

<p>NCC Tender File #</p>	<p>NR115</p>
<p>Project Description</p>	<p>Barn Restoration at 5039 Russell Road</p>
<p>Site Visit</p>	<p>A NON MANDATORY site visit will be held on February 20, 2018 at 1 pm Ottawa time on site. Bidders are requested to communicate with the Contracting Authority before the optional site visit to confirm attendance and provide the name(s) of the person(s) who will attend. Bidders may be requested to sign an attendance sheet. 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.</p>
<p>Closing date and time</p>	<p>February 28, 2018 at 3pm Ottawa time</p>

RETURN TENDERS TO: National Capital Commission 40 Elgin Street, Security Office on the 2 nd floor Ottawa, ON K1P 1C7	NCC Tender Number NR115
	NCC Contract Number

TENDER CLOSING DATE AND TIME: **February 28, 2018** at 3:00 p.m., Ottawa time

DESCRIPTION OF WORK:
Barn Restoration at 5039 Russell Road

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 \$ _____

OHST – 13% \$ _____

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The tender shall not be withdrawn for a period of 60 days following the date and time of tender closing.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 NR115

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 within 13 weeks from the date of notification of acceptance of the offer.

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

Item	Description	Lump sum price (excluding taxes)
1	Mobilization / General Requirements / Demobilization	\$
2	Species at Risk Plans Compliance	\$
3	Deconstruction / Material dismantle and storage	\$
4	Structure Lifting / Shoring	\$
5	Excavation / Footings / Foundation / Masonry / Back Fill & re-grading	\$
6	Structural / Timber Work	\$
7	Carpentry / Reinstatements / Cladding / Windows & Doors / Metal Work	\$
	Sub-total excluding taxes	\$

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

10. I/We acknowledge receipt of the following addenda and have included for the requirement of it/them in my/our tendered

price: _____ (Bidder to enter number of addenda issued, if any).

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 NR115

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: pavables@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**

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 subcontractors:

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)		
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 -		
GST/HST / TPS et TVH	QST / TVQ (Québec)			
Number / Numéro : _____	Number / Numéro : _____			
Not registered / non inscrit <input type="checkbox"/>	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, Nathalie Rheault telephone number - 613-239-5678 ext. 5080, facsimile number - 613-239-5007 or e-mail address – nathalie.rheault@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 February 20, 2018 at 1 pm Ottawa Time.** The meeting place will be at 5039 Russell Road. 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 site visit for this project is NON MANDATORY. The representative of the Bidder will be required to sign the Site Visit Attendance Sheet at the site visit.

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 calling the Sr. Contract Officer, Nathalie Rheault, telephone number 613-239-5678 ext. 5080, facsimile number 613-239-5007 or e-mail address nathalie.rheault@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.

**SPECIAL INSTRUCTIONS TO
BIDDERS**

- 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 [February 28, 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	<div style="border: 1px solid black; width: 80px; height: 80px; margin: auto;"></div>
	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	<div style="border: 1px solid black; width: 80px; height: 80px; margin: auto;"></div>
	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	<div style="border: 1px solid black; width: 80px; height: 80px; margin: auto;"></div>
	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	<div style="border: 1px solid black; width: 80px; height: 80px; margin: auto;"></div>
	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	<div style="border: 1px solid black; width: 80px; height: 80px; margin: auto;"></div>
	Not satisfactory / Non-satisfaisant	6 – 10	
	Satisfactory / Satisfaisant	11 – 16	
	Superior / Satisfaisant	17 – 20	
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

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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				
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.				
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				
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)				
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.		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.		
Name of Insurer's Office or Authorized Employee / Nom du cadre ou de la personne autorisée		Telephone number / Numéro de téléphone		
Signature		Date		

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

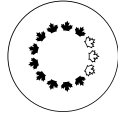
The CSR's responsibilities are the following:

- 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.



COMMISSION DE LA CAPITALE NATIONALE
NATIONAL CAPITAL COMMISSION

National Capital Commission

Capital Stewardship Branch
Real Estate Management Division
Residential and Agriculture

BARN RESTORATION
5039 Russell Road

TERMS OF REFERENCE

January 2018

Terms of Reference -Table of Contents

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End of Table of Contents

1.0 Summary

- 1.1 The National Capital Commission (NCC) is inviting proposals from qualified bidders to undertake barn rehabilitation of 2 barns. Work will include but is not limited: Dismantling of 2 additions to existing barns, Structural timber repairs, foundation and footing installation, barn envelope repairs and roof work. The barn is located in the southeast end of Ottawa – 5039 Russell Road. The existing barns have exhibited significant signs of deterioration over the years on an otherwise sound structure. This work is expected to commence in early March 2018. While work is being completed Tenant operations will continue for the duration of work. The expected date of completion will be June 30, 2018.

2.0 Related Documents

- 2.1 The Drawings and the General Provisions of the Contract, including the current edition of the National Capital Commission Standard General Conditions apply to each section of this Project's specifications
- 2.2 All terminology used within these documents identifying “Consultant”, “Architect”, “Engineer”, etc. shall be replaced by “NCC Representative” as defined by the General Conditions.
- 2.3 In the case of conflict or discrepancy herein these Terms of Reference, the most stringent requirement shall apply and be binding.

3.0 Project Description

- 3.1 The specific works required under this tender will be to address structural repairs, prepare the site, shore the building, lift the structure, remove the existing foundation, install footings and foundation as per the specifications provided and reinstate conditions as indicated. Major aspects of the work include but are not limited to:
- a. Extrusion fencing to be installed to restrict animal traffic.
 - b. Snow Management
 - c. Scaffolding
 - d. Localized dismantling of barn additions
 - e. Demolition of existing mezzanine
 - f. Development and implementation of a Species at Risk Mitigation and Compensation Plan,
 - g. Structural repairs in conjunction with Structural Engineer Specifications
 - h. Lifting of structure complete with Engineered shoring
 - i. Excavation
 - j. Demolition of existing foundation and disposal
 - k. Construction of new forms for footings, concrete slab and foundation
 - l. Placing rebar and concrete for footings, concrete slab, and foundation
 - m. Rebuilding and repointing of masonry walls
 - n. Construction of wood framed mezzanine
 - o. Repair/Restoration of siding, doors and windows
 - p. New doors and windows
 - q. New Metal Roofing

- r. Electrical lighting and power as required
- 3.2 The Scope of work of this contract is described by drawings and specification sections as identified in the Sections below. Work includes all Labour, Services, Materials, Products, Construction machinery and Equipment necessary for the work in accordance with the Contract Documents.
- 3.2.1 The Scope of work of this contract is described by:
- SECTION 3 – Scope of Work
 - APPENDIX A – Structural and Foundation Documents S000, S100:S109 as prepared by Cleland Jardine Engineering Ltd. CJE PROJECT No.17-2229
 - APPENDIX B – Construction Specifications : 17-2229.000000 Index of Specifications as prepared by Cleland Jardine Engineering Ltd.
 - APPENDIX C – Geotechnical Subsurface Investigation PG4211-LET.01
 - APPENDIX D – Outbuildings Designated Substance Survey EHS Project No.: 04-0034-14-003
 - APPENDIX E – Species at Risk Mitigation Plan; 5039 Russell Road
Species at Risk Compensation Plan; 5039 Russell Road

4.0 Fees, Permits and Certificates

- 4.1 Pay all fees and obtain all permits. Provide authorities with plans and information for acceptance certificates. Provide inspection certificates as evidence that work conforms to requirements of Authority having jurisdiction.
- 4.2 A Municipal Building Permit is required.

5.0 Equipment and Tool Inventory

- 5.1 All equipment and tools necessary to perform the work shall be supplied by the contractor.
- 5.2 All equipment and tools shall be made available to the NCC Representative, when requested, for inspection. The contractor shall provide all necessary equipment for the successful completion of the work.

6.0 Minimum Standards

- 6.1 Materials shall be new and work shall conform to the minimum applicable standards of the Canadian General Standards Board, the Canadian Standards Association, the National Building Code of Canada 2015 (NBC) and all applicable provincial and municipal codes. In the case of conflict or discrepancy the most stringent requirement shall apply.

7.0 Work Schedule

- 7.1 Commence work in accordance with the notification of acceptance of your offer. Complete the work with in the period stated in the tender form, no later than June 30, 2018.

- 7.2 Work Sequence (Phasing): Contact the Project Manager when weather permits and provide the least possible interference to activities of the Owner's farming operation.
- 7.3 Work is to be performed during regular business hours from Monday to Friday 07:00 to 19:00 hours. Work can be performed between 09:00 to 18:00 hours on Saturdays when approved by the NCC Representative. No work is to be performed on Sundays and Statutory holidays unless approved by the NCC Representative.

8.0 Quality of Equipment, Materials and Workmanship

- 8.1 Use only new materials, unless indicated otherwise, exceed or meet the minimum requirements of standards referenced in the specifications, such as the Canadian Standards Association (CSA), and the National Building Code of Canada (current edition), and of all applicable federal, provincial, and municipal codes. In the case of conflict or discrepancy between these requirements, the most stringent applies.

8.2 Workmanship

- 8.2.1 Workmanship shall be best quality, executed by workers experienced and skilled in respective duties for which they are employed.
- 8.2.2 Employ persons fit for and skilled in their required duties.

8.3 Alternatives

- 8.3.1 The NCC Representative will only consider Alternatives for materials, products or processes specified with the term "and/or approved equivalent" applied and; submitted in accordance with the "General Instructions for Tendering".
- 8.3.2 The NCC Representative will approve alternatives that are in his opinion equal in material content, workmanship and quality to the materials, products or processes identified and at least conformant to the standards specified.

9.0 Codes, Standards and Contract Document Conflicts

- 9.1 Unless otherwise specified or indicated, perform work in accordance with the National Building Code of Canada, current addition, and all applicable provincial or local building codes.
- 9.2 In the instance of a conflict among building codes, referenced standards and contract documents, the more stringent requirement shall apply.
- 9.3 The Qualified Contractor is to have a good working knowledge of the codes and standards below and for the prompt and efficient application of the correct interpretation of such during the course of performing all work for the NCC.
- 9.4 All the work shall be in accordance with the following codes and standards:
- a. Canada Labour Code Part II

- b. The Occupational Health and Safety Act and regulations for Industrial Establishments.
 - c. The Occupational Health and Safety Act for Construction Projects.
 - d. Canadian Construction and Labour Safety Codes.
 - e. Construction Safety Code of Quebec and/or Ontario (where applicable).
 - f. All NCC Health and Safety Policies;
 - g. Migratory Birds Convention Act, 1994 (S.C. 1994, c. 22)
 - h. All other code, act, law or regulation, of federal, provincial, or local application.
 - i. In any case of conflict or discrepancy the more stringent requirements shall apply.
- 9.5 The Qualified Contractor is to provide only qualified personnel fully trained, certified and experienced in performing the work requested in accordance with good industry practices. All work shall be performed in a professional manner and in accordance with good trade practice, and must be continually acceptable to the NCC.
- 9.6 If, following performance of any of the Services, the NCC is of the opinion that such Services have not been performed to the standard (in respect of quality and quantity) required by the Contract, the NCC will notify the Contractor. If, following discussions between the NCC and the Contractor, the NCC remains dissatisfied with the manner in which the Services were performed, the Contractor must re-perform the Services at his cost, and to the complete satisfaction of the NCC. The NCC shall have final authority and sole discretion as to the acceptability.
- 9.7 As deemed by the NCC, call backs for incomplete, unsatisfactory and/or guarantee work, shall be at the sole expense of the qualified contractor.

10.0 Personnel

9.1 Qualifications:

The employees shall have sufficient training, experience and qualifications in order to perform the required tasks. The work herein described is to be performed by professionals who through related training and on-the-job experience are familiar with the techniques, tools and equipment to perform all related duties pertaining to the scope of work noted. All contractors shall have the tools, education, certifications, and expertise to diagnose a problem and perform a quality repair as required; submission of licenses, certifications and experience is mandatory. Technical Standards and Safety Authority (TSSA) certification is required.

9.2 Forms and Reports

Contractor will be required to present control forms and reports, and information on disposal sites, to the satisfaction of the NCC.

9.3 Transportation

The contractor shall provide all necessary transportation for his personnel, tools and materials to and from the work site. No personal vehicle will be tolerated on the work site.

9.4 Dress

The Contractor shall be aware that NCC dress regulations for this work do not allow athletic style T-shirts, halters or short pants while working. All employees of the contractor shall be dressed in a neat and presentable fashion and shall wear CSA approved footwear. Shirts are to be worn buttoned at all times and free of rips/tears.

9.5 Removal of Staff

The NCC may, at its sole discretion, request the Contractor to reprimand or remove any one of the Contractor employees or sub-contractors for any one or more of the following reasons and the Contractor is to promptly comply with such requests:

- a. Unfit to work; or
- b. Intoxication; or
- c. Electronic communication device use while engaged in performance of the work; or
- d. Use of foul, profane, vulgar or obscene language or gestures; or
- e. Failure to provide qualified personnel; or
- f. Disrupting work or workers; or
- g. Willful, negligent or reckless action in disregard of safety or sanitary requirements; or
- h. Any action that the NCC may determine constitutes a public nuisance or disorderly conduct; or
- i. Any other reason considered appropriate, at the sole discretion of the NCC.

END OF SECTION 02

1. General

- 1.1 The following is a general scope of work intended to assist the Contractor in assessing the Work involved for the 5039 Russell Road Barn Restoration. The work to be completed shall consist of furnishing all labour, materials, documentation and equipment necessary for the work described herein.

2. Related Documents

- APPENDIX A – Structural and Foundation Drawings S000, S100:S109
CJE Project No. 17-2229
- APPENDIX B – Construction Specifications: 17-2229.000000 Index of Specifications
- APPENDIX C – Geotechnical Subsurface Investigation PG4211-LET.01
- APPENDIX D – Outbuildings Designated Substance Survey (DSS) EHS Project
No.: 04-0034-14-003
- APPENDIX E – Species at Risk Mitigation Plan; 5039 Russell Road
Species at Risk Compensation Plan; 5039 Russell Road

3. Prior to Project Commencement

- 3.1 Following Contract signing, schedule a meeting of parties in contract to discuss and establish administrative procedures and responsibilities.
- 3.2 Submit preliminary construction progress schedule for NCC Representative review. Following NCC Representative review and comments revise and resubmit schedule in accordance. The Contractor shall then supply the final project timeline for the work and arrange schedules for kickoff and progress inspections.
- 3.3 The Contractor must apply for and pay for all permits related to the Work and retain on site and file the copies of these permits. Duplicate copies of the permits and Project documentation are to be submitted to the NCC Representative prior to commencing the Work.
- 3.4 A stamped Shoring Plan for the buildings must be submitted for record.

4. Construction Activities

- 4.1 Undertake Work as described in this section and above, in accordance with:
- The Shoring Plan
 - The Species at Risk Mitigation Plan; 5039 Russell Road
 - The Species at Risk Compensation Plan; 5039 Russell Road
 - Structural and Foundation Documents S000, S100:S109 as prepared by Cleland Jardine Engineering Ltd. CJE Project No. 17-2229
 - Construction Specifications : 17-2229.000000 Index of Specifications as prepared by Cleland Jardine Engineering Ltd.
 - Geotechnical Subsurface Investigation PG4211-LET.01
 - Outbuildings Designated Substance Survey Report EHS Project No.: 04-0034-14-003 prepared by EHS Partnerships Ltd. for Del Management Solutions.

5. Mobilization

- 5.1 Provide construction fencing and signage as necessary to the satisfaction of the NCC Representative to isolate working area during construction.
- 5.2 Provide shoring to support the structure during the Work. Work will also involve hydraulic jacking of the exterior barn walls to bring the structure plumb and level. Submit a shoring and hydraulic jacking plan stamped by a provincially licensed Engineer to the NCC Representative for review prior to starting the Work.

6. Snow & Ice Removal

- 6.1 The Contractor shall provide all labour, equipment, and material for the complete service of snow and ice control at all areas surrounding the Work or essential for the execution of the Work, including but not limited to:
- The Barns and Additions; including surrounding areas
 - Staging areas and potential staging areas
 - Contractor use of premises
 - Access to Site
- 6.2 The Contractor shall ensure they are constantly informed of current weather forecasts in order to pro-actively respond to snow removal and ice control demands.
- 6.3 Confirm acceptable snow and ice storage locations with the NCC Representative. Adjust snow and ice control when required by the NCC Representative.
- 6.4 Take all reasonable and required measures, including those required by authorities having jurisdiction, to protect the public and those employed in the work from bodily harm, to protect adjacent property in performance of the Work.
- 6.5 Make full restitution for all damage resulting from the performance of the Work

7. Species at Risk Mitigation Plan

- 7.1 All sections shall be read in conjunction with the Migratory Bird Convention Act, 1994 (S.C. 1194, c. 22) and the Species at Risk Act (S.C. 2002, c. 29), and with the tender documents.
- 7.2 The Contractor, or the subcontractor or consultant engaged by the Contractor to coordinate and implement the Species at Risk Mitigation Plan and Barn Swallow Mitigation Plan, shall demonstrate a minimum five (5) years' experience implementing successful mitigation plans for species at risk within areas of Work. Demonstration of this experience shall be provided to the NCC Representative.
- 7.3 Prior to any work commencing, the Contractor shall coordinate, implement, and be responsible for the Species at Risk Mitigation Plan. The Species at Risk Mitigation Plan outlines minimum standards of Contractor methods, materials and equipment required to adequately and humanely deter and mitigate the presence and nesting of all species of concern and at risk within the areas of the Work, during the execution of the Work. The Contractor can elect to exceed these minimum standards to suit site conditions.

- 7.4 Species at Risk subject to the Species at Risk Mitigation Plan include, but are not limited to:
- Barn Swallow (*Hirundo rustica*);
 - Little Brown Bat (*Myotis lucifugus*);
 - Northern Bat (*Myotis septentrionalis*);
 - Eastern Small-footed Bat (*Myotis leibii*); and
 - Tri-colored Bat (*Perimyotis subflavus*).
- 7.5 **Species at Risk Mitigation Plan:** Major aspects of the Species at Risk Mitigation Plan include, but are not limited to:
- Identification of subject species
 - Exclusion and preventative nesting measures to adequately deter presence of species at risk in areas of Work
 - The Protocol for Wildlife Protection
- 7.6 The Contractor shall furnish all labour, materials and equipment necessary to comply with and successfully accomplish the Species at Risk Mitigation Plan.
- 7.7 As the proposed works are scheduled to occur during the Barn Swallow and Bat species at risk active season, the Species at Risk Mitigation Plan shall be implemented prior to April 1st 2018 to avoid damaging the species and habitat during this period.
- 7.8 The Contractor shall ensure all staff employed under this Contract are aware of the Protocol for Wildlife Protection found within the Species at Risk Mitigation Plan, including but not limited to:
- All staff shall be able to identify subject Species at Risk;
 - All staff shall be aware of the basic mitigation measures put in place for the Project;
 - All staff shall be aware of the Contractor Representative tasked with ensuring that the Protocol for Wildlife Protection is implemented
- 7.9 The Contractor shall monitor and maintain all preventative and exclusion measures throughout the execution of the Work and ensure the measures remain intact and no Species at Risk become entrapped or risk injury. The Contractor shall immediately repair or replace damaged or deficient measures.
- 7.10 If during the execution of the Work, a Species at Risk becomes established in the areas of Work, despite Contractor adherence to the Species at Risk Mitigation Plan, the Contractor shall immediately stop Work and advise the NCC Representative and the NCC Environmental Officer. The Contractor shall not resume Work until authorized by the NCC Representative.
- 7.11 The Contractor shall ensure that the contact information for the NCC Representative and NCC Environmental Officer is readily available and shall ensure that all staff are aware of its location.
- 7.12 The Contractor shall not proceed with work in areas affected by a Species at Risk until directed otherwise by the NCC Representative.
- 7.13 The Contractor shall not destroy active nests (occupied nests, nests with eggs or young birds), or wound or kill birds, of species protected under the Migratory Birds Convention Act, 1994

and/or Regulations under that Act.

7.14 The Contactor shall bear all associated costs of a delay resulting from the legal requirement to respect the regulations set forth in the Migratory Bird Convention Act, 1994 and the Species at Risk Act.

7.15 Upon completion of the Work, the Contractor shall dismantle, remove or return the preventative and exclusion measures as directed by the NCC Representative.

8. Species at Risk Compensation Plan

8.1 All sections shall be read in conjunction with the Migratory Bird Convention Act, 1994 (S.C. 1194, c. 22) and the Species at Risk Act (S.C. 2002, c. 29).

8.2 The Species at Risk Compensation Plan outlines the minimum standards of methods, materials and equipment to provision compensatory replacement habitat.

8.3 Species at Risk subject to the Species at Risk Compensation Plan include those subject to the Species at Risk Mitigation Plan.

8.4 **Species at Risk Compensation Plan:** Major aspects of the Species at Risk Compensation Plan include, but are not limited to:

- Provisions for Compensatory Replacement Habitat for Barn Swallow;
- Locations of Compensatory Replacement Habitats for Barn Swallow;
- Description of warrantee of the Compensatory Replacement Habitat

8.5 The Contractor shall furnish all labour, materials and equipment necessary to comply with and successfully accomplish the Species at Risk Compensation Plan.

8.5.1 Barn Swallow Compensatory Habitat Structures:

- .1 Contactor is to supply and install 4 barn swallow shelter units as per drawing A1 of the Species at Risk Compensation Plan.
- .2 The shelters are to be built in two (2) separate structures of two (2) units, ie. 3 posts per two shelters (6 posts total).
- .3 The location of the shelters is to be coordinated on site with the NCC representative, in accordance with the Species at Risk Compensation Plan.

8.6 The Contractor shall provide a three (3) year warranty of the construction materials and proper performance of the Compensatory Replacement Habitat, including repairs or replacement.

9. Site Preparation/Demolition

9.1 Prior to any Work commencing, the Contractor shall ensure that all dust control, silt barriers, snow management, hoarding, safety fencing, and protection measures required for the safety of the environment, animals and the public are adequately in place.

- 9.2 Prior to commencing Work, inspect all elements of the barn structure and interior components. Use caution and note localized areas where the existing structure may be deteriorated and/or unstable.
- 9.3 Remove and relocate all farm implements or historical items from the interior of the west wing of barn F (west of gridline A) and south wing of barn E (south of gridline 1). Coordinate with the tenant and the owner for a lay-down area for these items within 50 m of the barns. Cover with tarps and notify the NCC. These items are the property of the NCC.
- 9.4 Remove and relocate all hay and any other materials and articles from the hay loft interior of the barn.
- 9.5 At the south end of barn E and F both have wood framed additions, both are to be dismantled - Refer to Drawings.
- 9.6 The existing concrete foundation wall in Building E is to be demolished and disposed of. Refer to drawings.
- 9.7 The wood framed mezzanine in Barn F is to be dismantled. Refer to drawings.
- 9.8 The concrete slab on grade in Barn F is to be demolished and disposed of. Refer to drawings.
- 9.9 The ground floor wood slat flooring in Barn F is to be dismantled. Refer to drawings.
- 9.10 Exercise caution when dismantling additions, mezzanine, flooring, and concrete slab on grade as to not damage existing barn structure during demolition.
- 9.11 Exercise caution when dismantling wood components as they are to be salvaged and reused for repairs to main barns. Stack demolished wood in an area approved by the NCC Representative.
- 9.12 Exercise caution during execution of Work in the vicinity of the Silo. Silo is to remain unaffected and protected from activities in this Contract. Contractor to be responsible for any Damages or undesired effects on this structure occurring as a result of execution of the Work.

10.0 Lifting and Shoring of Structures

- 10.1 Qualifications: The Contractor, or subcontractor engaged by the Contractor, shall demonstrate a minimum (5) years' experience of performance of the work of this section.
- 10.2 A stamped Lifting Plan for the buildings must be submitted for record, which is to include the stamp of a Professional Engineer experienced in the design of this work and licensed at the place where the Project is located.
- 10.3 A stamped Shoring Plan for the building must be submitted for record.
- 10.4 Make full restitution for all damage resulting from the performance of the Work.

11.0 Excavation and New Foundation

11.1 When Structure has been lifted and securely shored under the perimeter walls, the excavation can commence with the soil moved out of the way so as not to impede the forming and placing for the footings and foundation wall. Note that the excavated soil will then be used to back fill once the foundation is in place.

11.2 Once excavation is completed footing can be formed and placed as per drawings. Through consultation with the NCC Representative, the elevation for the top of the foundation/footings will be determined. Once foundation/ footings have had the forms stripped they can be backfilled with the soil set aside from the excavation ensuring that the ground surrounding the barn is properly graded so that water will be encouraged to move away from the building.

11.3 Place compacted granular and concrete slab on grade as per Drawings.

12.0 New Mezzanine

12.1 Install new mezzanine as per Drawings, including access ladder and guardrail complete with shop drawings designed and stamped by contractor's provincially licensed engineer.

13.0 Post Repairs/Replacement

13.1 Replace and repair the missing or damaged posts as identified in the Drawings. By supporting the surrounding structure, bring the surrounding structure plumb and level.

14.0 Masonry Repairs

14.1 Rebuild masonry wall to match existing using stone salvaged from site. Refer to Drawings

14.2 Repoint masonry wall.

15.0 Timber Beam/Roof Rafter Repair

15.1 Inspect and mark out all beam and rafter repair locations in conjunction with the NCC Representative. In addition, mark out all deteriorated roof rafters. Generally, the roof rafter deterioration is adjacent to beam deterioration.

15.2 Repair damaged beams and rafters by supporting the structure, removing the damaged timber sections, and providing new joinery to adjacent beams, posts and struts as per the Drawings, and as per Specification Section 06 03 15 – Historic Period Carpentry.

15.3 Provide new bearing support notches and fasteners at the top surface of the new beam repair locations of the roof rafters to match the existing bearing support detail.

15.4 All beam and rafter repair locations are to be completed as per drawing, and as per Specification Section 06 03 15 – Historic Period Carpentry.

16.0 Knee Brace Replacement

16.1 Inspect and mark out all replacement locations in conjunction with the NCC Representative

16.2 Provide new knee braces where specified. Match existing adjacent materials. Replace in kind where required.

16.3 Submit for review all connection details prior to Work.

17.0 Sheet Metal Roofing Repairs (For all Barns)

17.1 Inspect and mark out the existing sheet metal roofing repair locations in conjunction with the NCC Representative.

17.2 Where directed by the NCC Representative, and concentrating at all valley locations remove and replace localized areas of existing sheet metal valley flashing as per specification Section 07 62 00 – Metal Flashing. Contractor is responsible to ensure the profile of new sheet metal closely matches the existing roofing. Submit samples of the new sheet metal to the NCC Representative for approval prior to installation. Install new sheet metal roofing as per manufacturer’s instructions; including new galvanized, hex head, self-sealing fasteners into existing roof deck. Contractor is to include a reasonable amount of additional backing required to complete roofing repairs/reinstatements.

17.3 Using a sealant prescribed by the roofing sheet metal manufacturer, provide a continuous seal at the joint between the underside of the sheet metal roofing panels and the top surface of the flat-stock roof valley at all four existing roof valleys. Ensure all deformations in sheet metal panels are filled and water-tight. Submit proposed sealant product data to the NCC Representative for approval prior to application.

18.0 Cladding Repair

18.1 Inspect the existing cladding in conjunction with the NCC Representative. Assist the NCC Representative in marking out all deteriorated wood cladding.

18.2 Remove and replace cladding panels where required in order to access structural points required to raise the barn.

18.3 Remove and replace cladding panels where directed by the NCC Representative. Install the new cladding to match the adjacent layout/pattern. Include for appropriate new galvanized fasteners as per specification section 06 03 15 – Historic Period Carpentry.

19.0 Barn Door Repairs

19.1 Inspect the existing barn doors in conjunction with the NCC Representative noting all deteriorated and missing wood components.

19.2 Replace all missing and deteriorated wood components with material to match existing. Doors shall be re-built and re-hung ensuring that they close and operate properly.

20.0 Rafter and Top Plate Replacement

20.1 Where directed by the NCC Representative, replace rafter, struts, and sections of top plate where they have been damaged by water.

21.0 Wood Framing Sheathing and Siding

- 21.1 Remove existing cedar shingle cladding on West elevation (Building E). Repair and Reinstall wood cladding using materials salvaged from removals onsite.
- 21.2 Following localized dismantling of the South addition (Building E), install 25mm thick wood cladding to match existing using salvaged wood from removals onsite. Include for adequate backing and additional wood cladding (to match existing) required to complete reinstatements. Include for appropriate new galvanized fasteners as per specification section 06 03 15 – Historic Period Carpentry.
- 21.3 Following localized demolition of West addition (Building F), install 25mm thick wood cladding to match existing using salvaged wood from removals onsite. Include for adequate backing and additional wood cladding (to match existing) required to complete reinstatements. Include for appropriate new galvanized fasteners as per specification section 06 03 15 – Historic Period Carpentry.
- 21.4 Carefully locate and construct new openings complete with door on East elevation (Building F) using salvaged lumber from removals, as indicated in the Drawings. Coordinate locations with the NCC Representative prior to commencing the work.

22.0 Foundation, Log Repair, Replacement (Barn E)

- 22.1 Once Building has been lifted and securely shored, the perimeter base of the building can proceed to be cleared.
- 22.2 Deteriorated base logs can be removed and labeled as they will be used to create patterns for the new logs reinstatements. Ensure logs are securely stored and protected for future requirements.
- 22.3 Following the removals of deteriorated logs, new foundation work is to be completed as per design specifications – refer to Drawings. Details should be confirmed with the NCC Representative prior to wall construction beginning.
- 22.4 Following completed foundation wall work, the new logs can be cut to fit and secured in place as per specification section 06 – Historic Period Carpentry.

23.0 Window and Doors Barn (F)

- 23.1 New and Rebuilt wooden windows and doors shall be made in kind using wood materials salvaged from dismantled additions, and installed square, level and plumb – refer to Drawings. Submit details for NCC Representative review.
- 23.2 Glazing : provide 6.4mm Lexan sheet
- 23.3 Ensure weathertight seal of components to adequately protect from exterior elements. Ensure adequate sloping to shed surface water.

24.0 Electrical

24.1 The Contractor is to locate and verify that any and all electrical services to the applicable buildings are temporarily disconnected for the duration of the work. Electrical services are not required in the barn for the duration of the work however may be required to other buildings. Isolation of electrical services is understood to part of this contract.

25.0 Plumbing

25.1 The Contractor is to locate and verify that any and all utility and water services to the applicable buildings are temporarily disconnected for the duration of the work. The Contractor is to ensure continued water supply for the Tenant's livestock throughout the duration of the Work. Water lines can be moved temporarily to a nearby location, but shall be reinstated following completion of the work as described herein.

26.0 Interior of Barn

26.1 Reinstatement affected interior finishes utilizing existing materials, or new materials of comparable adequacy, as directed by the NCC Representative.

26.2 Ensure smooth and level surfaces.

26.3 Reinstatement any and all affected electrical and water components to barn.

27.0 Excavation, Reinstatements & Re-Grading

27.1 Footings /foundation walls that have had the forms stripped they can be backfilled with the native soil set aside from the excavation ensuring that the ground surrounding the barn is properly graded so that water will be encouraged to move away from the building. This is to be completed in conjunction with the Geotechnical Consultant – refer to APPENDIX C.

