required without items in the tender price table must be included in the cost of the items in the tender price table under the Mobilization, Sitework and Demobilization.
- .4 There will be no measurement for payment. This item will be paid on a lump sum basis at the price included in the Form of Tender and summarized in the Unit Price Table. Payment at the contract lump sum price shall be full compensation for all labour, materials, and equipment to do the work.

2. Environmental Protection
and Remediation

- .1 The work under this item consists of, without limitation:
- Preparing the environmental protection plan and submission to the NCC and any other regulatory agencies for review and comments. The plan shall be prepared, sealed and signed by a professional engineer licensed by the Ordre des ingénieurs du Québec;
 - Modification of the environmental protection plan per comments provided;
 - Implement all environmental protection measures required to perform the work, per the contract and by the NCC or other regulatory agencies.
 - Obtaining and paying for permits as required.
- .2 As shown in the specifications and drawings this item includes but is not limited to the following environmental protection and remediation activities:
- Installation of, improvements required to protect soil/vegetation
 - The installation of sediment control barriers
 - The installation of anti-erosion protection measures
 - Temporary improvement of access where permitted (including soil and vegetation protection, vegetation removal where permitted, placement of material to improve traffic-ability)
 - Improvement of work areas to prevent damage to surrounding soil, vegetation, and trees and their roots (in particular use fencing to secure the area within the drip line of designated trees from access by contractor or public)
 - Soil and vegetation remediation as required
 - Removal of environmental protection measures at the end of work where authorized by the NCC Project Manager
- .3 The cost of the work shown on the drawings or implicitly required without items in the tender price table must be included in the cost of the items in the tender price table under Environmental Protection and Remediation.
- .4 There will be no measurement for payment. This item will be paid on a lump sum basis at the price included in the Form of Tender and summarized in the Unit Price Table. Payment at the contract lump sum price shall be full compensation for all labour, materials, and equipment to do the work.

3. Remove Existing Bridge
Structure

- .1 This item includes the removal of the existing bridge, including timber crib abutments and timber retaining walls.

- This item also includes the disposal of the material off-site.
- .2 There will be no measurement for payment. This item will be paid on a lump sum basis at the price included in the Form of Tender and summarized in the Unit Price Table.
- .3 Payment shall be full compensation for all labour, equipment and materials necessary to complete the work.
4. Tree Stump Removal and Tree Planting
- .1 The work under this item consists of, without limitation:
- Removal and disposal off-site of existing tree stumps for trees cut by the NCC, as indicated on the contract drawings;
 - Supplying and planting new trees as indicated on the contract drawings and specifications;
- .2 There will be no measurement for payment. This item will be paid on a lump sum basis at the price included in the Form of Tender and summarized in the Unit Price Table
- .3 Payment shall be full compensation for all labour, equipment and materials necessary to complete the work.
5. Earth Excavation for Structure
- .1 The work shall include excavating, hauling, handling, shaping, and trimming of soils as required, including excavation, hauling and disposal of excess material at an approved site arranged and paid for by the Contractor.
- .2 The method of payment for this item will be based on cubic meters of excavation.
- .3 The unit price bid shall be full compensation for all labour, equipment and material necessary to do the work including disposal.
6. Dewatering for Construction of Abutments
- .1 This item includes all materials, equipment, and labour required to dewater excavated areas / work areas required for construction of the new abutments, including all work outlined in the contract documents or implicitly required to perform the dewatering.
- .2 Dewatering systems shall be built to dry up the excavation and work areas for construction of the new abutments. The work includes:
- All site preparation for the dewatering
 - Supplying all required documentation for dewatering
 - Supplying and implementing appropriate measures (e.g. sandbags, etc.) as required to stop the infiltration of

- water into excavated areas / work areas
- Supplying and implementing all equipment (pumps, pipes, hoses, generators, etc.) as required to properly dewater the work area
- Supplying and implementing sedimentation basins or similar treatment facilities as required to prevent soil infiltration from pumped / removed water into the existing watercourse
- Diversion of existing ditches as required to maintain proper water passage to the existing watercourse
- Supplying and implementing all environmental protections (turbidity curtains, etc.) not included in *Item 2. – Environmental Protection and Remediation*
- Removal of all dewatering equipment and materials at the end of the work

- .3 The Contractor shall use the method of his choice for dewatering (e.g. cofferdams built with sandbags and waterproof membrane, steel sheet piles, or other equivalent dewatering systems approved by the NCC). Under no circumstances shall the Contractor block, divert, or constrict the existing watercourse. All cofferdam measures shall be localized at the abutments (parallel to the watercourse) and shall be intended to prevent the existing watercourse from entering the work area. The Contractor shall refer to General Conditions GC3.4.5, stipulating that temporary structures are the sole responsibility of the Contractor; dewatering systems or cofferdams are considered as temporary structures.
- .4 Avoid dispersion of any materials or sediments into the watercourse.
- .5 There will be no measurement for payment. This item will be paid on a lump sum basis at the price included in the Form of Tender and summarized in the Unit Price Table.
- .6 Payment shall be full compensation for all labour, equipment and materials necessary to complete the work.

7. Construct reinforced tremie concrete mud-slab below new abutments

- .1 This item pertains to all materials and work required for construction of the reinforced tremie concrete mud slab below each of the two new abutments. All materials required to construct the mud slab shall be included in this section, including tremie concrete and welded wire steel reinforcing mesh. All work required to construct the mud slab shall be included in this section including formwork, placement, curing, and maintenance of formwork in place for a period of 7 days.

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- .2 Payment for this item shall be on a unit price basis for every cubic meter placed.
- .3 Payment shall be full compensation for all labour, equipment and materials necessary to complete the work.
8. Place Concrete in Abutments
- .1 This item pertains to placement of concrete in the abutments and ballast walls. Supply of the concrete and all work required to complete the placement of the concrete in abutment walls and ballast walls shall be included in this section, including: formwork, pre-wetting, bonding agent and wet curing (exposed surfaces)/ maintenance of formwork in place for a period of 7 days.
- .2 Payment for this item shall be on a unit price basis for every cubic meter placed.
- .3 Payment shall be full compensation for all labour, equipment and materials necessary to complete the work.
9. Place Concrete in Wingwalls
- .1 This item pertains to the placement of concrete in wingwalls. Supply of the concrete and all work required to complete the placement of the concrete in wingwalls shall be included in this section, including: formwork, pre-wetting, bonding agent and wet curing (exposed surfaces)/ maintenance of formwork in place for a period of 7 days.
- .2 Payment for this item shall be on a unit price basis for every cubic meter placed.
- .3 Payment shall be full compensation for all labour, equipment and materials necessary to complete the work.
10. Reinforcing Steel
- .1 This item pertains to the placement of all reinforcing steel required to complete the work. All work required to complete the reinforcing steel placement shall be included in this section.
- .2 Payment for this item shall be on a unit price basis per tonne of reinforcing steel placed.
- .3 Payment shall be full compensation for all labour, equipment and materials necessary to complete the work.
11. Supply and Install New Steel Superstructure
- .1 This item pertains to the fabrication, supply, and installation of the new steel superstructure (including girders, diaphragms, connection plates for the bridge deck, and

bevelled shoe-plates). Work under this item includes the fabrication, supply, and installation of the new steel superstructure as indicated in the contract documents.

.2 There will be no measurement for payment. This item will be paid on a lump sum basis at the price included in the Form of Tender and summarized in the Unit Price Table.

.3 Payment shall be full compensation for all labour, equipment, and materials necessary to complete the work.

12. Supply and Install New Hemlock Bridge Deck

.1 This item pertains to the supply and installation of the hemlock bridge deck. Work under this item includes the supply and installation of the new laminated hemlock deck as indicated in the contract documents, including bolted connections to the steel superstructure.

.2 There will be no measurement for payment. This item will be paid on a lump sum basis at the price included in the Form of Tender and summarized in the Unit Price Table.

.3 Payment shall be full compensation for all labour, equipment, and materials necessary to complete the work.

13. Supply and Install New Elastomeric Bearings

.1 This item pertains to the fabrication, supply, and installation of ten (10) new elastomeric bearings. Work under this item includes the fabrication, supply, and installation of the new elastomeric bearings and restraint anchors into the bearing seat as indicated in the contract documents.

.2 There will be no measurement for payment. This item will be paid on a lump sum basis at the price included in the Form of Tender and summarized in the Unit Price Table.

.3 Payment shall be full compensation for all labour, equipment, and materials necessary to complete the work.

14. Supply and Construct New Hemlock Barriers

.1 This item includes the supply of materials and all work required to construct the new hemlock barriers along the new bridge deck and new wing-walls as indicated in the contract documents, including all connexion assemblies, anchors, and fasteners.

.2 Payment for this item will be based on each linear metre of barrier installed.

.3 The unit price bid will be full compensation for supply, all labour, equipment and materials necessary and to complete

the work.

15. Supply and Install New
Helical Piles

- .1 This item pertains to the fabrication, supply, and installation of the new helical piles located at each abutment, as indicated in the contract documents. This includes all certifications, documents, and other requirements of the Contractor's geotechnical engineer as indicated in the contract documents. This item also includes all costs required to provide access for installation of the helical piles at each abutment.
- .2 Helical piles shall meet all requirements of the contract documents, including having sufficient capacity to resist the loads outlined in the contract documents.
- .3 For pricing purposes, the Contractor shall assume in their bid a total of ten (10) helical piles (refer to contract drawings) and a length of 31m for each helical pile.
- .4 Payment for this item shall be on a unit price basis for each helical pile installed.
- .5 Payment shall be full compensation for all labour, equipment, and materials necessary to complete the work.

16. Place Compacted MG-56
Granular Backfill

- .1 This item pertains to the supply and placement of granular backfill (MG-56) in excavations for the substructure. Supply of the granular material and all work required to complete the placement of the granular backfill shall be included in this section including compaction, water for compaction, dust control, and any other related work.
- .2 Payment for this item shall be on a unit price basis per tonne of backfill placed.
- .3 Payment shall be full compensation for all labour, equipment and materials necessary to complete the work.

17. Place Compacted MG-20
Granular Backfill

- .1 This item pertains to the supply and placement of MG-20 on the approach pathways as required to create a smooth transition to the new structure, as indicated on the contract drawings. All work required to complete the placement of the MG-20 shall be included in this section, including: compaction, water for compaction, dust control, and any other related work.
- .2 Payment for this item shall be on a unit price basis per tonne of MG-20 placed.

- .3 Payment shall be full compensation for all labour, equipment and materials necessary to complete the work.
18. Place and Grade 50mm Thick Stabilized Stone Dust on Trail at Approaches
- .1 This item pertains to the supply and placement of 50mm thick of stabilized stone dust with calcium chloride for topping at both approaches along Trail 50, as indicated on the contract drawings. Supply of the stone dust and all work required to complete the placement of the stone dust shall be included in this section, including: compaction, water for compaction, compaction testing, dust control, fine grading, and any other related work.
- .2 Payment for this item shall be on a unit price basis per square meter of NCC stabilized stone dust (50mm thick) placed.
- .3 The unit price bid will be full compensation for supply, all labour, equipment and materials necessary and to complete the work.
19. Place Rock Protection at Abutments and Along Approaches
- .1 This item pertains to the supply and placement of rip-rap rock protection at the new abutments and along embankments at the approaches to the lines and thicknesses indicated on the contract documents and as per the MDDELCC Standards available online: http://mddelcc.gouv.qc.ca/eau/rives/stabilisation_rives.pdf (see page 13).
- .2 Payment for this item shall be on a unit price basis per cubic metre of rip-rap placed.
- .3 Payment shall be full compensation for all labour, equipment and materials necessary to complete the work.
20. Place Earth Backfill
- .1 This item pertains to the supply and placement of earth backfill along approach pathways as indicated in the contract documents. Supply of the earth fill and all work required to complete the placement of the earth fill shall be included in this section.
- .2 Payment for this item shall be on a unit price basis per cubic metre of earth backfill placed.
- .3 Payment shall be full compensation for all labour, equipment and materials necessary to complete the work.
21. Geotextile below Rock
- .1 This item pertains to the supply and placement of geotextile

Protection at Approach
Embankments

filter cloth below rip-rap rock protection along the approach trail embankments as indicated in the contract drawings.

- .2 Payment for this item shall be on a unit price basis per metre squared of geotextile placed.
- .3 Payment shall be full compensation for all labour, equipment, and materials necessary to complete the work.

22. NCC Soil and Seed mix

- .1 This item includes supply and placement of 150 mm NCC soil and seed mix for all areas disturbed by the construction and other areas as designated in the contract drawings.
- .2 NCC seed mix composition shall be as presented in Section 01 35 43 Environmental Procedures
- .3 There will be no measurement for payment.
- .4 Payment shall be full compensation for grading, supply and placing of 150 mm thick of NCC soil and seed mix, and maintenance.
- .5 The unit price bid will be full compensation for supply, all labour, equipment and materials necessary and all associated works.

END OF SECTION

Item No.	Description	Unit	Estimated Quantity	Unit Price	Amount
1	Mobilization, Sitework, and Demobilization	lump sum	-		
2	Environmental Protection and Remediation	lump sum	-		
3	Remove Existing Bridge Structure	lump sum	-		
4	Tree Stump Removal and Tree Planting	lump sum	-		
5	Earth Excavation for Structure	m ³	200		
6	Dewatering for Construction of Abutments	lump sum	-		
7	Construct Reinforced Tremie Concrete Mud Slab Below Abutments	m ³	35		
8	Place Concrete in Abutments	m ³	30		
9	Place Concrete in Wingwalls	m ³	18		
10	Reinforcing Steel	tonne	3.5		
11	Supply and Install New Steel Superstructure	lump sum	-		
12	Supply and Install New Hemlock Bridge Deck	lump sum	-		
13	Supply and Install New Elastomeric Bearings	lump sum	-		
14	Supply and Construct New Hemlock Barriers	m	47		
15	Supply and Install New Helical Piles	each	10		
16	Place Compacted MG-56 Granular Backfill	tonne	200		
17	Place Compacted MG-20 Granular Backfill	tonne	150		
18	Place and Grade 50mm Thick Stabilized Stone Dust on Trail at Approaches	m ²	120		
19	Place Rock Protection at Abutments and Along Approaches	m ³	150		
20	Place Earth Backfill	m ³	10		
21	Geotextile Below Rock Protection at Approach Embankments	m ²	130		
22	NCC Soil and Seed Mix	lump sum	-		
Total before taxes					
G.S.T. 5.0%					
Q.S.T. 9.975%					
Total Project (Lump Sum Price)					

END OF SECTION

1. Related Requirements Specified Elsewhere

- .1 Particular requirements for inspection and testing to be carried out by testing laboratory designated by NCC Project Manager are specified under various sections.

2. Appointment and Payment

- .1 The NCC will appoint and pay for services of testing laboratory. Where tests or inspections by designated testing laboratory reveal work not in accordance with contract requirements, the Contractor shall pay costs for additional tests or inspections as NCC Project Manager may require to verify acceptability of corrected work.

3. Contractor's Responsibilities

- .1 Furnish labour and facilities to:
 - .1 Provide access to work to be inspected and tested.
 - .2 Facilitate inspections and tests.
 - .3 Make good work disturbed by inspection and test.
 - .4 Provide storage on site for laboratory's exclusive use to store equipment and cure test samples.
- .2 Notify NCC Project Manager sufficiently in advance of operations to allow for assignment of laboratory personnel and scheduling of test.
- .3 Where materials are specified to be tested, deliver representative samples in required quantity to testing laboratory.
- .4 Pay costs for uncovering and making good work that is covered before required inspection or testing is completed and approved by NCC Project Manager.

END OF SECTION

1. Section Includes
- .1 Shop drawings and product data.
 - .2 Samples.
 - .3 Certificates and transcripts.
2. Precedence
- .1 For Federal Government projects, Division 1 Sections take precedence over technical specification sections in other Divisions of this Project Manual.
3. References
- .1 Canadian Construction Documents Committee (CCDC)
 - .1 CCDC 2-94, Stipulated Price Contract.
4. Administrative
- .1 Submit to NCC Project Manager submittals listed for review. Submit with reasonable promptness and in orderly sequence so as to not cause delay in Work. Failure to submit in ample time is not considered sufficient reason for an extension of Contract Time and no claim for extension by reason of such default will be allowed.
 - .2 Work affected by submittal shall not proceed 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 NCC Project Manager. 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 shall be considered rejected.
 - .6 Notify NCC Project Manager, in writing at time of submission, identifying deviations from requirements of Contract Documents stating reasons for deviations.
 - .7 Verify field measurements and affected adjacent Work are

coordinated.

- .8 Contractor's responsibility for errors and omissions in submission is not relieved by NCC Project Manager's review of submittals.
- .9 Contractor's responsibility for deviations in submission from requirements of Contract Documents is not relieved by NCC Project Manager review.
- .10 Keep one reviewed copy of each submission on site.

5. 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 Indicate materials, methods of construction and attachment or anchorage, erection diagrams, connections, explanatory notes and other information necessary for completion of Work. Where articles or equipment attach or connect to other articles or equipment, indicate that such items have been coordinated, regardless of Section under which adjacent items will be supplied and installed. Indicate cross references to design drawings and specifications.
- .4 Allow five days for NCC Project Manager's review of each submission.
- .5 Adjustments made on shop drawings by NCC Project Manager are not intended to change Contract Price. If adjustments affect value of Work, state such in writing to NCC Project Manager prior to proceeding with Work.
- .6 Make changes in shop drawings as NCC Project Manager may require, consistent with Contract Documents. When resubmitting, notify NCC Project Manager in writing of any revisions other than those requested.
- .7 Accompany submissions with transmittal letter, in duplicate, containing:
 - .1 Date.
 - .2 Project title and number.
 - .3 Contractor's name and address.

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- .4 Identification and quantity of each shop drawing, product data and sample.
 - .5 Other pertinent data.

 - .8 Submissions shall include:
 - .1 Date and revision dates.
 - .2 Project title and number.
 - .3 Name and address of:
 - .1 Subcontractor.
 - .2 Supplier.
 - .3 Manufacturer.
 - .4 Contractor's stamp, signed by Contractor's authorized representative certifying approval of submissions, verification of field measurements and compliance with Contract Documents.
 - .5 Details of appropriate portions of Work as applicable:
 - .1 Fabrication.
 - .2 Layout, showing dimensions, including identified field dimensions, and clearances.
 - .3 Setting or erection details.
 - .4 Capacities.
 - .5 Performance characteristics.
 - .6 Standards.
 - .7 Operating weight.
 - .8 Wiring diagrams.
 - .9 Single line and schematic diagrams.
 - .10 Relationship to adjacent work.

 - .9 After NCC Project Manager's review, distribute copies.

 - .10 Submit one transparency on plastic film of shop drawings for each requirement requested in specification Sections and as consultant may reasonably request.

 - .11 Submit 6 copies of product data sheets or brochures for requirements requested in specification Sections and as requested by NCC Project Manager where shop drawings will not be prepared due to standardized manufacture of product.

 - .12 Delete information not applicable to project.

 - .13 Supplement standard information to provide details applicable to project.

 - .14 If upon review by NCC Project Manager, no errors or omissions are discovered or if only minor corrections are made, transparency 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.

6. Samples

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

7. Certificates and Transcripts

- .1 Immediately after award of Contract, submit Workers' Compensation Board status.