27.2 Landscaping impacted by construction activities shall be reinstated to original condition. Grading around the barn should be upgraded according Geotechnical survey – refer to APPENDIX C.

END OF SECTION 03

1.0 Summary

1.1 This Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including the following:

- 1.1.1 Adjust list below to suit Project.
- 1.1.2 Contractor's Construction Schedule.
- 1.1.3 Submittals Schedule.

2.0 Contract Documents

- 2.1 All the drawings listed on the sheet titled "List of Drawings" or "Index of Drawings" will form part of the contract documents.
- 2.2 All the divisions and sections listed on the "Index of Specifications" will form part of the contract documents.
- 2.3 All the addenda issued during and before the proposal closing will form part of the contract documents.
- 2.4 The Request for Tender completely filled in by the Bidder, will form part of the contract documents.
- 2.5 All contract documents are complementary. Items indicated in one and not in the other are deemed to be included in the contract work.
- 2.6 Obtain direction from NCC Representative before proceeding if a possible obstacle or interference with an indicated installation is identified.
- 2.7 When the Contractor encounters an obstacle or interference that could have been reasonably foreseen and the Contractor failed to obtain direction from the NCC Representative in the matter, the NCC Representative may require that the work of the Contractor be modified in whole or part in response to the obstacle or interference. The Contractor shall assume the costs of additional work arising from such work.
- 2.8 Submit shop drawings to scale of metal, timber, splices, connections showing details of layout, materials, and construction to the NCC Representative prior to Work commencing.
- 2.9 When requested by the NCC Representative, provide invoices, purchase orders, and supplier certificates to establish that materials used in this contract meet requirements of specifications.
- 2.10 As-Built Drawings
 - 2.10.1 Maintain project record drawings and record accurately all deviations from Contract documents as project progresses. Maintain on-going as-built records on site, ready for inspection during the course of the construction.
 - 2.10.2 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 Representative.

- 2.11 Maintain at job site, one copy each of following:
- 2.11.1.1 Contract Drawings
 - 2.11.1.2 Specifications
 - 2.11.1.3 Addenda
 - 2.11.1.4 Change Orders
 - 2.11.1.5 Other Modifications to Contract
 - 2.11.1.6 Approved Work Schedule
 - 2.11.1.7 Permits
 - 2.11.1.8 Field Test Reports
 - 2.11.1.9 Reviewed Shop Drawings
 - 2.11.1.10 As-Built Drawings
- 2.12 Submittals
- 2.12.1 Submittals Schedule: Submit Project schedule to the NCC Representative for review. Arrange the following information in a tabular format in chronological order:
- 2.12.2 Revise list below to suit Project. Add information, such as scheduled dates for purchasing and installation and the activity or event number, if a CPM construction schedule is used.
- 2.12.2.1 Scheduled date for first submittal.
 - 2.12.2.2 Specification Section number and title.
 - 2.12.2.3 Submittal category (action or informational).
 - 2.12.2.4 Name of subcontractor.
 - 2.12.2.5 Description of the Work covered.
 - 2.12.2.6 Scheduled date for Engineers final release or approval.
 - 2.12.2.7 Contractor's Construction Schedule: Submit one printed copy of initial schedule, large enough to show entire schedule for entire construction period.
- 2.12.3 Submittals are to be submitted with reasonable promptness and in orderly sequence so as not to cause delay in the Work schedule. Work affected by Submittal shall not proceed until review is completed.
- 2.12.4 Submittals not stamped, signed, dated, identified specific to the Project and attesting to their review specific for the Project shall be considered rejected and not reviewed.
- 2.12.5 Contractor's responsibility for errors and omissions in submission is not relieved by the NCC Representative's review of Submittals.
- 2.12.6 Contractor's responsibility for deviations in submission from requirements is not relieved by the NCC Representative's review of the submittals.
- 3.0 Project Management and Coordination**
- 3.1.1 Coordinate preparation and processing of schedules and reports with performance of construction activities and with scheduling and reporting of separate contractors.
- 3.1.2 Coordinate Contractor's Construction Schedule with the Schedule of Values, list of subcontracts, Submittals Schedule, progress reports, payment requests, and other required

schedules and reports.

- 3.1.3 Secure time commitments for performing critical elements of the Work from parties involved.
- 3.1.4 Coordinate each construction activity in the network with other activities and schedule them in proper sequence
- 3.1.5 Coordinate inspections and testing of concealed Work prior to concealing that Work.
- 3.1.6 Coordinate Sequencing of Work to occur during conditions of temperature, humidity, exposure, forecast weather, and status of Project completion, which will ensure best possible results for each unit of Work. Isolate each unit of Work from non-compatible Work, as required to prevent deterioration.
- 3.1.7 Coordinate work between trades for the most efficient sequence of installation, to prevent space conflicts, and to provide clearances required by code, Drawings, and the manufacturer.
- 3.1.8 Minor dimension changes (including the need to adjust finish dimensions), difficult installations and/or the addition of off-set fittings will not be considered changes to the Contract.
- 3.1.9 Obtain approval of the NCC Representative prior to any changes or alternate configurations.

4.0 Communication

- 4.1 The successful contractor shall ensure he has been informed and is aware of the official NCC representative for the area described herein. Although authority and responsibility for the immediate area may rest elsewhere the only contact for the successful contractor is the official NCC Representative. The Contractor will be notified if the official NCC representative changes. Site problems and deficiencies shall be reported to the NCC representative immediately.
- 4.2 The successful Contractor shall arrange with the NCC Representative a communication link. The communication link must be established for urgent situations which may arise during operations. Furthermore, the Contractor shall identify the level of authority of his personnel. The site crew shall have a communication device in order to permit the NCC representative to communicate with them at all time during the working hours and during emergency operations.
- 4.3 Project Meetings
 - 4.3.1 The Contractor shall schedule and attend regular meetings, as directed by the NCC Representative.
 - 4.3.2 Location of meetings will be determined by NCC Representative.
 - 4.3.3 The Contractor will distribute written notice of each meeting in advance of meeting date to the NCC Representative, Consultants, and all other affected parties.
 - 4.3.4 When required, the Contractor shall ensure required Subcontractors attend.

4.3.5 The Contractor shall record minutes and include significant proceedings and decisions and identify 'action by' parties.

4.3.6 The Contractor will reproduce and distribute copies of minutes to meeting participants and affected parties not in attendance.

5.0 General Conditions

5.1 No majoring of the Contract amount will be accorded to the Contractor due to any increase in wages or materials.

5.2 The NCC Representative will stop the Work at any time if they feel that it is necessary for the good of the Work or Property. They are also authorized to make any modifications which prove to be necessary to protect life, injury or property.

5.3 The various works are to be executed in a substantial workmanlike manner incorporated the best materials and workmanship of their various kinds in accordance with the plans, specifications and instructions given from time to time, and said works are to be carried out and completed.

5.4 No part of the structure shall be loaded during the construction with a load greater than it is calculated to bear safely when completed. Every temporary support shall be as strong as the permanent support. Should any accident occur through the violation of these requirements the Owner will hold the Contractor solely answerable and liable.

5.5 The setting out of work shall rest solely with the Contractor who will be responsible for the same and if any discrepancies should be found, he will have to alter and make good the same at his own expense, to the approval of the NCC Representative.

5.6 All protective measures shall comply with the requirements of all applicable by-laws and to all special requirements of the authorities having jurisdiction.

5.7 The Contractor shall co-ordinate all work and shall be responsible to define everyone's jurisdiction and responsibility

5.8 In the event of conflict, such as but not limited to situations, circumstances, between documents, personnel, or other events, the decision of the NCC Representative shall be final and binding.

5.9 Site meetings will be held on a weekly basis as deemed necessary by the NCC Representative. Meeting minutes will be recorded and distributed by the Contractor.

5.10 Temporary lighting and power to be provided by the Contractor throughout the work area during the period of the work as required. Contractor to maintain same in good working order during this period.

5.11 Contractor shall provide to the NCC Representative, prior to start of work, a full list of all controlled products to be used during the performance of this contract, with appropriate material safety data sheets, in accordance with procedures outlined by Workplace Hazardous

Material Information System (WHIMIS). Contractor shall provide any and all additional protection required as preventative measured for both construction personnel and building occupants.

- 5.12 Prior to commencing work the Contractor shall accompany the NCC Representative during a pre-construction survey of the entire work area. Any existing deficiencies or damage to the building systems are to be identified at that time. Any damage incurred during the repair operations is to be made good by the Contractor at no expense to the NCC.

6.0 Construction Condition

- 6.1 The Contractor is to co-ordinate all construction operations with the NCC Representative.
- 6.2 Contractor to ensure that all aspects of the project conform to all applicable safety codes, municipal by-laws, and other applicable regulations. Contractor to ensure that all equipment utilized during repair operations conforms to all applicable noise by-laws.
- 6.3 Maintain all emergency and other exits from the building.
- 6.4 The Contractor shall remove from site on a regular basis, all refuse and surplus material using the container method and all appropriate chutes and/or other suitable dust control methods. Clean up must take place regularly. Accumulation of piles of dirt and debris will not be permitted. Any debris outside the construction area shall be kept to a minimum and must be cleaned up at the end of each day or immediately if it affects the use of the building. Disposal bins are to be located to the approval of the NCC Representative.
- 6.5 The Contractor is to supply all temporary washroom facilities as required by the Ministry of Labour and all other regulatory bodies. All temporary facilities are to be located to the approval of the NCC Representative.
- 6.6 The Contractor shall co-ordinate and supervise all hoisting, craning, lifting, lowering, hanging, pumping and any other material handling operations and shall be held responsible in first instance for any damage arising out of the above mentioned operations.
- 6.7 The Contractor shall be responsible for co-ordination of storage, allocation of storage space and shall be responsible for any overloading and any damage or claim arising from it, regardless how or by who caused.
- 6.8 The Contractor is to notify the NCC Representative 48 hours in advanced for site review. No new work is to be installed until approval has been obtained from the NCC Representative.

7.0 Construction Schedule

- 7.1 Hours of Work: Work may be performed between the hours of 7:00 a.m. to 7:00 p.m. Monday to Friday. These hours are subject to restriction by Municipal or other regulatory bodies.
- 7.2 The Contractor shall submit a construction schedule for approval within two days of request by the NCC Representative.

8.0 Health and Safety

- 8.1 Upon award of contract, the Contractor will issue a notice of project to the Ministry of Labour. The Contractor will provide proof of notification to the Consultant.
- 8.2 The Contractor will be responsible to conduct weekly health and safety (tailgate) meetings with all site personnel. Upon request, submit minutes of these meetings to the NCC Representative.
- 8.3 The Contractor shall submit 2 copies of a site-specific safety plan prior to commencement of work on site.

9.0 Temporary Facilities and Controls

9.1 Quality Assurance

- 9.1.1 Standards and Regulations: Comply with applicable laws and regulations and the following:
- 9.1.2 Conditions of Use: Keep facilities clean and neat. Operate in a safe and efficient manner. Take necessary fire prevention measures. Do not allow hazardous, dangerous or unsanitary conditions, or public nuisances to develop or persist on the site.

9.2 Construction / Extrusion Fence

- 9.2.1 Temporary Barriers and or extrusion barriers are mandatory around the work area.
- 9.2.2 Safety fencing and protection measures are required for the safety of building occupants, workers, environment, and animals in order to prevent from injury or property damage.
- 9.2.3 Construction/Extrusion fencing is to be installed. Construction fence is to protect construction area.
- 9.2.4 Construction/Extrusion Fencing is to separate farm livestock for the duration of the project.

9.3 Execution / Performance

- 9.3.1 Barriers: In general, provide barriers between active construction operations and completed areas of work, and between construction activity and Tenant occupied areas. Provide barriers in locations indicated on drawings, or if not indicated, as required by the NCC Representative.

9.3.2 Protection of Work and Site

- 9.3.2.1 Protect finished work against damage until take-over.
- 9.3.2.2 Protection and Hoarding, identification of the Designated Work Site Area: the Contractor shall clearly demarcate the work site area by erecting Construction/Extrusion fencing. Review proposed installations with the NCC Representative.
- 9.3.2.3 Protect hard and soft landscaping adjacent to the work form damage unless indicated or described otherwise.

- 9.3.2.4 Protect adjacent building spaces and occupants against spread of dust, harmful vapours, hazardous materials and dirt. Use devices and methods that minimize inconvenience and risk to the occupants.
- 9.3.2.5 Construct construction barriers serving as separation between active construction areas and livestock, occupied areas to provide.
- 9.3.2.6 Provide dust covers over Tenant equipment and furnishings. Use 6 mil thick clear plastic sheet and thoroughly tape seams to provide dust-proof cover.

9.4 Temporary Utility Installation

- 9.4.1 Water and electrical service are not available. Provide or connect, use and disconnect at the Contractors own expense and responsibility.
- 9.4.2 Notify the NCC Representative and Utility companies of any intended interruption of services. Keep duration of these interruptions to a minimum. These notifications shall be subject to review and acceptance by the NCC Representative.

9.4.3 Notification of Utilities

- 9.4.3.1 The Contractor shall notify all the utilities of the proposed investigations or if Work involves any excavating at least 48 hours prior to the commencement of such activities. Utility locates shall be obtained prior to mobilization of equipment to the site. Cost for such will be assumed to be included in this contract.

9.4.4 Utilities for Construction

- 9.4.4.1 Unless otherwise provided for in these specifications, the Contractor shall furnish his own source of electricity, fuel, and water required to perform the Work, and shall bear the cost of these services.

9.4.5 Existing Services

- 9.4.5.1 Where work involves disruption of existing services:
- 9.4.5.2 Execute work at times directed by NCC Representative,
- 9.4.5.3 Submit schedule to and obtain approval from NCC Representative for any shutdown or closure of active services,
- 9.4.5.4 Notify NCC Representative at least 48 hrs. before service disruption.
- 9.4.5.5 Adhere to approved schedule.

9.4.6 Electrical Service:

- 9.4.6.1 Comply with ESA standards and regulations for temporary electrical service. Install services in compliance with National Electrical Code (NFPA 70). Provide outlets and lighting as required for operations. Comply with applicable provisions.

9.4.7 Water Service:

9.4.7.1 Unless otherwise provided for in these specifications, the Contractor shall furnish his own source of water required to perform the Work, and shall bear the cost of these services. Comply with applicable provisions.

9.4.7.2 Immediately advise NCC Representative when unknown services are encountered.

9.4.8 Weather Enclosures:

9.4.8.1 Provide weather tight closures at openings in floors and roofs where required to protect building components as the work proceeds.

9.4.8.2 Design enclosures to withstand wind pressure.

9.4.8.3 Maintain and relocate protection until such Work is complete

9.4.8.4 Installation/Removal

9.4.8.4.1 Provide construction facilities and temporary controls in order to execute work efficiently.

9.4.8.4.2 Remove from site all such work after use.

9.4.9 Dewatering

9.4.9.1 Provide temporary drainage and pumping facilities to keep excavations, building and site free from water.

9.4.10 Site Storage / Loading

9.4.10.1 Confine the Work and operations of employees to limits indicated by Contract Documents and as directed by the NCC Representative. Do not unreasonably encumber premises with Products.

9.4.10.2 Do not load or permit to be loaded any part of the Work with a weight or force that will endanger the Work.

9.4.11 Sanitary Facilities

9.4.11.1 Provide portable sanitary facilities for Contractor use. Locate as directed by NCC Representative.

9.4.11.2 Provide all necessary supplies and maintain in clean condition.

9.4.11.3 At completion of the Work remove from the site.

9.4.12 Ventilation

9.4.12.1 Provide ventilation to prevent accumulation of dust, fumes, mists, vapours, or gases in areas of Work.

- 9.4.12.2 Provide ventilation through portable fan(s) exhausted to the out of doors to prevent migration of dust and debris within the building.
- 9.4.12.3 Dispose of exhaust materials in manner that does not contaminate adjacent areas.
- 9.4.12.4 Continue operation of ventilation and exhaust systems for sufficient time after cessation of operations to ensure removal of pollutants.
- 9.4.13 Access Equipment
 - 9.4.13.1 Provide all scaffolding, ladders and lifting equipment required for the work.
- 9.4.14 Signage
 - 9.4.14.1 Meet with NCC Representative prior to commencement of work to prepare list of signs and other devices required for the project. Signs and notices for safety and instruction shall be in both official languages. Do not post any sign without prior permission of the NCC Representative.
- 9.4.15 Dust Control
 - 9.4.15.1 Provide dust tight screens or partitions to localize dust generating activities, and for protection of workers, finished areas of work and public.
 - 9.4.15.2 Maintain and relocate protection until such work is complete.
 - 9.4.15.3 Protect all furnishings within work area during construction..
- 9.4.16 Protection of Work and Site
 - 9.4.16.1 Protect finished work against damage until take-over.
 - 9.4.16.2 Protect hard and soft landscaping adjacent to the work form damage unless indicated or described otherwise.
 - 9.4.16.3 Protect adjacent building spaces and occupants against spread of dust, harmful vapours, hazardous materials and dirt. Use devices and methods that minimize inconvenience and risk to the occupants.
- 9.4.17 Protection and Maintenance of Traffic
 - 9.4.17.1 Provide access and temporary relocated roads as necessary to maintain traffic.
 - 9.4.17.2 Contractor's traffic on roads selected for hauling material to and from site to interfere as little as possible with public traffic.
 - 9.4.17.3 Verify adequacy of existing roads and allowable load limit on these roads. Contractor shall be responsible for repair of damage to roads caused by construction operations.

9.4.17.4 All traffic control on NCC and other municipal roadways shall be the responsibility of the contractor. The contractor is responsible for the supply, installation and maintenance of traffic control devices necessary for the protection of the public and the work site. Traffic control must be in accordance with the Manual of Uniform Traffic Control Devices for Canada. The NCC field manual of traffic control shall or NCC policies and regulations shall also be used. All signs used for traffic control shall be bilingual.

10.0 Use of Premises

10.1 Contractor's Use of Site:

10.1.1 Coordinate use of premises under direction of the NCC Representative.

10.1.2 The barns are located on a property that is occupied by tenants. Farming operations will continue to operate during construction. The Contractor will coordinate construction efforts with NCC Representative and Tenant to minimize interference with farming operations.

10.1.3 Cooperate with the NCC Representative and Tenant so as to minimize conflict and impacts to other activities in to the farming operations.

10.1.4 Maintain egress routes for tenants and any farming personnel as directed by NCC Representative.

10.1.5 Contractor's personnel are prohibited from using the tenant's toilets and facilities during construction. The Contractor is to provide temporary facilities for construction personnel. Coordinate location with NCC'S representative

10.1.6 Contractor's staging area is strictly limited to areas indicated on the drawings. Where no staging area is indicated, Contractor's use of site is limited to areas within the Contract bounds, or as reasonably required to complete the Work. Strictly comply with NCC Representative directions establishing staging and operation areas, through-building routes, and locations for material delivery and disposal.

10.1.7 Smoking is prohibited in all NCC buildings and grounds, including, Project site, mechanical rooms, utility spaces, and roof tops.

10.1.8 Execute work with the least possible interference or disturbance to the normal use of premises and farming operations. Make arrangements with the NCC Representative and Tenant to facilitate work as stated.

10.1.9 Protect work temporarily until permanent enclosures completed.

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

10.1.11 NCC Representative will arrange with the Contractor a work schedule and procedures for entry to the property. Do not commence work until these requirements have been confirmed

and approved by NCC Representative.

- 10.1.12 Do not unreasonably encumber exterior of site with materials or equipment.
- 10.1.13 Protect grass, trees and other surfaces on the ground from damage in areas not directly affected by the work. Refer to the "DAMAGES" article below.
- 10.1.14 Move stored products or equipment as directed by NCC Representative to ensure public pedestrian access around property.
- 10.1.15 Provide for personnel and vehicle access. Maintain safe exiting routes from the site and building at all times.
- 10.1.16 Provide 48 hours' notice to and obtain requisite permissions from the NCC Representative and utility companies of any intended interruption of services. Keep duration of these interruptions to a minimum.
- 10.1.17 Park in area designated for Contractor's use unless NCC Representative specifically authorizes other parking arrangements.

10.2 Tree Protection

10.2.1 Protect trees as follows:

- 10.2.1.1 Provide temporary fencing at the protective zone for each tree. Fencing must form a complete circumference.
- 10.2.1.2 No activity, including storage of materials or driving of vehicles, shall be allowed within the protective zone
- 10.2.1.3 Do not move, remove or alter fencing for the duration of the Project.
- 10.2.1.4 Coordinate with NCC Representative to provide aeration and gator bags as remediation measures for trees which have been negatively impacted by construction.

10.3 Welding and Cutting

- 10.3.1 At least 48 hours prior to commencing cutting, welding or soldering procedure, provide to the NCC Representative:
 - 10.3.1.1 Notice "of intent, "indicating devices affected, time and duration of isolation or bypass.
 - 10.3.1.2 Completed welding permit as defined in FC 302.
 - 10.3.1.3 Return welding permit to Project Officer/Consultant immediately upon completion of procedures for which permit was issued.
- 10.3.2 A fire watcher as described in FC 302 shall be assigned when welding or cutting operations are carried out in areas where combustible materials within 10m may be ignited by conduction or radiation.

- 10.3.3 Where work requires interruption of fire alarms or fire suppression, extinguishing or protection systems:
- 10.3.3.1 Provide watchman, service as described in FC 301; In general, watchman service is defined as an individual conversant with Fire Emergency Procedures, performing fire picket duty within an unprotected and unoccupied (no workers) area once per hour.
- 10.4 Site Storage/Loading
- 10.4.1 Confine work and operations of employees by Contract Documents. Do not unreasonably encumber premises with products.
- 10.4.2 Do not load or permit to load any part of Work with weight or force that will endanger Work.
- 10.4.3 Do not unreasonably encumber site with materials or equipment.
- 10.4.4 Move stored products or equipment which interferes with operations.
- 10.5 Construction Parking
- 10.5.1 Parking will be permitted on site provided it does not disrupt performance of Work or building operations
- 10.5.2 Provide and maintain adequate access to project site.
- 10.6 Equipment, Tools and Materials Storage
- 10.6.1 Provide and maintain, in clean and orderly condition, lockable weatherproof sheds for storage of tools, equipment and materials.
- 10.6.2 Provide all scaffolding, ladders and lifting equipment required for the work.
- 10.6.3 Locate materials not required to be stored in weatherproof sheds on site in manner to cause least interference with work activities.
- 10.7 Sanitary Facilities
- 10.7.1 Provide sanitary facilities for work force in accordance with governing regulations and ordinances.
- 10.7.2 Post notices and take precautions as required by local health authorities. Keep area and premises in sanitary condition.
- 10.8 Construction Signage
- 10.8.1 No signs or advertisements, other than warning signs, are permitted on site.

- 10.8.2 Signs and notices for safety and instruction in both official languages Graphic symbols to CAN/CSA-Z321.
- 10.8.3 Maintain approved signs and notices in good condition for duration of project, and dispose of off-site on completion of project or earlier if directed by Consultant.
- 10.9 Power/Explosive Actuated Fastening Devices
- 10.9.1 Do not employ power guns using explosives without prior written permission of NCC Representative.
- 11.0 Environmental**
- 11.1 All the work will be done in accordance with the federal environmental law and regulation and the provincial environmental law and regulation (Quebec and Ontario) any other code of provincial or local application provided that in any case of conflict or discrepancy more stringent requirements shall apply.
- 11.2 No vegetation should be removed unless specified or directed by the NCC. The Contractor shall take all responsible precautions to ensure that no damage is caused to any vegetation not required to be removed.
- 11.3 Access to the site (s) through areas other than a road or paved areas specifically for that purpose is not permitted without prior written approval of the NCC.
- 11.4 Contractors should conserve energy and non-renewal natural resources with due regard for property protection, safety of workers, occupants and the public and overriding by-laws and regulations.
- 11.5 Environmental Protection
- 11.5.1 Fires
- 11.5.1.1 Fires and burning of rubbish on site not permitted.
- 11.5.2 Disposal of wastes
- 11.5.2.1 Do not dispose of waste or volatile materials, such as mineral spirits, oil or paint thinner into waterways, storm or sanitary sewers.
- 11.5.3 Drainage
- 11.5.3.1 Do not dispose of waste or volatile materials, such as mineral spirits, oil or paint thinner into waterways, storm or sanitary sewers.
- 11.5.3.2 Do not pump water containing suspended materials into waterways, sewer or drainage system.

11.5.4 Tree and Plant Protection

11.5.4.1 Protect trees and plants on site.

11.5.5 Pollution Control

11.5.5.1 Control emissions from equipment and plant to local authorities emission requirements.

11.5.5.2 Cover or wet down dry materials and rubbish to prevent blowing dust and debris.

11.5.6 Spills Reporting

11.5.6.1 Prepare an environmental emergency measure plan and post at the place of work indicating:

11.5.6.1.1 The site's refueling area.

11.5.6.1.2 The NCC Environmental Emergency Service telephone number (613) 239-5353. Call immediately in the event of accidental spill of fuel or other pollutant.

11.5.6.2 Assume financial responsibility to clean up effects of spill.

11.5.7 Hazardous Material

11.5.7.1 If the Contractor encounters hazardous or toxic substances the Contractor shall take all reasonable steps to ensure that no person suffers injury, sickness or death and that no property is destroyed as a result of exposure to substance and shall immediately report the incident to National Capital Commission and then confirm in writing.

11.5.7.2 Comply with the requirements of the Workplace Hazardous Materials Information System (WHMIS) regarding use, handling, storage, and disposal of hazardous materials; and regarding labeling and the provision of Material Safety Data Sheets (MSDS) acceptable to Human Resources Development Canada, Labour Program.

11.5.7.3 For work in occupied buildings give the Project Officer/Consultant 48 hours' notice for work involving designated substances (Ontario Bill 208), hazardous substances (Canada Labour Code Part II Section 10), and before painting, caulking, installing carpet or using adhesives.

11.6 Relics and Antiquities

11.6.1 Protect relics and antiquities, items of historical or scientific interest and similar objects found during the course of work.

11.6.2 Immediately notify NCC Representative of any findings and await NCC Representative's written instructions before proceeding with work adjacent to findings.

- 11.6.3 If any vestiges of early human occupancy of the land are uncovered during construction, suspend construction activity and notify the NCC Representative.
- 11.6.4 Relics, antiquities and items of historical or scientific interest shall remain the property of the Crown.

END OF SECTION 04

WOOD COLUMN SCHEDULE		
MARK	SIZE	NOTES
C1	191x191	

WOOD BEAM SCHEDULE			
MARK	SIZE	REINFORCEMENT	NOTES:
B1	343x343mm	D.Fir-L No.1	
B2	292x292mm	D.Fir-L No.1	
B3	292x292mm	HEM FIR No.1	
B3	292x343mm	D.Fir-L No.1	

FOOTING SCHEDULE (REFER TO S108)			
MARK	SIZE (LxWxT)	REINFORCEMENT	NOTES:
F1	1500x1500x457mm	c/w 7-15M E.W. BOT.	
F2	1000x1000x305mm	c/w 5-15M E.W. BOT.	

NOTE:
ALL WOOD IN DIRECT CONTACT WITH CONCRETE TO BE PROTECTED WITH 0.65mm POLYETHYLENE FILM OR TYPE S ROLL ROOFING.

PIER SCHEDULE (REFER TO 1/S108)		
MARK	SIZE	REINFORCEMENT
P1	406x406mm	8-15M VERT. w/ 10M TIES @ 250mm o.c. + 2-10M TIES ADD'L @ TOP OF PIER @ 75mm o.c. DOWEL INTO FOOTING TO MATCH VERTICAL REINFORCING
P2	762x406mm	8-15M VERT. w/ 10M TIES @ 250mm o.c. + 2-10M TIES ADD'L @ TOP OF PIER @ 75mm o.c. DOWEL INTO FOOTING TO MATCH VERTICAL REINFORCING
P3	457mmØ	4-15M VERT. w/ 10M TIES @ 250mm o.c. + 2-10M TIES ADD'L @ TOP OF PIER @ 75mm o.c. DOWEL INTO FOOTING TO MATCH VERTICAL REINFORCING

KNEE BRACE SCHEDULE				
MARK	CROSS SECTION	L	H	
K1	190x190	810	810	
K2	190x190	610	610	



Real Estate Management, Design and Construction Branch
Direction de la gestion de l'immobilier, design et construction

Design and Construction Division
Division design et construction

director - Claude Robert - directeur

consultant
expert-conseil



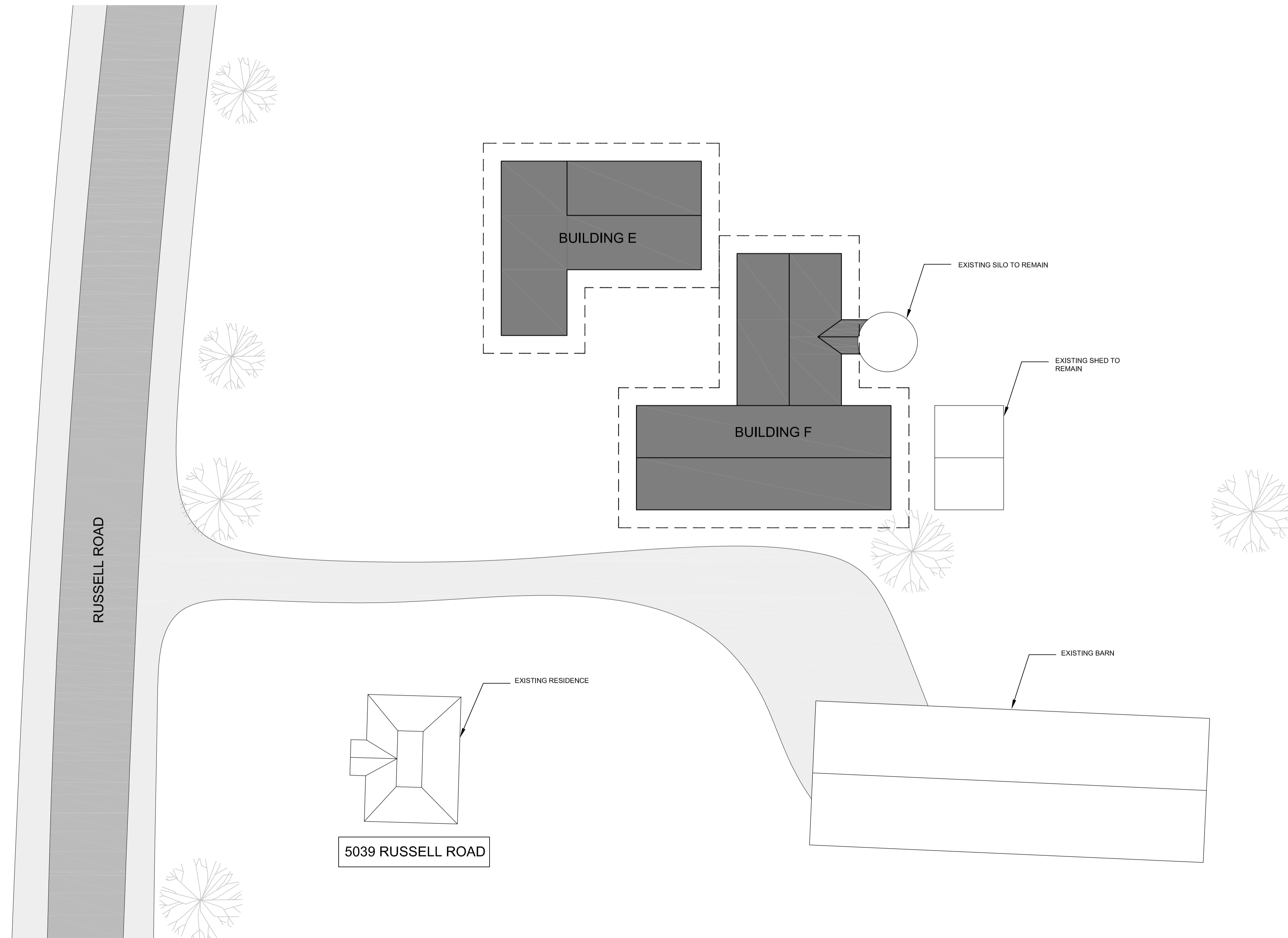
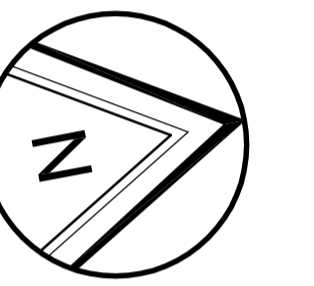
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3	ISSUED FOR FINAL REVIEW/TENDER	SEP 29, 2017
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1	ISSUED FOR PRELIMINARY COORDINATION EMIS POUR UNE COORDINATION PRELIMINAIRE	AUG 10, 2017 10 AUG. 2017

project
projet
**5039 RUSSELL ROAD
BARN REHABILITATION**

drawing
dessin
GENERAL NOTES

approved by
approuvé par E. RICHER
designed by
conçu par G. FALCOMER
drawn by
dessiné par M. EPPICH
date 28/07/2017 scale
échelle AS SHOWN
NCC project no.
no. du projet de la CCN sheet no.
no. de la feuille
DC **S001**



SITE PLAN:
SCALE 1:250

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project
projet

**5039 RUSSELL ROAD
BARN REHABILITATION**

drawing
dessin

SITE PLAN

approved by
approuvé par E. RICHER

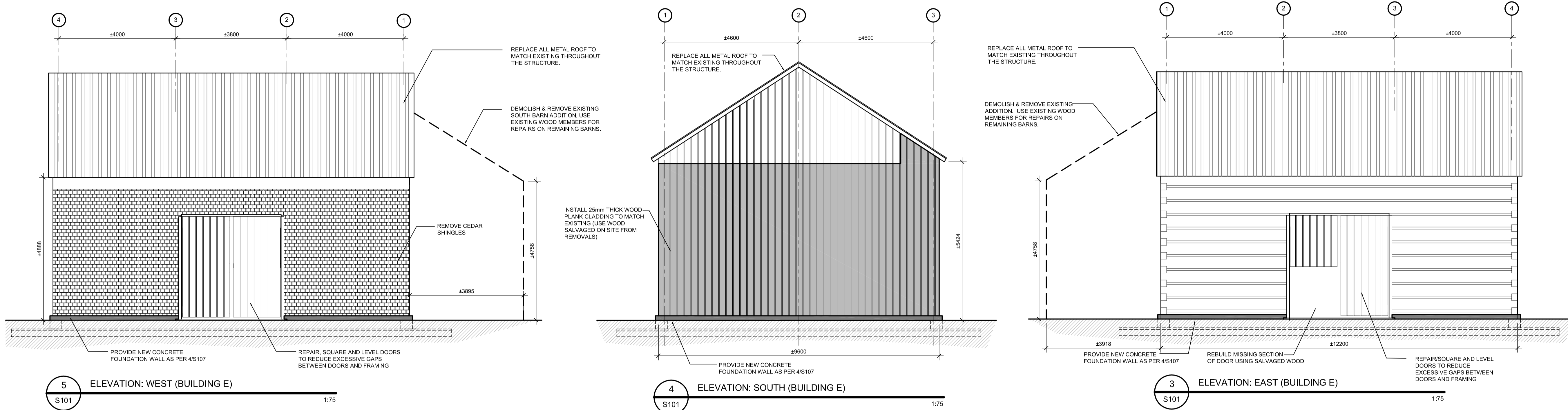
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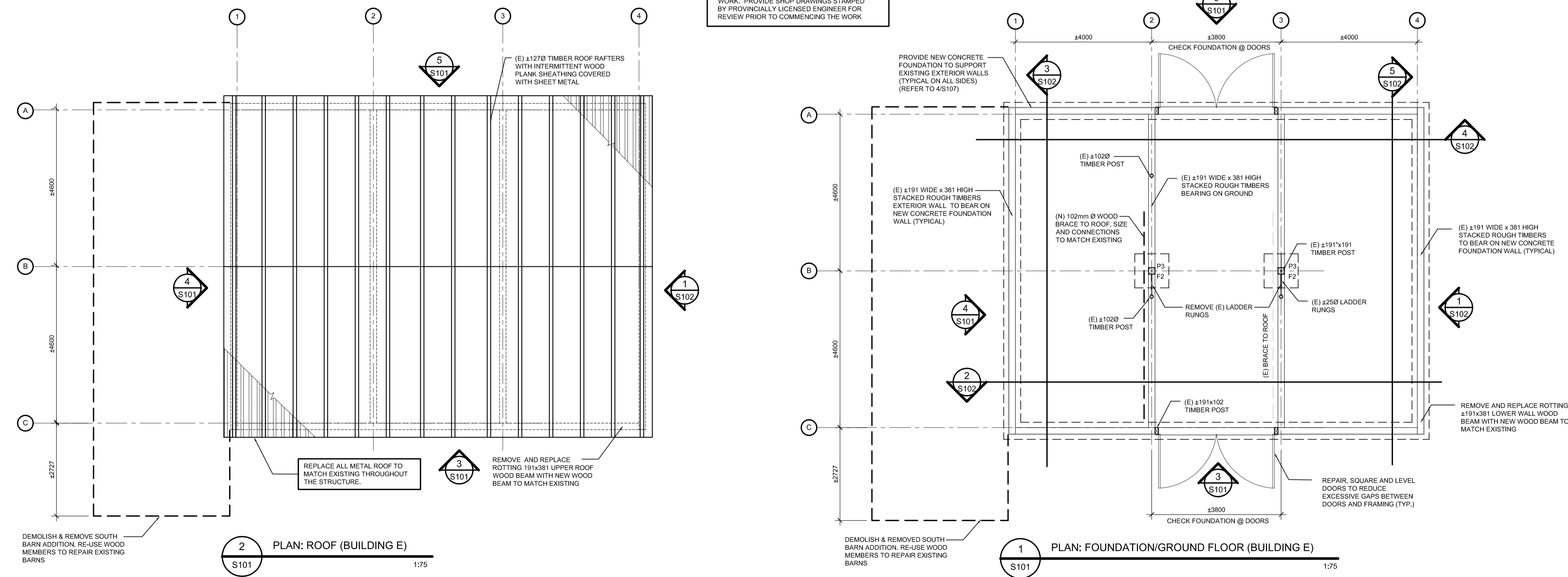
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no. de la feuille

DC **S100**



CONTRACTOR IS RESPONSIBLE TO PROVIDE TEMPORARY SHORING AS REQUIRED TO SUPPORT THE BARN STRUCTURE DURING THE WORK. PROVIDE SHOP DRAWINGS STAMPED BY PROVINCIALLY LICENSED ENGINEER FOR REVIEW PRIOR TO COMMENCING THE WORK



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project
projet

**5039 RUSSELL ROAD
BARN REHABILITATION**

drawing
dessin

**FLOOR PLANS
& ELEVATIONS
(BUILDING E)**

approved by
approuvé par E. RICHER

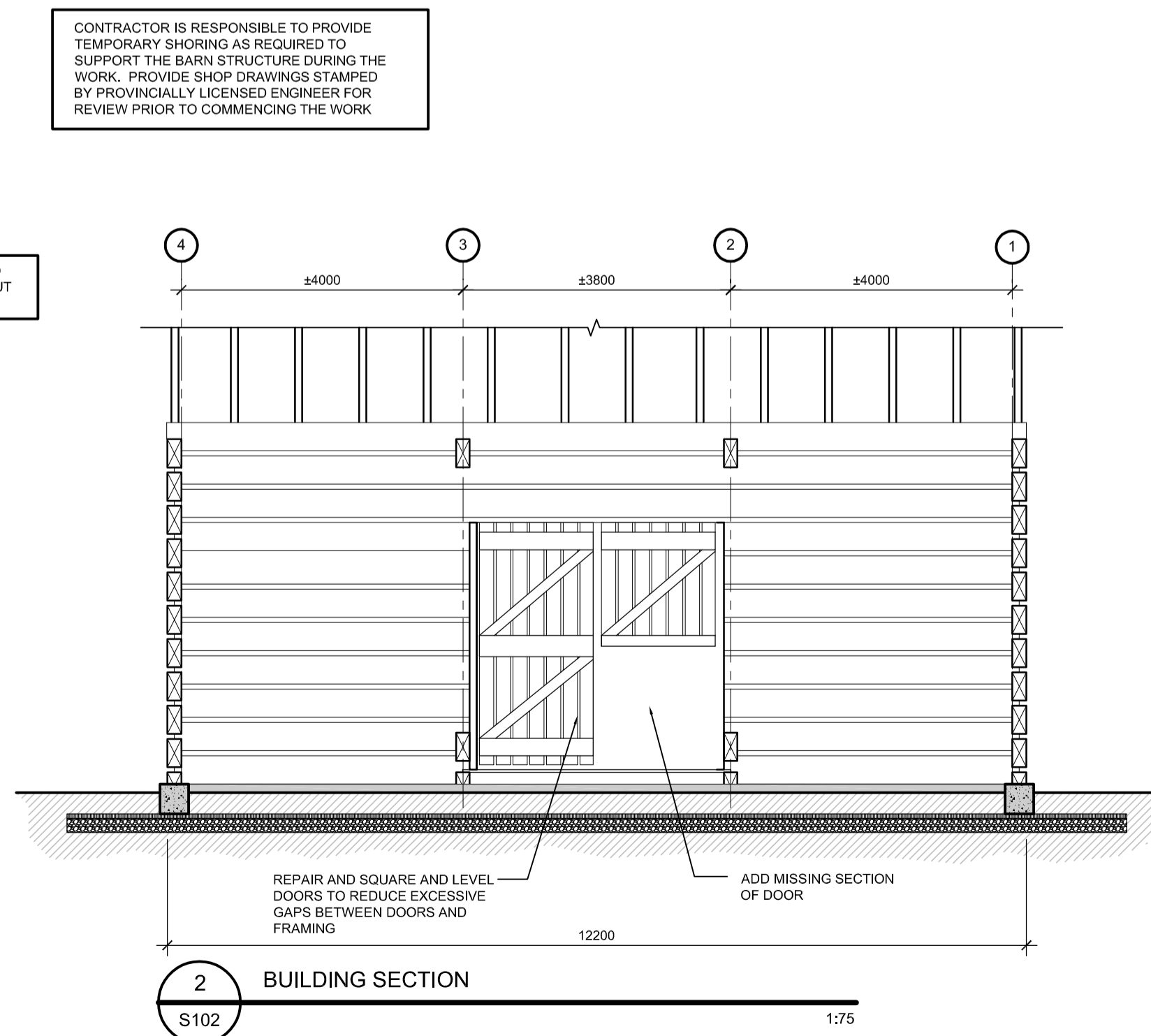
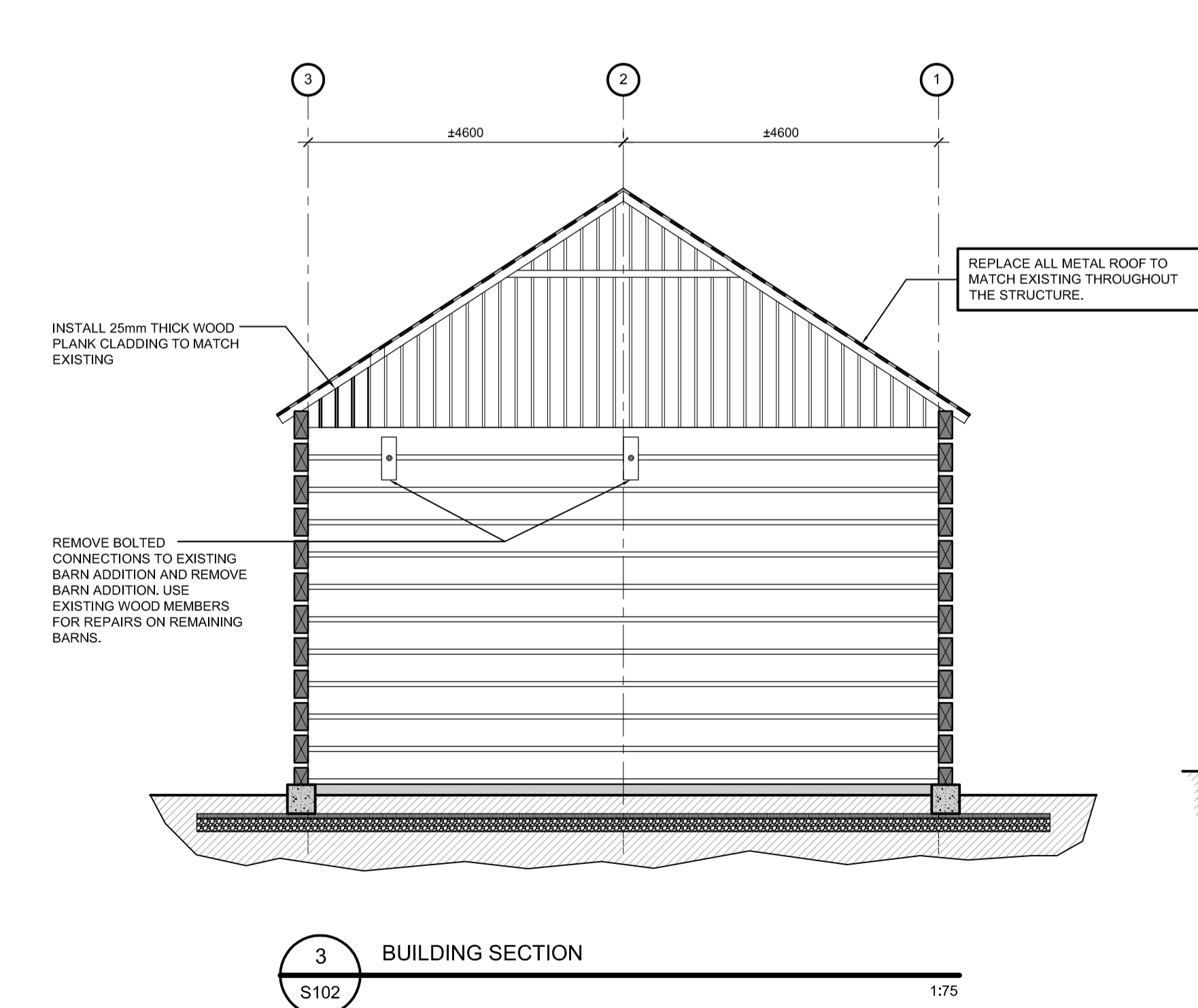
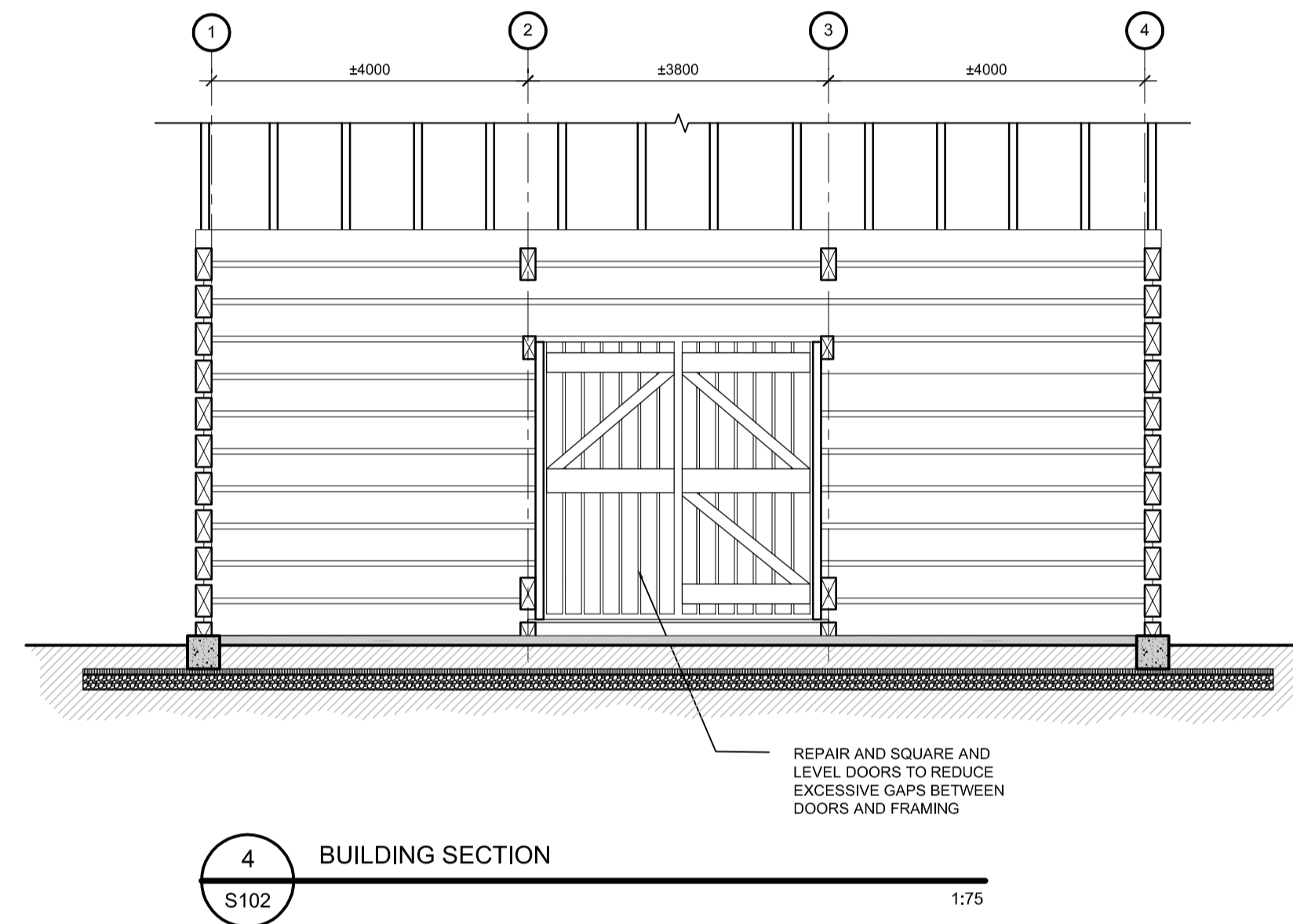
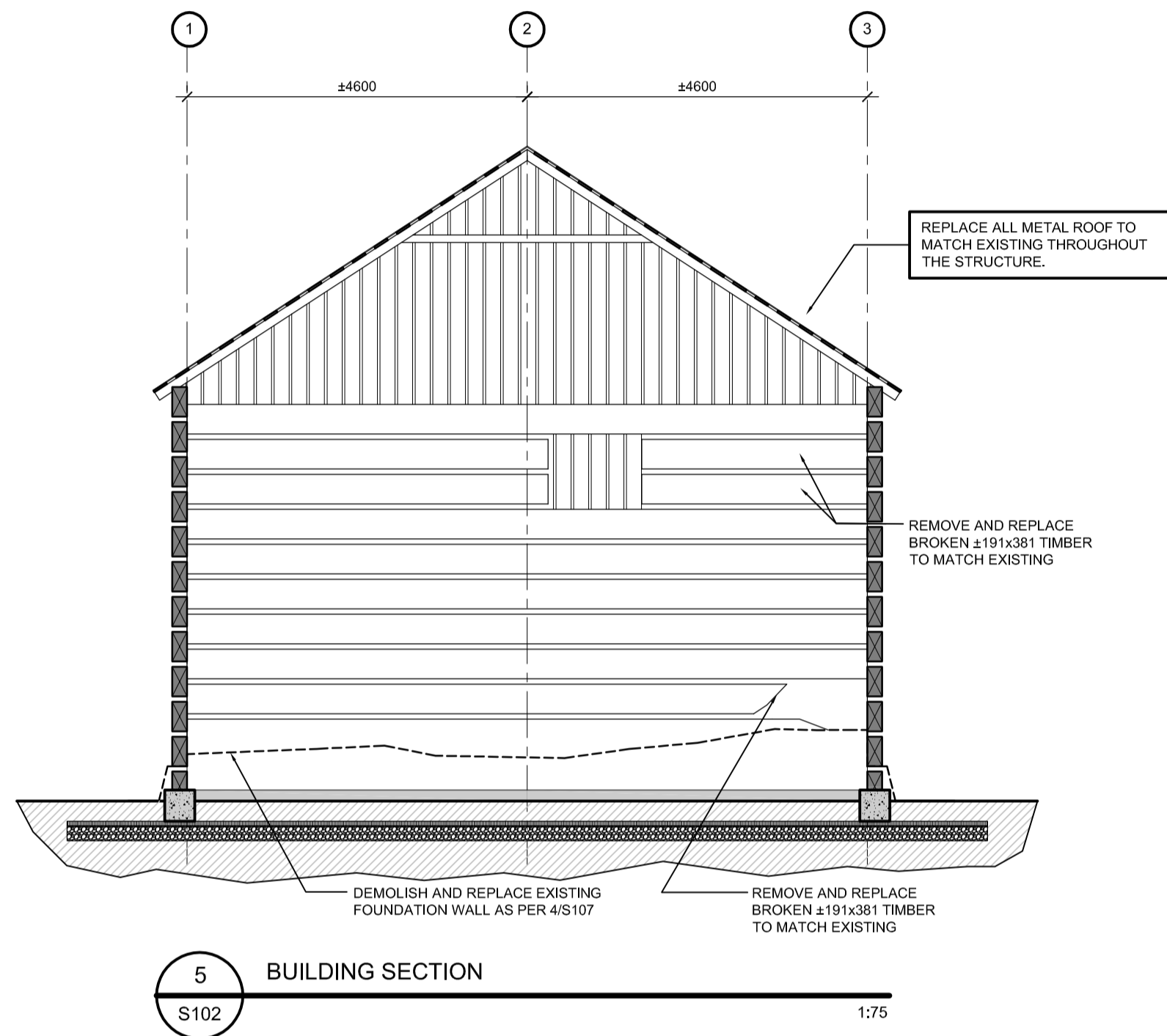
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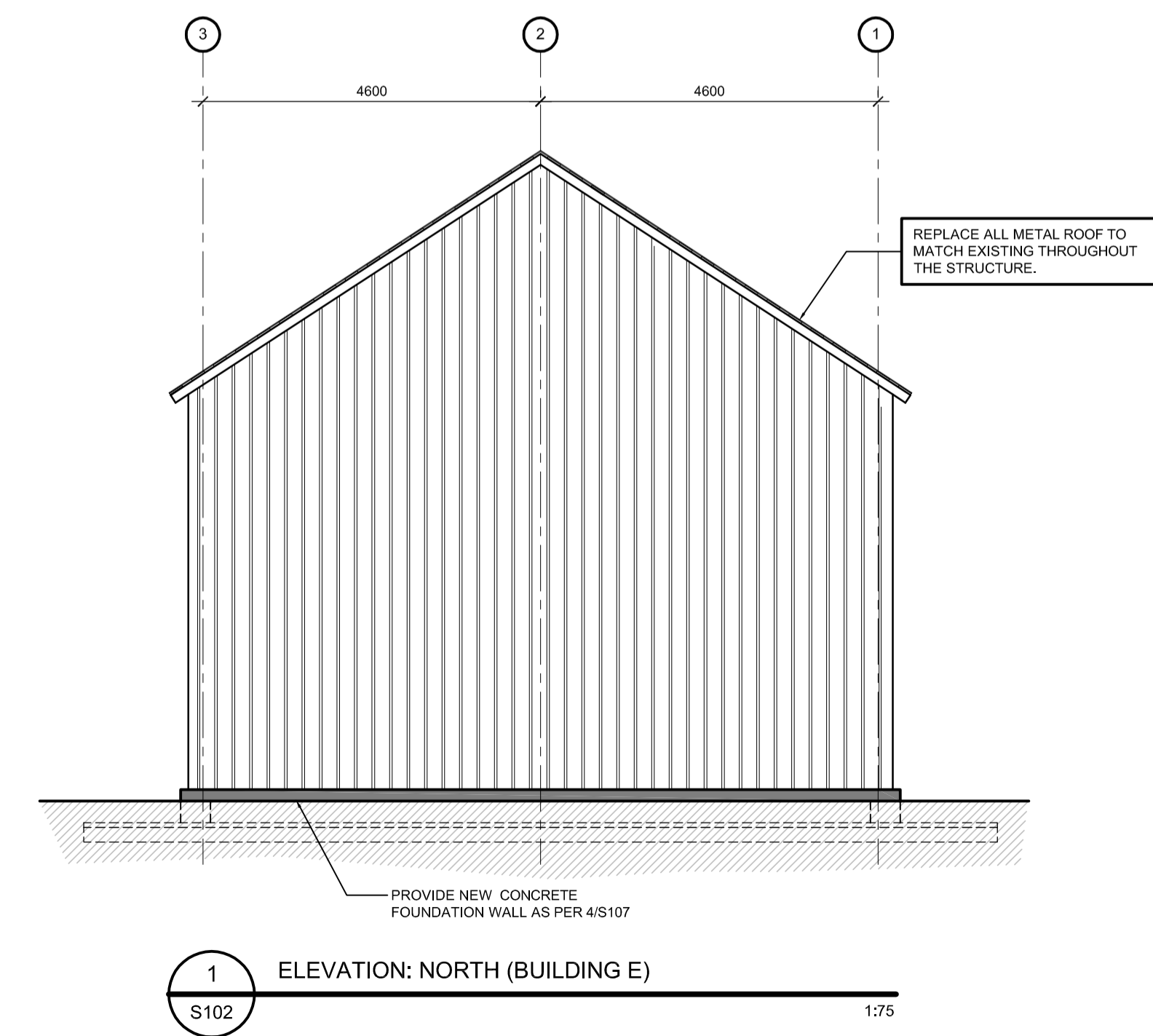
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DC **S101**



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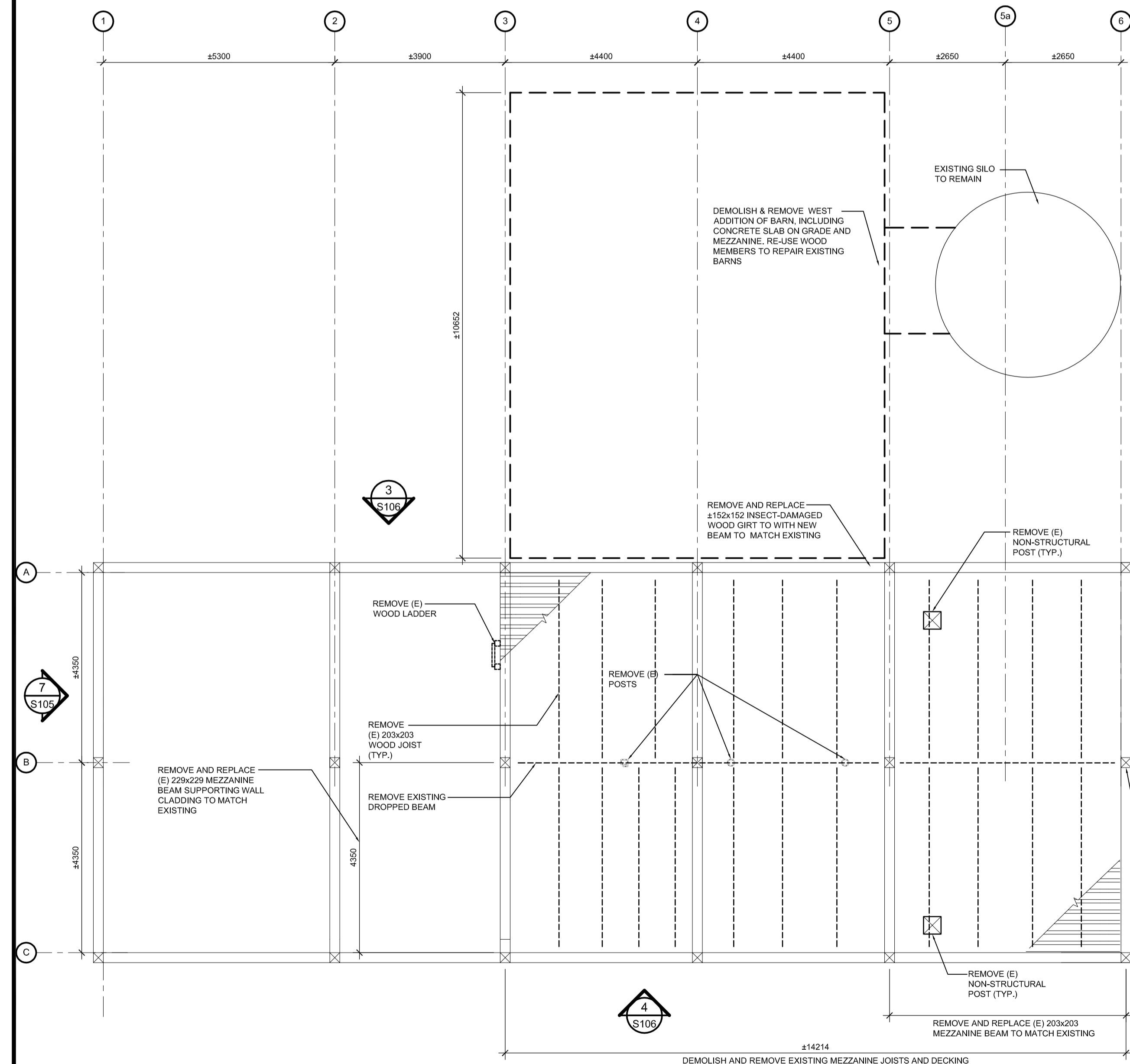
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projet
**5039 RUSSELL ROAD
BARN REHABILITATION**

drawing
dessin
**ELEVATIONS &
SECTIONS
(BUILDING E)**

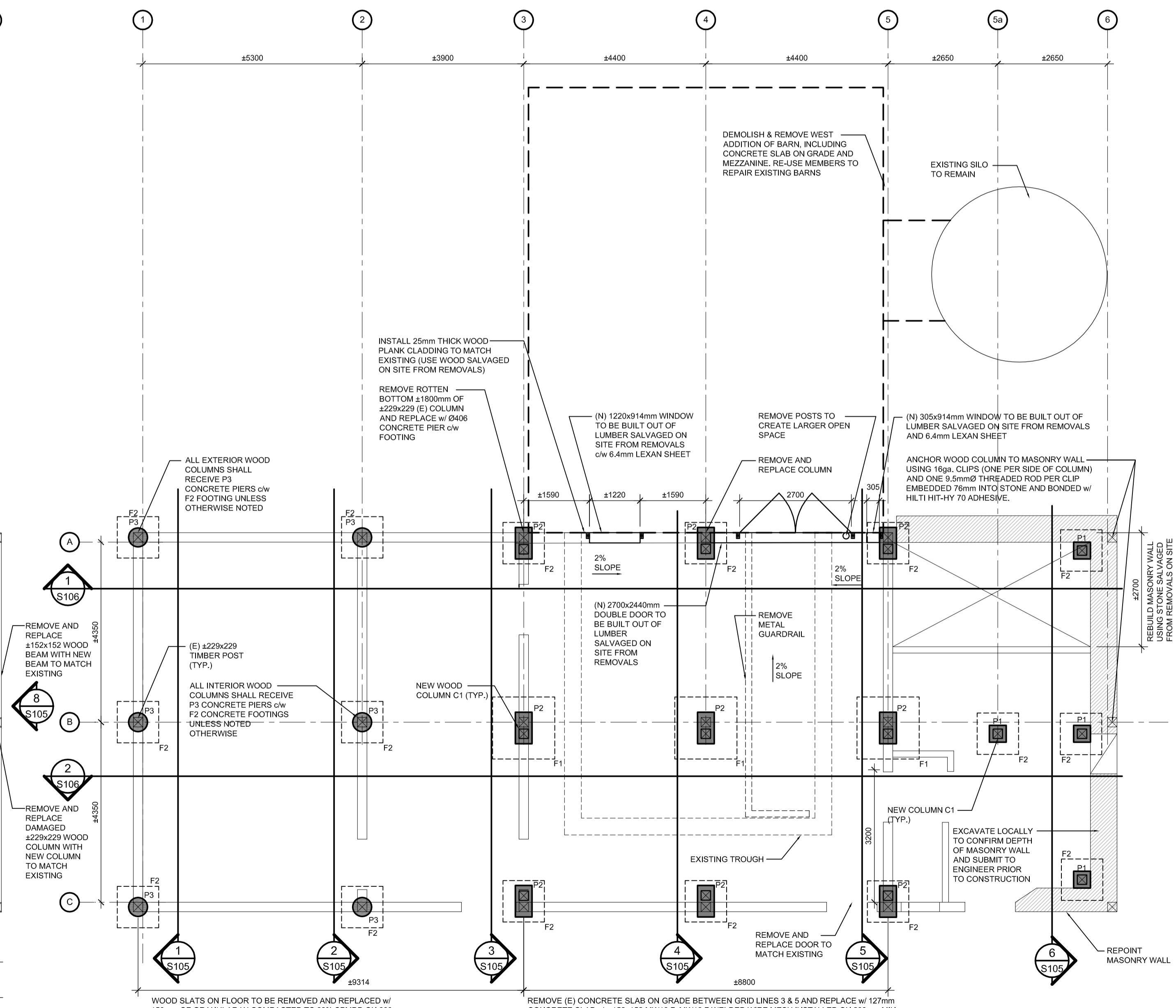
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date 28/07/2017 scale
échelle AS SHOWN
NCC project no. sheet no.
no. du projet de la CCN no. de la feuille
DC S102

CONTRACTOR IS RESPONSIBLE TO PROVIDE TEMPORARY SHORING AS REQUIRED TO SUPPORT THE BARN STRUCTURE DURING THE WORK. PROVIDE SHOP DRAWINGS STAMPED BY PROVINCIALLY LICENSED ENGINEER FOR REVIEW PRIOR TO COMMENCING THE WORK

NEW SLAB ON GRADE JOINTS:
PROVIDE ISOLATION JOINTS AROUND COLUMN PIERS USING PREFORMED BOND BREAK JOINT FILLER. PROVIDE 32 mm DEEP, 3 mm WIDE SAWCUT CONTRACTION JOINTS ALONG GRIDLINE 4 AND GRIDLINE B AS WELL AS SQUARE SAWCUT CONTRACTION JOINTS OFFSET 250 mm FROM EDGES OF COLUMN PIERS AT INTERSECTION OF GRIDLINE 4 AND GRIDLINE B. PROVIDE ADDITIONAL SAWCUT CONTRACTION JOINTS SO THAT CONTRACTION JOINT SPACING IS 3000 mm MAX. FILL CONTRACTION JOINTS WITH LOW FLEX JOINT FILLER.