END OF SECTION

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1. Related Sections .1 Section 01 33 00 - Submittal Procedures
2. References .1 Canada Labour Code, Part 2, Canada Occupational Safety and Health Regulations.
- .2 Province of Québec
- .1 Loi sur la santé et la sécurité du travail, L.R.Q., c. S-2.1 and the corresponding regulations.
- .3 CSA S269.1-1975 Falsework for Construction Purposes.
- .4 FCC No. 301-1982 Standard for Construction Operations.
3. Submittals .1 Make submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Submit site-specific Health and Safety Plan: Within 7 days after date of Notice to Proceed and prior to commencement of Work. Health and Safety Plan must include:
- .1 Results of site specific safety hazard assessment.
- .2 Results of safety and health risk or hazard analysis for site tasks and operation.
- .3 NCC Project Manager will review Contractor's site-specific Health and Safety Plan and provide comments to Contractor within 5 days after receipt of plan. Revise plan as appropriate and resubmit plan to NCC Project Manager within 5 days after receipt of comments from NCC Project Manager.
- .4 NCC Project Manager'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.
- .5 On-site Contingency and Emergency Response Plan: Address standard operating procedures to be implemented during emergency situations.
- .6 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 NCC Project Manager.
- .7 Submit immediately upon receipt or completion:

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- .1 construction safety checklists,
 - .2 reports or directions issued by Federal and Provincial health and safety inspectors,
 - .3 incident and accident reports,
 - .4 Material Safety Data Sheets (MSDS), and
 - .5 health and safety training records including names of personnel and alternates responsible for site safety and health, hazards present on site, and use of personal protective equipment.
-
- .8 Submit two (2) copies of Contractor's authorized representative's work site health and safety inspection reports at least once every two (2) weeks to NCC Project Manager.
4. Filing of Notice
- .1 File Notice of Project with Provincial authorities prior to commencement of Work.
5. Safety Assessment
- .1 Perform site-specific safety hazard assessment related to project.
6. Meetings
- .1 Schedule and administer Health and Safety meeting with NCC Project Manager prior to commencement of Work.
7. General Requirements
- .1 Develop written site-specific Health and Safety Plan based on hazard assessment prior to commencing any site Work and continue to implement, maintain, and enforce plan until final demobilization from site. Health and Safety Plan must address project specifications.
 - .2 NCC Project Manager may respond in writing, where deficiencies or concerns are noted and may request re-submission with correction of deficiencies or concerns.
8. Responsibility
- .1 Be responsible for health and safety of persons on site, safety of property on site and for protection of persons adjacent to site and environment to extent that they may be affected by conduct of Work.
 - .2 Comply with and enforce compliance by employees with safety requirements of Contract Documents, applicable federal, provincial, territorial and local statutes, regulations, and ordinances, and with site-specific Health and Safety Plan.
9. Compliance Requirements
- .1 Comply with la loi sur la santé et la sécurité du travail, L.R.Q., c. S-2.1 and the corresponding regulations and

Regulations for Construction Projects.

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

- 10. Unforeseen Hazards .1 Should any unforeseen or peculiar safety-related factor, hazard, or condition become evident during performance of Work, and follow procedures in place for Employee's Right to Refuse Work in accordance with Acts and Regulations of Province having jurisdiction. Advise NCC Project Manager verbally and in writing.

- 11. Posting of Documents .1 Ensure applicable items, articles, notices and orders are posted in conspicuous locations on site in accordance with Acts and Regulations of Province having jurisdiction, and in consultation with NCC Project Manager.

- 12. Correction of Non-Compliance .1 Immediately address health and safety non-compliance issues identified by authority having jurisdiction or by NCC Project Manager.

.2 Provide NCC Project Manager with written report of action taken to correct non-compliance of health and safety issues identified.

.3 NCC Project Manager may stop Work if non-compliance of health and safety regulations is not corrected.

- 13. 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.

- 14. Construction Safety Measures .1 Observe construction safety measures of National Building Code 1995 Part 8, Provincial Government, Workers'/Workmen's Compensation Board and municipal authority provided that in any case of conflict or discrepancy more stringent requirements shall apply.

.2 Comply with requirements of FCC No. 301.

- 15. WHMIS .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 acceptable to Labour Canada and Health and Welfare Canada.

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- .2 Deliver copies of WHMIS data sheets to NCC Project Manager on delivery of materials.
16. Health and Safety Coordinator .1 Employ and assign to Work, competent and authorized representative as Health and Safety Coordinator must:
- .1 have minimum two (2) years' site-related working experience specific to activities associated with the work.
 - .2 have basic working knowledge of specified occupational safety and health regulations,
 - .3 be responsible for completing health and safety training session and ensuring that personnel not successfully completing the required training are not permitted to enter site to perform Work,
 - .4 be responsible for implementing, enforcing daily and monitoring site-specific Health and Safety Plan, and
 - .5 be on site during execution of Work.
17. Construction Safety Checklist .1 Obtain NCC Construction Safety checklist from PM and incorporate into checklist for site.
- .2 Review and implement applicable health and safety checklists provided by NCC Project Manager in collaboration with NCC Construction Safety personnel.
18. Overloading .1 Ensure no part of the Work is subjected to loading that will endanger its safety or will cause permanent deformation.
19. Structural Stability .1 Ensure components of new structure and Contractor's temporary structures are braced adequately to ensure stability during work (loss of supporting material or members) and in the event of inclement weather (snow or wind loading).
20. Scaffolding .1 Design and construct scaffolding in accordance with CSA S269.2
21. Falsework .1 Design and construct falsework in accordance with CSA S269.1.
22. Fall Arrest .1 Design, construct and employ fall arrest systems in accordance applicable federal and provincial regulations.
23. Traveller Cables / Winching .1 Design, construct, and operate traveller cables, anchors, and winch systems in accordance with federal and provincial safety regulations and manufacturer specifications.
24. Power Actuated Fasteners .1 Use power actuated devices only after receipt of written

permission from PM.

END OF SECTION

PART 1 – GENERAL

The following environmental measures are typical for work executed in and nearby a watercourse. There are no exceptional measures for this project.

1.1 Fires

- .1 Fires and burning of rubbish on site are not permitted.

1.2 Disposal of Wastes

- .1 Do not bury rubbish and waste materials on site.
- .2 Do not dispose of waste or volatile materials, such as mineral spirits, oil or paint thinner into waterways, storm or sanitary sewers.

1.3 Drainage

- .1 Do not pump water containing suspended materials into waterways, sewer or drainage systems.
- .2 Control disposal or runoff of water containing suspended materials or other harmful substances in accordance with local authority requirements.

1.4 Site Clearing and Plant Protection

- .1 Protect trees and plants on site and adjacent properties where indicated.
- .2 Wrap in burlap, trees and shrubs adjacent to construction work, storage areas and trucking lanes, and encase with protective wood framework from grade level to height of 2 m.
- .3 Protect roots of designated trees to dripline during excavation and site grading to prevent disturbance or damage. Avoid unnecessary traffic, dumping and storage of materials over root zones. Minimise stripping of topsoil and vegetation.
- .4 Do not remove vegetation and trees where there is bird nesting. Restrict tree removal to areas indicated or designated by Engineer.
- .5 Any tree larger than 10 cm of DHP which could be damaged by the equipment during construction shall be protected by putting in place the protection measures shown in standard NQ 0605-100/2001 of Bureau de normalisation du Québec at Part IX: *conservation des arbres et des arbustes lors de travaux d'aménagement et de construction* (available free: <http://www->

es.criq.gc.ca/pls/owa_es/ncw_enaltquete_publique.liste_promo?p_lang=fr)

- .6 Do not degrade/alter the vegetation surrounding the intervention zones in particular the mature trees; install protection structures as needed. Implement tree cutting so to not damage forest edge and avoid them falling to the exterior of deforestation limit or towards watercourse.
7. Branches susceptible to be damaged shall be protected or trimmed. Roots to be trimmed shall be done clean and exposed roots shall be kept wet during the full duration of construction. No tree shall be used as support during works. Tree trunk at risk to be damaged shall be protected with wood pieces disposed on rubber bands.

1.5 Pollution Control

- .1 Maintain temporary erosion and pollution control features installed under this contract.
- .2 Control emissions from equipment and plant to local authorities emission requirements.
- .3 Perform works so to not let any sediments or other demolition materials go into the watercourse. Prevent materials and other extraneous materials from contaminating air and water beyond application area, by providing temporary enclosures.
- .4 Cover or wet down dry materials and rubbish to prevent blowing dust and debris. Provide dust control for temporary roads, construction site and roads during construction.
- .5 Environmental Emergency Plan: An Environmental Emergency Plan (EEP) shall be prepared by the Contractor which outlines a spills response procedure and any other procedures required to deal with potential emergencies. Hence, in the event of a spill, the contractor shall immediately clean up any spills of contamination, water or other substances which may be either detrimental to marine or terrestrial life or quality of surface water, groundwater or soil in accordance with the appropriate federal and provincial guidelines/regulations. If a leak or a problem is detected, corrective measures shall be implemented and maintenance of defective equipment or vehicle shall be executed immediately and at least than 60 meters of any waterways. The contractor will have on site spill containment equipment. The contractor shall notify all appropriate provincial and federal

agencies as required by law and the NCC. Prior to construction, the contractor is required to provide a Spills Response Plan, which will provide specific details on spill management for the project.

- .6 Comply to conditions and to mitigation measures described in Authorization Certificate of du ministère du Développement durable, de l'Environnement et de la Lutte contre les changements climatiques (MDDELCC) obtained by NCC in virtue of Article 22 of the *Loi sur la qualité de l'environnement* (L.Q.E).
- .7 Sensitize the workers to the current presence of the species in peril legally protected in the working area during the start-up meeting on site, such as Butternut tree, Chimney Swift bird, etc.

1.6 Works adjacent to
Waterways

- .1 It is forbidden to circulate with machinery in the creek and swamps.
- .2 When equipment is not used, get it out of protected shoreline 15 m away from watercourse.
- .3 Reduce to the minimum the removal of the vegetation on creek shorelines. Creek shorelines shall be restored to their original condition if they were disturbed by the construction or excavation.
- .4 Do not use waterway beds for borrow material.
- .5 Do not dump excavated fill, waste material or debris in waterways. All debris introduced accidentally in watercourse shall be removed as early as possible.
- .6 No debris shall be accumulated at less than 30 m from watercourse. Localise a temporary depot on site and re-instate the site at its original condition at the end of construction works. Provide site with proper necessary amenities (portable chemical toilets, garbage cans, bins, etc) to prevent any debris dispersion in the environment. Maintain the construction site clean and do not leave garbage or meal remains which could risk to attract animals or modify their behaviour.
- .7 Recuperate and dispose of garbage and debris in conformity with regulations in force. Transport contaminated materials and soils

out of the park at authorized dumping sites approved by NCC and MDDELCC. Transport solid debris and waste out of the park in authorized dumping sites approved by MDDELCC in compliance to rules concerning solid waste.

- .8 Washing of concrete delivery trucks and other equipment used for concrete mixing shall not be done on site. Washing shall be done off construction site at an authorized site outside of NCC lands. All concrete delivery trucks shall recuperate their rinsing water and recycle it in view of its elimination off site at a site respecting all regulated requirements. Washing water and unused concrete shall be recuperated to be disposed at an authorized site outside of NCC lands.
- .9 Concrete shall be mixed off site or prepared on protected surfaces if small quantities are required (for example: minor repairs). Non-used concrete shall be also disposed at a site respecting all regulated requirements. No concrete shall be made directly on the construction site. Concrete necessary to execute work shall be delivered by truck or prepared in the storage area located at more than 60 meters of the watercourse.
- .10 Any intervention in water shall be done out of periods sensitive for the ichthyan species present in waterways (ex. Between April 1st and July 15) to protect the sensitive period in aquatic environment.
- .11 At all times insure the free flow of water current and sufficient water quantity to maintain proper functionality of fish habitat (feeding, stocking, spawning) upstream and downstream of the construction zone. Limit the cumulative footprint of temporary works to one third of the width of waterway measured from the natural high water line so to restrain the speed of current flow by the flow restriction and so impede the free flow of fishes or create erosion problem.
- .12 Take necessary measures to avoid all impacts (ex. Flooding, land emergence, matters in suspension, erosion, etc) upstream and downstream of the construction zone.
- .13 Stabilize soils in intervention zones where there are erosion risks particularly in proximity of waterways.
- .14 Perform works within a dry watercourse. If required to respect the latter condition, an adequate cofferdam well adapted to the site

and works shall be used to dry the work zone and be made of materials easily retractable (example: sheet piles, concrete blocks or other types equivalent approved by NCC) which limits to a minimum the impediments on fish habitat, and shall be supervised by a qualified environment professional who shall put in place an efficient scare away plan for fishes, and shall be put in place progressively as to allow fish to escape which risk to be locked into the enclosed space. If it is not possible to avoid fishes being trapped in enclosed space, recuperate delicately all the captive fishes in the confined or isolated zones of construction site and put them back in the waterway in a sector favoring its survival so to avoid fish death. Insure a constant water flow so to maintain a functional fish habitat. Take necessary measures to make cofferdams watertight, thus to reduce the infiltrating water amount to manage at a minimum. Take necessary measures to avoid impact of temporary work upstream and downstream of the work zone. Conceive and stabilize the temporary work so they resist flooding and avoid erosion problems for the shorelines and bottom of watercourse.

- .15 Design, install and stabilize the temporary works (shoring, cofferdams, etc) so to resist to flooding susceptible during the construction period and to avoid erosion problem to shoreline of river bed.
- .16 The key of the protection rip-rap shall be embedded 15 to 20 centimeters under the creek bed so to encourage the substratum deposition favorable to implant of aquatic herbals.
- .17 Works for the demolition of the existing bridge shall be done form the shoreline, i.e. no temporary impediment will be allowed. Barges could be used, but water is not deep into the creek; insure that bottom of barge is at 600 mm from the bottom of the creek.
- .18 Do not use treated wood at proximity of the watercourse (minimal distance equal at least 15 m from shoreline).
- .19 According the established drawings, restore as much as possible at their original state the contours of the shorelines as well as the slope, profile and substrate bottom of the watercourse, and re-establish the natural downstream and upstream flow of the watercourse. Recuperate the excavated natural soil et re-use it to rehabilitate the affected areas at work completion. The restoration of the vegetation shall be realized as soon as possible at a time adequate for recovery. If the growth season is too advanced to

restore vegetation, stabilize the disturbed soil with the help of an anti-eroding mattress so to limit the migration of fine particules into the watercourse. This mattress shall be removed only during the vegetation work. Re-vegetate the bare areas by planting indigenous non-invasive plants suited for the site with clean top soil and no contaminants, and cover vegetated areas with mulch to prevent erosion and promote the germination of completed work so to stabilize soils permanently. If required, Park biologist will approve plantation drawing, and list of plant species before plantation.

1.7 Special requirements

- .1 Contractor shall respect all measures required to protect fishes and their habitat during the construction by referring to and respecting recommendations of Operational Statements of Department of Fish and Oceans for the short span bridge as described on web site <http://www.dfo-mpo.gc.ca/habitat/what-quoi/os-eo/qc/pdf/span-eng.pdf>. However crossing of waterways is allowed on this project, only one time. The overall work shall be executed within a reason time to minimize impact on the environment.

Special attention shall be carried for the construction and cleaning due to sensitive nature of environment and the permanence of traces or damage on its surface.

- .2 Preventive and control measures of erosion and sediments in running water, as the maintenance of existing vegetation and the installation of temporary retention work (sediment barriers, silt curtains, geotextile membranes, etc) shall be installed appropriately to circle the construction site so to avoid any matter in suspension before entering into the watercourse and these measures shall stay in place until construction work completion. The filtrating curtains shall not have apertures larger than 0.060 mm. As needed, these devices shall be maintained (cleaning or replacement) so to insure their maximum efficiency, and this until the growth of vegetation. Orientate running water so it avoids zones sensitive to erosion, notably the zones affected by construction works.
- .3 Silt turbidity curtains shall be installed along the existing and future abutments and wingwalls and in front of the cofferdams so to avoid any dispersion of matters in suspension into the watercourse. Deploy them in a manner to avoid trapping the fishes inside the closing area.

- .4 A floating platform if necessary shall be used for construction works under the bridge. Tarps or nets shall be placed on platforms so to recuperate all construction debris – refer to 1.7.14.
- .5 Stabilize the residual matters excavated from site so they will not be disperse in watercourse. It shall include covering of depot materials with a net or biodegradable tarp or the planting of plants or bushes, indigenous of preference, on top of it.
- .6 Maintain in good condition all the works protecting the environment.
- .7 Avoid any storing of excavation materials in the zones having mention for species at particular status. It is forbidden to store fine and friable materials (clay, sand, concrete) at the proximity of watercourse so to avoid it washing; when present, remove these materials from site as fast as possible. By taking necessary precautions, avoid transporting fine particles in the aquatic environment outside of immediate work area. Any temporary piling of non-consolidated materials located at less than 30 meters of the watercourse for a period of more than 24 hours shall be protected against erosion, specifically with a geotextile barrier, so to avoid sediment migration towards the watercourse.
- .8 Stabilize all disturbed areas, particularly sloped embankments, as work is progressing. If delay is necessary for a permanent stabilization, control and protection erosion measures shall remain in place to prevent erosion and capture any eroded material.
- .9 No earthwork or excavation shall be executed near watercourse during flooding periods or heavy rains. Avoid circulating and proceeding with excavation works when it rains heavily or during flooding.
- .10 Take all necessary precautions so to avoid soil erosion during temporary closure of construction site.
- .11 Limit to strict minimal clearing, scouring, excavation, earth works and levelling in the working areas. Limit to strict minimal the areas and depths of excavation.
- .12 All temporary works shall be protected for eroding with proper stabilization, with the help of adequate geotextile membrane or

rip-rap. In addition, they shall be built to resist flooding that could occur during construction works.

- .13 All construction activities shall in the area ultimately covered by the bridge, including transport of materials, installation, cleaning, etc.
- .14 Cut tree or residue, construction debris or materials shall not fall into creek. Reduce to the minimum the removal on natural debris made of wood, stone, sand or other materials coming from shore, shoreline or creek bed under the HWL. Insure that all the works done into water or on structures being into the water do not obstruct the passage of fishes and do not reduce the width of waterway neither its flow. Install a platform or nets under the bridge deck to capture debris and diminish the risk of debris falling in the watercourse. Nets for protection/recuperation shall be used under the bridge to recuperate all debris or material during the construction. All construction debris shall be transported off-site at contractor's costs; no debris shall be burnt or dig into ground.
- .15 All tools and equipment shall be filled up at a distance of more than 60 m from the creek; all vehicles shall be filled up with gas and oil out of site totally. Any spilling of petroleum products shall be reported to site inspector and a clean-up shall be immediately done by Contractor as per instructions of NCC. Place a tarp under the machinery if a gas, oil or others fill is felt urgent so to not breakdown, this only exceptionally.
- .16 Motorized equipment shall not cross the river bed except only one crossing. Passage in river at low water level is not allowed. Motorized equipment shall pass by the bridge on Fournier Boulevard located between the two entrances to the construction site.
- .17 Do not store and manipulate oil or gas within 60m of the natural high water line of watercourse.
- .18 Ensure that all heavy machinery is washed before it's use and entering on site; machinery cannot be washed on site. Insure to was machinery before entering on site, at more than 30 m of the natural high water line of the watercourse, in order to limit all deposit of grease or oil within the work area; the contractor is to use machinery and equipment in good working order and showing no oil leaks.

If an oil leak or problem is detected, corrective measures shall be taken and cleaning of machinery or defective machineries shall be done immediately and at least 60 meters of any watercourse. Insure that the machinery is clean and exempt of leaks, invasive species and weeds at its arrival and maintain it in this status afterwards.