2 PLAN: EXISTING MEZZANINE/HAY LOFT (BUILDING F)
S103 1:75



1 PLAN: FOUNDATION/GROUND FLOOR (BUILDING F)
S103 1:75

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5039 RUSSELL ROAD
BARN REHABILITATION

drawing
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FOUNDATION/GROUND
& MEZZANINE FLOOR
PLANS (BUILDING F)

approved by
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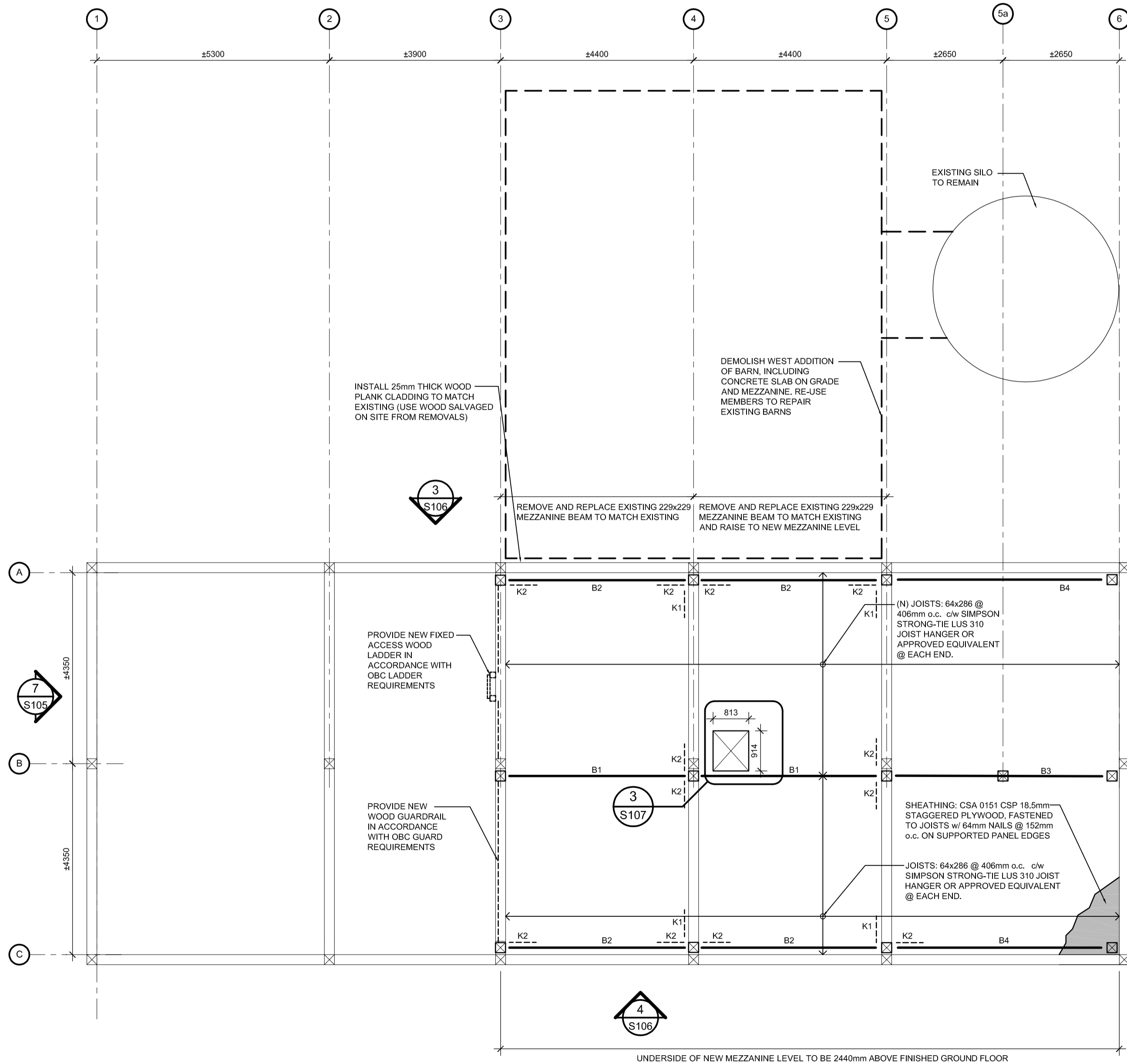
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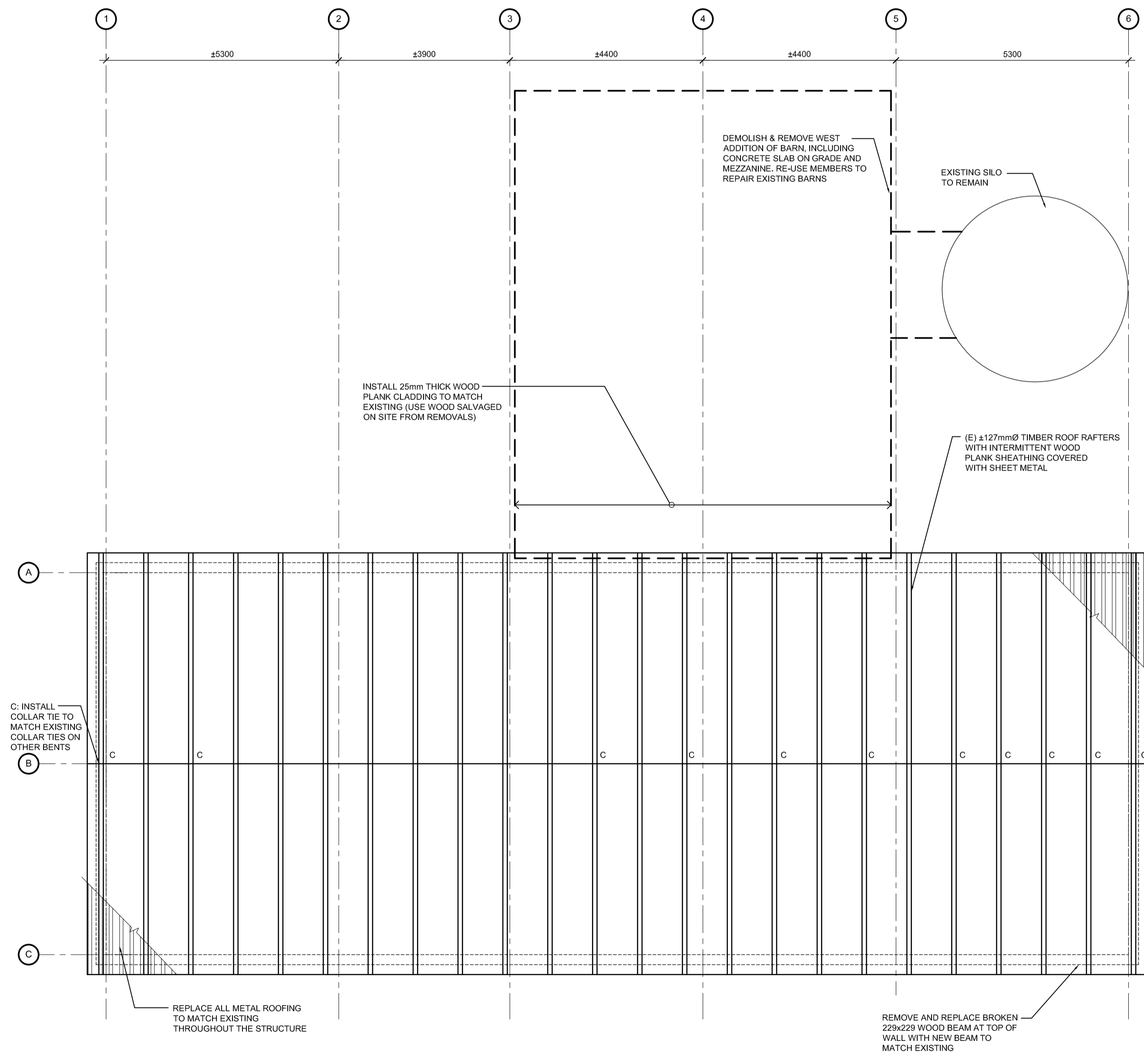
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DC S103



2 PLAN: NEW MEZZANINE (BUILDING F)

1:75



1 PLAN: ROOF (BUILDING F)

1:75

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5039 RUSSELL ROAD
BARN REHABILITATION

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ROOF PLAN
(BUILDING F)

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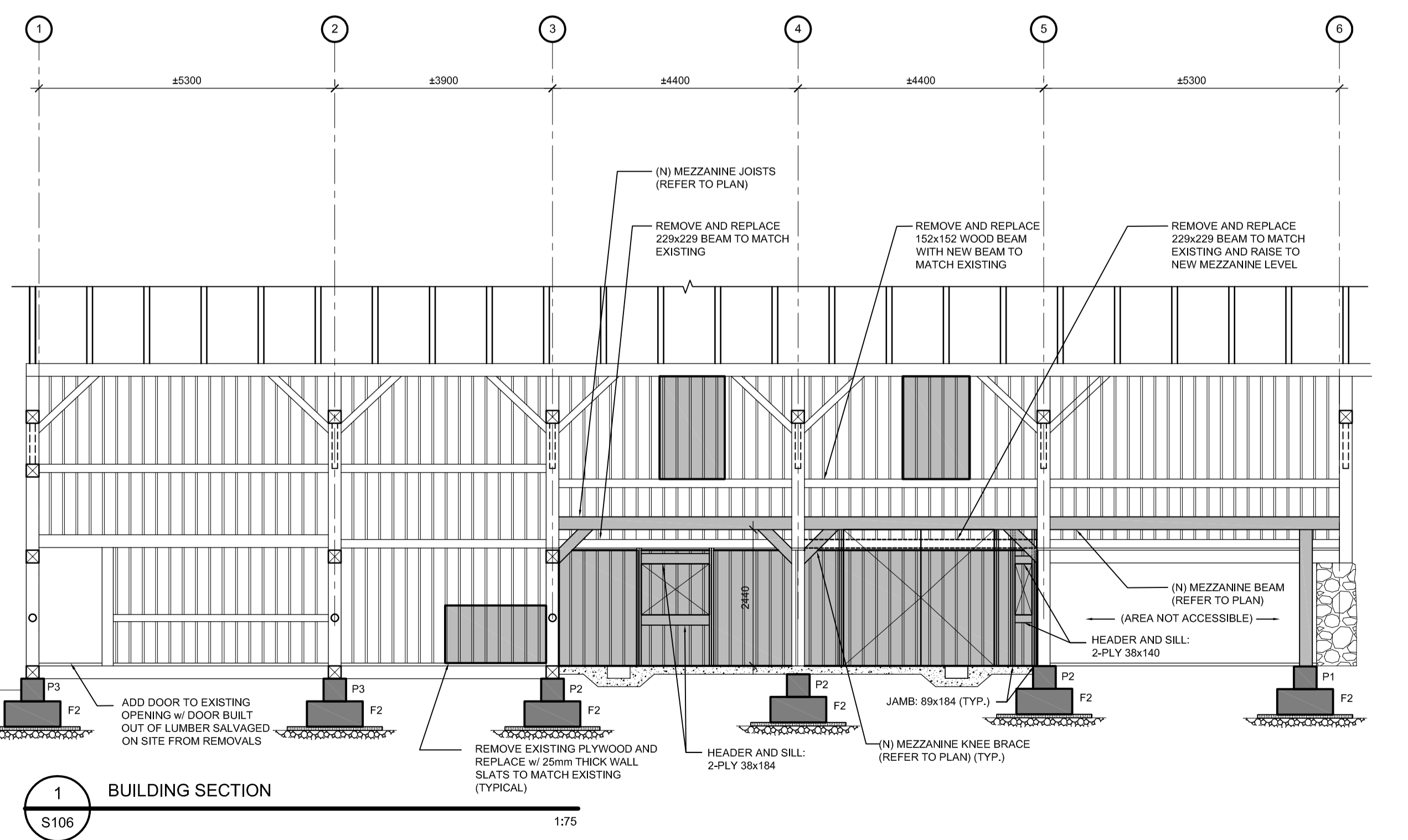
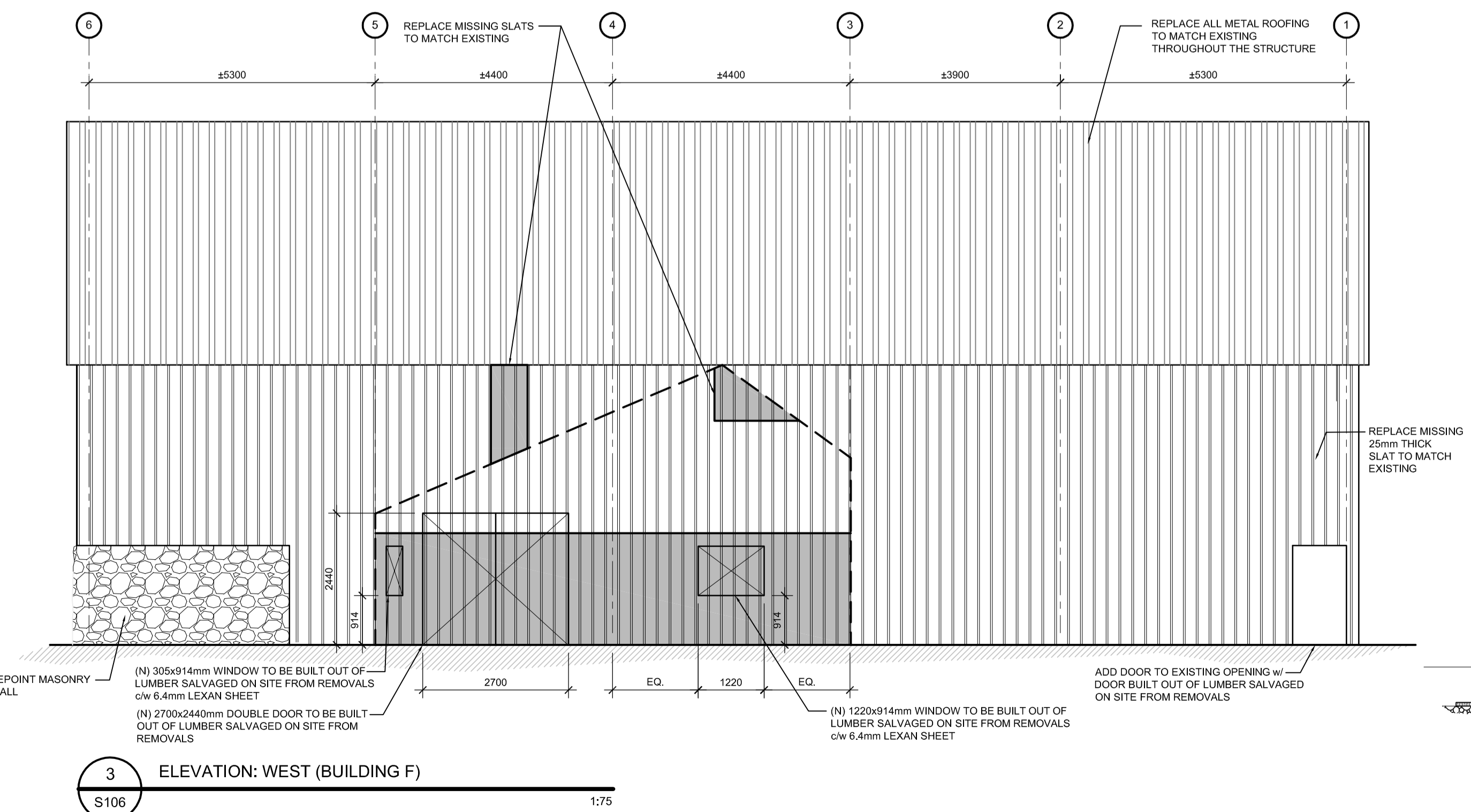
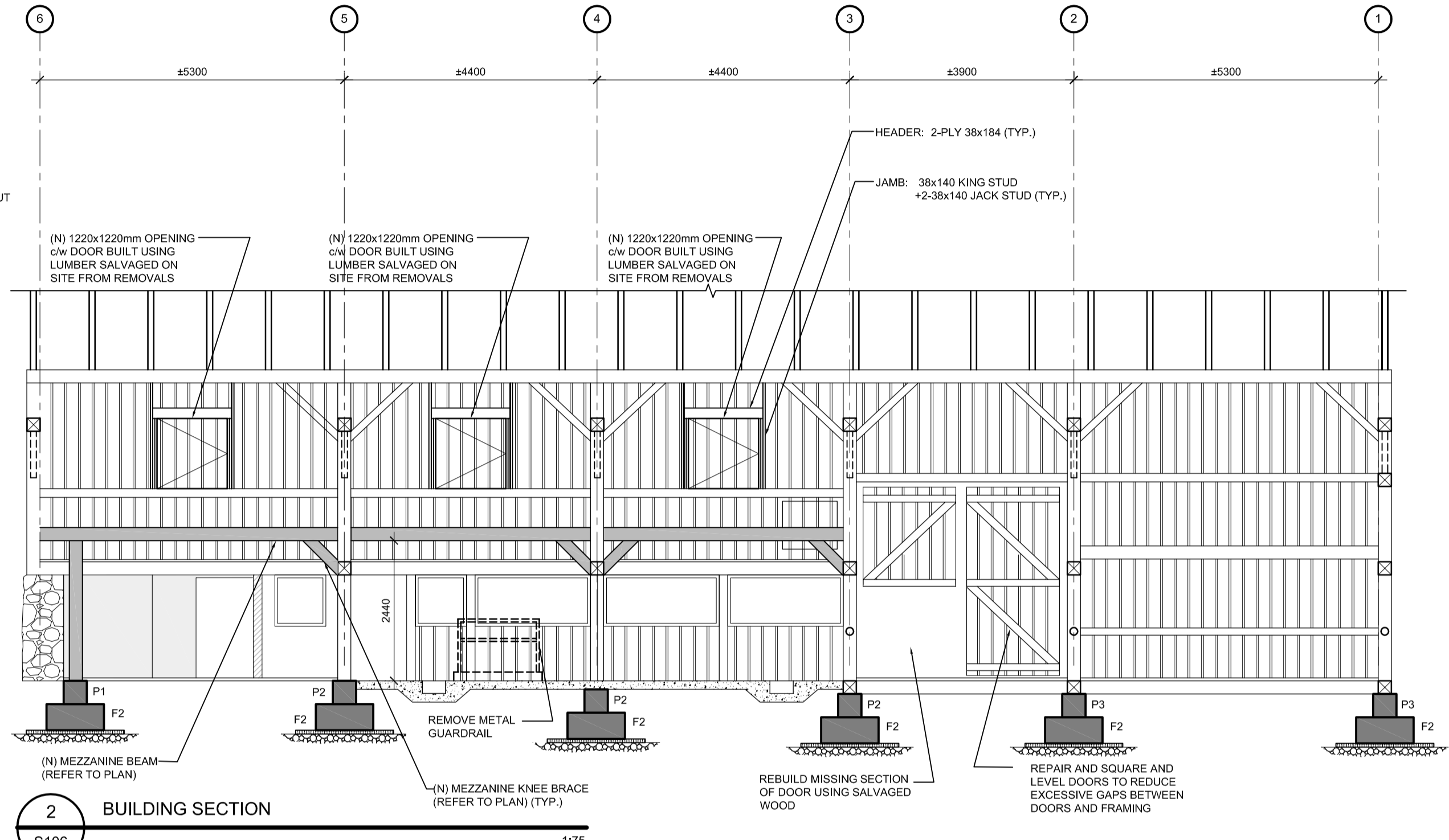
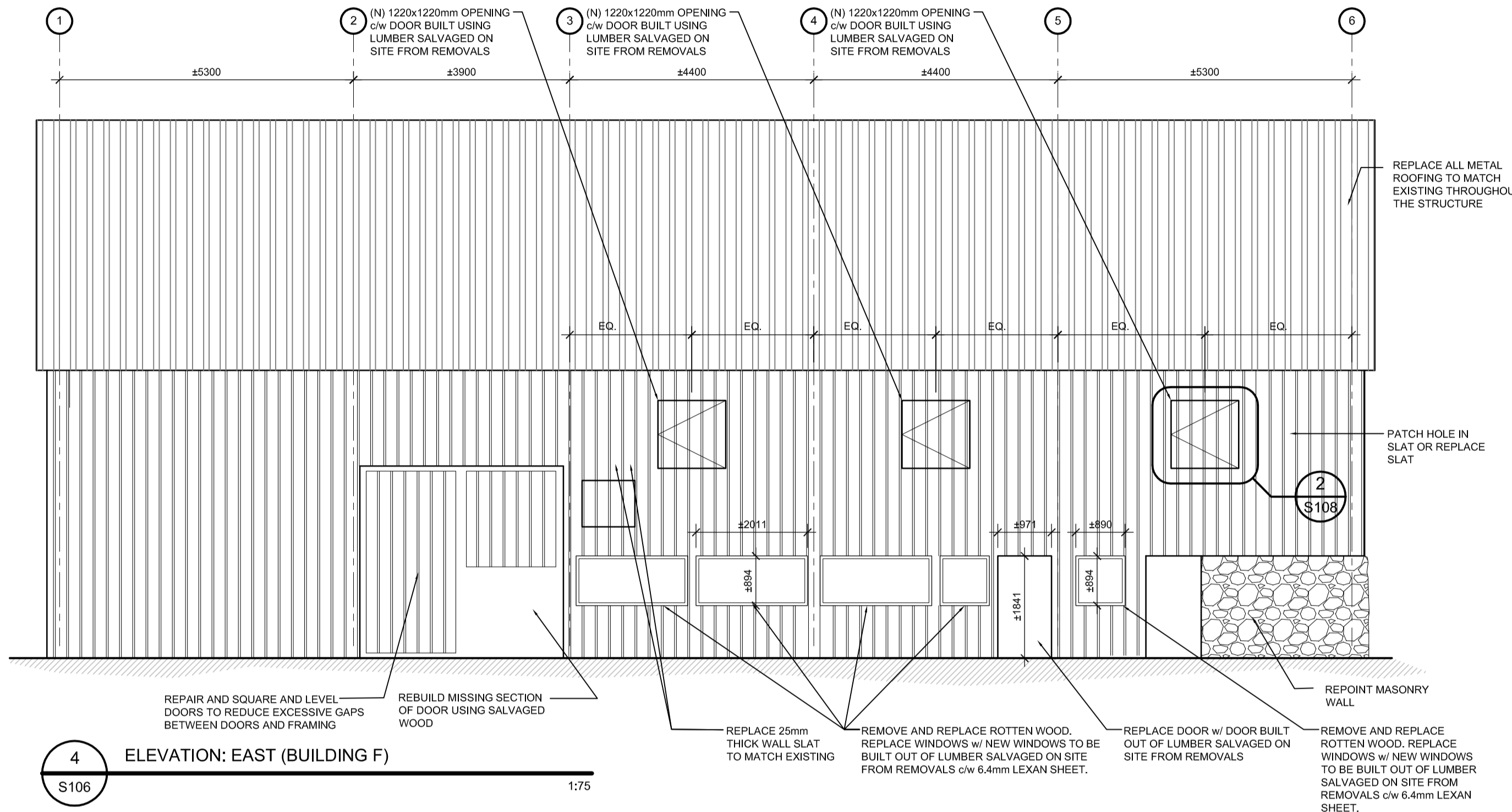
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DC S104

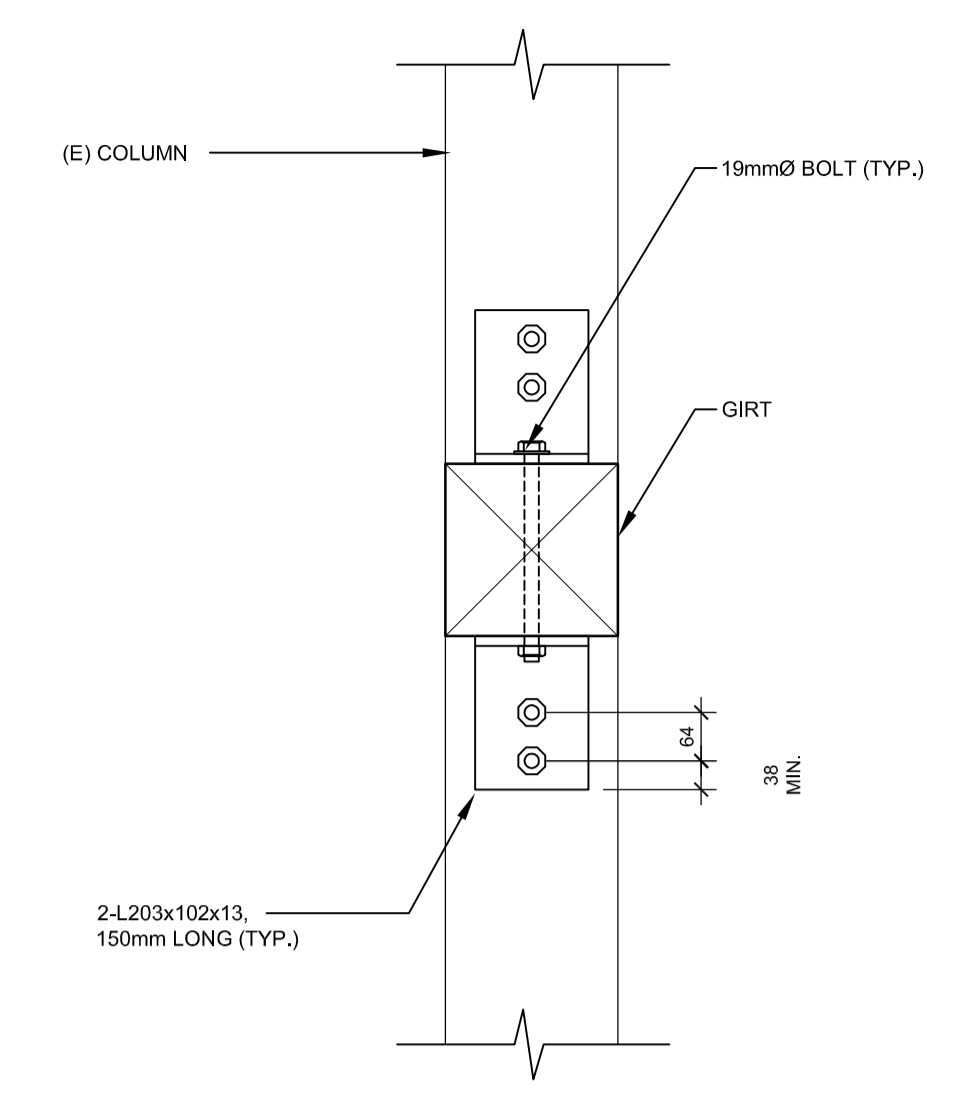


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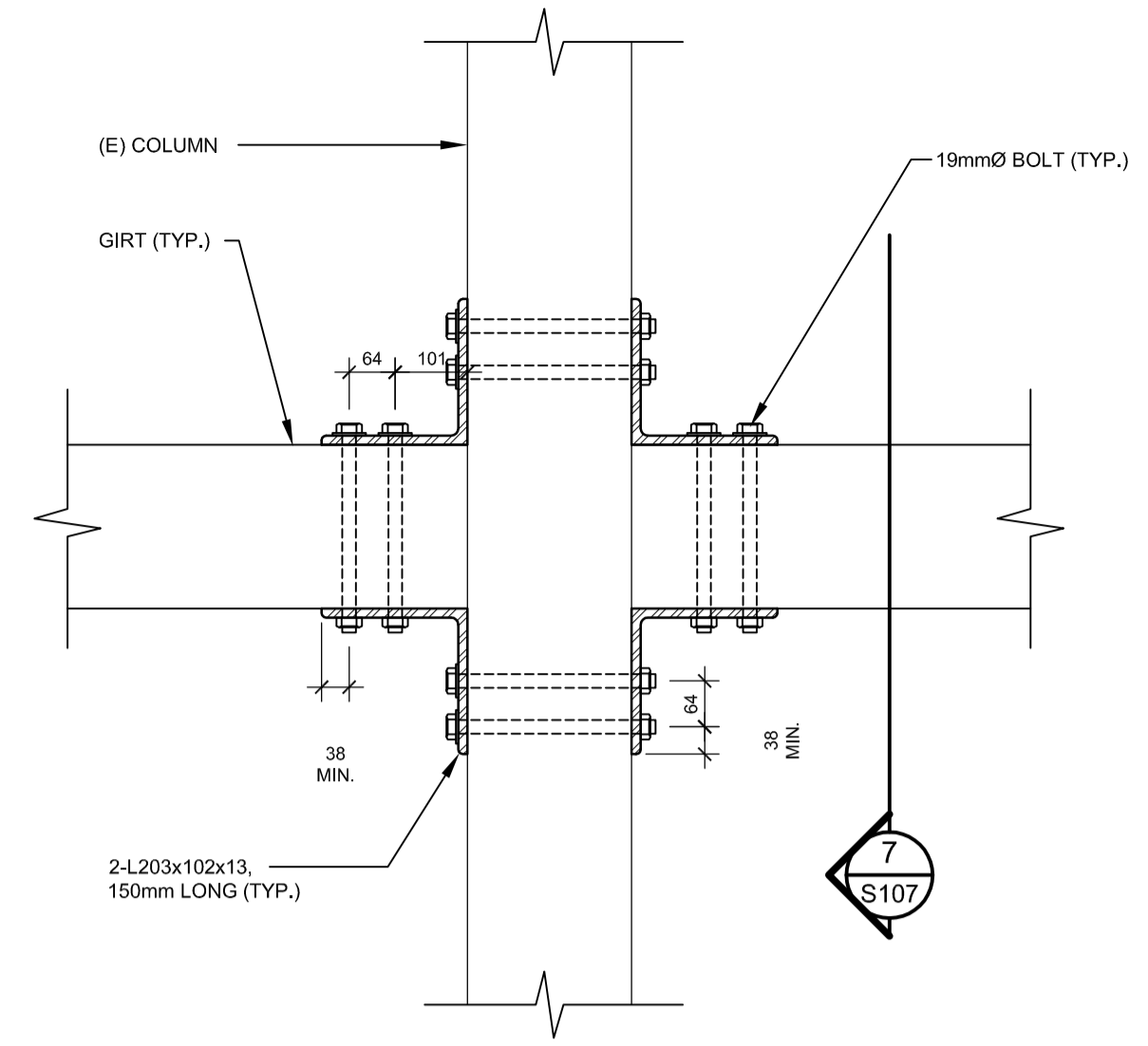
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projet
**5039 RUSSELL ROAD
BARN REHABILITATION**

drawing
dessin
**BUILDING SECTIONS
& ELEVATIONS
(BUILDING F)**

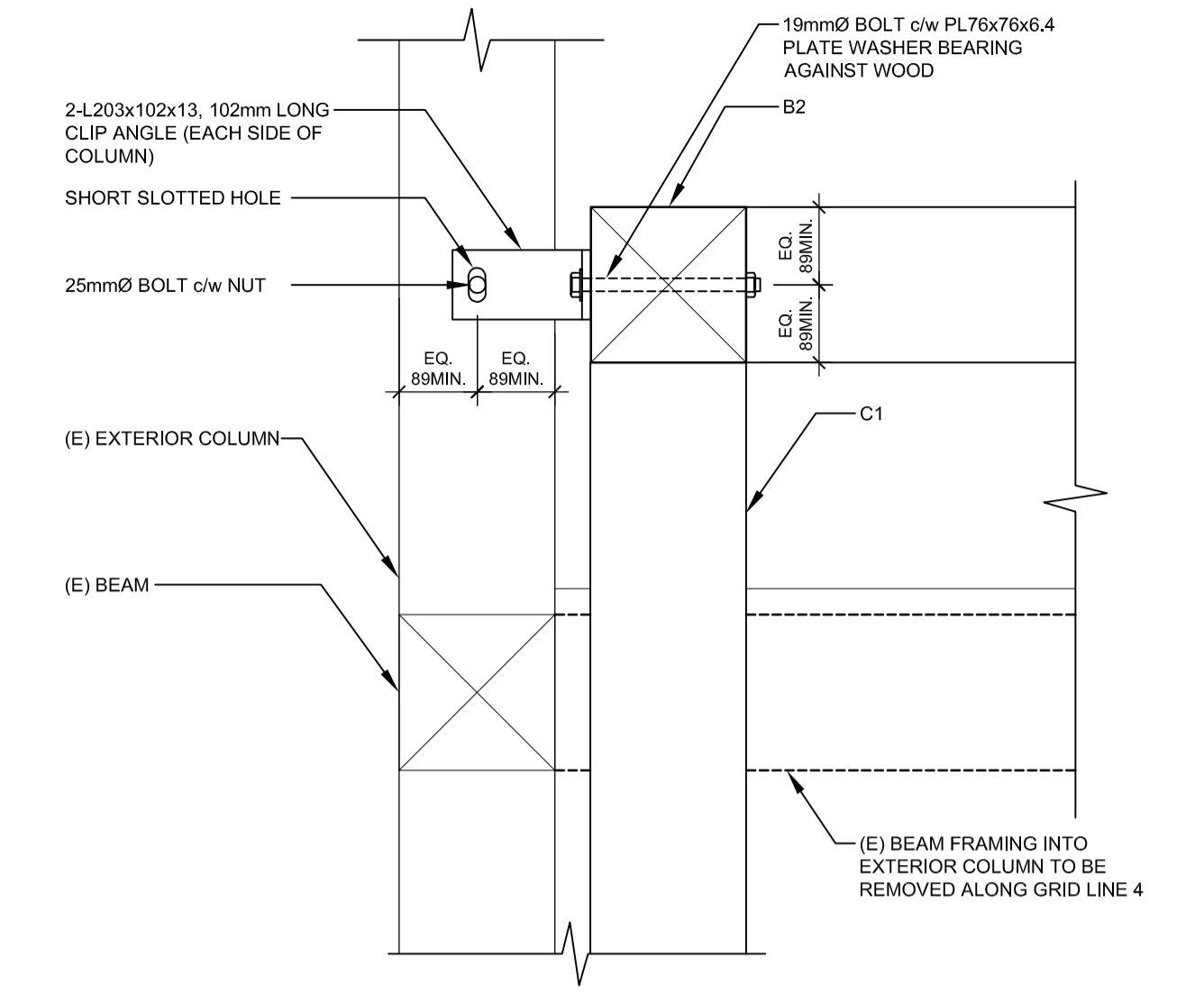
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dessiné par **M. EPPICH**
date **28/07/2017** scale
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NCC project no.
no. du projet de la CCN sheet no.
no. de la feuille
S106



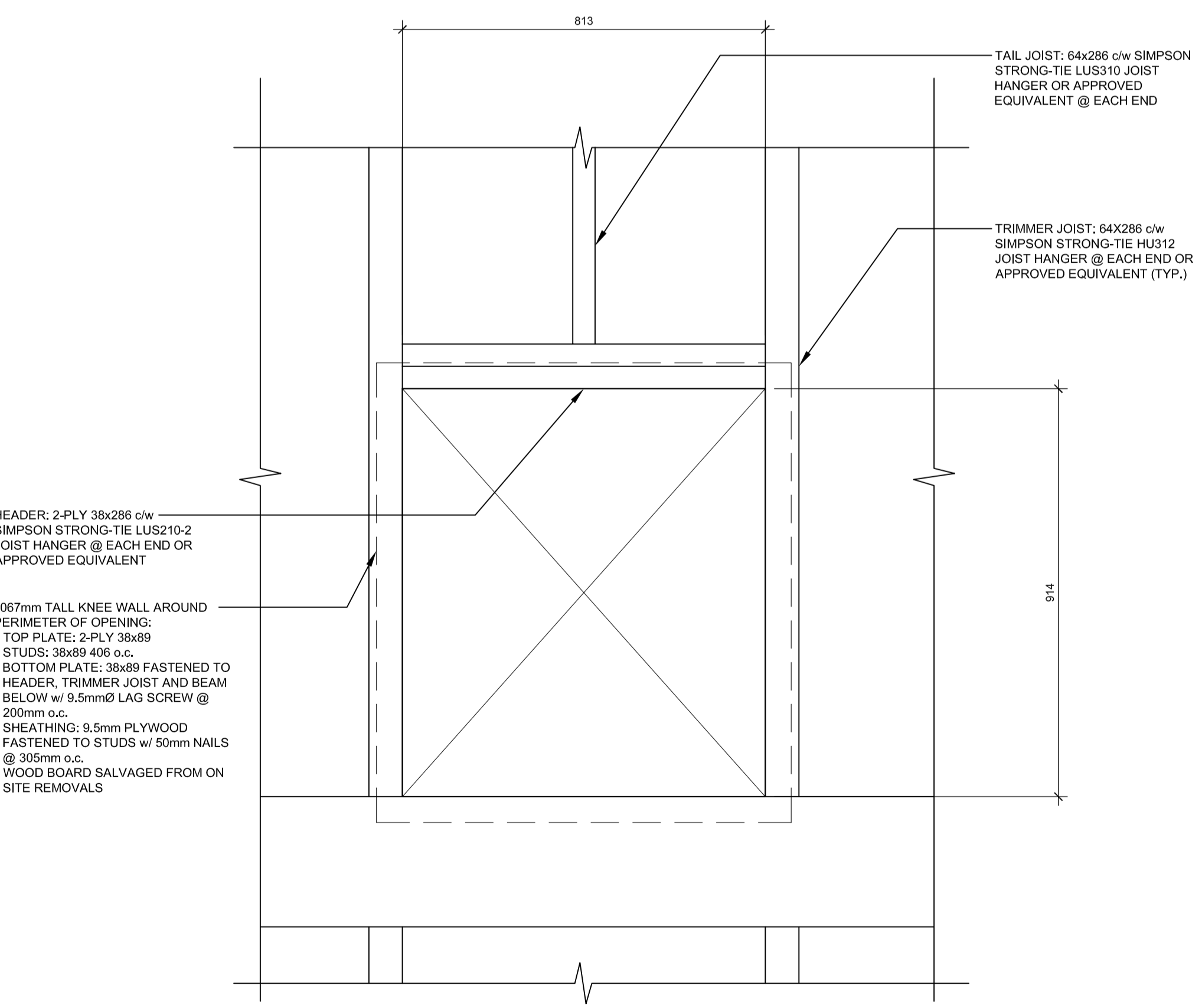
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S107
SCALE 1:10
DETAIL: TYPICAL CONNECTION OF NEW OR REINSTALLED BUILDING F GIRTS TO COLUMN



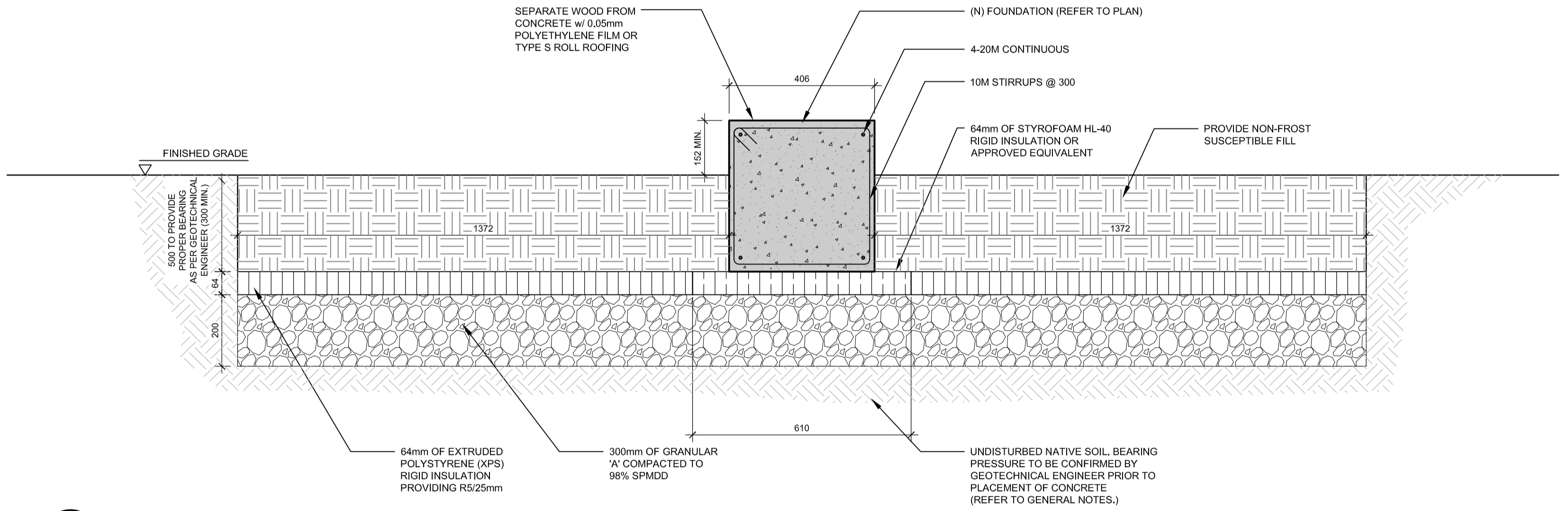
6
S107
SCALE 1:10
DETAIL: TYPICAL CONNECTION OF NEW OR REINSTALLED BUILDING F GIRTS TO COLUMN



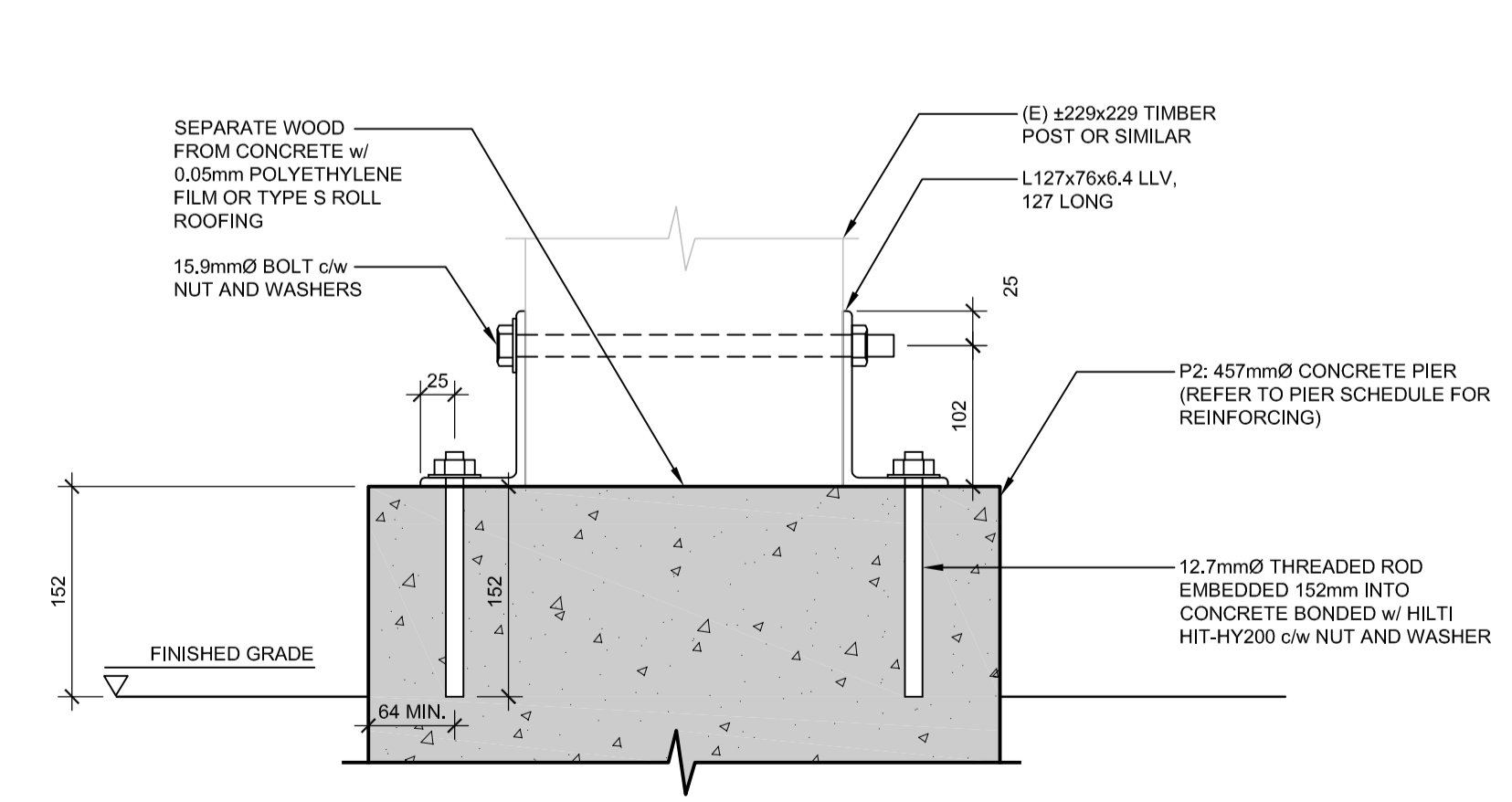
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S107
SCALE 1:10
DETAIL: BUILDING F EXTERIOR COLUMN SUPPORT AT GRID LINES 3, 4, 5, 6



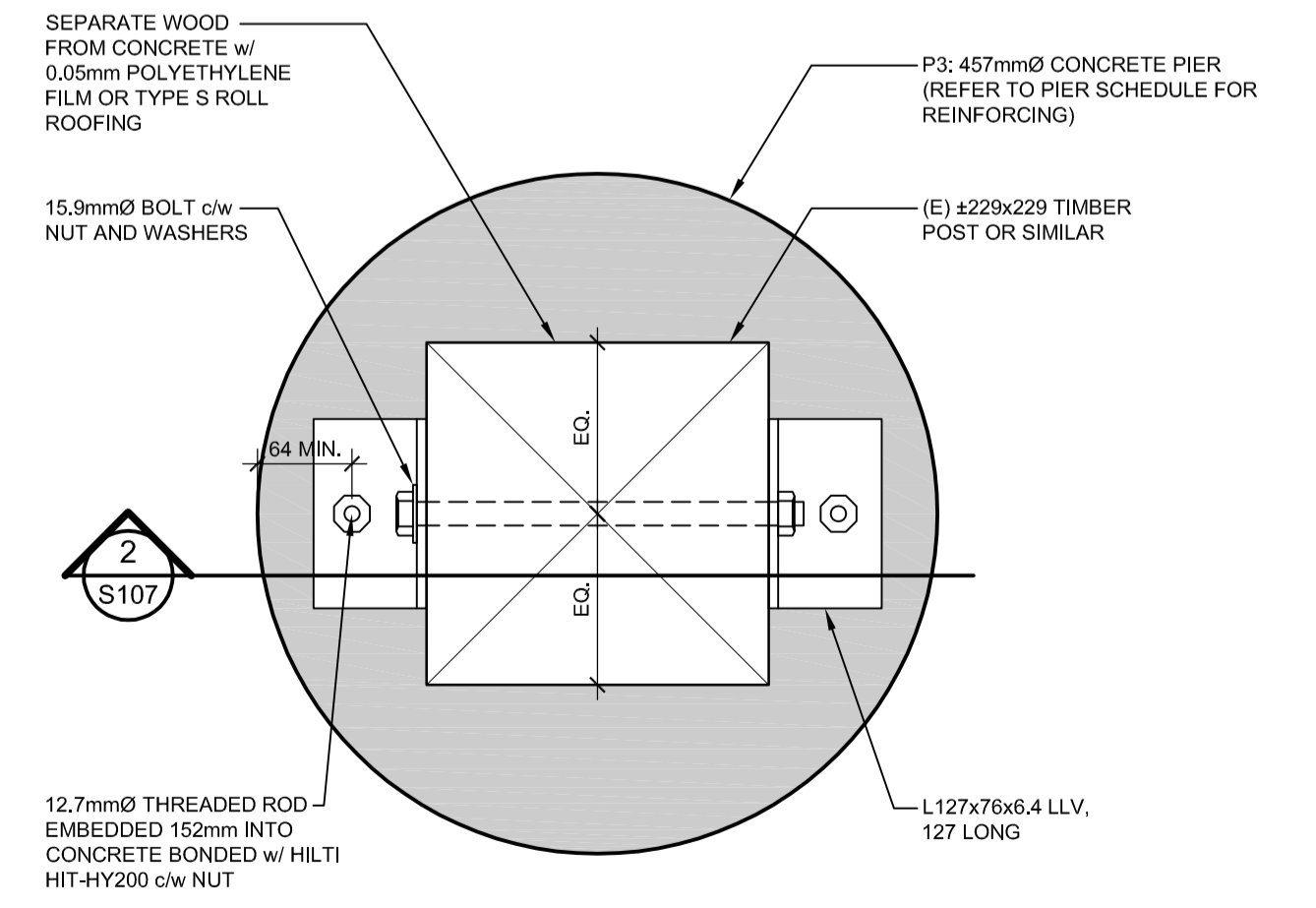
3
S107
SCALE 1:10
DETAIL: NEW BUILDING F HAY BALE FLOOR OPENING FRAMING



4
S107
SCALE 1:10
SECTION: BUILDING E FROST PROTECTED SHALLOW FOUNDATION



2
S107
SCALE 1:5
SECTION: COLUMN CLIPS @ P3 PIER



1
S107
SCALE 1:5
PLAN: COLUMN CLIPS @ P3 PIER

no.	description	date
4	ISSUED FOR TENDER	JAN 08, 2018
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5039 RUSSELL ROAD
BARN REHABILITATION

drawing
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SECTIONS & DETAILS

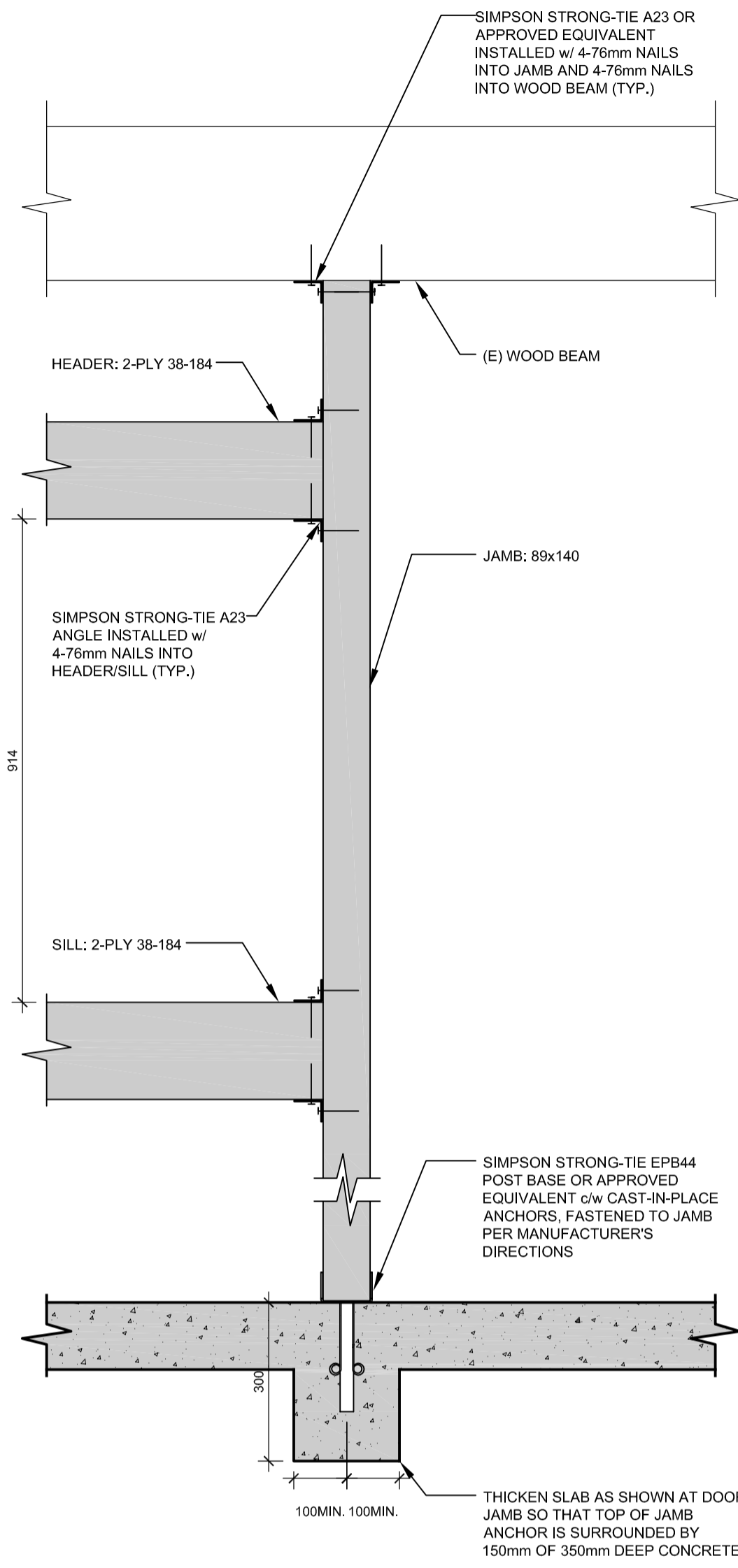
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approuvé par E. RICHER

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conçu par G. FALCOMER

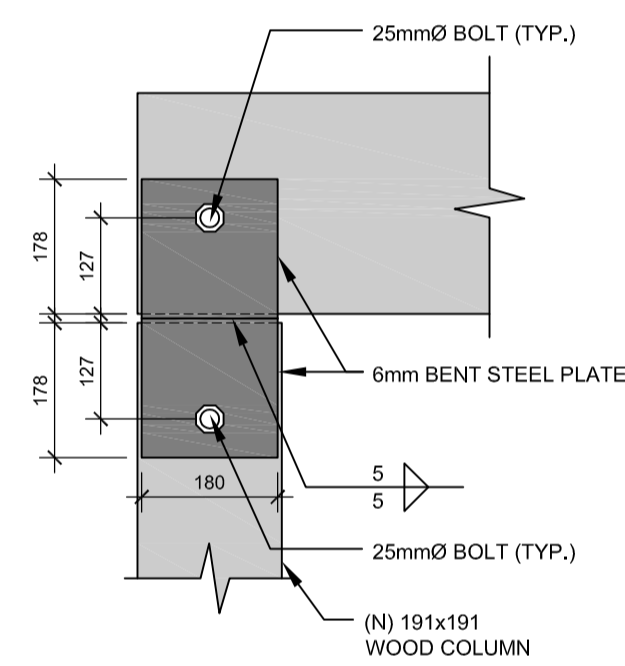
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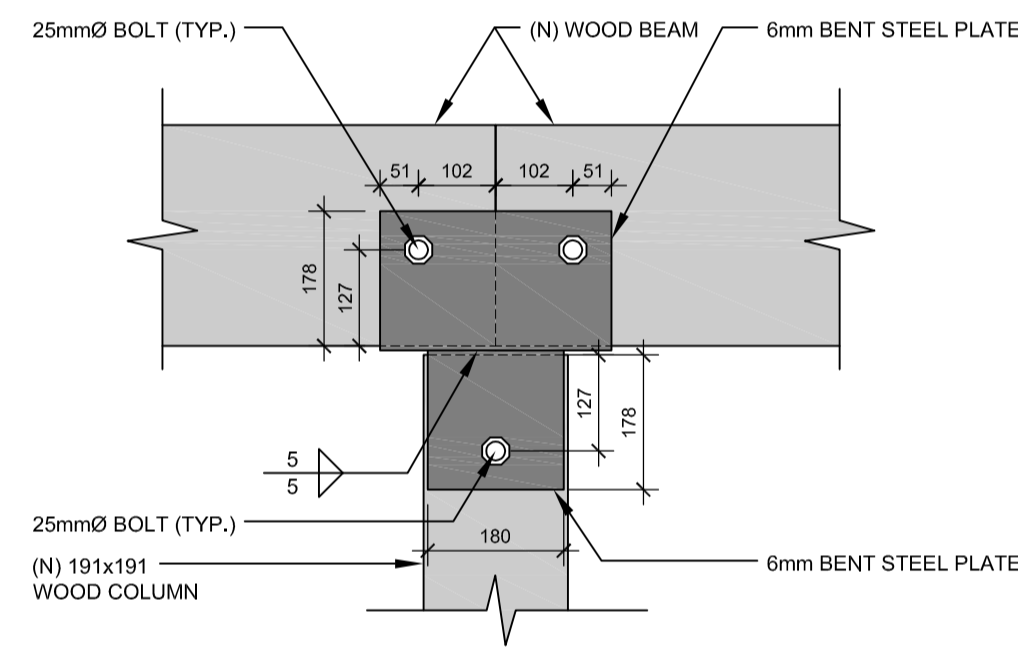
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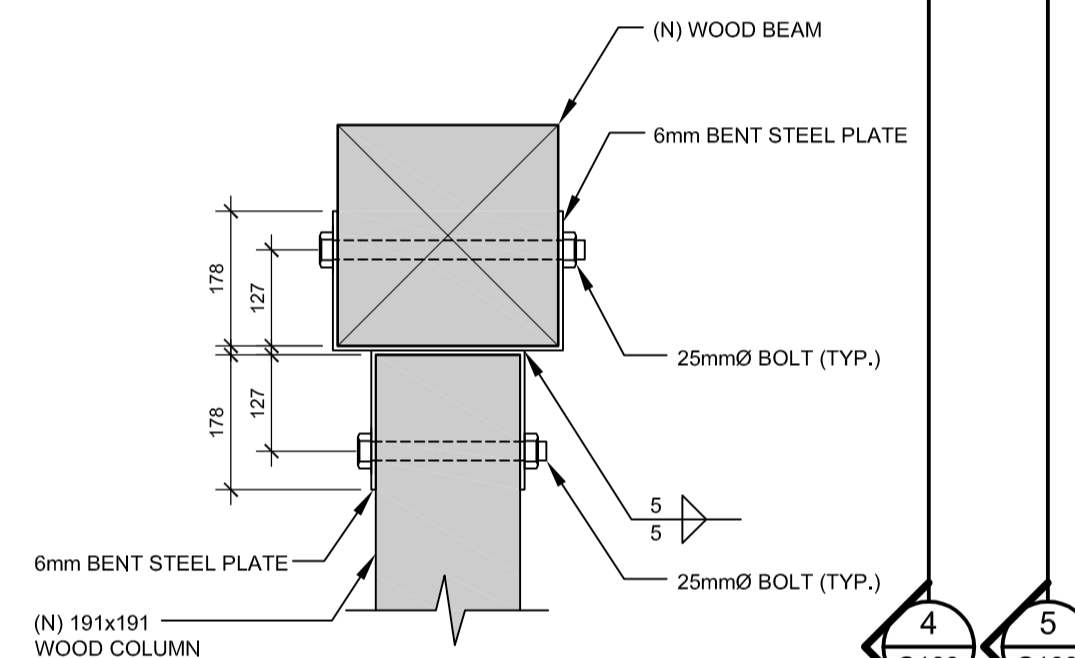
6 DETAIL: BUILDING F WEST ELEVATION OPENING FRAMING
S108 SCALE 1:10