- .19 Proceed with inspection of materials (machineries and equipments) before its introduction on site. Maintain the material in perfect condition and verify daily the presence of contaminant leaks. In case of leak/breakage, the material shall be repaired immediately or be excluded from site. Frequent inspections of heavy machinery and equipment will have to be done to ensure good working order (particularly the exhaust system) and to detect leaks of fuel, oil, grease, etc. Proper corrective measures will have to be taken and maintenance done immediately if a problem is detected.
- .20 Shut off any motorized equipment used on site when not used. Do not let motors idling and do not allow the use of generators at least than 2 m from branches and trees. Do not let motors function at night unless indicated otherwise from the NCC representative's approval.
- .21 Use as small equipment as possible. Limit travelling of equipment and machinery. Machinery shall stay at all times into the access road.
- .22 Following completion of construction, seeds and fertilizers shall be spread as soon as possible to help prevent erosion.
- .23 Restrain only vehicular traffic to proposed roadways that shall be identified clearly as shown on drawings. Identify clearly the zones authorized for the machinery traffic. Confine machinery traffic in identified access roads and privileged ways within the intervention zones; machinery traffic is forbidden outside these zones.
- .24 If cutting works in vegetation shall be done during nesting period of migratory birds, a biologist shall do a reconnaissance of work areas to locate active nests so to avoid to disrupt migratory birds during the nesting period (from April 15 to August 31st). If this is not possible, a visual check will be required to validate the presence of active nests in the work area. If active bird nests are observed before or during the work, the

immediate vicinity of the nest should be avoided and work should be stopped in accordance with the Migratory Birds Convention Act and the Migratory Birds Regulations. Park biologists must be contacted to discuss next steps. If work is carried out during the turtle nesting season (May to October), Park biologists could identify, if required, additional mitigation measures to avoid turtle nesting in the work area (ex. installation of exclusion fences before May 1st) or to protect existing nests (eg protection or moving active nests).

- .25 If possible, use equipment with noise reducing devices. Install equipment fixed at locations less sensitive to noise. Install as needed temporary acoustic screens so to reduce noise emanating from construction site.
- .26 Following measures shall be applied to preserve the quality of surface water:
 - .1 Execute works below high water level during the period recommended by DFO for the protection of fish habitat, i.e. from 16th July to 31st of March;
 - .2 A special attention shall be bare on all works executed in aquatic environment so to limit sediments in suspension during the spawning of possible other fish species;
 - .3 Insure at all times the free water flow and a sufficient quantity of water to maintain the functionality of fish habitat (feeding, nursery, spawning) upstream and downstream of the construction area. Take necessary measures to avoid impacts upstream and downstream of the construction area (i.e. flooding, dryness, matters in suspension, erosion, etc).
 - .4 No concrete shall be fabricated directly on construction site. All concrete necessary for the execution of construction shall be delivered by concrete trucks or other transport means.
 - .5 Clean washing of concrete trucks and other equipment used to mix concrete shall not be done at least 30 m from waterways and outside the construction site.
 - .6 Unused concrete shall be also disposed to an authorized dump site.
- .27 Install protection fences on ground around trees located nearby the construction site so to not damage their root system. These fences shall be installed at the vertical limit of tree crown to be protected. Respect as much as possible a minimum distance of 2

meters from trees during excavation and installation of new structures. Minimize impact to tree roots during excavation.

- .28 Avoid any storage of excavated materials in zones with mention of particular status species.
- .29 Except for tree shown on drawings, trees (with outside diameter larger than 10cm) shall not be cut. If cutting of trees with outside diameter larger than 10cm is required, an authorization from *Section for Management of natural resources and of land of NCC Gatineau Park* shall to be obtained by Contractor. These cut trees shall be replaced in a ratio 2 for 1 with non invading species and indigenous in Gatineau Park approved by Park biologists. Contractor shall get his plantation plan approved by NCC before the planting of trees.
- .30 Limit cut of vegetation (diameter at trunk level smaller than 10 cm) to strict minimum, i.e. vegetation impeding access of machinery and construction work. Locate properly the areas to deforest with adequate visual markers and indicate deforestation limit on working drawings. Any additional cut shall be authorized at priori by Parks biologists.
- .31 Execute pruning according following rules :
1. Use pruning-scissors or a pruning saw preferably;
 2. The best to prune a branch is at collar level (bark rim located at 2 to 3 cm from base of branch);
 3. Avoid pruning at the base of branches so to not create a large scar;
 4. Cut out at angle to avoid water infiltration or accumulation in the cut limb surface;
 5. Cut out in sections of 1 metre long maximum;
 6. Disperse branches in nearby forest, with caution to not damage smaller trees which regenerate the glades.
- .32 Fauna on site shall not be hunted, harassed or tracked down.
- .33 All debris shall be collected and eliminated each day, or stocked in safe containers to prevent garbage effects on consuming animals. All motorized vehicles and machinery shall stay in the designated road or pathways to avoid perturbing the fauna habitat.

- .34 Residual matters that cannot be recycled, recuperated or re-used shall be disposed in an appropriate site outside of Park in compliance with applicable requirements of MDDELCC.
- .35 Clean site of all residues. Residual matters on site shall be sorted and, if possible, recycled, recuperated or re-used outside NCC lands. Contractor shall transmit to Gatineau Park biologists (for Park projects) and to NCC Environmental Services a report documenting the volumes and types of materials sorted, recuperated or re-cycled.
- .36 Contractor shall remove all fences and temporary signage. Contractor shall remove debris and garbage before closure of construction site.
- .37 If excavation works are planned, recuperate the excavated vegetal soil and use it to rehabilitate the site following construction completion.
- .38 Clean and remove debris and sediments that obstruct storm sewer drains and dispose of these materials taking care for none falling in watercourse.
- .39 Remove debris manually or with help of machinery used from the shoreline or from floating dam.
- .40 Watercourse bed as well as its shorelines shall be re-instated to their natural condition.
- .41 Contractor shall be responsible for the re-instatement of all degraded areas of fauna habitat within the vicinity of site.
- .42 Re-instate to original condition all damaged ditches by machinery (damage to drainage slope, shoulders of embankments, etc).
- .43 Re-instate to original condition shorelines using known vegetal stabilization technologies which consider stability, erosion sensitivity, slope and height of embankment. Vegetalization works shall be done as soon as possible following earthwork completion by privileging indigenous species in Gatineau Park.
- .44 Re-instate site with vegetal soil and seed with mix approved by Engineer as follows (percentages may vary, substitutions shall be approved) :

- For fields and road shoulders:
 - 50% *Phleum pratense* (Phléole des près);
 - 25% *Poa trivialis* (Pâturin rude);
 - 10% *Agrostis alba* (Agrostide blanche);
 - 8% *Trifolium repens* (Trèfle blanc);
 - 7% *Medicago lupulina* (Luzerne lupuline).

- .45 An emergency intervention kit and recognized absorbents in sufficient quantity will be available on site to be prepared in case of an accidental hydrocarbon leak (petrol products).

- .46 Foresee the implementation and application of an emergency plan in case of an accidental leak of contaminants. Identify properly responsible persons and authorities, as well as the procedures to follow in case of environmental emergency.
In the case of a hydrocarbon leak or any accident which could cause damage to the environment, report immediately to NCC urgency (613-239-5353) and to the Engineer, as well to URGENCE ENVIRONNEMENT QUÉBEC at 1-866-694-5454 or 1-888-626-6663 (extension 32391) and recuperate hydrocarbons and any contaminated soils by a firm specialized in the field (determined by NCC) once leak is contained.
Hydrocarbons and contaminated soils will be recovered by a firm specialized in this field (determined by the NCC) once the spill is contained.

- .47 The Contractor must grant, at any reasonable hour, access to employees from the Ministère des Forêts, de la Faune et des Parcs (MFFP) du Québec and from MDDELCC to the site, in order to ensure that special requirements, listed above, are followed.

- .48 A copy of the authorization of the ministry MDDEP and permit from municipality provided by NCC as well as all documents required to execute the work (i.e. drawings and specifications) shall be available on site at all times during construction so that anyone (foreman, inspector, etc.) can consult them.

- .49 If the contractor cannot respect one of the above mentioned conditions for any reasons, following uncontrollable events for example, he must contact with the Engineer before starting or proceeding with work so that the latter can analyze the situation and modify the authorization, if necessary.

- .50 If human remains are discovered during activities related to project, all works in the affected area shall stop immediately and Contractor shall contact immediately the Engineer and archeologist, NCC Patrimonial Program (Ian Badgley, 613-239-5751). No work shall be done near discovery site of human remains.
If archaeological resources or human remains are discovered during construction, all work at the site must be suspended immediately and the NCC Heritage Program must be notified as soon as possible (Archeology Archeology @ ncc-ccn.ca). Work will not be able to resume at this location until the measures for the protection of these resources or remains have been put in place.
- .51 Discovery of archeological artifacts during the construction shall require immediate interruption of works at this location until a complete evaluation of site is performed by a qualified archeologist. The regional direction of l'Outaouais du ministère de la Culture, des Communications et de la Condition féminine (819 772-3002) et the Archeologist, NCC Patrimonial Program (613 239-5678 poste 5751) shall be contacted by the Contractor.
- .52 Contractor shall pump water accumulating in the cofferdams in a tamper vegetation zone or a decantation basin, this at 30 m from creek before returning pumped water into the waterway so to limit sediment dispersion. Pump shall be installed out of waterways. It includes the installation of sieve at the upstream extremity of pumping conduit and installation of a waterproof membrane (polythene sheet for example) long enough at downstream extremity of pumping conduit to prevent erosion of creek bed and shorelines. Pumping water to a downstream buffer vegetation zone before returning to the stream. Care should be taken to minimize the input of suspended solids, including installing the pump tip in a vacuum to prevent suction of sediment.
- .53 Prior to start of construction, identify on a drawing the location for all filtration devices (sediment barriers/curtains, sedimentation basins, etc) and install them according the plan approved by the NCC representative. Identify on a drawing the locations where pumped water full of sediments in suspension coming from the isolated zone of the cofferdams (for the removal of the abutments and construction of the new

abutments/walls) and execute according the plan approved by the NCC representative. In no time this water must not be going in the marshes or directly into the waterway. This water shall be rejected at not less than 30 m from Meech Creek. Prior to start of construction, All efficient erosion control measures so to avoid sediments to fall in waterways and latter shall stay in place until completion of works. Inspect works regularly and as needed bring required corrections.

- .54 Recuperate and dispose debris according regulations in place. Transport material and contaminated soils in authorized dump sites. Dispose excavated material in an adequate site for this purpose. No debris shall be accumulated at less than 30 meters of waterways. Locate temporary storage site on construction area and re-instate site to its original conditions at the end of construction. Provide on site all necessary equipment (portable chemical toilets, garbage cans, bins, etc) to prevent debris dispersion in the environment. Avoid with all necessary precautions any transportation of fine particles in the aquatic environment outside the immediate construction area. Do not store material or park machinery at less than 30 meters from any waterways (i.e. creeks and their tributaries, humid lands, rivers, lakes and reservoirs).
- .55 Transport used oil residue from use of equipment and debris to a site approved to this effect.
- .56 Comply to conditions and mitigation measures stipulated in the authorized certificate of Ministère des Ressources naturelles et de la faune (MRNF) obtained by the Commission in virtue of the *Loi sur la conservation et la mise en œuvre de la faune*.
- 57. Use clean material (exempt of fine particles) for the installation of cofferdam and privilege use of membrane to insure waterproofing of cofferdam.
- 58. Execute works so to optimize traffic on site and use of material as well as material transport. Limit travelling of machinery and vehicles within the necessary construction areas.
- 59. Avoid any debris, concrete or wet grout residue in waterways and natural settings. All debris introduced accidentally in waterways shall be removed immediately with minimal disruption possible.

60. Contractor shall be imposed penalties by local and/or provincial authorities if Contractor does not enforce all required environmental mitigation clauses and measures.
61. Identify as shown on drawings the permitted areas for storage of material of demolition and reconstruction of bridge (refer to Section Construction/Demolition Waste Management and Disposal). Identify on a drawing the areas to be protected without any delay and present the methodologie(s) used (protection mattress, geotextile, rip-rap, etc). The marsh area located west of the bridge shall be prioritized first (refer to Section Construction/Demolition Waste Management and Disposal). The installation of protection fences around the sensitive areas shall be done so to not degrade temporarily or permanently these areas.
62. Determine and use a temporary and isolated storage area on the site for the excavated materials or if necessary for the storage of gas, oil, petroleum products or contaminants. This material shall be stored at a distance of more 60m of waterways and in an area of small slope.
63. If generators are used, insure that gas tank of each has a double shell and is installed on a waterproof surface with a high lip so to avoid any spill.
64. Elaborate a Construction/Demolition Waste Management and Disposal Plan compliant to regulations in place. Avoid rain infiltration in the excavated material and debris stored temporarily by covering them with waterproof tarpaulins during period rains, work stoppages and/or at the end of each working days.
65. Except in the areas or rip-rap, put in place measures so to insure the stability of shorelines and the quick recovery of soil vegetation in the areas of intervention at the end of construction work with plantation of indigenous species approved by the NCC and adapted to the specificities of the site and of regional climate.
66. Execute work of vegetation cutting before April 15 so to avoid the nesting period of birds. According the Law for the migratory birds, no nest of active migratory bird can be disrupted or destroyed. More exactly:

- If the nests containing eggs or fledglings of migratory birds are spotted or discovered during the construction activities, all intrusive activities at the proximity of nesting ground must ceased until the nesting period is completed.
 - Any found nest shall be protected with the help of a damper zone based on the protection distance appropriate for the bird species, to the intensity of the disruption and to the surrounding habitat type, and this until the fledglings have naturally left permanently the nest environment.
 - Even if the nest is empty, it shall be preferably left into place, as certain species of migratory birds use them year after year.
67. If the presence of contaminated soils is observed or suspected during the works (eg soil stains, odors, presence of deleterious substances such as ashes, slag, waste, glass, bricks, metal, etc.), work must stop immediately and the Contractor must notify the NCC Project Manager.
68. Only clean and contaminant-free materials should be used (eg, stones, soil, etc.). Works under the natural high water line must consist of consolidated materials free from fine particles.
69. Secure the location of butternut trees (species at risk) with T-post and marker ribbons so machinery cannot access this site.
70. In the eventuality where works reveal the confirmed or suspicious presence of a new individual which is part of a species with particular status, works shall cease and the responsible authorities shall be notified so to take the proper protection measures.
71. Any animal (mammals, amphibians and reptiles) spotted during the work must be able to leave the site itself safely. Workers should not attempt to capture or handle most animals. Notify the NCC Project Manager if there is a particular issue with wildlife in the work area (eg, injured animal).

1.8 Methods of construction

- .1 Contractor shall use methods of construction approved by MDDELCC and the National Capital Commission.

END OF SECTION

1. Related Sections .1 Section 01 11 01 - Pay Item Descriptions
2. Access .1 Provide and maintain adequate access to project site.
- .2 If authorized to use existing roads, parking and paths for access to project site, maintain these for duration of Contract and make good damage resulting from Contractors' use.
- .3 Clean all areas used by Contractor's equipment.
- .4 Upon request, NCC will authorize the Contractor sole access to all of the parking lot during the work if required. If granted, the contractor will be responsible for securing this parking area from public access until the project is complete.
3. Sanitary Facilities .1 On-site toilets at the nearby P16 parking lot may be used.
- .2 If necessary, provide sanitary facilities for work force in accordance with governing regulations and ordinances.
- .3 Post notices and take such precautions as required by local health authorities. Keep area and premises in sanitary condition.
4. Parking .1 Do not park vehicles on grassed surfaces except where designated and previously authorized by the NCC Project Manager. Do not park on or block adjoining streets except where authorized by the local authorities.
- .2 A 20m x 20m section of the northeast corner of the nearby P16 parking lot may be used for parking as well as a storage area.
5. Drainage .1 Refer to Section 01 35 43 - Environmental Procedures for site drainage requirements.
6. Temporary Facilities .1 Remove temporary facilities from site when directed by NCC Project Manager.
7. Water .1 Contractor is to procure or provide their own source of water.
8. Electrical Power .1 Contractor is to procure or provide their own source of electrical power.
9. Shoring .1 Secure approval of shoring, scaffolding, and all temporary

structures erected during construction.

10. Staging Areas

- .1 Establish staging and temporary work areas in locations approved by PM. Secure staging and temporary work areas from public access and operate in a manner that ensures public safety.
- .2 Remove or relocate staging areas as directed by PM.
- .3 When work on site is stopped for a period of time Contractor may with the approval of the PM close or relocate staging areas.
- .4 Contractor is responsible for security of material, equipment and structures left on or near site.

END OF SECTION

- 1. General
 - .1 Use new material and equipment unless otherwise specified.
 - .2 Within 5 days of written request by NCC Project Manager, submit following information for materials and equipment proposed for supply:
 - .1 name and address of manufacturer,
 - .2 trade name, model and catalogue number,
 - .3 performance, descriptive and test data,
 - .4 manufacturer's installation or application instructions,
 - .5 evidence of arrangements to procure.
 - .2 Use products of one manufacturer for material and equipment of same type or classification unless otherwise specified.
- 2. Section Includes
 - .1 Product quality, availability, storage, handling, protection, and transportation.
 - .2 Manufacturer's instructions.
 - .3 Quality of Work, coordination and fastenings.
- 3. Precedence
 - .1 For Federal Government projects, Division 1 Sections take precedence over technical specification sections in other Divisions of this Project Manual.
- 4. 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.
 - .3 Conform to these reference standards, in whole or in part as specifically requested in specifications.
 - .4 If there is question as to whether any product or system is in conformance with applicable standards, NCC Project Manager reserves right to have such products or systems tested to prove or disprove conformance.
 - .5 Cost for such testing will be borne by Owner in event of conformance with Contract Documents or by Contractor in event of non-conformance.

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

5. Quality

- .1 Products, materials, equipment and articles (referred to as products throughout specifications) incorporated in Work shall be new, not damaged or defective, and of best quality (compatible with specifications) for purpose intended. If requested, furnish evidence as to type, source and quality of products provided.
- .2 Defective products, whenever identified prior to completion of Work, will be rejected, regardless of previous inspections. Inspection does not relieve responsibility, but is precaution against oversight or error. Remove and replace defective products at own expense and be responsible for delays and expenses caused by rejection.
- .3 Should any dispute arise as to quality or fitness of products, decision rests strictly with NCC Project Manager based upon requirements of Contract Documents.
- .4 Unless otherwise indicated in specifications, maintain uniformity of manufacture for any particular or like item throughout building.
- .5 Permanent labels, trademarks and nameplates on products are not acceptable in prominent locations, except where required for operating instructions, or when located in mechanical or electrical rooms.

6. Availability

- .1 Immediately upon signing Contract, review product delivery requirements and anticipate foreseeable supply delays for any items. If delays in supply of products are foreseeable, notify NCC Project Manager of such, in order that substitutions or other remedial action may be authorized in ample time to prevent delay in performance of Work.
- .2 In event of failure to notify NCC Project Manager at commencement of Work and should it subsequently appear that Work may be delayed for such reason, NCC Project Manager reserves right to substitute more readily available products of similar character, at no increase in Contract Price or Contract Time.