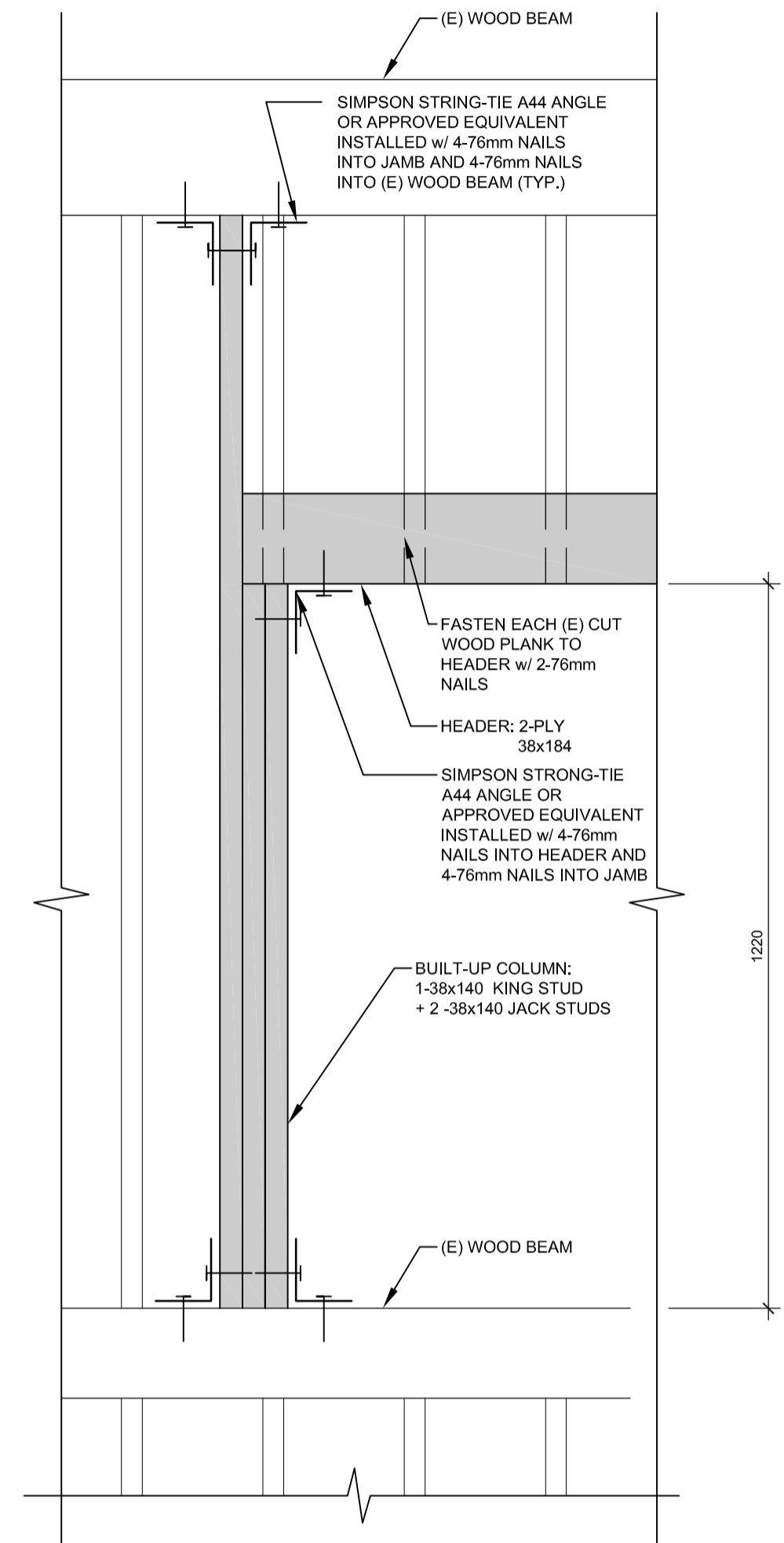
5 DETAIL: BUILDING F MEZZANINE COLUMN CAP AT END OF MEZZANINE
S108 SCALE 1:10



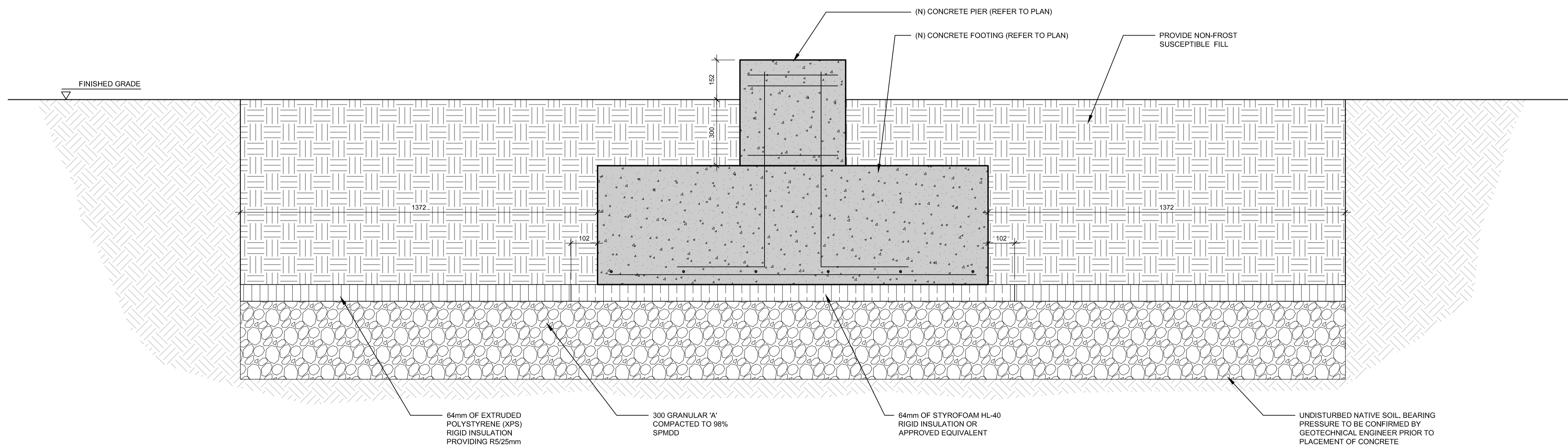
4 DETAIL: BUILDING F INTERMEDIATE MEZZANINE COLUMN
S108 SCALE 1:10



3 DETAIL: BUILDING F MEZZANINE COLUMN CAP
S108 SCALE 1:10



2 DETAIL: BUILDING F NEW HAY BALE WALL OPENING FRAMING
S108 SCALE 1:10



1 SECTION: BUILDING E & F FROST PROTECTED SHALLOW SPREAD FOOTING
S108 SCALE 1:10

Issued or revised
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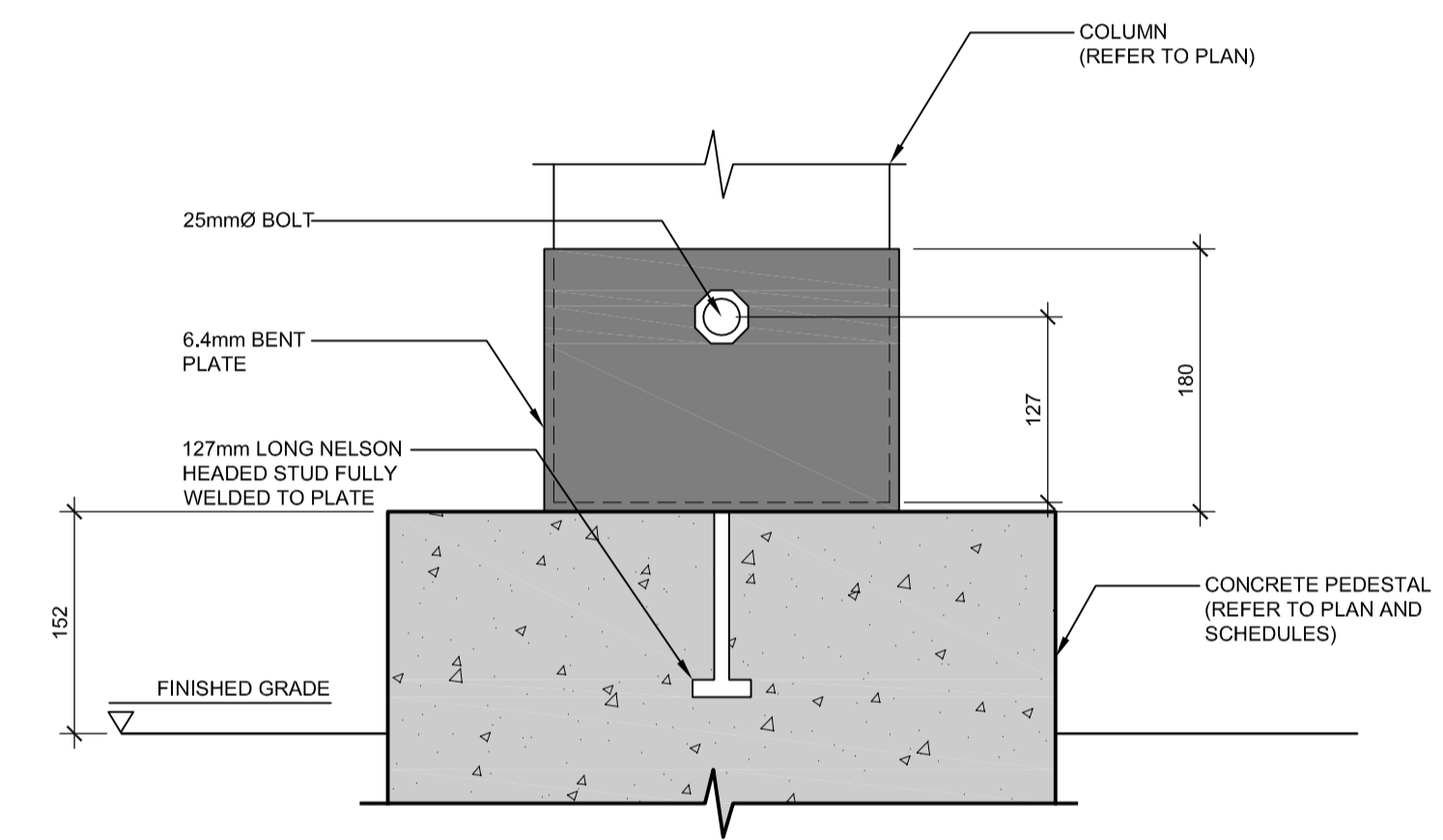
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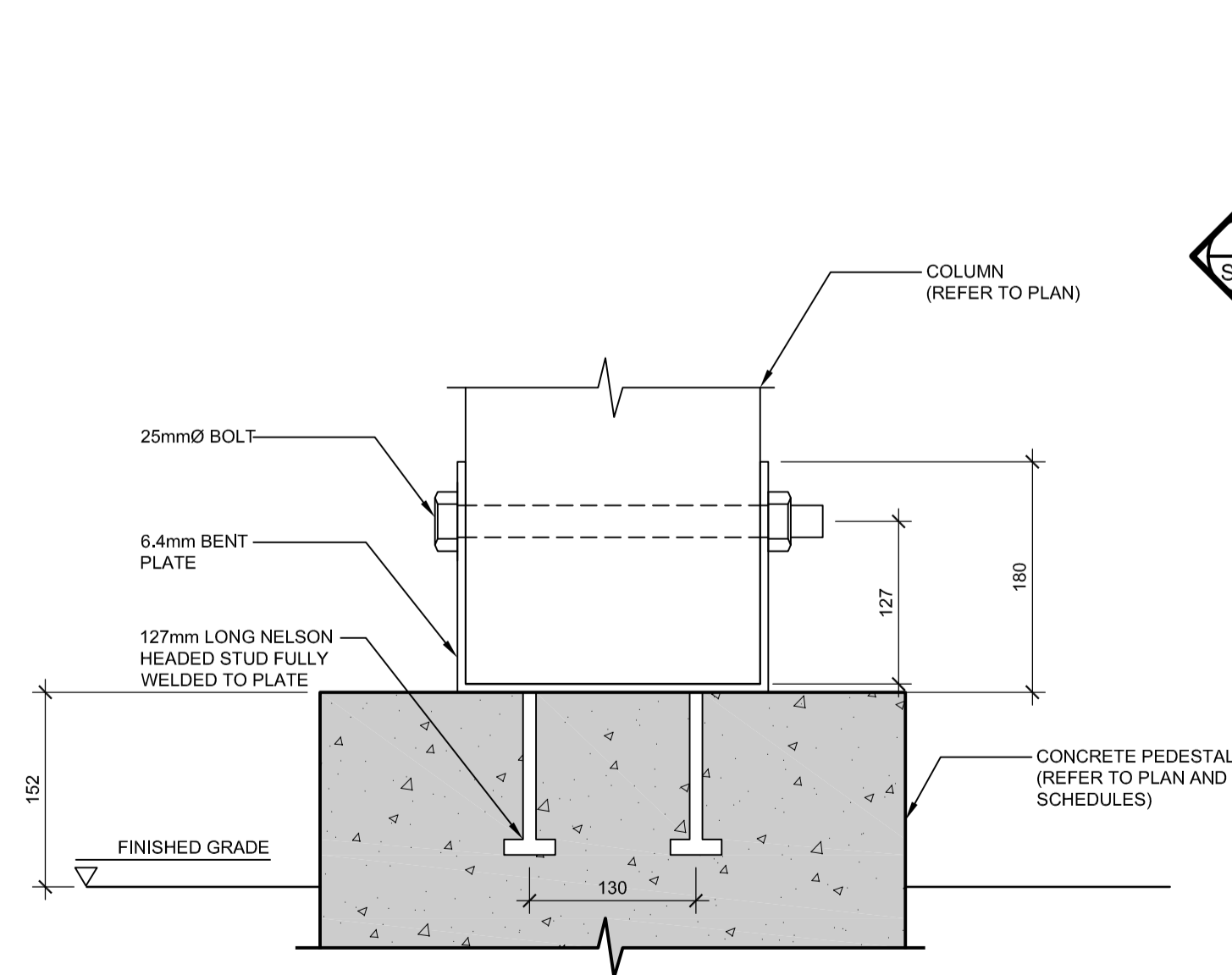
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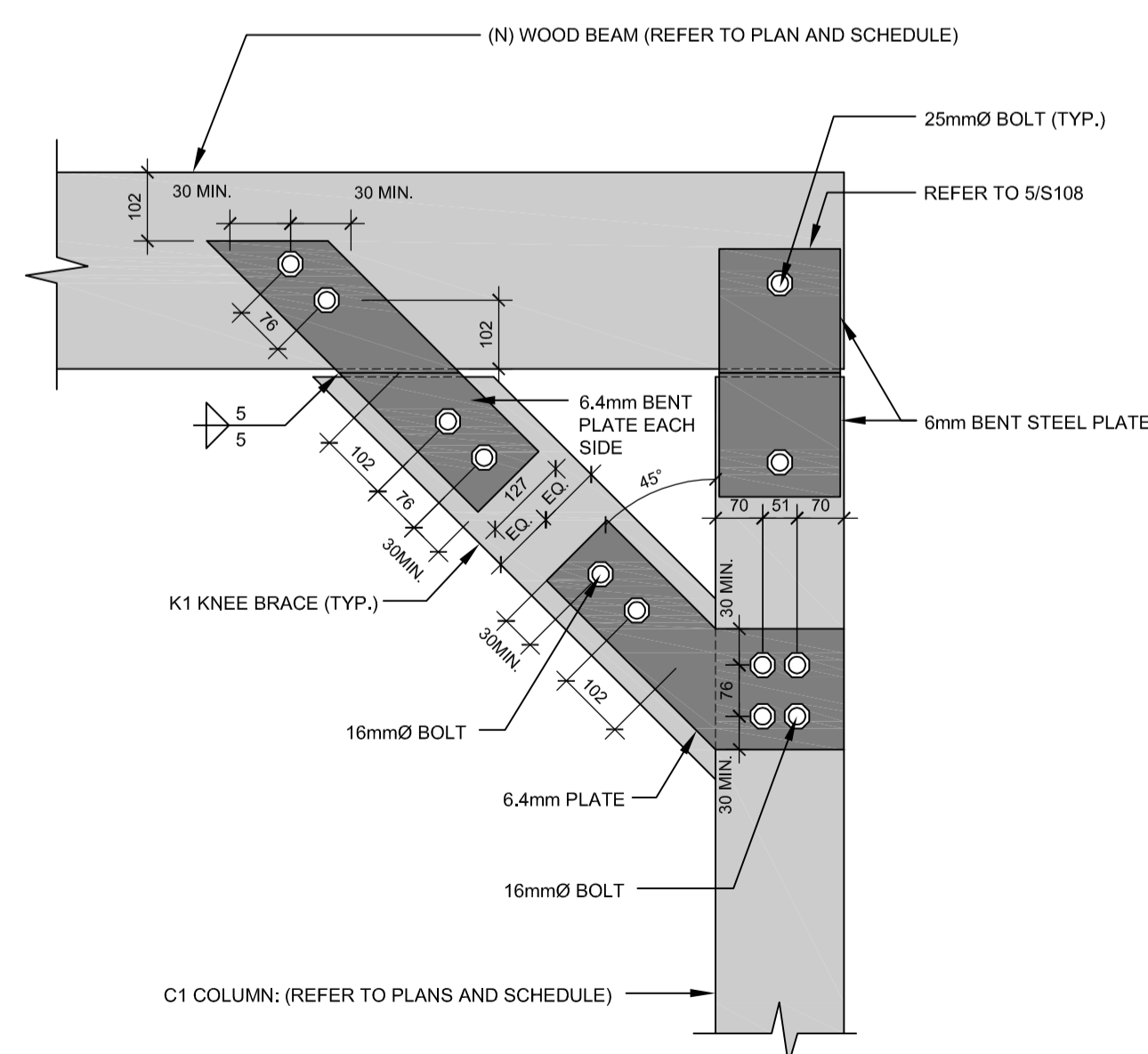
DC S108



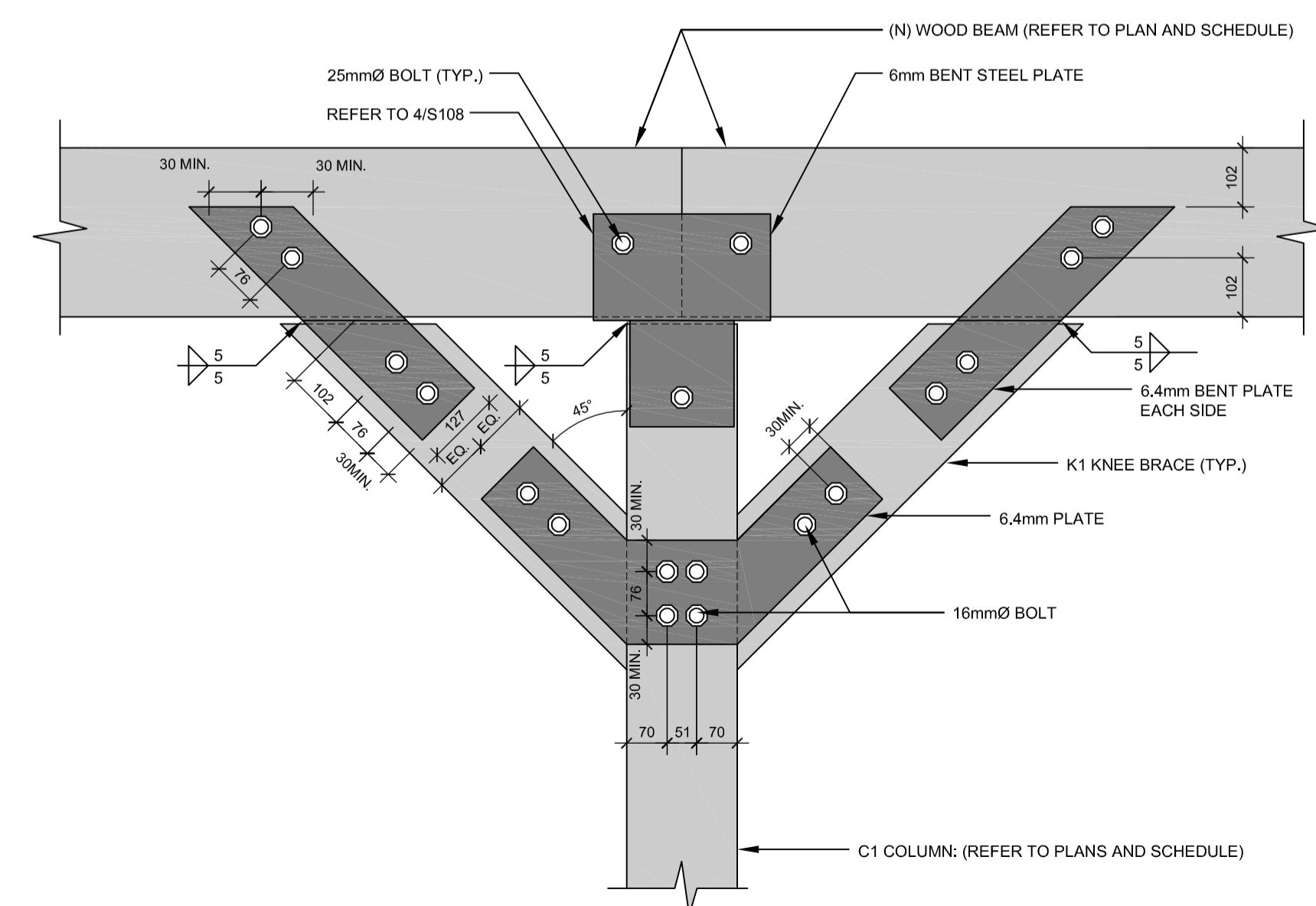
4 SECTION: TYPICAL P1 & P2 COLUMN BASE
S109 SCALE 1:5



3 SECTION: TYPICAL P1 & P2 COLUMN BASE
S109 SCALE 1:5



2 DETAIL: K1 AND K2 KNEE BRACE CONNECTIONS
S109 SCALE 1:10



1 DETAIL: K1 AND K2 KNEE BRACE CONNECTIONS
S109 SCALE 1:10

no.	description	date
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project
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**5039 RUSSELL ROAD
BARN REHABILITATION**

drawing
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SECTIONS AND DETAILS

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approuvé par E. RICHER
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NCC project no. sheet no.
no. du projet de la CCN no. de la feuille
DC **S109**

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END OF SECTION

1 **General**

1.1 **Related Sections**

- .1 Section 03 20 00 Concrete Reinforcing
- .2 Section 03 30 00.01 Cast-In Place Concrete
- .3 Section 03 36 20 Concrete Finishing

1.2 **References**

- .1 Canadian Standards Association (CSA)
 - .1 CSA A23.1/A23.2, Concrete Materials and Methods of Concrete Construction.
 - .2 CAN/CSA O86, Engineering Design in Wood (Limit States Design).
 - .3 CSA O121, Douglas Fir Plywood.
 - .4 CSA O151, Canadian Softwood Plywood.
 - .5 CSA O437, Standards for OSB and Waferboard.
 - .6 CSA S269.1, Falsework and Formwork.
 - .7 CAN/ULC S701 Thermal Insulation, Polystyrene, Boards and Pipe Covering.
- .2 Council of Forest Industries of British Columbia (COFI)
 - .1 COFI Exterior Plywood for Concrete Formwork.
- .3 ACI
 - .1 ACI 302.1R-15 Guide for Concrete Floor and Slab Construction.

1.3 **Shop Drawings**

- .1 Submit shop drawings for formwork and falsework.
- .2 Indicate method and schedule of construction, shoring, stripping and re-shoring procedures, materials, arrangement of joints, ties, liners, dovetail anchor slots, and locations of temporary embedded parts. Show size of tie hole, plastic plug, and plug recess. Comply with CSA S269.1, for falsework drawings 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 Representative.

1.4 **Delivery, Storage & Handling**

- .1 Store materials on site in a manner to prevent damage thereto. Protect from weather. Comply with CSA A23.1, Clause 5.
- .2 Protect work of this Section from damage. Protect other work from damage resulting from this work. Replace damaged work which cannot be satisfactorily repaired.

2 **Products**

2.1 **Materials**

- .1 Formwork materials:
 - .1 For concrete without special architectural features, use wood and wood product formwork materials to CSA-O121 and CAN/CSA-O86.
- .2 Form Ties: Threaded internal disconnecting, spreader type, adjustable in length. Ties to have maximum break back of 1- ½” from concrete surface. Ensure ties incorporate removable tapered plastic spreader cones, with setback of 1 – ½”. Ensure taper of spreader matches taper of tie hole plugs. Wire ties not permitted.
- .3 Tie Hole Plugs: Plastic set back plugs, grey to match concrete, 1 – ½” setback, to fit tightly into tie holes. Include for tie hole plug quantity on basis of 30” each way plug spacing pattern.
- .4 Form liner:
 - .1 Plywood: Douglas Fir to CSA O121 T and G.
- .5 Form release agent: non-staining, chemically active release agent containing compounds that react with free lime present in concrete to provide water insoluble soaps, preventing set of film of concrete in contact with form.
 - .1 For temperatures less than 0oC: Formwork Release Agent: Eucoslip by Euclid Admixture Canada Inc., C.R.A. by Sika Canada Inc., CPD Chemical Form Release Agent by CPD Construction Products or Duogard by W.R. Meadows of Canada Ltd.. For formed concrete work in contact with soil, use material that does not alter sulphate resistant qualities of concrete.
 - .2 For temperatures greater than 0oC: Water Based Formwork Release Agent: Eucoslip VOX by Euclid Admixture Canada Inc. or Sealtight Duogard II by W.R. Meadows of Canada Ltd.
- .6 Form stripping agent: colourless mineral oil, non-toxic, biodegradable, low VOC, free of kerosene, with viscosity between 0.03 to 0.04 in² at 40°C, flashpoint minimum 150°C, open cup.
- .7 Falsework materials: to CSA-S269.1.
- .8 Dovetail Anchors and Slots: Minimum 24 ga overall thickness zinc coating Z275 galvanized steel dovetail anchor slots with fillers to prevent entry of concrete during placing and minimum 14 ga overall thickness. Zinc coating Z275 galvanized steel dovetail anchors. Anchors shall project to within 3/4” of masonry face.
- .9 Mechanical Fasteners: Galvanized steel screw and washer with screw of length to secure insulation to formwork without penetrating concrete finish surface.

3 Execution

3.1 Fabrication & Erection

- .1 Verify lines, levels and column centres before proceeding with formwork and ensure dimensions agree with drawings. Verify the locations of all inserts, anchor bolts, cast-ins, etc. with structural, architectural, mechanical, electrical, and shop drawings prior to proceeding with formwork. Report any discrepancies to NCC Representative immediately.
 - .1 Construct forms to produce plumb and level concrete and true to linear building lines. Maximum variations (not accumulative) as follows:
 - .2 Variation from plumb in concrete surfaces not to exceed 1/4” in 10’ nor 3/8” in 20’ or more.

- .3 Variation from level or grade indicated on Drawings for tops of walls not to exceed 1/4" in 10' nor 3/8" in 20' in building length.
- .4 Variation of linear building lines from established position in plan and related positions of walls not to exceed 1/4" in 10', 3/8" in 1 bay nor 1" in building length.
- .5 Variation of concrete slabs and toppings from dead level or slopes as indicated on Drawings not to exceed 1/8" in 10'.
- .2 Obtain NCC Representative'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 Do not place shores and mud sills on frozen ground.
- .6 Provide site drainage to prevent washout of soil supporting mud sills and shores.
- .7 Fabricate and erect formwork in accordance with CAN/CSA-S269.1 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 Locate horizontal form joints for exposed columns 8'-0" above finished floor elevation.
- .10 Use 1" chamfer strips on external corners and/or 1" fillets at interior corners, joints, unless specified otherwise.
- .11 Form chases, slots, openings, drips, recesses, expansion and control joints as indicated.
- .12 Construct forms for exposed concrete to achieve the following:
 - .1 Water-tight forms at corners, panel joints, recesses, arises and at construction joints.
 - .2 Accurate alignment of concrete surfaces.
 - .3 Surfaces without indentations other than those indicated.
 - .4 Sharp and straight corners (unless other wise indicated).
- .13 Build in anchors, sleeves, ties, bolts, nailers, templates, shelf angles 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 applied finishes, including painting.
- .14 Clean formwork in accordance with CAN/CSA-A23.1, before placing concrete.
- .15 If slip forming and flying forms are used, submit details of equipment and procedures for NCC Representative's approval.
- .16 Use full size contact form sheeting panels wherever possible. Install contact surfaces of formwork to produce neat and symmetrical joint patterns. Ensure joints are vertical or horizontal and, where possible, stagger to maintain structural continuity. Back vertical joints solidly and nail edges of abutting sheets to same stud. Likewise solidly back horizontal joints. Ensure adjacent form panels fit accurately, tight and flush. Use straightest available lumber.
- .17 Align forms to ensure no visible defects appear on finished work.

- .18 Locate wall form ties in accordance with reviewed shop drawings; align on a particular member both vertically and horizontally. Arrange reuse of form so tie holes are also reused. Tighten form ties, particularly at corners.
- .19 Take particular care in forming corners and openings. Ensure formwork is tight and braced so no movement occurs.
- .20 Use templates to secure and align anchor bolts in formwork prior to placement of the concrete. Report any interference with reinforcing or other inserts to NCC Representative prior to the placement of the concrete. Concrete should not be placed until interference issues are resolved in writing by the NCC Representative.

3.2 Removal

- .1 Leave formwork in place for following minimum periods of time after placing concrete. Proposed removal times to be approved by NCC Representative in writing prior to work.
 - .1 3 days for walls.
 - .2 3 days for piers.
 - .3 3 days for footings.
- .2 Remove formwork when concrete has reached 75 % of its design strength or minimum period noted above, whichever comes later.
- .3 Re-use of formwork and falsework subject to requirements of CAN/CSA-A23.1.
- .4 Be responsible for safety of structure, both before and after removal of forms until concrete has reached its specified 28 Day compressive strength.
- .5 Take particular care when removing forms to ensure no damage occurs at corners, arises and the like.
- .6 To help avoid colour variations in concrete, ensure length of time between concrete placing and form removal is approximately same for each portion of work.
- .7 In hot weather, wood forms remaining in place should not be considered adequate for curing but should be removed or loosened so concrete surfaces may be kept moist or coated with curing agent.
- .8 In cold weather, defer removal of formwork or insulate formwork, to avoid thermal shock and consequent cracking of concrete surface.
- .9 Install tie hole plugs immediately following removal of spreader cones. Install to a snug fit, maximum setback from concrete surface as specified.
- .10 When concrete is dry, install temporary polyethylene rope in reglets to prevent contamination of same.