7. Storage,

- .1 Handle and store products in manner to prevent damage,

Handling and Protection

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 material and equipment in accordance with suppliers instructions.
- .5 Store cementitious products clear of earth or concrete floors, and away from walls.
- .6 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.
- .7 Store sheet materials and lumber on flat, solid supports and keep clear of ground. Slope to shed moisture.
- .8 Store and mix paints in heated and ventilated enclosure. Remove oily rags and other combustible debris from site daily. Take every precaution necessary to prevent spontaneous combustion.
- .9 Remove and replace damaged products at own expense and to satisfaction of NCC Project Manager.
- .10 Touch-up damaged factory finished surfaces to NCC Project Manager's satisfaction. Use touch-up materials to match original. Do not paint over name plates.

8. Transportation

- .1 Pay costs of transportation of products required in performance of Work.
- .2 Transportation cost of products supplied by Owner will be paid for by Owner. Unload, handle and store such products.

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

10. 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 NCC Project Manager if required Work is such as to make it impractical to produce required results.
- .2 Do not employ anyone unskilled in their required duties. NCC Project Manager 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 NCC Project Manager, whose decision is final.

11. Co-Ordination

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

12. Remedial Work

- .1 Perform remedial work required to repair or replace parts or portions of Work identified as defective or unacceptable. Coordinate adjacent affected Work as required.
- .2 Perform remedial work by specialists familiar with materials affected. Perform in a manner to neither damage nor put at risk any portion of Work.

13. Fastenings

- .1 Provide metal fastenings and accessories in same texture, colour and finish as adjacent materials, unless indicated otherwise.
- .2 Prevent electrolytic action between dissimilar metals and materials.
- .3 Use non-corrosive hot dip galvanized steel fasteners and anchors for securing exterior work, unless stainless steel or other material is specifically requested in affected

specification Section.

- .4 Space anchors within individual load limit or shear capacity and ensure they provide positive permanent anchorage. Wood, or any other organic material plugs are not acceptable.
- .5 Keep exposed fastenings to a minimum, space evenly and install neatly.
- .6 Fastenings which cause spalling or cracking of material to which anchorage is made are not acceptable.

14. Fastenings -
Equipment

- .1 Use fastenings of standard commercial sizes and patterns with material and finish suitable for service.
- .2 Use heavy hexagon heads, semi-finished unless otherwise specified.
- .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.
- .5 Use oversized washers where indicated on the Contract Drawings or elsewhere in the Contract Specifications.
- .6 Seek authority from NCC Project Manager prior to using explosive actuated tools and ensure trades are appropriately trained and licensed for these tools.

15. Protection of
Work in Progress

- .1 Prevent overloading of any part of the work. Do not modify, cut, drill or sleeve any load bearing structural member, unless specifically indicated without written approval of NCC Project Manager.

16. Existing Utilities

- .1 With the assistance of authorities having jurisdiction, locate and mark underground and overhead services at the work site and associated areas.
- .2 Tie-in to local utilities must be pre- approved by authorities having jurisdiction.
- .3 When breaking into or connecting to existing services or utilities, execute Work at times directed by local governing authorities, with minimum of disturbance to Work and pedestrian and vehicular traffic.

- .4 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.

17. Contractor's Options for Selection of Materials for Tendering

- .1 Materials specified by referenced standard, select any material that meets or exceeds the specified standard.
- .2 Where materials are required to be listed on the "Canadian General Standards Board, Qualified Products List" select any manufacturer so listed.
- .3 Materials specified by "Prescriptive" or "Performance" specification, select any material meeting or exceeding specification.
- .4 Materials specified by naming one or more materials, select any material named. For the purpose of these specifications, the term "Acceptable Material" is deemed to be a complete and working commodity as described by a manufacturer's name, catalogue number, trade name or any combination thereof.
- .5 When materials are specified by a Standard, Prescriptive or Performance specifications, upon request of the NCC Project Manager, obtain from manufacturer an independent testing laboratory reporting, showing that the material or equipment meets or exceeds the specified requirements.

18. Substitution

- .1 No substitutions will be permitted without prior written approval of NCC Project Manager.
- .2 Proposals for substitution may only be submitted after award of contract. Such request must include statements of respective costs of items originally specified and the proposed substitution. Refer to GI15 Approval of Alternative Materials in the Instructions To Tenderers for instructions on submitting substitution
- .3 Proposals will be considered by NCC Project Manager if:
 - .1 materials selected by tenderer from those specified are not available;
 - .2 delivery date of materials selected from those materials specified would unduly delay completion of contract, or
 - .3 alternative material to those specified, which are brought to

the attention of and considered by NCC Project Manager as equivalent to the material, specified and will result in a credit to the Contract amount.

- .4 Should proposed substitution be accepted either in part or in whole, assume full responsibility and costs when substitution affects other work on project. Pay for design or drawing changes required as result of substitution.
- .5 Amounts of all credits arising from approval of substitutions will be determined by NCC Project Manager and Contract Price will be reduced accordingly.

19. Construction Equipment and Plant

- .1 On request, prove to the satisfaction of NCC Project Manager that the construction equipment and plant are adequate to manufacture, transport, place and finish work to quality and production rates specified. If inadequate, replace or provide additional equipment or plant as directed.
- .2 Maintain construction equipment and plant in good operating order.

END OF SECTION

1. General

- .1 Conduct cleaning and disposal operations to comply with local ordinances and anti-pollution laws.
- .2 Store volatile waste in covered metal containers, and remove from premises at end of each working day.

2. Materials

- .1 Use only cleaning materials recommended by manufacturer of surface to be cleaned, and as recommended by cleaning material manufacturer.

3. Cleaning During Construction

- .1 Provide on-site containers for collection of waste materials, and debris.
- .2 Dispose of waste materials, and debris off site.
- .3 Remove grease, dust, dirt, stains, and other foreign materials from timber stairs, concrete and asphalt parking areas, and associated structures on a daily basis and always before staining occurs.

4. Final Cleaning

- .1 Remove grease, dust dirt, stains, labels, and other foreign materials from exterior finished surfaces.
- .2 Broom clean paved surfaces; rake clean other surfaces of grounds.
- .3 Remove debris and surplus materials from site.

END OF SECTION

PART 1 - GENERAL

- 1.1 Section Includes .1 Includes Waste Audit, Waste Reduction Workplan, Materials Source Separation Program, and Cost/Revenue Analysis Workplan. Lists significant generic types of products, work, or requirements specified. Does not include procedure, process, preparatory work, or final adjusting and cleaning.
- 1.2 Regulatory Requirements .1 Ensure all work is performed in compliance with all federal and provincial legislation and applicable standards.
- 1.3 Reference .1 Federal Legislation
- .1 Canadian Environmental Protection Act (CEPA) 1999, c.33, C-15.31, (Assented to September 14, 1999), 2004, c. 15; 2005, c. 23.
 - .2 Canadian Environmental Assessment Act (CEAA) (2012) L.C. 2012, c. 19, art. 52 Assented to 2012-06.
 - .3 Transportation of Dangerous Goods Act (TDGA) 1992, c. 34, T-19.01, (Assented to June 23, 1992), 1992, c. 34; 1994; c. 26; 1997, c. 9; 1999, c. 31.
 - .4 Motor Vehicle Safety Act (MVSA) 1995. Ref 1993, c. 16, M-10.01, (Assented to May 6, 1993, Act in force April 12, 1995), 1993, c. 16, 2.2; 1999, c. 33, s. 350.
- 1.4 Definitions .1 Waste Audit (WA): Relates to projected waste generation. Involves measuring and estimating quantity and composition of waste, reasons for waste generation, and operational factors which contribute to waste. Indicates quantities of reuse, recycling and landfill
- .2 Waste Reduction Workplan (WRW): Written report which addresses opportunities for

- reduction, reuse, or recycling of materials. WRW is based on information acquired from WA (Schedule A).
- .3 Demolition Waste Audit (DWA): Relates to actual waste generated from project.
 - .4 Materials Source Separation Program (MSS P): Consists of a series of ongoing activities to separate reusable and recyclable waste material into material categories from other types of waste at point of generation.
 - .5 Waste Management Coordinator (WMC): Designate individual who is in attendance on-site, full-time. Designate, or have designated, individuals from each Subcontractor to be responsible for waste management related to their trade and for coordinating activities with WMC.
 - .6 Separate Condition: Refers to waste sorted into individual types.
 - .7 Alternate Disposal: The reuse and recycling of materials by a designated facility, user or receiving organization which has a valid License or Certificate of Approval to operate. The alternative to landfill disposal.
 - .8 Disassembly: The physical detachment of materials from a structure. Includes prying, pulling, cutting, unscrewing, etc.
 - .9 Site Representative: National Capital Commission (NCC) representative.
 - .10 High Recovery Demolition/Deconstruction: The systematic dismantling of a structure to salvage materials for reuse. What cannot be reused is considered subsequently for recycling. The ultimate objective is to recover

potentially valuable resources while diverting what has traditionally been a significant portion of the waste stream from landfill.

- .11 Hauler: A company, possessing appropriate and valid License of Certificate of Approval, contracted to transport waste and/or reusable/recyclable materials off site to designated facility, user or receiving organization.
- .12 Hazardous Materials: Dangerous substances, dangerous goods, hazardous commodities and hazardous products, such as poisons, corrosive agent, flammable substances, ammunition, explosives, radioactive substances, or any other material that can endanger human health or well-being or the environment if handled improperly.
- .13 Inert Fill: inert waste - exclusively asphalt and concrete.
- .14 Processing: Tasks which are subsequent to disassembly. Includes moving materials, de-nailing, cleaning, separating, stacking, etc.
- .15 Recyclable: ability of product or material to be recovered at end of its life cycle and re manufactured into new product for reuse.
- .16 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.
- .17 Reuse: repeated use of product in same form but not necessarily for same

purpose. Reuse includes:

- Salvaging reusable materials from re modelling projects, before demolition stage, for resale, reuse on current project or for storage for use on future projects.
- Returning reusable items including pallets or unused products to vendors.

.18 Used Building Material Receipt: Receipt issued to end destination of materials designated for alternate disposal.

.19 Weigh Bill: Receipt received from a recycling facility indicating the weight and content of each load/bin of material.

1.5 Documents

- .1 Maintain at job site, one copy of following documents:
- .1 Waste Audit
 - .2 Waste Reduction Workplan
 - .3 Material Source Separation Plan
 - .4 Schedules completed for project.

1.6 Use of Site and Facilities

- .1 Execute work with least possible interference or disturbance to normal use of premises.
- .2 Maintain security measures established by existing facility.

1.7 Submittal

- .1 Submit requested submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2 The WMC is responsible for the fulfilment of all reporting requirements.
- .3 Prepare and submit the following submittals prior to [project start-up]:
- .1 Submit 2 copies of completed Waste Audit (WA): Schedule A.
 - .2 Submit 2 copies of completed Waste Reduction Workplan (WRW): Schedule B.

- .3 Submit 2 copies of completed Demolition Waste Audit (DWA): Schedule C.
- .4 Submit 2 copies of Materials Source Separation Program description.
- .4 Submit copies of receipts, scale tickets, waybills from authorized disposal sites and reuse and recycling facilities for all material removed from site to NCC Project Manager on a weekly basis or upon request.
- .5 Submittals shall provide:
 - Time and date of removal.
 - Description of materials.
 - Weight, volume or quantities of materials.
 - Container number and Licence Plate number.
 - Breakdown of reused, recycled or landfilled quantities
 - End destination of materials.

.6 Sample Submittal

3R' s DEMOLITION WASTE REPORT		
00001		Report Number
DATE		% REUSE
TIME		% RECYCLE
MATERIAL		% LANDFILL
QUANTITY		
CONTAINER AND LICENCE PLATE NO.		
DESTINATION		
Waste Management Coordinator's Name (print)		
Hauler / Recipient's Name (print)		
Hauler / Recipient's Signature		

.6 Written authorization from NCC Project Manager is required to deviate from the haulers, facilities or receiving organizations listed in the Waste Reduction Workplan

1.8 Qualifications

- .1 Provide adequate workforce training through meetings and demonstrations.
- .2 Have someone on site with high recovery demolition/deconstruction experience throughout the project for consultation and supervision purposes.
- .3 All workers, haulers and subcontractors shall possess current, applicable Certificates of Approval and Licenses in accordance with all applicable federal and provincial regulations to remove, handle and dispose of wastes (hazardous

and non-hazardous). Provide proof of compliance within 24 hours upon written request of NCC Project Manager.

1.9 Waste Audit

- .1 Conduct WA prior to project start-up.
- .2 Prepare Waste Audit: Schedule A.
- .3 Record, on Waste Audit - Schedule A, extent to which materials or products used consist of recycled or reused materials or products.

1.10 Waste Reduction Workplan

- .1 Prepare WRW prior to project start-up per the example at Appendix 1 to this section.
- .2 Structure WRW to prioritize actions and follow 3R's hierarchy, with Reduction as first priority, followed by Reuse, then Recycle.
- .3 Describes management of waste.
- .4 Identify opportunities for reduction, reuse, and/or recycling (3Rs) of materials. Based on information acquired from WA.
- .5 WRW should include but not limited to:
 - Destination of materials listed.
 - Deconstruction/disassembly techniques and sequencing.
 - Schedule for deconstruction/disassembly.
 - Location.
 - Security.
 - Protection.
 - Clear labelling of storage areas.
 - Details on materials handling and removal procedures.
 - Quantities for materials to be salvaged for reuse or recycled and materials sent to landfill.

- .6 Post workplan or summary where workers at site are able to review its content.

1.11 Demolition
Waste Audit

- .1 Prepare Demolition Waste Audit (DWA) prior to project start-up.
- .2 Complete Demolition Waste Audit (DWA): Schedule C.

1.12 Materials
Source Separation
Program

- .1 Prepare MSSP and have ready for use prior to project start-up.
- .2 Implement MSSP for waste generated on project in compliance with approved methods and as approved by NCC Project Manager.
- .3 Provide on-site facilities for collection, handling, and storage of anticipated quantities of reusable and/or recyclable materials.
- .4 Provide containers to deposit reusable and/or recyclable materials.
- .5 Locate containers in locations, to facilitate deposit of materials without hindering daily operations.
- .6 Locate separated materials in areas which minimize material damage.
- .7 Collect, handle, store on-site, and transport off-site, salvaged materials in separate condition. Transport to approved and authorized recycling facility.
- .8 Collect, handle, store on-site, and transport off-site, salvaged materials in combined condition. Ship materials to site operating under Certificate of Approval. Materials must be immediately separated into required categories for reuse of recycling.

1.13 Waste Processing Sites

- .1 Contractor shall identify the approved waste processing site he plans on using during the project pertaining to reuse and/or recycling of materials.

Quebec.

Reference MRC des Collines de l'Outaouais report, Table 7.1

<http://www.mrcdescollinesdeloutaouais.qc.ca/images/pdf/PGMR%20-%20Final.pdf> :

Centre de tri RMSO
815, rue Vernon Aylmer Qc J9H 5E1
Téléphone : (819) 772-9151 Télécopieur :
(819) 772-9337

Ontario.

WM (Waste Management)
2383 Carp Rd., Carp Telephone: 800-665-1898 or
2301 Carp Rd., Carp Telephone: 800-267-7874

BFI Navan
3354 Navan Rd., Orleans Telephone: 613-824-7289

Wood Source (wood)
6178 Mitch Owens Manotick 613-822-6800

1.14 Disposal of Wastes

- .1 Burying of rubbish and waste materials is prohibited unless approved by NCC Project Manager.
- .2 Disposal of waste, volatile materials, mineral spirits, oil and paint thinner into waterways, storm, or sanitary sewers is prohibited.

1.15 Storage,
Handling and
Protection

- .1 Store, materials to be reused, recycled and salvaged in locations as directed by NCC Project Manager.
- .2 Unless specified otherwise, materials for removal become Contractor's property.
- .3 Protect, stockpile, store and catalogue salvaged items.
- .4 Separate non-salvageable materials from salvaged items. Transport and deliver non-salvageable items to licensed disposal facility.
- .5 Prevent contamination of materials to be salvaged and recycled and handle materials in accordance with requirements for acceptance by designated facilities.
 - On site source separation is recommended.
 - Remove co-mingled materials to off-site processing facility for separation.
 - Provide waybills for separated materials.

1.16 Scheduling

- .1 Coordinate work with other activities at site to ensure timely and orderly progress of the work.

PART 2 - PRODUCTS

2.1 Not Used

- .1 Not Used.

PART 3 - EXECUTION

3.1 Application

- .1 Do work in compliance with WRW.
- .2 Handle waste materials not reused, salvaged, or recycled in accordance with appropriate regulations and codes.

- 3.2 Cleaning
- .1 Remove tools and waste materials on completion of work, and leave work area in clean and orderly condition.
 - .2 Clean-up work area as work progresses.

- 3.3 Diversion of Materials
- .1 From following list, separate materials from general waste stream and stockpile in separate piles or containers, to approval of NCC Project Manager, and consistent with applicable fire regulations. Mark containers or stockpile areas. Provide instruction on disposal practices.
 - .2 On-site sale of recyclable materials is not permitted.
 - .3 Demolition and Site Preparation Waste (table below)

Material Type	Recommended Diversion %	Actual Diversion %
Metals	[100]	[]
Rubble	[100]	[]
Wood (uncontaminated)	[100]	[]
Soil (uncontaminated)	[100]	[]
Other		[]

- .4 Construction Waste (table below)

Material Type	Recommended Diversion %	Actual Diversion %
Cardboard	[100]	[]
Plastic Packaging	[100]	[]
Metals	[100]	[]
Rubble	[100]	[]
Wood (uncontaminated)	[100]	[]
Soil (uncontaminated)	[100]	[]
Other		[]

3.4 Waste Audit .1 Schedule A

(1) Material Category	(2) Material Quantity Unit	(3) Estimated Waste %	(4) Total Quantity of Waste (unit)	(5) Generation Point	(6) Percent Recycled	(7) Percent Reused
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Concrete

Metals

Timber

Soil

Other

3.5 Waste Reduction .1 Schedule B
Workplan

(1) Material Category	(2) Person(s) Responsible	(3) Total Quantity of Waste (unit)	(4) Reused Amount (units) projected	(5) Actual Recycled Amount	(6) Actual Material Destination
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Concrete

Metals

Timber

Soil

Other

3.6 Demolition .1 Demolition Waste Audit
Waste Audit

(1) Material Description	(2) Quantity	(3) Unit	(4) Total	(5) Volume (m ³)	(6) Weight	(7) Remarks and Assumptions
Concrete						
Metals						
Timber						
Soil						
Other						

3.8 Canadian .1 Schedule E
 Governmental
 Departments Chief
 Responsibility for
the Environment

Province	Address	General Inquires	Fax
Ontario	Ministry of Environment and Energy 135 St. Clair Avenue West Toronto, ON M4V 1P5	(416) 323-4321 1-800-565-4923	(416) 323-4682
	Environment Canada Toronto, ON	(416) 734-4494	
Québec	Ministère de l'Environnement et de la Faune, Siège social 150 boul, René-Léves que est Québec, QC G1R 4Y1	(418) 643-3127 1-800 561-1616	(418) 646-5974
	Conseil de la conservation et de l'environnement 800 Place d'Youville, 19e étage Québec, QC G1R 3P4	(418) 643-3818	

END OF SECTION

1. Record Drawings

- .1 NCC Project Manager will provide two sets of white prints for record drawing purposes.
- .2 Maintain project record drawings and record accurately deviations from Contract documents.
- .3 Record changes in red. Mark on one set of prints and at completion of project and prior to final inspection, neatly transfer notations to second set and submit both sets to NCC Project Manager.
- .4 Record field information:
 - .1 Field changes of dimension and detail.
 - .2 Changes made by Change Order or Field Order.
 - .3 Depths of various elements.
 - .4 Horizontal and vertical location of underground utilities and appurtenances referenced to permanent surface improvement.
- .5 Other project record documents:
 - .1 Maintain a record of all other construction documents in an easily accessible (by NCC Project Manager) format such as:
 - testing results
 - product data
 - telephone and fax numbers of all suppliers, subcontractors and testing agencies and contact persons for each.
 - .2 Copies of material tickets for all items paid by unit weight or volume.
 - .3 Copies of all correspondence with utilities concerned.
 - .4 Updated schedule.
 - .5 All NCC Project Manager's written approvals issued as permission to use alternative equipment, etc.

END OF SECTION

PART 1 - GENERAL

- 1.1 Related Sections
- .1 Section 01 11 01 – Pay Item Descriptions
 - .2 Section 01 74 21 – Waste Management and Disposal
 - .3 Section 31 23 10 – Excavation, Trenching, and Backfilling
 - .4 Section 01 35 43 – Environmental Procedures
 - .5 Section 35 20 22 – Dewatering
 - .6 Section 35 49 25 – Turbidity Curtains
- 1.2 Measurement Procedures
- .1 There will be no measurement of Demolition Work.
 - .2 Payment of Demolition Work shall be included in the Lump Sum Price for “Remove Existing Bridge Structure”.
 - .3 Refer to Section 01 11 01 – Pay Item Descriptions
- 1.3 Protection
- .1 Protect existing items designated to remain and items designated for salvage. In event of damage to such items, immediately replace or make repairs to approval of Engineer at no cost to Owner.

PART 2 - PRODUCTS Not used.

PART 3 - EXECUTION

- 3.1 Preparation
- .1 Inspect site with Engineer and verify extent and location of items designated for removal, disposal, alternative disposal, recycling, salvage, and items to remain.
 - .2 Locate and protect utilities. Preserve active utilities traversing site in operating condition.
 - .3 Notify and obtain approval of utility companies before starting demolition.
- 3.2 Sequence of Operation
- .1 Removal and salvage
 - .1 Remove and salvage items as indicated.
 - .2 Do not disturb items designated to remain in place.
 - .2 Disposal of Material
 - .1 Dispose of materials not designated for salvage or re-

use in approved facility off-site.

- .3 Backfilling
 - .1 Perform backfilling where indicated and in accordance with the requirements of section 31 23 10 – Excavating, Trenching, and Backfilling.

3.3 Restoration

- .1 Restore areas and existing works outside areas of demolition to match condition of adjacent, undisturbed areas.

3.4 Cleanup

- .1 Upon completion of work, remove debris, trim surfaces, and leave work site clean.

END OF SECTION

PART 1 - GENERAL

- 1.1 Related Sections
- .1 Section 01 74 21 – Waste Management and Disposal.
 - .2 Section 03 20 00 – Concrete Reinforcement.
 - .3 Section 03 30 00 - Cast-in-Place Concrete.
 - .4 Section 05 12 34 - Prefabricated Steel Bridges
- 1.2 Measurement Procedures
- .1 No measurement will be made under this Section. Include costs in items of work for which concrete formwork and falsework is required Section 03 30 00.
- 1.3 References
- .1 Canadian Standards Association (CSA)
 - .1 CAN/CSA-A23.1-04, Concrete Materials and Methods of Concrete Construction.
 - .2 CAN/CSA-O86-01, Engineering Design in Wood (Limit States Design).
 - .3 CSA O121-M1978 (R2003), Douglas Fir Plywood.
 - .4 CSA O151-04, Canadian Softwood Plywood.
 - .5 CSA O153-M1980 (R2003), Poplar Plywood.
 - .6 CAN3-O325.1-88, Construction Sheathing.
 - .7 CSA O437 Series-93 (R2001), Standards for OSB and Waferboard.
 - .8 CSA S269.1-1975 (R2003), Falsework for Construction Purposes.
 - .9 CAN/CSA-S269.3-M92 (R2003), Concrete Formwork.
 - .2 Council of Forest Industries of British Columbia (COFI)
 - .1 COFI Exterior Plywood for Concrete Formwork.
- 1.4 Shop Drawings
- .1 Submit shop drawings for formwork and falsework in accordance with Section 01 33 00 - Submittal Procedures.
 - .2 Indicate method and schedule of construction, shoring, stripping and re-shoring procedures, materials, arrangement of joints, special architectural exposed finishes, ties, liners, and locations of temporary embedded parts. Comply with CSA S269.1, for falsework drawings. Comply with CAN/CSA-S269.3, for formwork drawings.
 - .3 Indicate formwork design data, such as permissible rate of concrete placement, and temperature of concrete, in forms.

- .4 Indicate sequence of erection and removal of formwork/falsework as directed by NCC Project Manager.
- .5 Each shop drawings shall be signed and sealed by a qualified structural engineer licensed to practice in Canada, in the province of Québec.

1.5 Waste Management and Disposal

- .1 Separate and recycle waste materials in accordance with Section 01 74 21 – Construction and Demolition Waste Management and Disposal and the Waste Reduction Workplan.
- .2 Place materials defined as hazardous or toxic waste in designated containers.
- .3 Ensure emptied containers are sealed and stored safely for disposal away from children.
- .4 Use sealers, form release and stripping agents that are non-toxic, biodegradable and have zero or low VOC's.

PART 2 - PRODUCTS

2.1 Materials

- .1 Formwork materials:
 - .1 Use new plywood and wood formwork materials or reusable formwork approved by the NCC Project Manager in accordance with CSA-O121 and CAN/CSA-O86.1 requirements.
- .2 Form release agent: chemically active release agents containing compounds that react with free lime in concrete resulting in water insoluble soaps.
- .3 Form stripping agent: colourless mineral oil, free of kerosene, with viscosity between 70 and 110s Saybolt Universal at 40°C, flashpoint minimum 150°C, open cup.
- .4 Falsework materials: to CSA-S269.1.

PART 3 - EXECUTION

3.1 Fabrication and Erection

- .1 Verify lines, levels and centres before proceeding with formwork/falsework and ensure dimensions agree with drawings.
- .2 Obtain NCC Project Manager's approval for use of earth forms framing openings not indicated on drawings.

- .3 Hand trim sides and bottoms and remove loose earth from earth forms before placing concrete.
 - .4 Fabricate and erect falsework in accordance with CSA S269.1 and COFI Exterior Plywood for Concrete Formwork.
 - .5 Formwork shall be new or undamaged.
 - .6 Provide site drainage to prevent washout of soil supporting mud sills and shores, keeping in mind the provisions of Section 01 35 43 regarding preventing migration of deleterious material into the watercourse.
 - .7 Fabricate and erect formwork in accordance with CAN/CSA-S269.3 to produce finished concrete conforming to shape, dimensions, locations and levels indicated within tolerances required by CAN/CSA-A23.1.
 - .8 Align form joints and make watertight. Keep form joints to minimum.
 - .9 Use 25 mm chamfer strips on external corners and/or 25 mm fillets at interior corners, joints, unless specified otherwise.
 - .10 Form chases, slots, openings, drips, recesses, expansion and control joints as indicated.
 - .11 Build in anchors, sleeves, and other inserts required to accommodate Work specified in other sections. Assure that all anchors and inserts will not protrude beyond surfaces designated to receive other pieces of the Work unless otherwise indicated.
 - .12 Line forms for following surfaces:
 - .1 Exposed faces of abutments and wingwalls. Do not stagger joints of form lining material. Align joints to obtain uniform pattern.
 - .13 Clean formwork in accordance with CAN/CSA-A23.1, before placing concrete.
 - .14 If slip forming and flying forms are used, submit details of equipment and procedures for NCC Project Manager's approval.
- 3.2 Removal and
- .1 Leave formwork in place for minimum 7 days after placing

Reshoring

concrete.

- .2 Re-use formwork and falsework subject to requirements of CAN/CSA-A23.1.

END OF SECTION

PART 1 - GENERAL

- 1.1 Related Sections
- .1 Section 01 74 21 –Waste Management and Disposal
 - .2 Section 03 10 00 – Concrete Forming and Accessories
 - .3 Section 03 30 00 - Cast-in-Place Concrete
- 1.2 Measurement Procedures
- .1 Measurement will be made under this Section per the Unit Price Table provided at Section 01 11 01. Include costs for placement in items of concrete work for which reinforcement is required Section 03 30 00.
- 1.3 References
- .1 American Concrete Institute (ACI)
 - .1 ACI 315R-04, Manual of Engineering and Placing Drawings for Reinforced Concrete Structure.
 - .2 American National Standards Institute/American Concrete Institute (ANSI/ACI)
 - .1 ANSI/ACI 315-99, Details and Detailing of Concrete Reinforcement.
 - .3 American Society for Testing and Materials (ASTM)
 - .1 ASTM A 775/A 775M-04a, Specification for Epoxy-Coated Reinforcing Steel Bars.
 - .4 Canadian Standards Association (CSA)
 - .1 CAN/CSA-A23.1-04, Concrete Materials and Methods of Concrete Construction.
 - .2 CAN3-A23.3-04, Design of Concrete Structures for Buildings.
 - .3 CAN/CSA-G30.18-M92 (R2002), Billet-Steel Bars for Concrete Reinforcement.
 - .4 CAN/CSA-G40.21-04, Structural Quality Steels.
 - .5 CAN/CSA-G164-M92 (R2003), Hot Dip Galvanizing of Irregularly Shaped Articles.
 - .6 CSA W186-M1990 (R2002) Welding of Reinforcing Bars in Reinforced Concrete Construction.
- 1.4 Shop Drawings
- .1 Submit shop drawings including placing of reinforcement in accordance with Section 01 33 00 - Submittal Procedures.
 - .2 Indicate on shop drawings, bar bending details, lists, quantities of reinforcement, sizes, spacings, locations of reinforcement and mechanical splices if approved by NCC Project Manager, with identifying code marks to permit correct placement without reference to structural drawings. Indicate sizes,

spacings and locations of chairs, spacers and hangers. Prepare reinforcement drawings in accordance with Reinforcing Steel Manual of Standard Practice - by Reinforcing Steel Institute of Canada. ANSI/ACI 315 and ACI 315R, Manual of Engineering and Placing Drawings for Reinforced Concrete Structure.

- .3 Detail lap lengths and bar development lengths to CAN3-A23.3, unless otherwise indicated. Provide type C tension lap splices unless otherwise indicated.

1.5 Waste Management and Disposal

- .1 Separate and recycle waste materials in accordance with Section 01 74 21 – Construction and Demolition Waste Management and Disposal and the Waste Reduction Workplan.

PART 2 - PRODUCTS

2.1 Materials

- .1 Substitute different size bars only if permitted in writing by NCC Project Manager.
- .2 Reinforcing steel: billet steel, grade 400W, deformed bars to CAN/CSA-G30.18, unless indicated otherwise.
- .3 Cold-drawn annealed steel wire ties: to CSA G30.3.
- .4 Deformed steel wire for concrete reinforcement: to CSA G30.14.
- .5 Welded deformed steel wire fabric: to CSA G30.15. Provide in flat sheets only.
- .6 Galvanizing of non-prestressed reinforcement: to CSA G164, minimum zinc coating 600 g/m². Touch-up primer for galvanized surfaces: zinc rich primer in accordance with ONCG 1-GP-181a.
- .7 Chairs, bolsters, bar supports, spacers: to CAN/CSA-A23.1.
- .8 Mechanical splices: subject to approval of NCC Project Manager.
- .9 Plain round bars: to CAN/CSA-G40.21.

2.2 Fabrication

- .1 Fabricate reinforcing steel in accordance with CAN/CSA-A23.1, ANSI/ACI 315, and Reinforcing Steel Manual of Standard Practice by the Reinforcing Steel Institute of Canada unless indicated otherwise.

- .2 Obtain NCC Project Manager's approval for locations of reinforcement splices other than those shown on placing drawings.
- .3 Upon approval of NCC Project Manager, weld reinforcement in accordance with CSA W186.
- .4 Ship bundles of bar reinforcement clearly identified in accordance with bar bending details and lists.

2.3 Source Quality Control

- .1 Upon request, provide NCC Project Manager with certified copy of mill test report of reinforcing steel, showing physical and chemical analysis, minimum 4 weeks prior to commencing reinforcing work.
- .2 Upon request inform NCC Project Manager of proposed source of material to be supplied.

PART 3 - EXECUTION

3.1 Field Bending

- .1 Do not field bend or field weld reinforcement except where indicated or authorized by NCC Project Manager.
- .2 When field bending is authorized, bend without heat, applying a slow and steady pressure.
- .3 Replace bars that develop cracks or splits.

3.2 Placing Reinforcement

- .1 Place reinforcing steel as indicated on reviewed placing drawings and in accordance with CAN/CSA-A23.1.
- .2 Use plain round bars as slip dowels in concrete. Paint portion of dowel intended to move within hardened concrete with [one coat of asphalt paint]. When paint is dry, apply a thick even film of mineral lubricating grease.
- .3 Prior to placing concrete, obtain NCC Project Manager's approval of reinforcing material and placement.
- .4 Ensure cover to reinforcement is maintained during concrete pour.
- .5 Protect coated portions of bars with covering during transportation and handling.

3.3 Field Touch-up

- .1 Touch up damaged and cut ends of epoxy coated or galvanized reinforcing steel with compatible finish to provide continuous

coating.

END OF SECTION

PART 1 - GENERAL

- 1.1 Related Sections
- .1 Section 01 11 01 – Pay Item Descriptions.
 - .1 Section 01 74 21 – Waste Management and Disposal.
 - .2 Section 03 10 00 – Concrete Forms and Accessories.
 - .3 Section 03 20 00 – Concrete Reinforcing.
- 1.2 Measurement Procedures
- .1 For cast-in-place concrete, measurement will be based on cubic metre of concrete placed and shall be broken up under the items as indicated in the Unit Price Table in Section 01 11 01 – Pay Item Descriptions. Costs for forming shall be included in the payment as well as other related activities as indicated in Section 01 11 01 – Pay Item Descriptions.
- 1.3 References
- .1 Canadian General Standards Board (CGSB)
 - .1 CAN/CGSB-19.24-M90, Multicomponent, Chemical-Curing Sealing Compound.
 - .2 Canadian Standards Association (CSA)
 - .1 CAN/CSA-A23.1-04, Concrete Materials and Methods of Concrete Construction.
 - .2 CAN/CSA-A23.2-04, Methods of Test for Concrete.
 - .3 CAN/CSA-A3000-03-A5-03, Portland Cement.
 - .4 CAN/CSA-G30.18-M92 (R2002), Billet-Steel Bars for Concrete Reinforcement.
- 1.4 Submittals
- .1 Submittals in accordance with Section 01 33 00 - Submittal Procedures.
 - .2 Shop Drawings
 - .1 Submit placing drawings prepared in accordance with plans to clearly show size, shape, location and all necessary details of reinforcing.
 - .2 Submit drawings showing formwork and falsework design to: CAN/CSA-A23.1.
 - .3 Drawings to bear stamp and signature of qualified professional engineer registered or licensed in province of Québec, Canada.
- 1.5 Waste Management and Disposal
- .1 Separate and recycle waste materials in accordance with Section 01 74 21 – Waste Management and Disposal.

- .2 Collect and separate plastic, paper packaging and corrugated cardboard in accordance with Waste Management Plan.
- .3 Place materials defined as hazardous or toxic in designated containers.
- .4 Ensure emptied containers are sealed and stored safely.
- .5 Use trigger operated spray nozzles for water hoses.
- .6 Designate cleaning area for tools to limit water use and runoff.

PART 2 - PRODUCTS

2.1 Materials

- .1 Portland cement: to CAN/CSA-A3000-A5, Type GU.
- .2 Reinforcing bars: to CAN/CSA-G30.18, Grade 400W.
- .3 Other concrete materials: to CAN/CSA-A23.1.

2.2 Mixes

- .1 Proportion concrete in accordance with CAN/CSA-A23.1.
- .2 Minimum compressive strength at 28 days, 35 MPa
- .3 Class of exposure: F-1 to CAN/CSA-A23.1, Table 11.
- .4 Nominal maximum size of coarse aggregate: to CAN/CSA-A23.1.
- .5 Slump: to CAN/CSA-A23.1.
- .6 Air content: concrete to contain purposely entrained air in accordance with CAN/CSA-A23.1, Table 10.
- .7 Admixtures: to CAN/CSA-A23.1.
- .8 Concrete placed by tremie shall meet the above requirements and all other requirements as outlined in CAN/CSA-A23.1

PART 3 - EXECUTION

3.1 Construction

- .1 Do cast-in-place concrete work in accordance with CAN/CSA-A23.1.

3.2 Inserts

- .1 Cast in sleeves, ties, slots, anchors, reinforcement, frames,

conduit, bolts, waterstops, joint fillers and other inserts required to be built-in. Sleeves and openings greater than 100 mm x 100 mm not indicated, must be approved by NCC Project Manager.

3.3 Finishes

- .1 Formed surfaces exposed to view: in accordance with CAN/CSA-A23.1.
- .2 Pavements, walks, curbs and exposed site concrete:
 - .1 Screed to plane surfaces and use wood floats.
 - .2 Provide round edges and joint spacings using standard tools.
 - .3 Trowel smooth to provide lightly brushed non-slip finish.

3.4 Curing

- .1 Cure and protect concrete in accordance with CAN/CSA-A23.1 as amended by the contract documents.
 - .1 Do not use curing compounds where bond is required by subsequent topping or coating.
 - .2 Winter condition protection starts by November 1, 2018 and are at Contractor's cost.

3.5 Site Tolerances

- .1 Concrete slab finishing tolerance in accordance with CAN/CSA-A23.1.

3.6 Field Quality Control

- .1 Concrete testing: to CAN/CSA-A23.2 by testing laboratory designated by NCC Project Manager.

END OF SECTION

PART 1 - GENERAL

- 1.1 Related Sections
- .1 Section 01 11 01 – Description of Pay Items
 - .2 Section 01 33 00 - Submittal Procedures
 - .3 Section 01 61 00 - Common Product Requirements
 - .4 Section 01 74 21 - Waste Management And Disposal
 - .5 Section 06 10 11 - Timber
- 1.2 Measurement Procedures
- .1 Refer to Section 01 11 01 – Description of Pay Items.
- 1.3 References
- .1 American Society for Testing and Materials International, (ASTM)
 - .1 ASTM A325-14, Standard Specification for Structural Bolts, Steel, Heat Treated, 120/105ksi Minimum Tensile Strength.
 - .2 Canadian Standards Association (CSA International)
 - .1 CSA G40.20/G40.21-13, General Requirements for Rolled or Welded Structural Quality Steel/Structural Quality Steel.
 - .2 CAN/CSA G164-M92(R2013), Hot Dip Galvanizing of Irregularly Shaped Articles.
 - .3 CAN/CSA S6-14, Canadian Highway Bridge Design Code.
 - .4 CAN/CSA S16-14, Limit States Design of Steel Structures.
 - .5 CSA W48-13, Filler Metals and Allied Materials for Metal Arc Welding.
 - .6 CSA W59-13, Welded Steel Construction, (Metal Arc Welding) (Metric version).
- 1.4 Shop Drawings
- .1 Submit shop drawings in accordance with Section 01 33 00 - Submittal Procedures.
 - .2 Each drawing submitted to bear signature and stamp of qualified professional engineer registered or licensed in province of Quebec, Canada.
 - .3 Indicate shop and erection details including shop splices, cuts, copes, connections, holes, bearing plates, threaded fasteners, rivets and welds. Indicate welds by CSA W59, welding

symbols.

- .4 Submit description of methods, temporary bracing and strengthening, sequence of erection and type of equipment proposed for use in erecting structural steel.