END OF SECTION

1 **General**

1.1 Related Sections

- .1 Section 03 30 00.01 - Cast-in-Place Concrete.

1.2 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 ACI 315-99, Details and Detailing of Concrete Reinforcement.
 - .3 American Society for Testing and Materials (ASTM)
 - .1 ASTM A 1064, Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete
 - .4 Canadian Standards Association (CSA)
 - .1 CSA A23.1/A23.2, Concrete Materials and Methods of Concrete Construction.
 - .2 CAN3 A23.3, Design of Concrete Structures for Buildings.
 - .3 CAN/CSA G30.18, Carbon Steel Bars for Concrete Reinforcement.

1.3 Shop Drawings

- .1 Submit shop drawings including placing of reinforcement.
- .2 Indicate on shop drawings, bar bending details, lists, quantities of reinforcement, sizes, spacings, locations of reinforcement and mechanical splices if approved by NCC Representative, 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.
- .3 Detail lap lengths and bar development lengths to CSA-A23.3, unless otherwise indicated.
- .4 Show walls and beams in full elevation and indicate bar size, spacing, laps, bends, etc.
- .5 Show slab reinforcing full length on drawings.
- .6 Detail placement of reinforcing where special conditions occur.

1.4 Delivery, Storage & Handling

- .1 Store materials on site in a manner to prevent damage thereto. Protect from weather. Comply with CSA A23.1, Clause 5.
- .2 Protect work of this Section from damage. Protect other work from damage resulting from this work. Replace damaged work which cannot be satisfactorily repaired.

2 **Products**

2.1 **Materials**

- .1 Substitute different size bars only if permitted in writing by NCC Representative.
- .2 Reinforcing steel: billet steel, grade 400, deformed bars to CAN/CSA-G30.18, unless indicated otherwise.
- .4 Welded steel wire reinforcement: to ASTM A1064. Provide in flat sheets only.
- .5 Chairs, bolsters, bar supports, spacers: to CAN/CSA-A23.1. To be adequate for strength and support of reinforcing construction required. Use chairs with plastic coated feet where slab and beam soffits will be exposed.
- .6 Mechanical splices: subject to approval of NCC Representative.

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 Representative's approval for locations of reinforcement splices other than those shown on placing drawings.
- .3 Ship bundles of bar reinforcement, clearly identified in accordance with bar bending details and lists.

2.3 **Source Quality Control**

- .1 Provide NCC Representative with certified copy of mill test report of reinforcing steel, showing physical and chemical analysis, minimum 4 weeks prior to commencing reinforcing work.
- .2 Inform NCC Representative of proposed source of material to be supplied.

3 **Execution**

3.1 **Field Bending**

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

3.2 **Placing Reinforcement**

- .1 Place reinforcement in accordance with reviewed shop drawings and in accordance with CAN/CSA-A23.1. Support with chairs, bolsters, bar supports or spacers in as close

spacing as possible to prevent displacement of reinforcement from intended bar position, before and during placing of concrete. Pieces of block, wood, and/or similar items, are not acceptable as chairs and spacers.

Maximum chair spacing: 10M - 24"
 15M - 48"
 20M - 64"
 25M - 78"

- .2 Prior to placing concrete, obtain NCC Representative's review of reinforcing material and placement. Provide minimum 24 hours notice prior to concrete placement for review.
- .3 Ensure cover to reinforcement is maintained during concrete pour.
- .4 Lap wire mesh sections at least 6" and wire tighter securely; discontinue wire mesh at joints.
- .5 Clean reinforcing before placing concrete.
- .6 Ensure welded wire fabric is lifted to centre of slab (or where indicated) during concrete placing.

END OF SECTION

1 **General**

1.1 **Related Requirements**

- .1 Section 03 10 00 – Concrete Formwork.
- .2 Section 03 20 00 – Concrete Reinforcing.
- .3 Section 03 36 20 – Concrete Finishing.

1.2 **References**

- .1 ASTM International
 - .1 ASTM D1621, Standard Test Method for Compressive Properties of Rigid Cellular Plastics
- .2 CAN/ULC
 - .1 CAN/ULC S701, Standard for Thermal Insulation, Polystyrene, Boards, and Pipe Coverings
- .3 CSA International
 - .1 CSA-A23.1/A23.2, Concrete Materials and Methods of Concrete Construction/Methods of Test and Standard Practices for Concrete.
 - .2 CSA A3000, Cementitious Materials Compendium (Consists of A3001, A3002, A3003, A3004 and A3005).

1.3 **Administrative Requirements**

- .1 Pre-installation Meetings: convene pre-installation meeting one week prior to beginning concrete works.
 - .1 Ensure key personnel, including site supervisor, NCC Representative, and specialty contractor - finishing, forming attend.
 - .2 Verify project requirements.

1.4 **Action & Informational Submittals**

- .1 Provide submittals, including for insulation.
- .2 Submit all proposed concrete mix designs.
- .3 Concrete hauling time: provide for review by NCC Representative deviations exceeding maximum allowable time of 120 minutes for concrete to be delivered to site of Work and discharged after batching.

1.5 **Quality Assurance**

- .1 Provide to NCC Representative, 4 weeks minimum prior to starting concrete work, valid and recognized certificate from plant delivering concrete.
 - .1 Quality Control Plan: provide written report to NCC Representative verifying compliance that concrete in place meets performance requirements.

1.6 **Delivery, Storage & Handling**

- .1 Delivery and Acceptance Requirements:
 - .1 Concrete hauling time: deliver to site of Work and discharged within 120 minutes maximum after batching.
 - .1 Do not modify maximum time limit without receipt of prior written agreement from NCC Representative and concrete producer as described in CSA A23.1/A23.2.
 - .2 Deviations to be submitted for review by the NCC Representative.
 - .2 Concrete delivery: ensure continuous concrete delivery from plant meets CSA A23.1/A23.2.
 - .3 Packaging Waste Management: remove for reuse and return by manufacturer of pallets, crates, padding, and packaging materials.

2 Products

2.1 Design Criteria

- .1 Performance: to CSA A23.1/A23.2, and as described in MIXES of PART 2 - PRODUCTS.

2.2 Performance Criteria

- .1 Quality Control Plan: ensure concrete supplier meets performance criteria of concrete as established by NCC Representative and provide verification of compliance as described in PART 1 - QUALITY ASSURANCE.

2.3 Materials

- .1 Cement: to CSA A3001, Type GU.
- .2 Water: to CSA A23.1/A23.2.
- .3 Other concrete materials: to CSA A23.1/A23.2.
- .4 Below Grade Insulation, directly below footing: extruded polystyrene (XPS) rigid insulation providing R5/25 mm, to CAN/ULC S701 Type IV, minimum compressive strength 210 kPa as per ASTM D1621
 - .1 Standard of Material Acceptance/Profile Characteristics:
 - .1 Styrofoam HL-40 rigid insulation.
 - .2 Or approved alternate.
- .5 Below Grade Insulation, not directly below footing: extruded polystyrene (XPS) rigid insulation providing R5/25 mm, to CAN/ULC S701 Type IV.

2.4 Mixes

- .1 Performance Method for specifying concrete: to meet NCC Representative performance criteria to CSA A23.1/A23.2.
 - .1 Ensure concrete supplier meets performance criteria as established below and

- provide verification of compliance as described in PART 3 - VERIFICATION.
- .2 Provide concrete mix to meet following hard state requirements:
 - .1 Durability and class of exposure: C-1.
 - .2 Compressive strength at 28 days after placement: 35 MPa minimum.
 - .3 Other Special requirements: 75 mm slump.
- .3 Provide concrete supplier's certification.
- .4 Provide quality management plan to ensure verification of concrete quality to specified performance.

3 Execution

3.1 Preparation

- .1 Provide NCC Representative 24 hours notice before each concrete pour.
- .2 Place concrete reinforcing in accordance with Section 03 20 00 - Concrete Reinforcing.
- .3 During concreting operations:
 - .1 Development of cold joints not allowed.
 - .2 Ensure concrete delivery and handling facilitates placing with minimum of rehandling, and without damage to existing structure or Work.
- .4 Protect previous Work from staining.
- .5 Clean and remove stains prior to application of concrete finishes.

3.2 Installation/Application

- .1 Do cast-in-place concrete work in accordance with CSA A23.1/A23.2.
- .2 Sleeves and inserts:
 - .1 Cast in sleeves, ties, slots, anchors, reinforcement, frames, conduit, bolts, waterstops, joint fillers and other inserts required to be built-in.
 - .2 Sleeves and openings greater than 100 mm x 100 mm not indicated, must be reviewed by NCC Representative.
- .3 Finish concrete in accordance with Section 03 36 20 – Concrete Finishing.

3.3 Site Tolerances

- .1 Concrete floor slab finishing tolerance to CSA A23.1/A23.2.

3.4 Field Quality Control

- .1 Concrete testing: to CSA A23.1/A23.2 by testing laboratory designated and paid for by NCC Representative.

3.5 Cleaning

- .1 Use trigger operated spray nozzles for water hoses.

- .2 Designate cleaning area for tools to limit water use and runoff.
- .3 Cleaning of concrete equipment and waste management to be done in accordance with Section 04.

END OF SECTION

1 **General**

1.1 **Related Work Specified Elsewhere**

- .1 Concrete Formwork: Section 03 10 00
- .2 Concrete Reinforcement: Section 03 20 00
- .3 Cast-in-Place Concrete: Section 03 30 00.01

1.2 **Reference Standards**

- .1 Canadian General Standards Board (CGSB)
 - .1 CAN/CGSB 25.20-95, Surface Sealer for Floors.
- .2 Canadian Standards Association (CSA)
 - .1 CSA A23.1/A23.2, Concrete Materials and Methods of Concrete Construction.
 - .1 Do concrete floor finishing to CAN/CSA A23.1, except where specified otherwise.

2 **Products**

2.1 **Materials**

- .1 Non-metallic floor hardener: premixed, dry shake, abrasion resistant surface hardener.
 - .1 Standard of material acceptance/profile characteristics:
 - .1 Sikafloor 3S by Sika Canada Inc.
- .2 Additives and hardeners to be compatible.
- .3 Curing/sealing compound: chlorinated rubber-based to ASTM C309, Type 1.
- .4 Sawcut joint sealant: non-metallic, minimum Shore-A hardness 80 @ 20° C. (Loadflex by Sika Canada Inc. or equivalent approved by Engineer).

2.2 **Product Data**

- .1 Submit product data.
- .2 Submit WHMIS MSDS - Material Safety Data Sheets. WHMIS MSDS acceptable to Labour Canada and Health and Welfare Canada for concrete floor treatment materials. Indicate VOC content.
- .3 Include application instructions for concrete floor treatments.

3 **Execution**

3.1 **Workmanship**

- .1 Steel trowel concrete slabs to be left exposed.

- .2 Formed Concrete Surfaces:
- .3 After removal of fins, replace or treat honeycombing or defects in exposed concrete surfaces according to CSA A23.1 Clause 7, Formed Surfaces. Refer honeycombed areas to the Consultant for designation as structural or non-structural, and repair according to CSA Specifications.
- .4 Bring the surfaces of all exposed interior and exterior concrete to a smooth rubbed finish not later than 5-6 hours after removal of forms and in accordance with the requirements of CSA A23.1.
- .5 The producing of smooth surfaces by means of cement plaster will not be permitted unless otherwise specified or scheduled.

3.2 Floor Finish (Exposed)

- .1 Roll or tamp concrete to force coarse aggregate into concrete mix, then screed.
- .2 Float surface with wood or metal float or with power finishing machine and bring surface to true elevation.
- .3 Steel trowel to smooth and even surface.
- .4 Unless otherwise noted, follow with second steel trowelling to produce smooth burnished surface to within 6mm tolerance when measured in any direction using 3000mm straight edge. For floor areas to receive ceramic tile, produce fine broom finished surface to within 3mm tolerance when measured in any direction using 3000mm straight edge. For floor areas to receive ceramic tiles that are 300mmx600mm in size, produce fine broom finished surface to within 1.5mm in 600mm tolerance when measured in any direction from the high points in the surface. Do not overtrowel.
- .5 Sprinkling of dry cement or dry cement and sand mixture over concrete surfaces is not acceptable.
- .6 Sawcut crack-control joints in slabs on grade to CAN/CSA-A23.1-M90 (maximum 24 hours after placement), or as noted on drawings. Seal with joint filler.
- .7 Saw cut Joints:
 - .1 Saw cut control joints and construction joints in slab where shown, in straight lines.
 - .2 Perform saw cutting 12 to 24 hours after concrete has been placed, depending on when saw can be run over concrete surface without leaving tread marks, when concrete can be sawn without dislodging aggregate and before uncontrolled shrinkage has occurred. Do not postpone sawing operations beyond these time limitations.
 - .3 Spray water on saw blade at all times during sawing. Grind edges of sawcuts to eliminate burrs; do not grind to bevel or chamfer joint edges.
 - .4 After sawing and grinding, clean joints with a jet of water, and blow-out with compressed air. Broom clean residue caused by sawing operation.

- .5 When cleaned joints are dry and prior to traffic being allowed over the area, install temporary polyethylene rope in such joints to prevent contamination of same.
- .8 Apply floor hardener, non-metallic aggregate at a rate of 5kg / m² to manufacturer's instructions.
- .9 Apply approved curing/sealing compound to manufacturer's instructions.
- .10 After curing/sealing and when concrete is dry, seal control joints and joints at junction with vertical surfaces with sealing compound.
- .11 Clean surfaces and apply second coat curing/sealing compound before handing building over to Owner.

3.3 Walls & Other Vertical Elements Finish (Exposed)

- .1 Use high density overlay formwork for concrete exposed in the finished work e.g. exterior and interior face of foundations, piers. Repair imperfections only after consultation with the NCC Representative.

3.3 Concrete Not Exposed in the Finished Work

- .1 Concrete not exposed in the finished work (e.g. concrete below grade) to be finished to CAN/CSA-A23.1

END OF SECTION

1 **General**

1.1 **Related Requirements**

- .1 Section 04 05 10 - Common Work Results for Masonry.

1.2 **References**

- .1 American Society for Testing and Materials International (ASTM).
 - .1 ASTM C144-11. Standard Specification for Aggregate for Masonry Mortar.
 - .2 ASTM C260/C260M-10a. Standard Specification for Air-Entraining Admixtures for Concrete.
 - .3 ASTM C207-06 Standard Specification for Hydrated Lime for Masonry Purposes.
- .2 Canadian Standards Association (CSA International)
 - .1 CAN/CSA-A179-04(R2009). Mortar and Grout for Unit Masonry.
 - .2 CAN/CSA A3000-08 Cementitious Materials Compendium.
- .3 Health Canada / Workplace Hazardous Materials Information System (WHMIS).
 - .1 Material Safety Data Sheets (MSDS).
- .4 European Standards.
 - .1 BS EN 459-1:2010. Building lime. Definitions, specifications and conformity criteria.

1.3 **Action & Informational Submittals**

- .1 Submit sources of products plus product datasheets for all mortar ingredients for review by NCC Representative, prior to the mixing and preparation of mortars.

1.4 **Ambient Conditions Inside Scaffolding Enclosure**

- .1 Comply with Workplace Hazardous Materials Information System (WHMIS) regarding use, handling, storage, and disposal of hazardous materials; and regarding labelling and provision of Material Safety Data Sheets (MSDS) acceptable to Labour Canada.
- .2 Execute work when masonry surface temperature is minimum 10 degrees C and air temperature is between 10 and 27 degrees Celsius and relative humidity exceeds 30%.

2 **Products**

2.1 **Materials**

- .1 Water: potable, clean and free from contaminants. Pre-treat water having high iron or other metal content to prevent staining.
- .2 Sand: to ASTM C144, sharp, screened and washed siliceous pit sand, free of any organic material, graded as specified, colour to match existing.
- .3 Hydrated Lime: hydrated lime to ASTM C207, Type SA, containing air entrainment.

- .4 Lime: fresh hydraulic lime, finely ground, to EN 459-1, type NHL 3.5, to NCC Representative's approval.
- .5 Portland cement: to CAN/CSA-A3000, type 10 normal, white, non-staining.
- .6 Hydraulic Lime Grout: Proprietary high fluidity grout, based on natural hydraulic lime to EN 459-1, to NCC Representative's approval.
- .7 All limes to be stored and used in accordance with manufacturer's recommendations, including maximum shelf life.
- .8 Colour additives: inorganic pigment, dry powder, mineral oxide type.
- .9 Air Entraining Agent: Liquid air entraining agent, compatible with hydraulic lime. To meet ASTM C260 and to approval of NCC Representative.

2.2 Proportions

- .1 Prepare mortar to CAN/CSA-A179. Annex A and Annex B.
- .2 General:
 - .1 Proportion lime mortar by volume.
 - .2 Add colouring additives to match approved samples. Buff for pointing mortars, to maximum 8% of binder content, by volume.
 - .3 Adjusted mixes to comply with specified performance requirements.
- .3 Mortar Types:
 - .1 Mortar Type A: Pointing Mortar: one part hydraulic lime (NHL 3.5) and two and a half parts sand (1:2.5). Add buff pigment and air entrainment.
 - .2 Mortar Type B: Back Pointing and Bedding Mortar: one part hydraulic lime (NHL 5) and two and one half parts sand - (1:2.5). Add air entrainment. Up to 1m above grade.
 - .3 Mortar Type C: Bedding and Back Pointing Mortar: one part Portland cement, two and a half parts lime and eight parts sand (1:2.5:8). From 1m above grade and up.

2.3 Allowable Tolerances

- .1 Mortar compression strength for hydraulic lime bedding, backpointing, and pointing mortar: Minimum 1.0 MPa at 28 days. Minimum 2 MPa at 90 days. \
- .2 Mortar compression strength for cement : lime : sand bedding and backpointing mortar: Minimum 2.5 MPa at 28 days. Minimum 3.5 MPa at 90 days.
- .3 Grout compressive strength for hydraulic lime grout: 1.0 MPa minimum, 5.0 MPa maximum at 28 days, 2.0 MPa minimum, 6.0 MPa maximum at 90 days.
- .4 Air content of plastic mix: 8% minimum, 11% maximum.
- .5 Vicat Cone penetration of mortar mix in plastic state, to ASTM C780:

- .1 Pointing Mortar: 18 mm minimum, 28 mm maximum.
- .2 Bedding mortar. 26 mm minimum, 40 mm maximum.

3 **Execution**

3.1 **Mixing – General**

- .1 Mix mortar ingredients in quantities for use within periods specified. Do not re-temper.

3.2 **Mixing – Cement-Lime Mortar**

- .1 Use mix within one (1) hour.

3.3 **Mixing – Hydraulic Sand-Mortar**

- .1 Use mix within three (3) hours.

3.4 **Repointing**

- .1 Rake joints free of deteriorated and loose mortar so as to expose sound mortar. Continue to rake joints to achieve a minimum depth of three (3) times joint width, to a maximum depth of 2" (50mm).
- .2 Flush all open joints and voids with low pressure water. If joint is not free draining, blow clean with compressed air. Do not leave standing water.
- .3 Match colour of existing adjacent mortar, to acceptance of NCC Representative.
- .4 Dampen joints and adjacent masonry and pack completely with specified mortar. Build joints in maximum ½" (13mm) thick lifts, allowing lifts to set "thumbprint hard" prior to installing subsequent lifts. Use sufficient pressure to fill all voids. Avoid feather-edging joints. Neatly tool mortar.
- .5 Keep adjacent masonry damp during repointing operations.
- .6 Remove excess mortar from wall face prior to setting.
- .7 Provide and maintain temporary coverings at the masonry face as required to maintain a humid environment for three (3) days.

END OF SECTION

1 **General**

1.1 **Related Requirements**

- .1 Section 04 03 08 – Historic Mortaring.

1.2 **References**

- .1 Canadian Standards Association (CSA International).
 - .1 CSA A179, Mortar and G.2 CSA-A371, Masonry Construction for Buildings.
 - .2 CSA-A371, Masonry Construction for Buildings.
- .2 Health Canada/Workplace Hazardous Materials Information System (WHMIS).
 - .1 Material Safety Data Sheets (MSDS).

1.3 **Action & Information Submittals**

- .1 Product Data: submit manufacturer's printed product literature, specifications and data sheet for each product:
 - .1 Indicate date of manufacture of product and shelf life.
 - .2 Submit two copies of WHMIS MSDS - Material Safety Data Sheets.

1.4 **Quality Assurance – Execution**

- .1 The Masonry Contractor must have at least 10 years' experience in working on traditional load-bearing masonry stone walls, respecting The Standards and Guidelines for the Conservation of Historic Places in Canada.
- .2 The principal stone masons, and foreman engaged by the Masonry Contractor must have at least 7 years' experience with historic, load-bearing masonry similar to this project.
- .3 Provide qualified, skilled and competent workers possessing a meaningful experience for each of the types of specified works.

1.5 **Quality Assurance – Mock-Ups**

- .1 Construct mock-ups to illustrate:
 - .1 Rebuilding wall
 - .2 Repointing
- .2 Mock-up will be used:
 - .1 Quality and finish.
- .3 Allow 72 hours for inspection of mock-up by NCC Representative before proceeding with work.
- .4 Repeat mock-up until satisfactory results are obtained to satisfaction of NCC Representative.

- .5 When accepted by NCC Representative in writing, mock-up will demonstrate minimum standard for this work. Mock-up may remain as part of finished work.

1.6 Delivery, Storage & Handling

- .1 Deliver materials to job site in dry condition. Keep materials dry until use except where wetting of stone is specified. Protect from freezing and contamination.
- .2 Store under waterproof cover on pallets or plank platforms held off ground by means of plank or timber skids.
- .3 Do not use materials which have exceeded manufacturer's recommended shelf life.

1.7 Ambient Conditions

- .1 Execute all mortar work when ambient temperature and humidity of mortar meet requirements specified in Section 04 03 08 - Historic Mortaring.
- .2 When conditions do not meet requirements prescribed herein, provide enclosure system around curing area to ensure that stated environmental conditions are maintained for curing period. Take precautions to avoid overheating masonry.

2 Products

2.1 Materials

- .1 Burlap: clean, non-staining, free of printed matter.
- .2 Plumber's hemp: asbestos-free, oil-free jute rope.

3 Execution

3.1 Manufacturer's Instruction

- .1 Comply with manufacturer's written data, including product technical bulletins, product catalogue installation instructions, product carton installation instructions, and data sheets.

3.2 Preparation

- .1 Inspect site with NCC Representative and verify extent of scope prior to commencing work.
- .2 Support:
 - .1 Contractor to submit shop drawings to NCC Representative for review for temporary shoring to support structure during work.
 - .2 Shop drawings to be stamped and signed by a Professional Engineer licensed in Province of Ontario.
- .3 Obtain NCC Representative's approval prior to proceeding, for:

- .1 Extent and type of stone to be replaced, repaired or removed.

3.3 Installation

- .1 Do masonry work in accordance with CSA-A371 except where specified otherwise.
- .2 Build masonry plumb, level, and true to line, with vertical joints in alignment.
- .3 Prevent materials from entering or penetrating wall cavities of building. Report findings of materials to NCC Representative before continuing with work.

3.4 Construction

- .1 Jointing.
 - .1 Finish masonry joints to match existing, in colour and profile.
 - .2 Finish stone joints as specified in Section 04 03 08 – Historic Mortaring.
- .2 Cutting. Make cuts straight, clean, and free from uneven edges.

3.5 Cleaning

- .1 Perform cleaning after installation to remove construction and accumulated environmental dirt.
- .2 Upon completion of installation, remove surplus materials, rubbish, tools and equipment barriers.

END OF SECTION

1 General

1.1 References

- .1 ASTM International
 - .1 ASTM A 123, Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
 - .2 ASTM A 153, Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.
 - .3 ASTM A 307, Standard Specification for Carbon Steel Bolts, Studs, and Threaded Rod 60000 PSI Tensile Strength.
- .2 CSA International
 - .1 CSA G40.20/G40.21, General Requirements for Rolled or Welded Structural Quality Steel/Structural Quality Steel.
 - .2 CSA S16, Design of Steel Structures.
 - .3 CSA W48, Filler Metals and Allied Materials for Metal Arc Welding (Developed in co-operation with the Canadian Welding Bureau).
 - .4 CSA W59, Welded Steel Construction (Metal Arc Welding).
- .3 Health Canada / Workplace Hazardous Materials Information System (WHMIS)
 - .1 Material Safety Data Sheets (MSDS).
- .4 The Master Painters Institute (MPI)
 - .1 Architectural Painting Specification Manual - current edition.

1.2 Action & Informational Submittals

- .1 Provide submittals.
- .2 Product Data:
 - .1 Submit two copies of WHMIS MSDS.
 - .1 For finishes, coatings, primers, and paints applied on site: indicate VOC concentration in g/L.
- .3 Shop Drawings:
 - .1 Submit drawings.
 - .2 Indicate materials, core thicknesses, finishes, connections, joints, method of anchorage, number of anchors, supports, reinforcement, details, and accessories.

1.3 Quality Assurance

- .1 Test Reports: submit certified test reports showing compliance with specified performance characteristics and physical properties.
- .2 Certifications: submit product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements.

1.4 Delivery, Storage & Handling

- .1 Deliver, store and handle materials in accordance with manufacturer's written instructions.
- .2 Delivery and Acceptance Requirements: deliver materials to site in original factory

packaging, labelled with manufacturer's name and address.

- .3 Storage and Handling Requirements:
 - .1 Store materials off ground indoors in dry location and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.
 - .2 Replace defective or damaged materials with new.

2 Products

2.1 Materials

- .1 Steel plates, angles: to CSA G40.20/G40.21, Grade 300W
- .2 Welding materials: to CSA W59.
- .3 Welding electrodes: to CSA W48 Series.
- .4 Bolts and anchor bolts: to ASTM A 307.
- .5 Grout: non-shrink, non-metallic, flowable, 15 MPa at 24 hours.

2.2 Fabrication

- .1 Fabricate work square, true, straight and accurate to required size, with joints closely fitted and properly secured.
- .2 Where possible, fit and shop assemble work, ready for erection.
- .3 Ensure exposed welds are continuous for length of each joint. File or grind exposed welds smooth and flush.

2.3 Finishes

- .1 Galvanizing: hot dipped galvanizing to ASTM A123.
- .2 Shop coat primer: CISC/CPMA 2-75.
- .3 Zinc primer: zinc rich, ready mix to CGSB 1-GP-171M.

2.4 Shop Painting

- .1 Apply one shop coat of primer to metal items, with exception of galvanized or concrete encased items.
- .2 Use primer unadulterated, as prepared by manufacturer. Paint on dry surfaces, free from rust, scale, grease. Do not paint when temperature is lower than 7 degrees C.
- .3 Clean surfaces to be field welded; do not paint.

3 Execution

3.1 Erection

- .1 Do welding work in accordance with CSA W59 unless specified otherwise.
- .2 Erect metalwork square, plumb, straight, and true, accurately fitted, with tight joints and intersections.
- .3 Exposed fastening devices to match finish and be compatible with material through which they pass.
- .4 Supply components for work by other trades in accordance with shop drawings and schedule.
- .5 Make field connections with bolts to CSA S16 or weld field connection.
- .6 Deliver items over for casting into concrete and building into masonry together with setting templates to appropriate location and construction personnel.
- .7 Touch-up rivets, field welds, bolts and burnt or scratched surfaces with primer after completion.
- .8 Touch-up galvanized surfaces with zinc rich primer where burned by field welding.

3.2 Cleaning

- .1 Cleaning and waste management to be in accordance with Section 04.

3.3 Protection

- .1 Protect installed products and components from damage during construction.
- .2 Repair damage to adjacent materials caused by metal fabrications installation.

END OF SECTION

1 **General**

1.1 **Alternatives**

- .1 Obtain NCC Representative's approval before changing manufacturer's brands, sources of supply, wood species, or wood grade.

1.2 **References**

- .1 American Society for Testing and Materials International (ASTM)
 - .1 ASTM A307, Standard Specification for Carbon Steel Bolts, Studs, and Threaded Rod 60000 PSI Tensile Strength.
- .2 Canadian Institute of Steel Construction (CISC)/Canadian Paint Manufacturers' Association (CPMP)
 - .1 CISC/CPMA 1-73a, A Quick Drying One-coat Paint for Use on Structural Steel.
- .3 Canadian Standards Association (CSA International)
 - .1 CSA-G40.20)/G40.21, General Requirements for Rolled or Welded Structural Quality Steel/Structural Quality Steel.
 - .2 CSA-O86 Consolidation, Engineering Design in Wood.
 - .3 CSA O121, Douglas Fir Plywood.
 - .4 CSA W59, Welded Steel Construction (Metal Arc Welding).
- .4 National Lumber Grading Authority (NLGA)
 - .1 NLGA Standard Grading Rules for Canadian Lumber.

1.3 **Submittals**

- .1 When requested by NCC Representative, submit shop drawings to scale of metal, timber, splices, connections showing details of layout, materials, and construction.
- .2 When requested by NCC Representative, provide invoices, purchase orders, and suppliers' certificates to prove that materials used in this contract meets requirements of specification.

1.4 **Quality Assurance**

- .1 Advise NCC Representative before ordering or purchasing materials.
- .2 NCC Representative to examine and review materials prior to purchase by contractor.
- .3 Allow free access to materials for examination by NCC Representative before beginning work on site.
- .4 Mock-ups:
 - .1 Construct a full-size mock-up for review by NCC Representative of exterior cladding repair detail, splice repair detail, and new steel connection/strapping

detail. Mock-up may be incorporated into finished work.

1.5 Qualifications

- .1 Contractors undertaking work in this section are required to be skilled craftspersons and to have a minimum of 10 years' experience in this field.

1.6 Delivery, Storage & Handling

- .1 Store materials in dry, well-ventilated area supported above ground and protected from rain, sun and snow.
- .2 Stack wood above ground or soil with spacer slats between layers to ensure adequate ventilation for air drying.
- .3 Protect adjacent finished surfaces from damage during work.

1.7 Ambient Conditions

- .1 Cover work exposed to weather with waterproof covering at end of each workday. Anchor covering securely in place.