1.5 Delivery, Storage, and Handling

- .1 Deliver, store and handle in accordance with Section 01 61 00 - Common Product Requirements.
- .2 Provide protective blocking for lifting, transportation and storing.
 - .1 Exercise care during fabrication, transportation and erection so as not to damage girders.
 - .2 Do not notch edges of members.
 - .3 Do not cause excessive stresses.
- .3 Mark mass on members weighing more than 3 tonnes.
- .4 Ensure that no portion of steel comes into contact with ground.

1.6 Waste Management and Disposal

- .1 Separate and recycle waste materials in accordance with Section 01 74 21 - Waste Management And Disposal.
- .2 Remove from site and dispose of packaging materials at appropriate recycling facilities.
- .3 Divert unused metal materials from landfill to metal recycling facility approved by the NCC Project Manager.

PART 2 - PRODUCTS

2.1 Materials

- .1 Structural steel: to CSA G40.20 / G40.21, Grade 350W; hot-dipped galvanized
- .2 Steel plates: to CSA G40.20 / G40.21, Grade 300W; hot-dipped galvanized.
- .3 Bolts, threaded rods, and anchors: to ASTM A325 with matching nuts and washers unless noted otherwise; hot-dipped galvanized.
- .4 Bearings: to CSA G40.20/G40.21, Grade 300W elastomer bearing pads of neoprene meeting requirements of CSA S6-14, with a hardness of 55.
- .5 Welding electrodes: to CSA W48 series.

- .6 Hot dip galvanizing: to CAN/CSA G164.

PART 3 - EXECUTION

3.1 Examination

- .1 Contractors is responsible to verify dimensions and condition of existing conditions, report discrepancies and potential problem areas to NCC Project Manager for direction before commencing fabrication.

3.2 Installation

- .1 Do fabrication and erection of structural steel in accordance with CAN/CSA-S6, Design of Highway Bridges.
- .2 Do welding in accordance with CSA W59, except where specified otherwise.
 - .1 Do welding in shop unless otherwise permitted by NCC Project Manager.
 - .2 Weld only at locations indicated.
- .3 High strength bolting: in accordance with CAN/CSA S6 and CAN/CSA S16. Use 'turn-of-nut' tightening method.
- .4 Finish: members true to line, free from twists, bends, open joints, sharp corners and sharp edges.
- .5 Mark members in accordance with CSA G40.20/G40.21.
 - .1 Do not use die stamping.
 - .2 Place marking at locations not visible from exterior after erection when steel is to be left in unpainted condition.

END OF SECTION

PART 1 - GENERAL

- 1.1 Related Sections
- .1 Section 01 11 01 – Pay Item Descriptions
 - .2 Section 01 33 00 – Submittal Procedures
 - .3 Section 01 61 00 – Common Product Requirements
 - .4 Section 01 74 21 – Waste Management And Disposal
 - .5 Section 05 12 33 – Structural Steel for Bridges
- 1.2 Measurement Procedures
- .1 Materials and work to be included in unit price for supply and install as follows:
 - .1 New timber deck: square meter
 - .2 New timber pedestrian barrier: linear meter
 - .2 Refer to Section 01 11 01 – Description of Pay Items
- 1.3 References
- .1 CAN/CSA-S6-14, Canadian Highway Bridge Design Code.
 - .2 CSA-B111-1974 (R1998), Wire Nails, Spikes and Staples.
 - .3 CAN/CSA-O141-91 (R1999), Softwood Lumber.
 - .4 CAN/CSA-G164-M92 (R1998), Hot Dip Galvanizing of Irregularly Shaped Objects.
 - .5 CAN/CSA-O86, Engineering Design in Wood.
 - .6 National Building Code of Canada 2015.
 - .7 National Lumber Grades Authority (NLGA), Standard Grading Rules for Canadian Lumber.
- 1.4 Quality Assurance
- .1 Approved lumber shall be identified by a grade stamp from an agency certified by the Canadian Lumber Standards Accreditation Board.
- 1.5 Submittals
- .1 Certification timber species and grade from the supplier for review by the Contract Administrator.

PART 2 - PRODUCTS

- 2.1 Lumber Material
- .1 All lumber shall be untreated eastern hemlock, minimum grade No.1 unless noted otherwise on the contract drawings.

.2 Provide smooth, round edges where indicated on the contract drawings.

2.2 Fasteners

.1 Bolts and threaded rods shall be of length and sizes per the contract drawings. Grade of bolts and threaded rods shall be as indicated on the Contract Drawings.

.2 Lag screws: to ASME B18.2.1.

.3 Any other fasteners required shall be as specified elsewhere in the contract or as directed on Site by the Contract Administrator.

.4 Use galvanized fasteners only (bolts, threaded rods, lag screws, nuts, washers, etc.).

.5 Use oversized washers where indicated on the contract drawings.

.6 All galvanization shall be done according to CAN/CSA G164-FM92(R2013).

PART 3 - EXECUTION

3.1 Construction

.1 Comply with requirements of the CAN/CSA-S6-06, CAN/CSA-O86-14, and the National Building Code of Canada 2015.

.2 Install all timber, fasteners, and clips / brackets as indicated on the contract drawings.

.3 Countersink bolts as indicated and where necessary to provide clearance for other work.

.4 All exposed sides of the railings shall be sanded smooth.

.5 Fasteners shall be installed at locations and spacings as indicated on the contract drawings. Where not indicated, install fasteners as per CAN/CSA-O86-14 and the National Building Code of Canada 2015.

.6 Follow all construction notes and details indicated on the contract drawings.

END OF SECTION

PART 1 - GENERAL

- 1.1 Related Sections
- .1 Section 01 11 01 - Pay Item Descriptions
 - .2 Section 01 35 14 - Special Procedure: Traffic Control
 - .3 Section 01 35 43 - Environmental Procedures
- 1.2 Measurement Procedures
- .1 Refer to Section 01 11 01 – Pay Item Descriptions
- 1.3 References
- .1 ASTM C117-90, Test Method for Material Finer Than 0.075 mm No. 200 Sieve in Mineral Aggregates by Washing.
 - .2 ASTM C136-92, Method for Sieve Analysis of Fine and Coarse Aggregates.
 - .3 ASTM D422-63 1990, Method for Particle-Size Analysis of Soils.
 - .4 ASTM D698-91, Test Method for Laboratory Compaction Characteristics of soil Using Standard Effort (12,400 ft-lbf/ft) (600 kN-m/m).
 - .5 ASTM D1557-91, Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft) (2,700 kN-m/m).
 - .6 ASTM D4318-84, Test Method for Liquid Limit, Plastic Limit, and Plasticity Index of Soils.
 - .7 CAN/CGSB-8.1-88, Sieves, Testing, Woven Wire, Inch Series.
 - .8 CAN/CGSB-8.2-M88, Sieves, Testing, Woven Wire, Metric.
 - .9 CAN/CSA-A23.1-M94, Concrete Materials and Methods of Concrete Construction.
- 1.4 Definitions
- .1 Excavation classes:
 - .1 Common excavation: excavation of materials of whatever nature.
- 1.5 Existing Conditions
- .1 Examine the sub-surface investigation report by Englobe provided in the Appendix, entitled:
Soil Investigation: Trail #50 Bridge Replacement.

Preliminary Design Report, Englobe, January 2018.

1.6 Protection of Existing Features

- .1 Existing buried utilities and structures:
 - .1 Size, depth and location of existing utilities and structures as indicated are for guidance only. Completeness and accuracy are not guaranteed.
 - .2 Prior to commencing excavation work, notify applicable owner or authorities having jurisdiction; establish location and state of use of buried utilities and structures. Owners or authorities having jurisdiction to clearly mark such locations to prevent disturbance during work.
 - .3 Confirm locations of buried utilities by careful test excavations.
 - .4 Maintain and protect from damage, water, sewer, gas, electric, telephone and other utilities and structures encountered.
 - .5 Where utility lines or structures exist in area of excavation, obtain direction of NCC Project Manager before re-routing. Costs for such work to be paid by Owner.
 - .6 Record location of maintained, re-routed and abandoned underground lines.
- .2 Existing surface features:
 - .1 Conduct, with NCC Project Manager, condition survey of trees and other plants, lawns, fencing, service poles, wires, pavement, survey bench marks and monuments which may be affected by work.
 - .2 Where required for excavation, cut roots or branches as approved by NCC Project Manager in accordance with Section 01 35 43 - Environmental Procedures.
 - .3 Protect trees slated for protection by the NCC Project Manager in accordance with Section 01 35 43 – Environmental Procedures.

1.7 Shoring, Bracing, and Underpinning

- .1 Protect existing features in accordance with applicable local regulations.
- .2 Where required, engage services of qualified professional engineer who is registered or licensed in the province of Québec, Canada to design and inspect shoring, bracing and underpinning required for work. Design and supporting data submitted to bear stamp and signature of this qualified professional engineer.
- .3 Submit design and supporting data to NCC Project Manager

at least 2 weeks prior to commencing work.

PART 2 - PRODUCTS

2.1 Materials

- .1 Type 1 and Type 2 fill: properties to section 02701 -
Aggregates: General and the following requirements:
 - .1 Crushed, pit run or screened stone, gravel or sand.
 - .2 Gradations to be within limits specified when tested to ASTM C136 and ASTM C117. Sieve sizes to CAN/CGSB-8.1.

Sieve Designation	% Passing	
	Type 1	Type 2
75 mm	-	100
50 mm	-	-
37.5 mm	-	-
25 mm	100	-
19 mm	75-100	-
12.5 mm	-	-
9.5 mm	50-100	-
4.75 mm	30-70	22-85
2.00 mm	20-45	-
0.425 mm	10-25	5-30
0.180 mm	-	-
0.075 mm	3-8	0-10

- .2 Type 3 fill: selected material from excavation or other sources, approved by NCC Project Manager for use intended, unfrozen and free from rocks larger than 75 mm, cinders, ashes, sods, refuse or other deleterious materials.
- .3 Unshrinkable fill: proportioned and mixed to provide:
 - .1 Maximum compressive strength of 0.4 MPa at 28 days.
 - .2 Maximum Portland cement content of 25 kg/m.
 - .3 Minimum strength of 0.07 MPa at 24h.
 - .4 Concrete aggregates: to CAN/CSA-A23.1.
 - .5 Portland cement: Type 10.
 - .6 Slump: 160 to 200 mm.

PART 3 - EXECUTION

3.1 Site Preparation

- .1 Remove obstructions, ice, and snow from surfaces to be excavated within limits indicated.

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- 3.2 Stripping of Topsoil
- .1 Strip topsoil to depths as directed by NCC Project Manager. Do not mix topsoil with subsoil.
 - .2 Stockpile in locations as directed by NCC Project Manager. Stockpile height not to exceed 2 m.
 - .3 Dispose of unused topsoil off site.
- 3.3 Stockpiling
- .1 Stockpile fill materials in areas designated by NCC Project Manager. Stockpile granular materials in manner to prevent segregation.
 - .2 Protect fill materials from contamination.
- 3.4 Shoring, Bracing and Underpinning
- .1 Construct temporary works to depths, heights, and locations as required.
 - .2 During backfill operation:
 - .1 Unless otherwise as indicated or as directed by NCC Project Manager, remove sheeting and shoring from excavations.
 - .2 Do not remove bracing until backfilling has reached respective levels of such bracing.
 - .3 Pull sheeting in increments that will ensure compacted backfill is maintained at an elevation at least 500 mm above toe of sheeting.
- 3.5 Dewatering and Heave Prevention
- .1 Keep excavations free of water while work is in progress.
 - .2 Submit for NCC Project Manager's review details of proposed dewatering or heave prevention methods, such as sandbags, dikes, well points, and sheet pile cut-offs.
 - .3 Excavations are expected to be below ground water table. Prevent piping or bottom heave of excavations by groundwater lowering, sheet pile cut-offs, or other means.
 - .4 Protect open excavations against flooding and damage due to surface run-off or heavy rainfall.
 - .5 Dispose of water in accordance with Section 01 35 43 - Environmental Procedures, as described in Section 01 11 01 – Pay Item Descriptions, and in manner not detrimental to public and private property, or any portion of work completed or under construction.
 - .6 Provide flocculation tanks, settling basins, or other

treatment facilities to remove suspended solids or other materials before discharging to storm sewers, water courses, or drainage areas.

3.6 Excavation

- .1 Excavate soil to lines, grades, elevations and dimensions as indicated in contract drawings, as required for safe abutment construction, and as indicated by NCC Project Manager.
- .2 Excavation must not interfere with normal 45° splay of bearing from bottom of any footing.
- .3 Do not disturb soil within branch spread of trees or shrubs that are to remain. If excavating through roots, excavate by hand and cut roots with sharp axe or saw.
- .4 Dispose of surplus and unsuitable excavated material off site.
- .5 Do not obstruct flow of surface drainage or natural watercourses.
- .6 Earth bottoms of excavations to be undisturbed soil, level, free from loose, soft or organic matter.
- .7 Notify NCC Project Manager when bottom of excavation is reached.
- .8 Obtain NCC Project Manager approval of completed excavation.
- .9 Remove unsuitable material from trench bottom to extent and depth as directed by NCC Project Manager.
- .10 Correct unauthorized over-excavation as follows:
 - .1 Fill under bearing surfaces and footings with concrete specified for footings.
 - .2 Fill under other areas with Type 2 fill compacted to not less than 95% of corrected maximum dry density.
- .11 Hand trim, make firm and remove loose material and debris from excavations. Where material at bottom of excavation is disturbed, compact foundation soil to density at least equal to undisturbed soil.

3.7 Fill Types and Compaction

- .1 Use fill of types as indicated on drawings. Compaction

densities are percentages of maximum densities obtained from ASTM D698 ASTM D1557 corrected maximum dry density.

3.8 Bedding and Surround of Underground Services

- .1 Place bedding and surround material in unfrozen condition.

3.9 Backfilling

- .1 Do not proceed with backfilling operations until NCC Project Manager has inspected and approved installations.
- .2 Areas to be backfilled to be free from debris, snow, ice, water and frozen ground.
- .3 Do not use backfill material which is frozen or contains ice, snow or debris.
- .4 Place backfill material in uniform layers not exceeding 150 mm compacted thickness up to grades indicated. Compact each layer before placing succeeding layer.
- .5 Backfill around installations.
- .6 Place bedding and surround material as specified elsewhere.
- .7 Do not backfill around or over cast-in-place concrete within 24 hours after placing of concrete.

3.10 Restoration

- .1 Upon completion of work, remove waste materials and debris, trim slopes, and correct defects as directed by NCC Project Manager.
- .2 Use temporary plating to support traffic loads over unshrinkable fill for initial 24 hours.

END OF SECTION

PART 1 - GENERAL

- 1.1 Related Sections .1 Section 01 33 00 – Submittal Procedures.
.2 Section 01 11 01 – Pay Item Descriptions.
- 1.2 References .1 CAN/CGSB-4.2-{M88}, Textile Test Methods
.2 CAN/CGSB-148.1, Methods of Testing Geotextiles and Geo-membranes
.1 No. 3-85, thickness of Geotextiles
.2 No. 7.3-92, grab Tensile Test for Geotextiles
.3 No. 6.1-93, Bursting Strength of Geotextiles
.4 No. 10-94, Filtration Opening Size
.5 No. 4-94, Normal Water Permeability
- 1.3 Samples .1 Submit product data and samples in accordance with Section 01 33 00 – Submittal Procedures.
.2 Submit the following samples to Contract Administrator at least 1 week prior to commencing work. Minimum length of 2m of roll width of geotextile.
- 1.4 Delivery and Storage .1 During delivery and storage protect geotextile from direct sunlight, ultraviolet rays, excessive heat, mud, dirt, dust, debris and rodents.

PART 2 - PRODUCTS

- 2.1 Geotextiles Beneath Rock Protection .1 Non-woven geotextile, supplied in rolls
.2 Physical properties:
.1 Grab strength ≥ 660 Newtons
.2 Elongations at break ≥ 15 per cent
- 2.2 Geotextiles for Silt Fence .1 Woven Geotextile having a width of 1.0m minimum supplied in rolls
.2 Filtration Opening Size (FOS) of ≤ 840 microns meeting CAN/CGSB 148.1 Method 10.2

PART 3 - EXECUTION

- 3.1 Installation of Geotextiles Under Pathway .1 Place geotextile material by unrolling onto graded surface.

- .2 Place geotextile material smooth and free of tension stress, folds, wrinkles and creases.
- .3 Overlap each successive strip of geotextile at least 450 mm over previously laid strip.
- .4 Protect installed geotextile material from, displacement, damage or deterioration before and during placement of stones.
- .5 Cover with granular material within 4 hours of placement.
- .6 Replace damage or deteriorated geotextile to approval of the NCC Representative.

END OF SECTION

PART 1 - GENERAL

- 1.1 Related Sections
- .1 Section 01 11 01 – Pay Item Descriptors
 - .2 Section 01 33 00 - Submittal Procedures
 - .3 Section 01 61 00 - Common Product Requirements
 - .4 Section 01 74 21 - Waste Management And Disposal
- 1.2 Measurement Procedures
- .1 Refer to Section 01 11 01 – Pay Item Descriptions.
- 1.3 References
- .1 American Society for Testing and Materials International, (ASTM)
 - .1 ASTM A325M-10, Specification for High Strength Bolts for Structural Steel Joints (Metric).
 - .2 A123/A123M-09, Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products
 - .2 Canadian Standards Association (CSA International)
 - .1 CSA G40.20/G40.21-13, General Requirements for Rolled or Welded Structural Quality Steel/Structural Quality Steel.
 - .2 CAN/CSA G164-M92(R2013), Hot Dip Galvanizing of Irregularly Shaped Articles.
 - .3 CAN/CSA S6-14, Canadian Highway Bridge Design Code.
 - .4 CAN/CSA S16-14, Limit States Design of Steel Structures.
 - .5 CSA W48-13, Filler Metals and Allied Materials for Metal Arc Welding.
 - .6 CSA W59-13, Welded Steel Construction, (Metal Arc Welding) (Metric version).
 - .7 CSA W47.1-09, Certification of Companies for Fusion Welding of Steel Structures.
- 1.4 Submittals
- .1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.
 - .2 Submit shop drawings for the new helical piles.
 - .3 Shop drawings shall bear the stamp and signature of a Professional Engineer licensed in the province of Quebec, Canada.
 - .4 Product Data: submit manufacturer's printed product literature,

specifications and datasheet.

- .5 Sub-surface investigation report: when site conditions differ from those indicated, submit written notification to the NCC Project Manager and await further instructions.
- .6 Submit schedule of planned sequence of driving to the NCC Project Manager for review, as specified.
- .7 Spliced piles: when authorized, submit design details of splice complete with signature and stamp of qualified professional engineer registered or licensed in the Province of Quebec, Canada.
- .8 Equipment:
 - .1 Submit prior to pile installation for review and approval by NCC Project Manager, list and details of equipment for use in installation of piles.
 - .2 Impact hammers: submit manufacturer's written data as specified.
 - .3 Non-impact methods; submit characteristics to evaluate performance.
- .9 Instructions: submit manufacturer's installation instructions.
- .10 Quality assurance submittals:
 - .1 Test reports: submit 1 copies of certified test reports for piles from approved independent testing laboratories, indicating compliance with specifications for specified performance characteristics and physical properties.
 - .2 Certificates: submit certificates signed by manufacturer certifying that materials comply with specified performance characteristics and physical properties.
 - .3 Pile inspections shall be carried out by the Geotechnical Engineer retained by the Contractor.

1.5 Delivery, Storage, and Handling

- .1 Deliver, store and handle materials in accordance with Section 01 61 00 - Common Product Requirements and manufacturer's instructions.
- .2 Protect piles from damage due to excessive bending stresses, impact, abrasion or other causes during delivery, storage and handling.
- .3 Replace damaged piles as directed by NCC project manager.

1.6 Waste Management and Disposal

- .1 Separate and recycle waste materials in accordance with Section 01 74 21 - Waste Management And Disposal.
- .2 Divert unused metal materials from landfill to metal recycling facility approved by the NCC Project Manager.

1.7 Existing conditions

- .1 Sub-surface investigation report is bound into specification in the Appendices.
- .2 Notify the NCC Project Manager in writing if subsurface conditions at site differ from those indicated and await further instructions.

1.8 Scheduling

- .1 Provide schedule of planned sequence of driving to NCC Project Manager for review, not less than two weeks prior to commencement of pile driving.

PART 2 - PRODUCTS

2.1 Materials

- .1 Structural steel, steel sections and plates shall conform to CAN/CSA-G40.20-04/ G40.21-04, Grade 350W.
- .2 Bolts, nuts and washers shall conform to ASTM A325M.
- .3 Welding materials shall conform to CSA W59-M1989. Class of electrode shall be E480XX.
- .4 All structural steel for helical piles shall be hot dip galvanized to ASTM A123.
- .5 Helical Piles to be hot dip galvanized.
- .6 The contractor is responsible for designing and detailing each helical pile to withstand approximate axial compression loads and tensile loads as indicated on the Contract Drawings.
- .7 The helical piles shall be designed, supplied, and installed by the Contractor.

2.2 Fabrication

- .1 Structural steel shall be fabricated in conformance with CAN/CSA-S6 and the reviewed shop drawings.
- .2 Verify site dimensions before proceeding with shop fabrication to suit field conditions.

PART 3 - EXECUTION

3.1 Preparation

- .1 Protection:
 - .1 Protect adjacent structures, services and work of other sections from hazards due to pile driving operations.
 - .2 Arrange sequencing of pile driving operations and methods to avoid damages to adjacent existing structures.
 - .3 When damages occur, remedy damaged items to restore to original or better condition at own expense.
- .2 Ensure that ground conditions at pile locations are adequate to support pile driving operation and load testing operation.
 - .1 Make provision for access and support of piling equipment during performance of Work.

3.2 Installation

- .1 Installation of each pile will be subject to approval of NCC Project Manager.
 - .1 NCC Project Manager will be sole judge of acceptability of each pile with respect to final driving resistance, depth of penetration or other criteria used to determine load capacity.
 - .2 NCC Project Manager to approve final installation of all piles prior to removal of pile driving rig from site.
- .2 Drive each pile to sound bedrock and at minimum to the pile tip elevation as indicated on Contract Drawings.

3.3 Application / driving

- .1 Cut off piles neatly and squarely at elevations as indicated on Contract Drawings.
- .2 Remove cut-off lengths from site on completion of work.

3.4 Driving Tolerances

- .1 Pile heads shall be placed within 100mm of locations as indicated on the Contract Drawings unless approved by the NCC project manager.

3.5 Repair and Restoration

- .1 Pull out rejected piles and replace with new piles.
- .2 Remove rejected pile and replace with new, and if necessary, longer pile.
- .3 No extra compensation will be made for removing and replacing or other work made necessary through rejection of defective piles.

3.6 Cleaning

- .1 Proceed in accordance with Section 01 74 11 - Cleaning.

- .2 On completion and verification of performance of installation, remove surplus materials, excess materials, rubbish, tools and equipment.

END OF SECTION

PART 1 - GENERAL

- 1.1 Related Sections
- .1 Section 01 11 01 – Pay Item Descriptions
 - .2 Section 31 23 10 – Excavating, Trenching, and Backfilling
 - .3 Section 32 11 23 – Granular Material Specifications
- 1.2 Measurement Procedures
- .1 Refer to Section 01 11 01 – Pay Item Descriptions
- 1.3 References
- .1 Article 12.3 du CCDG – “Fondation de chaussée”.
 - .2 La norme NQ 2560-114 – “Travaux de génie civil – Granulats”.
- 1.4 Delivery, Storage, and Handling
- .1 Deliver and stockpile aggregates in accordance with Section 32 23 10 – Excavation, Trenching and Backfilling. Stockpile minimum 50% of total aggregate required prior to beginning operation.
- 1.5 Waste Management and Disposal
- .1 Separate and recycle waste materials in accordance with Section 01 74 19 - Construction/Demolition Waste Management And Disposal.

PART 2 - PRODUCTS

- 2.1 Materials
- .1 Granular sub-base: MG-56 as outlined in Section 32 11 23 – Granular Material Specifications.
 - .2 Granular base: MG-20 as outlined in Section 32 11 23 – Granular Material Specifications

PART 3 - EXECUTION

- 3.1 Sequence of Operation
- .1 Place granular sub-base (MG-56) after subgrade surface is inspected and approved by the Engineer.
 - .2 Place granular base (MG-20) after sub-base surface is inspected and approved by the Engineer.
 - .3 Placing
 - .1 Construct granular base to depth and grade in areas indicated.
 - .2 Ensure no frozen material is placed.
 - .3 Place material only on clean unfrozen surface, free from snow and ice.
 - .4 Place material using methods which do not lead to segregation or degradation of aggregate.
 - .5 Place material to full width in uniform layers not

- exceeding 150 mm compacted thickness. Engineer may authorize thicker lifts (layers) if specified compaction can be achieved.
- .6 Shape each layer to smooth contour and compact to specified density before succeeding layer is placed.
 - .7 Remove and replace that portion of layer in which material becomes segregated during spreading.
- .4 Compaction Equipment
- .1 Compaction equipment to be capable of obtaining required material densities.
- .5 Compacting
- .1 Compact to 98% Standard Proctor maximum dry density.
 - .2 Shape and roll alternately to obtain smooth, even and uniformly compacted base.
 - .3 Apply water as necessary during compacting to obtain specified density.
 - .4 In areas not accessible to rolling equipment, compact to specified density with mechanical tampers approved by the Engineer.
 - .5 Correct surface irregularities by loosening and adding or removing material until surface is within specified tolerance.
- .6 Dust Control
- 1. Apply water as necessary or as directed by the Engineer to control dust.
- 3.2 Site Tolerances
- .1 Finished base surface to be within plus or minus 10 mm of established grade and cross section but not uniformly high or low.
- 3.3 Protection
- .1 Maintain finished base in condition conforming to this Section until succeeding material is applied or until acceptance by the Engineer.

END OF SECTION

PART 1 - GENERAL

- 1.1 Related Sections .1 Section 31 23 10 – Excavating, Trenching, and Backfilling
- 1.2 Description .1 This section is the materials specification for the following granular materials:
.1 MG -20
.2 MG-56
.3 Granular ‘D’ (stonedust)
- 1.3 References .1 General specifications (ECGD) Construction and repair, 2007 edition, the Ministry of Transport of Quebec.
.2 Volume VII, Material collection standards and road structures on the Ministry of Transport of Quebec.

PART 2 - PRODUCTS

- 2.1 Materials: General Requirements .1 Any granular materials specified for the various works, on the drawings or in other sections of the specifications or by direction of the Contract Administrator, shall conform to this material specification for the class of granular material required.
.2 The materials shall be selected or produced from pits or quarries to conform to the requirements specified herein for each class of granular materials.
.3 Material retained on the number 4 sieve shall consist of hard durable particles or fragments of stone or gravel.
.4 Materials that break up when alternatively frozen and thawed or wetted and dried shall not be permitted.
.5 Fine aggregate passing the Number 4 sieve shall consist of natural or crushed sand, and, material passing the Number 200 sieve shall consist of fine mineral particles.
.6 The material shall be free from vegetable matter and lumps or balls of clay.

- .7 The material shall be non-plastic and non-frost susceptible.
- .8 Blending to obtain the correct gradation will be permitted when the Contractor demonstrates that he can produce a correct gradation and has a plant capable of producing to the satisfaction of the Contract Administrator.
- .9 The Contractor shall advise the Contract Administrator two weeks in advance of the intent use of any of the specified materials to allow sufficient time for sampling and testing. The Contractor shall submit samples of granular materials to be used in the works if so requested by the Contract Administrator.
- .10 Approval of a sample does not mean acceptance of the whole source. Each load of material received at the job site shall be subject to all the requirements of that material.
- .11 All gradation requirements are shown as percentage by weight passing U.S. Standards Sieves, A.A.S.H.O. M-92-65.

2.2 Materials: Specific Requirements

- .1 Granular MG-20
 - .1 Volume VII- Material collection standards and road structures of the Ministry of Transport of Quebec.
- .2 Granular MG-56
 - .1 Volume VII- Material collection standards and road structures of the Ministry of Transport of Quebec.
- .3 Stonedust Volume VII-
 - .1 Material collection standards and road structures of the Ministry of Transport of Québec.

Gradation requirements:

<u>Sieve</u>	<u>% Passing</u>
9.5 mm	(3/8")
4.75 mm	(No. 4)
1.18 mm	(No. 16)

300 um (No. 50)
75 um (No. 200)

END OF SECTION

PART 1 - GENERAL

1.1 Related Sections

- .1 Section 31 23 10 – Excavation, trenching, and backfilling
- .2 Section 32 92 20 – Seeding

1.2 Testing

- .1 Obtain NCC Representative's initial approval of imported topsoil at source.
- .2 Test existing and imported topsoil for NPK, Mg, soluble salt content, organic matter and pH value prior to delivery to site.
 - .1 Submit 0.5 kg sample of topsoil to testing laboratory and indicate intended use.
 - .2 Determine requirements for amendments to bring pH value of soil to 5.5 to 7.7 level.
 - .3 Submit two copies of soil analysis and recommendations for corrections to Contract Administrator.
 - .4 Inspection and testing of topsoil will be carried out by testing laboratory designated by NCC Representative.
 - .5 National Capital Commission will pay cost of testing.

1.3 Scheduling of Work

- .1 Schedule placing of topsoil to permit immediate seeding and sodding operations.

PART 2 - PRODUCTS

2.1 Materials

- .1 Stockpiled topsoil: see Section 31 23 10.
- .2 Imported topsoil: friable loam, neither heavy clay nor of very light sandy nature containing minimum of 10% organic matter for sandy loams to maximum of 25% by volume. Free from subsoil, roots, grass, weeds, toxic materials, stones, foreign objects and an acidity range (pH) of 5.5 to 7.5. Topsoil containing crabgrass, couch grass or other noxious weeds, not acceptable.
- .3 Lime: Ground agricultural limestone containing minimum 85% of total carbonates, 90% passing 1.0 mm sieve, 50% passing 0.125 mm sieve by weight.

- .4 Sulphur: Horticultural Grade

PART 3 - EXECUTION

3.1 Preparation

- .1 Grade subgrade, eliminating uneven areas and low spots, ensuring positive drainage. Remove stones larger than 50 mm diameter and other deleterious materials. Remove subsoil that has been contaminated with oil, gasoline or calcium chloride. Dispose of removed materials as directed.
- .2 Cultivate entire area receiving topsoil to depth of 50 mm. Core aerate in those areas where equipment used for hauling and spreading has compacted subgrade. Do not cultivate soils around existing trees and shrubs.

3.2 Reuse of Existing Topsoil

- .1 Unless otherwise indicated existing stockpiled topsoil shall be used for all reinstatement. Imported sources of topsoil shall only be used when all approved sources of existing topsoil have been used.

3.3 Spreading of Topsoil

- .1 Do not spread topsoil until NCC Representative has inspected and approved subgrade.
- .2 Spread topsoil with adequate moisture in uniform layers during dry weather over approved, dry, unfrozen subgrade, where seeding is indicated.
- .3 Bring topsoil up to finished grade.
- .4 Apply topsoil to the following minimum depths:
 - .1 100 mm for seeded and sodded areas.
 - .2 50 mm for forest litter only
- .5 Remove stones, roots, grass, weeds, construction materials, debris and foreign non-organic objects from topsoil.
- .6 Manually spread topsoil around trees, plants, surface utilities and other obstacles.

3.4 Soil Amendments

- .1 If required, apply lime, sulphur or other soil amendment at rate determined from soil sample test.
- .2 Mix soil amendment well into full depths of topsoil by

cultivating.

3.5 Finish Grading

- .1 Fine grade entire topsoiled area to contours and elevations as indicated or as directed. Eliminate rough spots and low areas to ensure positive drainage.
- .2 Roll topsoil with 50 kg roller, minimum 900 mm wide, to compact and retain surface.
- .3 Leave surface smooth, uniform, firm against deep foot printing, with fine loose texture.

3.6 Surplus Material

- .1 Dispose of surplus topsoil not required for fine grading/landscaping off site.

END OF SECTION

PART 1 - GENERAL

- 1.1 Related Sections
- .1 Section 01 11 01 – Pay Item Descriptions
 - .2 Section 01 33 00 – Submittal Procedures
 - .3 Section 01 35 43 – Environmental Procedures
 - .4 Section 01 74 21 – Waste Management and Disposal
 - .5 Section 32 91 21 – Topsoil and Finish Grading
- 1.2 References
- .1 Agriculture and Agri-Food Canada (AAFC).
 - .1 Plant Hardiness Zones in Canada.
 - .2 Canadian Nursery Landscape Association (CNLA).
 - .1 Canadian Standards for Nursery Stock (current edition).
 - .3 Department of Justice Canada (Jus).
 - .1 Canadian Environmental Protection Act (CEPA), 1999, c. 33.
 - .2 Transportation of Dangerous Goods Act (TDGA), 1992, c.34.
 - .4 Health Canada/Workplace Hazardous Materials Information System (WHMIS).
 - .1 Material Safety Data Sheets (MSDS).
- 1.3 Definitions
- .1 Mycorrhiza: association between fungus and roots of plants. This symbiosis, enhances plant establishment in newly landscaped and imported soils.
- 1.4 Submittals
- .1 Make submittals in accordance with Section 01 33 00 - Submittal Procedures.
 - .2 Submit product data for:
 - .1 Fertilizer.
 - .2 Mycorrhiza.
 - .3 Anti-desiccant.
 - .4 Guying assembly including clamps, collar, guying wire, anchors and wire tightener.
 - .5 Mulch.
 - .3 Submit WHMIS MSDS - in accordance with Section 01 33 00 – Submittal Procedures.

- .4 Submit samples for:
 - .1 Mulch.
 - .2 Mycorrhiza.

1.5 Source Quality Control

- .1 The Contractor shall commence sourcing the specified material immediately upon award of the Contract.
- .2 No substitutions will be considered unless the Contractor can demonstrate to the Contract Administrator's satisfaction that a prolonged and widespread search for the specified species has been undertaken.
- .3 Obtain approval of source of plant material. Acceptance of plant at its source does not prevent rejection on site prior to or after planting operations.

1.6 Storage and Protection

- .1 Protect plant material from frost, excessive heat, wind and sun during delivery.
- .2 Immediately store and protect plant material which will not be installed within 1hour after arrival at site in storage location approved by NCC Project Manager.
- .3 Protect plant material from damage during transportation:
 - .1 When delivery distance is less than 30 km and vehicle travels at speeds under 80 km/h, tie tarpaulins around plants or over vehicle box.
 - .2 When delivery distance exceeds 30 km or vehicle travels at speeds over 80 km/h, use enclosed vehicle where practical.
 - .3 Protect foliage and root balls using anti-desiccants and tarpaulins, where use of enclosed vehicle is impractical due to size and weight of plant material.
- .4 Protect stored plant material from frost, wind and sun and as follows:
 - .1 For bare root plant material, preserve moisture around roots by heeling-in or burying roots in sand or topsoil and watering to full depth of root zone.
 - .2 For pots and containers, maintain moisture level in containers.
 - .3 For balled and burlapped and wire basket root balls, place to protect branches from damage. Maintain moisture level in root zones.

- .5 Waste Management and Disposal:
 - .1 Refer to Section 01 74 21 – Waste Management and Disposal.

1.7 Scheduling

- .1 Obtain approval from NCC Project Manager of schedule 7 days in advance of shipment of plant material.
- .2 Schedule to include:
 - .1 Quantity and type of plant material.
 - .2 Shipping dates.
 - .3 Arrival dates on site.
 - .4 Planting Dates.

1.8 Warranty

- .1 The Contractor hereby warrants that plant material over 75 mm caliper and all new trees as shown on the Contract Drawings will remain free of defects in accordance with General Conditions (GC) - CCDC GC 12.3, but for 1 full growing season, providing adequate maintenance has been provided.
- .2 End-of-warranty inspection will be conducted by the NCC Project Manager.
- .3 The NCC Project Manager reserves the right to extend Contractor's warranty responsibilities for an additional one year if, at end of initial warranty period, leaf development and growth is not sufficient to ensure future survival.

PART 2 - PRODUCTS

2.1 Plant Material

- .1 Type of root preparation, sizing, grading and quality: comply to Canadian Standards for Nursery Stock.
 - .1 Source of plant material: grown in accordance with Plant Hardiness Zones in Canada.
 - .2 Plant material must be planted in zone indicated as appropriate for its species.
 - .3 Plant material in location appropriate for its species.
- .2 Plant material: free of disease, insects, defects or injuries and structurally sound with strong fibrous root system.
- .3 Trees: with straight trunks, well and characteristically branched for species except where specified otherwise.
- .4 Trees larger than 200 mm in caliper: half root pruned during each of two successive growing seasons, the latter at least one growing season prior to arrival on site.

-
- .5 Bare root stock: nursery grown, in dormant stage, not balled and burlapped or container grown.
 - .6 Collected stock: maximum 40 mm in caliper, with well developed crowns and characteristically branched; no more than 40% of overall height may be free of branches.
 - 2.2 Water .1 Free of impurities that would inhibit growth.
 - 2.3 Stakes .1 Steel 40x40x5x2440mm T-bars.
 - 2.4 Wire Tightener .1 Type 1: galvanized steel, stamped plate type, rod, triangular shape.
 - 2.5 Guying Wire .1 Type 1: steel, 3mm wire.
 - .2 Type 2: 1.5mm diameter multi-wire steel cable.
 - .3 Type 3: 3mm diameter multi-wire steel cable.
 - 2.6 Clamps .1 U-Bolt: galvanized, 13mm diameter, c/w curved retaining bar and hex nuts.
 - 2. Crimp type.
 - 2.7 Anchors .1 Drive-in type.
 - .1 Type 1: 13 mm diameter x 75 mm long, aluminum.
 - 2.8 Guying Collar .1 Galvanized 3mm wire encased on 2-ply rubber hose.
 - 2.9 Trunk Protection .1 Burlap: clean, minimum 2.5 kg/m² mass and 150 mm wide, and twine fastener.
 - 2.10 Mulch .1 Natural shredded cedar mulch: varying in size from 25 to 125mm in length, from coniferous trees. Sample to be provided to NCC Project Manager for approval.
 - 2.11 Bonemeal .1 Raw bonemeal, finely ground with a minimum analysis of 4% nitrogen and 20% phosphoric acid.
 - 2.12 Anti-Desiccant .1 Wax-like emulsion.
- PART 3 - EXECUTION
- 3.1 Pre-Planting Preparation .1 Ensure plant material acceptable to NCC Project Manager.

- .2 Remove damaged roots and branches from plant material.
- .3 Apply anti-desiccant to conifers and deciduous trees in leaf in accordance with manufacturer's instructions.

3.2 Planting Time

- .1 Plant material shall be planted in spring only, from May 15 to June 15, unless otherwise approved by the NCC Project Manager.

3.2 Excavation and Preparation of Planting Beds

- .1 For individual planting holes:
 - .1 Stake out location and obtain approval from NCC Project Manager prior to excavating.
 - .2 Excavate to depth and width as instructed by the NCC Project Manager.
 - .3 Remove rocks, roots, debris and toxic material from excavated material that will be used as planting soil for trees and individual shrubs. Dispose of excess material.
 - .4 Scarify sides of planting hole.
 - .5 Remove water which enters excavations prior to planting. Notify NCC Project Manager if water source is ground water.
 - .6 Place two generous handfuls of bonemeal in the bottom of each tree hole and one handful for each shrub. Mix bonemeal thoroughly with soil.

3.3 Planting

- .1 Place plant material to depth equal to depth they were originally growing in nursery.
- .2 Cut and remove burlap and wire basket from top 2/3 of rootball without damaging roots.
- .3 Tamp planting soil around root system in layers of 150 mm, eliminating air voids.
- .4 Build 100 mm deep saucer around outer edge of planting pits to assist with maintenance watering.
- .5 Support each tree by driving two (2) stakes into ground. Secure with wire and hose ensuring wire is not in contact with the bark.
- .6 Spread 75 mm of mulch over all areas of bare soil. Mulch heavily contaminated with soil is not acceptable.
- .7 Remove dead and injured branches and branches that rub

causing damage to bark. Do not cut leader.

3.4 Final Inspection

- .1 At final inspection, plant material shall be acceptable when it is properly installed, unbroken, shows adequate formation of buds and is free from blight of any description. All planting areas shall be free of weeds, litter and in good order.

END OF SECTION

PART 1 - GENERAL

1.1 Description

- .1 This section specifies requirements for dewatering work spaces described by the contract drawings and specifications. Dewatering systems or cofferdams shall be built to dry up the excavation where new abutments will be built. Contractor shall use method of its choice, or cofferdams built with sand bags and waterproof membrane or steel sheet-piles or other dewatering system equivalent to be approved by NCC at least 2 weeks prior to installation.
- .2 The work includes but is not limited to:
 - .1 The design, construction and maintenance of cofferdams considered temporary structures as required to facilitate demolition and reconstruction of the bridge as indicated on the drawings.
 - .2 Design, provision, and maintenance of a dewatering systems for removal of water from the work spaces and to maintain these spaces in the dry state.
 - .3 Removal of water from the work spaces and the continued maintenance of these spaces in the dry state for the duration of the work to meet work requirements and environmental regulations.
 - .4 Supply of standby equipment to replace dewatering equipment which malfunctions.
- .3 This work is under NCC General Condition GC3.4.5 stipulating that Contractor shall have the sole responsibility for temporary structures and other temporary facilities, as well as construction methods. Refer to GC3.4.5.

1.2 Related Sections

- .1 Section 01 11 01 – Pay Item Descriptions
- .2 Section 01 33 00 – Submittal Procedures
- .3 Section 01 35 43 – Environmental Procedures
- .4 Section 01 61 00 – Common Product Requirements
- .5 Section 01 74 21 – Waste Management And Disposal
- .6 Section 35 49 25 – Turbidity Curtain

1.3 Measurement Procedures

- .1 There will be no measurement of Dewatering Work.
- .2 Payment of Dewatering Work shall be included in the Lump

Sum Price.

- .3 Refer to Section 01 11 01 – Pay Item Descriptions

- 1.4 Regulatory Requirements .1 Adhere to local, provincial & federal requirements relating to:
 - .1 Protection of the environment;
 - .2 Safety of construction; and
 - .3 Protection of workers.

- .2 Installation of cofferdams must be approved by NCC and the Department of Fisheries and Oceans in accordance with Fisheries Act.

- .3 Pumping water out of cofferdam enclosure: refer Section 01 35 43 – Environmental Procedures.

- .4 Obtain and pay costs of, all required permits.

- 1.5 Submittals .1 Shop drawings of water—tight cofferdam and other dewatering systems:
 - .1 Shop drawings must be complete with Professional Engineer’s seal & signature.
 - .2 Submit design calculations of stability of cofferdam & dewatering systems used.

- .2 Submit detail drawings to Engineer, as required to satisfy conditions granted in permits.

- 1.6 Qualification of Design Engineer .1 The designer of cofferdam and other related dewatering structures must be a Professional Engineer with considerable expertise and experience in design of similar structures and systems.

- .2 Designer must: make, check and sign all calculations; check, seal and sign all drawings; inspect dewatering structures and systems on site and verify their adequacy and safety.

- 1.7 Design Criteria .1 Design cofferdams to ensure maintenance of work spaces in a dry state for duration of work.

- .2 Plan and design dewatering systems considering:
 - .1 Access to cofferdams and access to reach any portion of Work.
 - .2 Space required for crews to work in dewatered areas.
 - .3 Sequence of Work.
 - .4 Fluctuations of water levels.

- .5 Environmental regulations and requirements.
- .6 Cofferdams shall not obstruct more than two third of the width of watercourse if simultaneously done on each sides of waterways.
- .7 Water cumulating in the cofferdams shall be pumped and diverted in a vegetated area located at least 20 meters from watercourse.

.3 At all times, maintain environmental quality of water to Section 01 35 43 — Environmental Procedures.

.4 Ensure that no phase of Work threatens safe performance of cofferdam.

1.8 Water Levels

.1 Water levels shall be regularly monitored by the Contractor and dewatering measures shall be adjusted as required. The Contractor shall anticipate higher water levels during heavy rain events.

.2 Refer to the Contract Drawings for anticipated water levels.

1.9 Environmental Requirements

.1 Dispose of water so that it does not create a safety or health hazard or cause damage to the environment, to adjacent property, or to any portion of Work.

.2 Turbidity limit: to Section 01 35 43 — Environmental Procedures and Section 35 49 25 — Turbidity Curtain.

.3 Do not release any silt or other materials into watercourse during construction or removal of cofferdams.

1.10 Protection

.1 Protect cofferdam and dewatered work spaces from damage due to floods, rain, ice, snow or other adverse climatic conditions.

PART 2 - PRODUCTS

2.1 Materials

.1 In good condition, approved by NCC Project Manager and suitable for their use in Work.

.2 Do not use materials which may cause environmental damage to waterway or to land at or near site.

.3 Materials & methods proposed for use in cofferdams must be approved by the Engineer.

.4 Earth or granular materials with sand and fines is not

acceptable.

- .5 If using sandbags, sand must be washed of fines before placing in water.
- .6 Note that NCC and the Department of Fisheries & Oceans Canada prefer gravel/rock fill with rubber membrane, caissons, rubber dams, sheet piling, bolted pre—engineered frame—type structures, or other types of cofferdams which do not generate turbidity in watercourse.
- .7 Materials used to build earthfill cofferdams shall not have more than 10% of fine material screening through 80 microns sieve, as fine particules stay in suspension in water.

PART 3 - EXECUTION

3.1 General

- .1 Evaluate, plan and execute Work in an expert and prudent manner giving due consideration to:
 - .1 Climatic conditions which may occur at work location during period of doing work in its entirety.
 - .2 Safety of personnel and of general public.
 - .3 Safety of Work and of adjacent property.
 - .4 Safety of removals.
 - .5 Environmental requirements.
 - .6 Clearance requirements for Work.
 - .7 Changes in water levels.

3.2 Dewatering

- .1 Dewater work spaces and maintain them in a fully dewatered state until Work is finished.
- .2 Continue dewatering operations continuously to enable Work to proceed in the dry for total duration of Work.
- .3 Repeat entire dewatering procedure as often as may be necessary if flooding or other damage occurs before completion of Work.

3.3 Watchkeeper

- .1 Ensure continuity of dewatering by designating a Watchkeeper to make periodic checks at times when Work is not in progress. Watchkeeper's qualifications under this Section are to be sufficient to perform, on dewatering equipment, such duties as:
 - .1 Preventive maintenance and refuelling of generators normally performed during any shift.
 - .2 Emergency repairs of minor complexity.
 - .3 Placing standby items in service.

3.4 Equipment

- .1 General:
 - .1 Provide equipment in safe operating condition & maintain it in a safe operating condition for entire period of use and/or standby for use on Work.
 - .2 Provide skilled operators for equipment.
- .2 Standards and Performance:
 - .1 Provide equipment of such quality and in such quantity as to provide sufficient capability to perform essential functions required for Work.
 - .2 Provide standby replacement for pumps and other essential dewatering equipment which may break down during Work.
 - .3 Keep this replacement equipment available on Site for immediate use.

3.5 Cofferdam Removal

- .1 At approved stages in Work remove all cofferdam, temporary structures, and dewatering systems to original bottom level.
- .2 Dispose of all unwanted materials off site in manner approved by Engineer.
- .3 Do not dispose of any materials in waterways.
- .4 Turbidity curtain is to be removed once cofferdam is removed.

END OF SECTION

PART 1 - GENERAL

- 1.1 Related Sections
- .1 Section 01 11 01 – Pay Item Descriptions
 - .2 Section 01 74 21 – Waste Management and Disposal
 - .3 Section 31 32 21 – Geotextiles
- 1.2 Measurement Procedures
- .1 Rock Protection will be paid on a basis of each meter cubed placed, as indicated in the pay item “ Place Rock Protection at Abutments and Along Approaches”.
 - .2 Refer to Section 01 11 01 – Pay Item Descriptions
- 1.3 Scheduling
- .1 Provide NCC Project Manager with schedule of Work for approval, at least 4 weeks prior to start of construction.

PART 2 - PRODUCTS

- 2.1 Materials
- .1 Rock protection (Rip Rap) should be hard, dense, durable quarry stone, free from seams, cracks or other structural defects, to meet following size distribution for use intended :
 - .1 Nominal Diameter of 400mm
 - .2 Maximum stone diameter to be 1.5 times the Nominal Diameter.
 - .3 80% of stones (by mass) must have a diameter of at least 60% of the Nominal Diameter.
 - .2 Underlayer stone :
 - .1 Hard, durable, abrasion-resistant material which will not disintegrate under wave action or wet-dry, freeze-thaw cycles; to Engineer's approval.
 - .2 Angular in shape with ratio of maximum to minimum dimensions not exceeding 3, free of weak cleavage planes, hairline cracks or laminations.
 - .3 Relative density (formerly specific gravity): to ASTM C 127, not less than 2.65.
 - .4 Absorption: to ASTM C 127, maximum of 2.0 %.
 - .5 Los Angeles degradation test: to ASTM C 535, with 45 % maximum
 - .3 Geotextiles: in accordance with Section 31 32 21 – Geotextiles.

PART 3 - EXECUTION

- 3.1 Grading
- .1 Grade shoreline, bank slope to lines and grades indicated.

- .2 Excavated material to be used as fill requires approval before placing.
 - .1 Remove from site, material rejected for fill or surplus to fill requirements.
- .3 Place borrow material approved by Engineer where required to bring surfaces to required levels.

3.2 Geotextile

- .1 Place geotextile below rock protection on embankments as indicated on the Contract Drawings, free from wrinkles, with side overlap not less than 600 mm in accordance with Section 31 32 21 - Geotextiles.

3.3 Underlayer Stone

- .1 Do not disturb existing surface when placing underlayer stone. Do not end dump unless approved by Engineer.
- .2 Place underlayer stone only on areas where geotextiles is indicated.
- .3 Thickness: 50 mm

3.4 Rip Rap

- .1 Place rip rap stone on completed underlayer stone layers of slope or directly in stream / on abutments where geotextile is not indicated. Placing to be random to thickness as indicated.
- .2 Do not end dump stone units. Begin placement at toe of slope and proceed up slope in placing each layer. Place each stone to ensure stability, secure on slope and supported by stone below. Control placement of stone units to produce uniform and continuous cover of overlapping units.
- .3 Place to slopes indicated on the Contract Drawings. Maximum slope of 1.5(H) : 1.0(V).

3.5 Protection

- .1 Do not leave each phase of Work exposed for an undue period of time, during placement of rock protection.
- .2 Engineer may order excavation to be stopped or may order placing of final protective stone layers to be advanced, depending on anticipated weather conditions.

END OF SECTION

PART 1 - GENERAL

- 1.1 Related Sections
- .1 Section 01 11 01 – Pay Item Descriptions
 - .2 Section 01 33 00 – Submittal Procedures
 - .3 Section 01 35 22 – Dewatering
 - .4 Section 01 35 43 – Environmental Procedures
 - .5 Section 01 61 00 – Common Product Requirements
- 1.2 Measurement Procedures
- .1 There will be no measurement of Turbidity Curtain.
 - .2 Include costs related to turbidity curtains in the items for which they are required.
 - .3 Refer to Section 01 11 01 – Pay Item Descriptions
- 1.3 References
- .1 American Society for Testing and Materials (AS TM)
 - .1 ASTM D4491—99a(2004)e1, Standard Test Methods for Water Permeability of Geotextiles by Permittivity.
 - .2 ASTM D4595-09, Standard Test Method for Tensile Properties of Geotextiles by the Wide—Width Strip Method.
 - .3 ASTM D4716-04, Standard Test Method for Determining the (In—Plane) Flow Rate Per Unit Width and Hydraulic Transmissivity of a Geosynthetic Using a Constant Head.
 - .4 ASTM D4751-04, Standard Test Method for Determining Apparent Opening Size of a Geotextile.
 - .2 Canadian General Standards Board (CGSB)
 - .1 CAN/CGSB—4.2, Textile Test Methods.
 - .2 CAN/CGSB—148.1, Methods of Testing Geosynthetics.
 - .1 No.2—M85, Mass per Unit Area.
 - .2 No.3—M85, Thickness of Geotextiles.
 - .3 No.6.1—93, Bursting Strength of Geotextiles Under No Compressive Load.
 - .4 No.7.3—92, Grab Tensile Test for Geotextiles.
 - .3 Canadian Standards Association (CSA)
 - .1 CAN/CSA—G40.20/G40.21—04, General Requirements for Rolled or Welded Structural Quality Steel.
 - .2 CAN/CSA—G164—M92(R2003), Hot Dip Galvanizing

of Irregularly Shaped Articles.

- .4 Ontario Provincial Standard Specifications – OPSS 577 – Construction Specification for Temporary Erosion and Sediment Control Measures.

1.4 Submittals

- .1 Submit details of the temporary turbidity curtain system to the Engineer prior to the start of the Work.
- .2 Submit to Engineer details of geotextile material and seam at least 2 weeks prior to commencing work.
- .3 Complete the submission of a Sediment Control Plan as described in the Ministry of Natural Resources Technical Note, TN-20, Sediment Control Plans: Reducing Sediment concerns at Water Crossings, dated 1992. Ensure compliance of the sediment control plan throughout the project.

1.5 Delivery and Storage

- .1 During delivery and storage, protect geotextiles from direct sunlight, ultraviolet rays, excessive heat, mud, dirt, dust, debris and rodents.

PART 2 - PRODUCTS

2.1 Materials

- .1 Geotextile: woven synthetic fibre fabric, supplied in rolls.
 - .1 Width: as required.
 - .2 Length: as required.
 - .3 Composed of: minimum 85% by mass of polypropylene polyester with inhibitors added to base plastic to resist deterioration by ultra—violet and heat exposure for 60 days.
- .2 Physical properties:
 - .1 Thickness: to CAN/CGSB-148.1, No.3, minimum 0.8 mm.
 - .2 Mass per unit area: to CAN/CGSB-148.1, No.2, minimum 220 g/m².
 - .3 Tensile strength and elongation (in any principal direction) : to ASTM D4595.
 - .1 Tensile strength: minimum 1350N, wet condition.
 - .2 Elongation at break: minimum maximum 25%.
 - .3 Seam strength: minimum 1350N equal to or greater than tensile strength of fabric.
 - .4 Mullen burst strength: to CAN/CGSB—4.2, method 11.2, minimum 4000N, equal to or

greater than tensile strength of fabric.

- .3 Hydraulic properties:
 - .1 Apparent opening size (AOS) : to ASTM D4751.
- .4 Securing pins and washers: to CAN/CSA—G40.20/ G40.21, Grade 300W, minimum 30% recycled content, hot—dipped galvanized with minimum zinc coating of 600 g/m² to CAN/CSA—G164.
- .5 Seams: sewn in accordance with manufacturer’s recommendations.
- .6 Thread for sewn seams: equal or better resistance to chemical and biological degradation than geotextile.

PART 3 - EXECUTION

3.1 General

- .1 Complete the submission of a Sediment Control Plan as described in the Ministry of Natural Resources Technical Note, TN—20, Sediment Control Plans; Reducing Sediment concerns at Water Crossings, dated 1992. Ensure compliance of the sediment control plan throughout the project.
- .2 Supply, install, maintain and remove silt curtains when instructed by Engineer.
- .3 Monitoring of water turbidity outside the silt curtain will be done by the Engineer. As per the Canadian Water Quality Guidelines for the Protection of Aquatic Life — Total Particulate Matter, the maximum increase of total suspended solids above background levels permitted is of 5 mg/L.

3.2 Installation

- .1 Turbidity curtains shall consist of turbidity curtain geosynthetic, load line, flotation, ballast, anchors, mooring buoys, mooring lines, adjustment lines, and tie—downs.
- .2 Design to conform to Ontario Provincial Standard Specification, OPSS 577 and Ontario Provincial Standard Drawings: OPSD 219.260 and OPSD 219.261 as a minimum.
- .3 Turbidity curtains shall be constructed as follows:
 - .1 The flotation shall provide support along the length of the turbidity curtain.
 - .2 A sleeve shall be formed and heat—sealed or sewn along the entire bottom edge of the turbidity curtain

geosynthetic, to contain the ballast in the sleeve. Breaks may be made in the sleeve to facilitate pulling, provided they are a minimum 100 mm in size and spaced at minimum 3 m intervals.

- .3 Where turbidity curtain geosynthetic is joined to provide a continuous run, the sections shall be connected to provide a continuous seal and prevent the escape of turbid water between the sections.
- .4 The turbidity curtain, as prepared for installation, shall be of sufficient width and height to account for water depth and wave action.
- .5 Adjustment lines shall be placed at maximum intervals of 10m, and are to encircle the turbidity curtain from top to bottom.
- .6 The turbidity curtain shall be prepared for installation by furling and tying with furling ties every 1.5m for the entire length of the curtain.
- .7 Anchor locations shall be established as is necessary to maintain the turbidity curtain in place and functioning.

3.3 Operation and Maintenance

- .1 Turbidity curtains shall be installed to prevent sediment passage, from the area enclosed by the curtain, to the remaining water body. Turbidity curtains shall be installed and maintained in a manner that avoids entry of equipment, other than hand-held equipment or boats, to the remaining water body.
- .2 Equipment is permitted in the work area enclosed by the turbidity curtain.
- .3 Turbidity curtains shall be operated and maintained in the specified location, with the entire top edge above the water surface.
- .4 The curtain shall be free of tears and gaps, and the bottom edge of the curtain is to be continuously in contact with the water course bed so that sediment passage from the area enclosed is prevented.
- .5 Any folds in the turbidity curtain which form next to the floatation collar shall be regularly monitored and freed of collected sediment.
- .6 Monitor and maintain the turbidity curtains booms both during and outside normal working shifts as required. Provide all personnel, materials and equipment necessary to maintain, repair or relocate the silt curtain system.

- .7 Carry out construction operations to minimize impact on fish habitat from both disturbed sediments and fill materials.
- .8 Replace damaged or deteriorated geotextile to approval of the Engineer.
- .9 Remove turbidity curtain when authorized by the Engineer after completion of the work.

END OF SECTION