2 Products

2.1 Materials

- .1 Heavy timber framing:
 - .1 Use d-fir/hemlock/spf for structural timber wood repairs unless noted otherwise.
 - .2 Grade: No. 2 or better unless noted otherwise.
 - .3 Actual size: as required to match existing unless noted otherwise. Contractor to verify dimensions on site.
 - .4 Moisture content: kiln dry to 15%.
 - .5 Wedges: white oak or maples.
- .2 Dimension lumber:
 - .1 Blocking, strapping, exterior cladding: NLGA spruce, pine or fir (SPF) unless noted otherwise.
 - .2 Grade: No. 2 or better unless noted otherwise.
 - .3 Exterior cladding: eastern white or red pine.
- .3 Dowels, pegs and pins:
 - .1 Use white oak for all wood dowels, pegs and pins.
 - .2 Size: diameter to match existing bore holes, minimum ½" diameter.
- .4 Metal framing connections:
 - .1 Steel: to CSA-G40.20/G40.21, grade 300W, galvanized.
 - .2 Size: straps, plates and hangers from 6 mm thick sheet steel unless noted otherwise.
 - .3 Paint: Prime to CISC/CPMA 1-73a colour black.
- .5 Timber connections:

- .1 Bolts: to ASTM A307, galvanized.
- .2 Nails, spikes and staples: to CSA B111, galvanized.

- .6 Dampproofing:
 - .1 Roll roofing: asphalt impregnated 20kg felt.

3 Execution

3.1 Site Verification of Conditions

- .1 Stop work and report immediately to NCC Representative conditions relevant to this contract not described in drawings: evidence of deficiencies, fungal or insect attack which may affect the scope of work or durability of the finished product.

3.2 Construction

- .1 Damaged Wood Repair:
 - .1 Provide pre-engineered shoring to support the structure during the Work. Submit shoring shop drawings stamped by a provincially licensed engineer prior to erection.
 - .2 Cut back damaged or decayed wood to a point minimum 300 mm beyond the last evidence of decay, or to limits described in project drawings.
 - .3 Remove decayed wood with extreme care causing no disruption or damage to adjacent structure.
 - .4 Remove decayed wood from building site daily.
 - .5 Where the removal of damaged members is completed, provide new joinery to existing members as per item .2 below.

- .2 Joinery
 - .1 Create a cavity to match the existing joinery as necessary to receive wood laminates.
 - .2 Joints:
 - .1 Lay out and cut joints. Contractor to inspect all joinery on site and where possible match existing layout.
 - .2 Shape repair piece to match existing.
 - .3 Trial fit joints before fastening in place. Adjust as necessary to ensure close accurate fit with adjacent surfaces, wedges and pegs.
 - .4 Locate pegs for joints by splitting with axe. Largest outer diameter to be slightly larger than bored location hole. Bore location holes 5mm offset between adjoining members.

 - .3 Metal Connectors:
 - .1 Trial fit the joint and metal connections before fastening in place. Adjust as necessary to ensure close accurate fit.

- .3 Roof Framing:
 - .1 At all beam repair and roof rafter replacement locations, seat/notch existing roof rafters or new roof rafters into new or existing top plate to ensure close, accurate fit.
 - .2 Trial fit joint connections before fastening in place. Match fastening details with

adjacent roof rafter connections. Adjust as necessary to ensure close accurate fit.

- .4 Exterior Cladding
 - .1 Coordinate with NCC Representative to identify all exterior cladding repair locations.
 - .2 At all exterior cladding repair locations, remove and replace cladding boards as indicated during on site inspections. Use similar cladding board dimensions and finish to match adjacent boards. Provide new galvanized metal fasteners to match adjacent layout and finish of existing cladding.

3.3 Protection

- .1 Cover completed work not enclosed or sheltered with waterproof covering. Anchor securely in position.

3.4 Cleaning

- .1 On completion of work, remove surplus material, tools, equipment, and debris from work area to satisfaction of NCC Representative.
- .2 On completion of work stack surplus material salvaged from removals in an area approved by Owner.

END OF SECTION

1 **General**

1.1 **Section Includes**

- .1 Materials and installation for sheet metal roofing.

1.2 **Related Sections**

- .1 Section 07 62 00 – Sheet Metal Flashings
- .2 Section 06 03 15 – Heritage Carpentry

1.3 **References**

- .1 American Society for Testing and Materials International, (ASTM).
 - .1 ASTM A653/A653M, Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
- .2 Canadian General Standards Board (CGSB).
 - .1 CAN/CGSB-51.32-[M77], Sheathing, Membrane, Breather Type.
- .3 Health Canada/Workplace Hazardous Materials Information System (WHMIS).
 - .1 Material Safety Data Sheets (MSDS).
- .4 National Research Council Canada (NRC)/Institute for Research in Construction (IRC) - Canadian Construction Materials Centre (CCMC).
 - .1 CCMC, Registry of Product Evaluations.

1.4 **Submittals**

- .1 Submit proof of manufacturer's CCMC Listing and listing number to NCC Representative for review.
- .2 Manufacturer's Instructions: Provide to indicate special handling criteria, installation sequence, and cleaning procedures.
- .3 Submit WHMIS MSDS - Material Safety Data Sheets.
- .4 Submit product data sheets for roofing components. Include:
 - .1 Product characteristics.
 - .2 Performance criteria.
 - .3 Limitations.
- .5 Submit shop drawings.
- .6 Submit 300 x 300mm samples of each sheet metal material.

2 **Products**

2.1 **Sheet Metal Materials**

- .1 Zinc coated steel sheet: to ASTM A653/A653M, commercial quality, with Z275 coating,

regular spangle surface, prefinish as specified, 26 Ga. thickness.

- .2 Standard of Material Acceptance/Profile Characteristics:
 - .1 Ameri-Cana by Ideal Roofing.
 - .2 Or approved alternate.

2.2 Prefinished Steel Sheet

- .1 Prefinished steel with factory applied polyvinylidene fluoride.
 - .1 Class F1S.
 - .2 Colour selected by Owner from manufacturer's standard range.
 - .3 Specular gloss: 25 units +/-5 to ASTM D523.
 - .4 Coating thickness: not less than 22 micrometers.
 - .5 Resistance to accelerated weathering for chalk rating of 8, colour fade 5 units or less and erosion rate less than 20% to ASTM D822 as follows:
 - .1 Outdoor exposure period 2500 hours.
 - .2 Humidity resistance exposure period 5000 hours.

2.5 Accessories

- .1 Roofing flashings & closures: Prefinished sheet metal to match roofing panels.
- .2 Plastic cement: to CAN/CGSB-37.5.
- .3 Rubber-asphalt sealing compound: to CAN/CGSB-37.29.
- .4 Fasteners: concealed, as per manufacturer's instructions.
- .5 Washers: of same material as sheet metal, 1 mm thick with rubber packings.
- .6 Touch-up paint: as recommended by sheet metal roofing manufacturer.

2.6 Fabrication

- .1 Form individual pieces in 2400 mm maximum lengths. Make allowances for expansion at joints.
- .2 Hem exposed edges on underside 12 mm, mitre and seal.
- .3 Form sections square, true and accurate to size, free from distortion and other defects detrimental to appearance or performance.
- .4 Apply minimum 0.2 mm dry film thickness coat of plastic cement to both faces of dissimilar metals in contact.
- .5 Protect dissimilar metals against oxidization by backpainting with isolation coating where indicated.

3 Execution

3.1 Installation

- .1 Lap joints 150 mm in direction of flow.
- .2 Install sheet metal roof panels as per manufacturer's recommended fastener spacing.
- .3 Stagger transverse seams in adjacent panels.
- .4 Flash roof penetrations with material matching roof panels, and make watertight.
- .5 Form seams in direction of water-flow and make watertight.

END OF SECTION

1 **General**

1.1 **Related Sections**

- .1 Section 06 03 15 – Rough Carpentry

1.2 **General**

- .1 Install all sheet metal valleys, flashings, roofing panels required to complete roofing repair.
- .2 Form to profiles to match existing or as required to suit site conditions.

1.3 **Samples**

- .1 Submit samples of sheet metal specified before proceeding, showing proposed method of shaping, forming, jointing and fastening.

1.4 **Workmanship**

- .1 Sheet metal work shall be carried out in accordance with the best standard practices; with joints locked, cleated, caulked as required and exposed edges hemmed. Ample allowance shall be made in all work for expansion and contraction.
- .2 Mitred corners shall be straight and true profiles, with flat surfaces free of distortion and free of face nailing.

1.5 **References**

- .1 Standard practices, unless otherwise noted herein, shall be deemed to constitute recommended procedures published in SMACNA Architectural Manual.

1.6 **Warranty**

- .1 Remedy all defects in the sheet metal installed hereunder, which appear within a period of two (2) years from the date of substantial performance.
- .2 Provide a written warranty confirming the above, issued on the corporate letterhead, and sealed by an authorized company official.

2 **Products**

2.1 **Metal Flashings**

- .1 Metal flashings shall be 24 gauge (0.635mm) commercial galvanized to ASTM A653/A653M.

2.2 **Caulking**

- .1 Sealing compound to be a one (1) component polyurethane base caulking compound to CGSB 19.13- M87. Standard of Acceptance: Tremco Dymonic or Sikaflex 1a. Sealant compound to be installed in accordance with manufacturer's recommendations.

2.3 Starter Strip

- .1 Starter strips/drip edge to be manufactured from the same type of material used for all flashings, and shall be 24 gauge (0.635mm).

2.4 Accessories

- .1 Fastening cleats to be manufactured from the same type of material used for eave and wall flashings. For 24 gauge (0.71mm), space at 600mm o/c.
- .2 Fasteners to be of same material as sheet metal, galvanized hex head, self-sealing roofing nails to CSA B111, of length and thickness suitable for metal flashing application.

3 Execution

3.1 Installation

- .1 Install sheet metal work in accordance with Canadian Roofing Contractor's Association FL series details.
- .2 All free edges of metal shall be strengthened by a fold at least 13mm wide, set out slightly and presenting a straight line and neat finish. Form sheet metal in 2.4m lengths, making allowance for expansion.
- .3 Metal shall be formed on a bending brake, shaping, trimmed and hard seaming shall be done on a bench, as far as practicable, with proper sheet metal working tools. Angles of bends and folds for interlocking metal shall be made with full regard to expansion and contraction to avoid buckling or fullness in service and to avoid damaging surfaces of metal.
- .4 Dry joints are to be tight but not dented so as to permit slight adjustments of sheets and yet remain watertight.
- .5 Lock seams at all corners.
- .6 Form seams in direction of water-flow and make watertight.

3.2 Anchors & Fasteners

- .1 Space fasteners evenly and in an organized pattern. Where exposed to view, use metal fasteners of same material, colour, texture and finish. Obtain approval prior to installing any exposed fasteners.

3.3 Sealants

- .1 Install sealants in accordance with manufacturer's latest recommendations and guidelines.

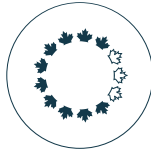
3.4 Field Quality Control

- .1 On completion and verification of performance of installation, remove surplus

materials, excess materials, rubbish, tools, and equipment.

- .2 Leave work areas clean, free from grease, finger marks, and stains.

END OF SECTION



NATIONAL CAPITAL COMMISSION
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Species at Risk Mitigation Plan

2018 BARN RESTORATION PROJECT
AT 5039 RUSSELL ROAD

Final - 11-Jan-2018

Canada



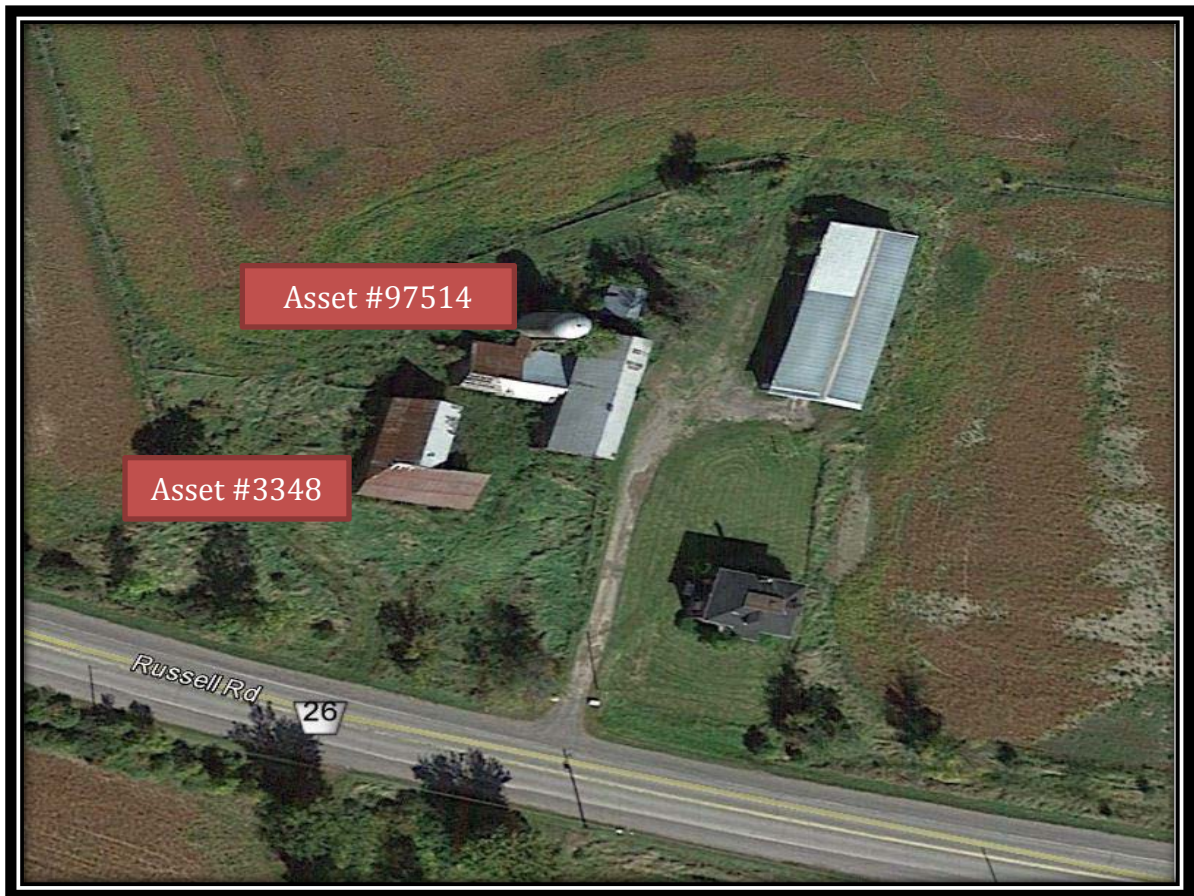


Species at Risk Mitigation Plan

Barn Restoration Project at 5039 Russell Road

Project No.: _____
Version No.: Final
Date : January 11th, 2018

Project Address: 5039 Russell Road
Ottawa, Ontario
National Capital Commissions Greenbelt





Introduction

The National Capital Commission (NCC) intends to solicit bids from qualified Contractors to complete a barn restoration project within Canada's Capital Greenbelt. Field surveys conducted at the project location confirmed the presence of Barn Swallow and Bat species within the areas of proposed work.

The Barn Swallow is listed as Threatened under the Species at Risk Act (SARA) and listed as Threatened under the Endangered Species Act, 2007 (ESA) in Ontario legislation, and is protected under the Migratory Birds Convention Act, 1994. Repair, maintenance, or replacement of structures providing nesting habitats require environmental assessment and review when assuming those works will alter or destroy nests or works will be undertaken during the Barn Swallow active season¹ therefore potentially disturbing or harassing the birds or their young during nesting.

Three species of bat are listed as Endangered under the Species at Risk Act (SARA). The Eastern Small-footed Bat (*Myotis leibii*) and those listed under SARA are also listed as Endangered under ESA in Ontario legislation. Repair, maintenance, or replacement of structures providing potential habitat require environmental assessment and review when assuming those works will alter or destroy habitat or works will be undertaken during the bat active season, therefore potentially disturbing or harassing the bats.

This Species at Risk Mitigation Plan intends to address project-specific requirements for the protections of Barn Swallow and bat species at risk from impacts associated with the proposed barn restoration works.

Project Location

The two (2) barns, NCC assets #3348 and #97514, are located at 5039 Russell Road, Ottawa, within Canada's Capital Greenbelt, approximately 6 kilometers South-East of Ontario's Trans-Canada Highway 417, exit 110.

Barn asset #3348 is described as an English Log three-bay Barn believed built in the mid-19th century with an early-20th century timber addition; not designated by the Federal Heritage Buildings Review Office (FHBRO). Barn asset #97514 is described as a late-19th century English timber five-bay barn with a mid-20th century timber dairy addition; not designated by FHBRO. Both original structures are excellent examples of the specific barn typology which they represent. The restoration of both original barns supports the NCCs Sustainable Agriculture and Food Strategy as well as the Barn Rehabilitation Strategy.

¹ "Barn Swallow active season" identifies the yearly period when Barn Swallow carry out life processes relating to breeding and nesting. In Ontario, this process is generally from May to end of August. Refer to [Committee on the Status of Endangered Wildlife in Canada \(COSEWIC\) Assessment and Status Report on the Barn Swallow \(*Hirundo rustica*\) in Canada](#)



Description and Purpose of the Works

The existing additions on barn assets #3348 and #97514 will have their components dismantled, salvaged and re-used as part of the rehabilitation and restoration of the original barn structures (See Appendix A).

The proposed restoration Works will be completed during a late-winter/early-spring 2018 construction season, with an overall construction schedule of approximately 3 months. The Works are required to maintain and restore the existing structures, as well as resolve health and safety concerns resulting from the observed failure and collapse of structural members within the additions. If the Works are not completed, further deterioration and the possible complete loss of the NCC assets may occur.

SAR Presence and Assessment of Potential Impact

The Barn Swallow and Bats of the genus *Myotis* (four *Myotis* species are designated Species at Risk (SAR)) have been the only SAR designated species observed within the proposed area of construction that is likely to be impacted by the Works.

Barn Swallows nesting habits require a source of mud and a horizontal or vertical surface complete with a “roof” or “ceiling” on which to construct nests. In Ontario, Barn Swallows may return from migration as early as the end of April and begin nest construction in mid-May. Barn swallows have evolved to live in close association with Humans, usually establishing their nests in deteriorated or accessible Human structures, including barns. Foraging habits occur within 500m of the nests. Nesting activities are generally completed by the end of July, however can still occur until late August.

Both the existing main barn structures and their additions support habitat for Barn Swallow nesting, and since Barn Swallows return to previous nest locations, the risk of Works impacting active nests during the breeding period is high. Field Surveys conducted by NCC staff in November 2017 identified 33 unoccupied Barn Swallow nests which would be impacted by the Proposed Works.

Both existing main barn structures and their additions could support the use of bats as shelter during their active season. The risk of Works impacting sheltering bats is high. Field surveys indicated that bats of the genus *Myotis* (four *Myotis* species are designated as SAR) were present in the work areas during the bats active season. Field surveys also found evidence of bat use within junction of barn A and B. Bats emerge from hibernation as early as March and reside in areas near high abundance of insects and water sources until they go back into hibernation in October. Barns could be used as maternity roosts from May to late July, when adults and young leave the colonies moving to day roosts.



During the Works, disturbance within the active season will be limited to the temporary exclusion and deterrence from the areas of Work, in addition to compensatory replacement habitat opportunities. Once the Works are completed, the overall habitat will remain available and accessible to the Barn Swallow and bats as well as the compensatory replacement habitat.

Measures to Minimize effect on Barn Swallow

The measures listed below shall be followed to minimize anticipated adverse effects of the proposed Works on the Barn Swallow and its habitat.

- The successful Contractor shall implement and adjust as required the Species at Risk Mitigation Plan (SARMP), in accordance with the Project Specifications, to successfully protect the Barn Swallow and habitat during the Works.
- The Contractor shall ensure that a qualified professional oversees the implementation of the Barn Swallow mitigation and compensation plan and any SAR permit conditions.
- All staff employed as part of these Works shall be made aware of the potential to encounter Barn Swallow, and shall be knowledgeable of the Protocol for Wildlife Protection.
- Prior to starting the work, the Contractor will use construction fencing to prevent access and disturbance to habitat outside of the work zone.
- The proposed Works schedule will be intended to start in March, therefore reducing the potential impact during the Barn Swallow active season which begins May 1st.
- As the proposed Works schedule will extend into the months of April and May, the following actions, in accordance with the SARMP, shall be taken prior to April 1st to avoid damaging the species habitat during this period:
 - Removal of existing non-active Barn Swallow nests from the areas of Work.
 - Installation of bird nesting preventative and exclusion measures to prevent access to areas of Work. These measures shall be inspected and maintained regularly to ensure adequacy and effectiveness, and that no birds may inadvertently be harmed.
 - Installation of compensatory replacement habitats (e.g. nesting cups) outside of the areas of Work (Refer to the Barn Swallow Compensation Plan).
 - Monitoring of bird stress levels before, during, and following completion of the Works.
- If, despite following the measures outline in the SARMP, a Barn Swallow establishes a nest within the areas of proposed Work, any part of the work which could potentially cause harm or harassment to Barn Swallow shall be suspended appropriately and the NCC Representative and NCC Environmental Officer shall be notified immediately. Work shall not resume until authorized by the NCC Representative.
- If a Barn Swallow is encountered during the execution of the Work, it shall not be knowingly harmed, and must be provided the opportunity to move away on its own.

Measures to Minimize effect on Bat species at risk

The measures listed below must be followed to minimize anticipated adverse effects of the proposed Works on the habitat of bat species at risk.



- The successful Contractor shall implement and adjust as required the Species at Risk Mitigation Plan (SARMP), in accordance with the Project Specifications, to successfully deter bat presence within the existing barns to be removed during the Works.
- The Contractor shall ensure that a qualified professional oversees the implementation of the bat mitigation and compensation plan and any SAR permit conditions.
- All staff employed as part of these Works shall be made aware of the potential to encounter a bat, and shall be knowledgeable of the Protocol for Wildlife Protection.
- Prior to starting the work, the Contractor will use construction fencing to prevent access and disturbance to habitat outside of the work zone.
- Bats use large tree as shelters, therefore no large tree (diameter at breast height over 25 cm) shall be cut within the areas of Work.
- The proposed Works schedule will be intended to start in March. As the proposed Works schedule will extend into the months of April and May, the following actions, in accordance with the SARMP, shall be taken prior to April 1st to avoid damaging the species habitat during this period:
 - Installation of compensatory replacement habitats (e.g. bat houses) will be installed outside of the areas of Work by the NCC Representative.
- If, despite following the measures outline in the SARMP, a bat is found within the areas of proposed Work, any part of the work which could potentially cause harm or harassment to the bat shall be suspended appropriately and the NCC Representative and NCC Environmental Officer shall be notified immediately. Work shall not resume until authorized by the NCC Representative.
- If a bat is encountered during the execution of the Work, it must not be knowingly harmed, and must be provided the opportunity to move away on its own.

Protocol for Wildlife Protection

The Contractor shall ensure all staff is briefed about the Protocol for Wildlife Protection prior to the start of the Project, to ensure that all staff know and are able to identify the Species at Risk that could be encountered in the areas of Work. All staff shall be knowledgeable of the procedures of an encounter with a Species at Risk, and that all staff clearly understand and can appropriately implement the mitigation measures.



Barn Swallow Identification

Barn Swallow

Dark metallic blue above, buff to orange below. Long, deeply forked tail and pointed wings. Very quick and agile in flight. Cup-shaped nests built of mud and plant fibres on buildings and other structures, including bridge supports and culverts.



Male



Female



Nest

No other local swallows have such long, deeply forked tails.

2

Bats Species at Risk Identification



Credit: J. Froidevaux / F. Fabianek

Little Brown Myotis (*Myotis lucifugus*)



Credit: Phil Myers

Northern Myotis (*Myotis septentrionalis*)

² Source: City of Ottawa. Wildlife Protocol for Road Construction/Rehabilitation Projects.



 <p style="text-align: right; font-size: small;">Credit: Barbara Muenchau</p>	 <p style="text-align: center; font-size: x-small;">Cover photo by Brock Fenton</p>
<p>Tri-colored Bat (<i>Perimyotis subflavus</i>)</p>	<p>Eastern Small-footed Bat (<i>Myotis leibii</i>)</p>

Encounters with Barn Swallow and/or bats shall be reported immediately to the NCC Representative and NCC Environmental Officer, as well as any other applicable Federal regulating bodies. Encounters shall be documented within a reasonable amount of time, and are to include the date, location, number of individuals sighted, and any other relevant or requested information.

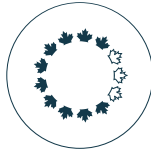
The Contractor shall ensure a Representative is responsible of ensuring that the Protocol for Wildlife Protection is properly implemented. The Contractor Representative shall:

- Verify the work site for wildlife presence, specifically species at risk, prior to the beginning of each work day;
- Regularly inspect preventative and exclusion measures to ensure their adequacy and effectiveness;
- Monitor construction activities to ensure compliance with the Protocol for Wildlife Protection.

Conclusion

This Species at Risk Mitigation Plan is prepared to meet the requirements to adequately protect Barn Swallows and Species at Risk Bats and their habitat from an activity which may potentially affect a SAR species. The NCC will monitor Contractor compliance with the Species at Risk Mitigation Plan, the Species at Risk Compensation Plan, and the Contract Specifications.

No Barn Swallow nesting habitat or bat habitat will be permanently destroyed – Exclusion and deterrence measures will be employed, compensatory replacement habitats will be provided through the Species at Risk Compensation Plan, and the original structures will continue to provide the same amount of nesting opportunity for Barn Swallow and bat habitat following the completion of the proposed Works.

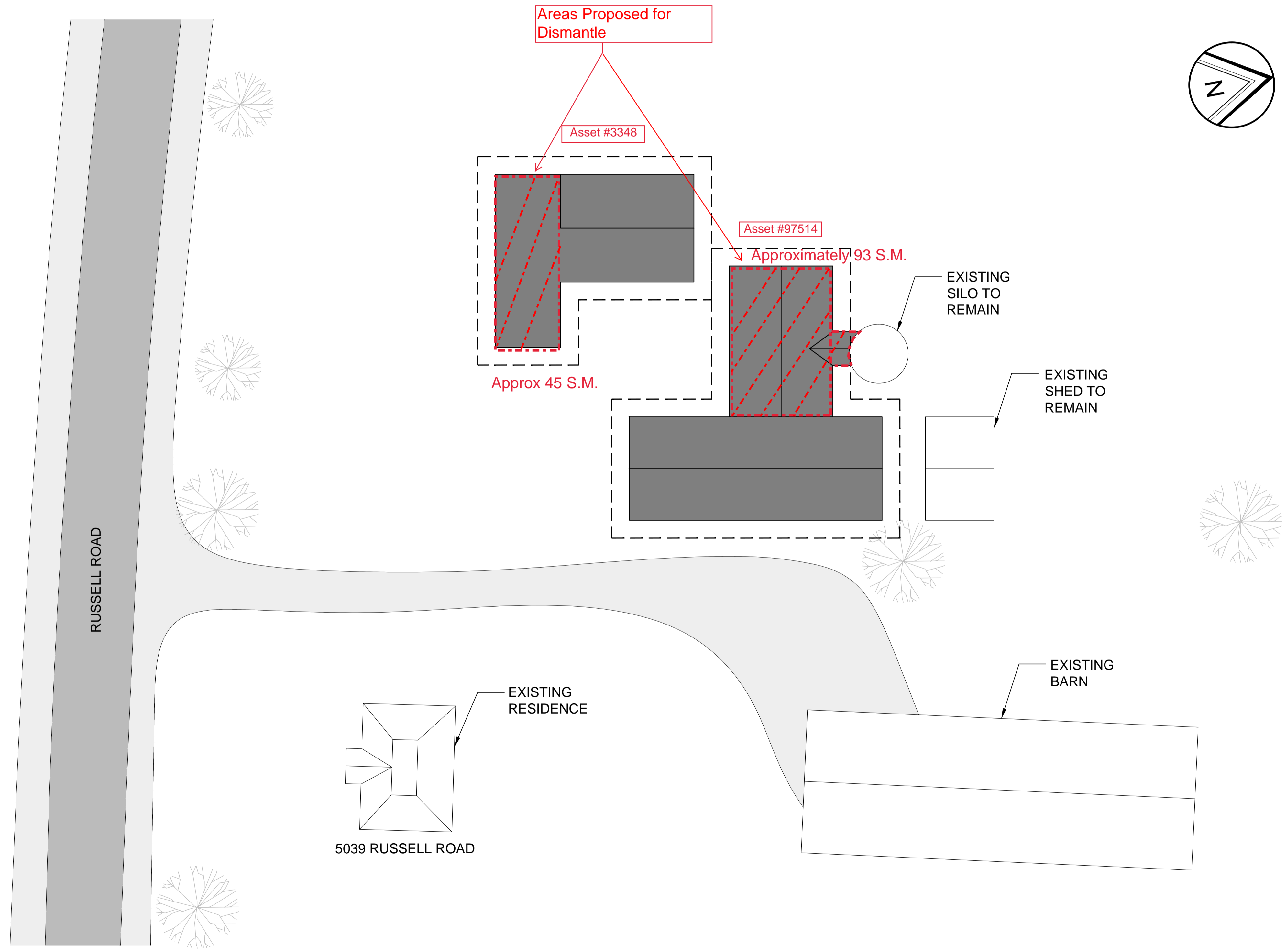


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APPENDIX A – PROPOSED WORKS DRAWINGS

Canada





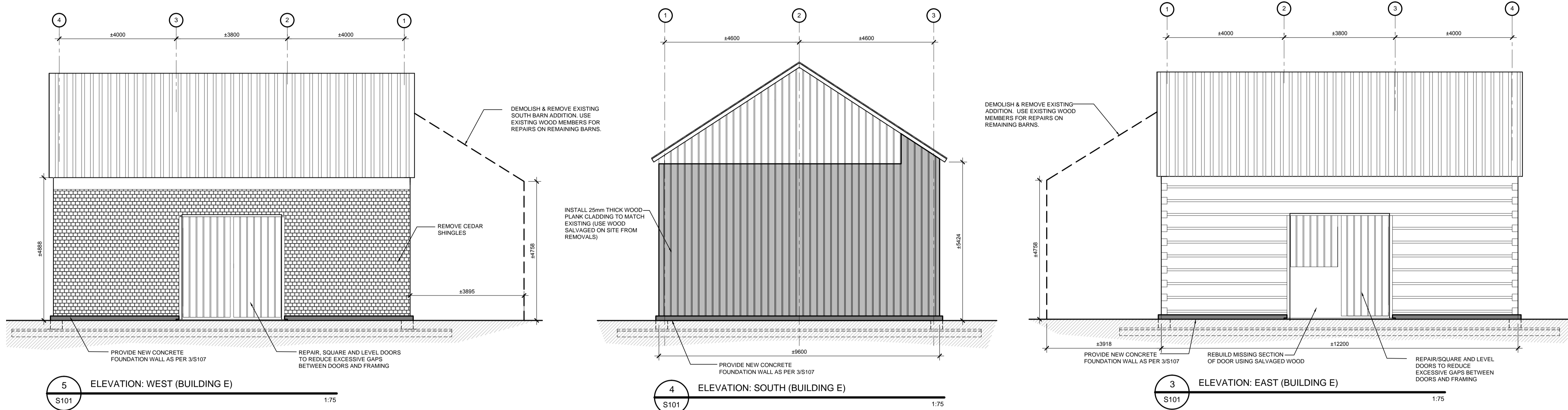
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2	ISSUED FOR REVIEW	SEP 1, 2017
1	ISSUED FOR PRELIMINARY COORDINATION EMIS POUR UNE COORDINATION PRELIMINAIRE	AUG 10, 2017 10 AUG. 2017

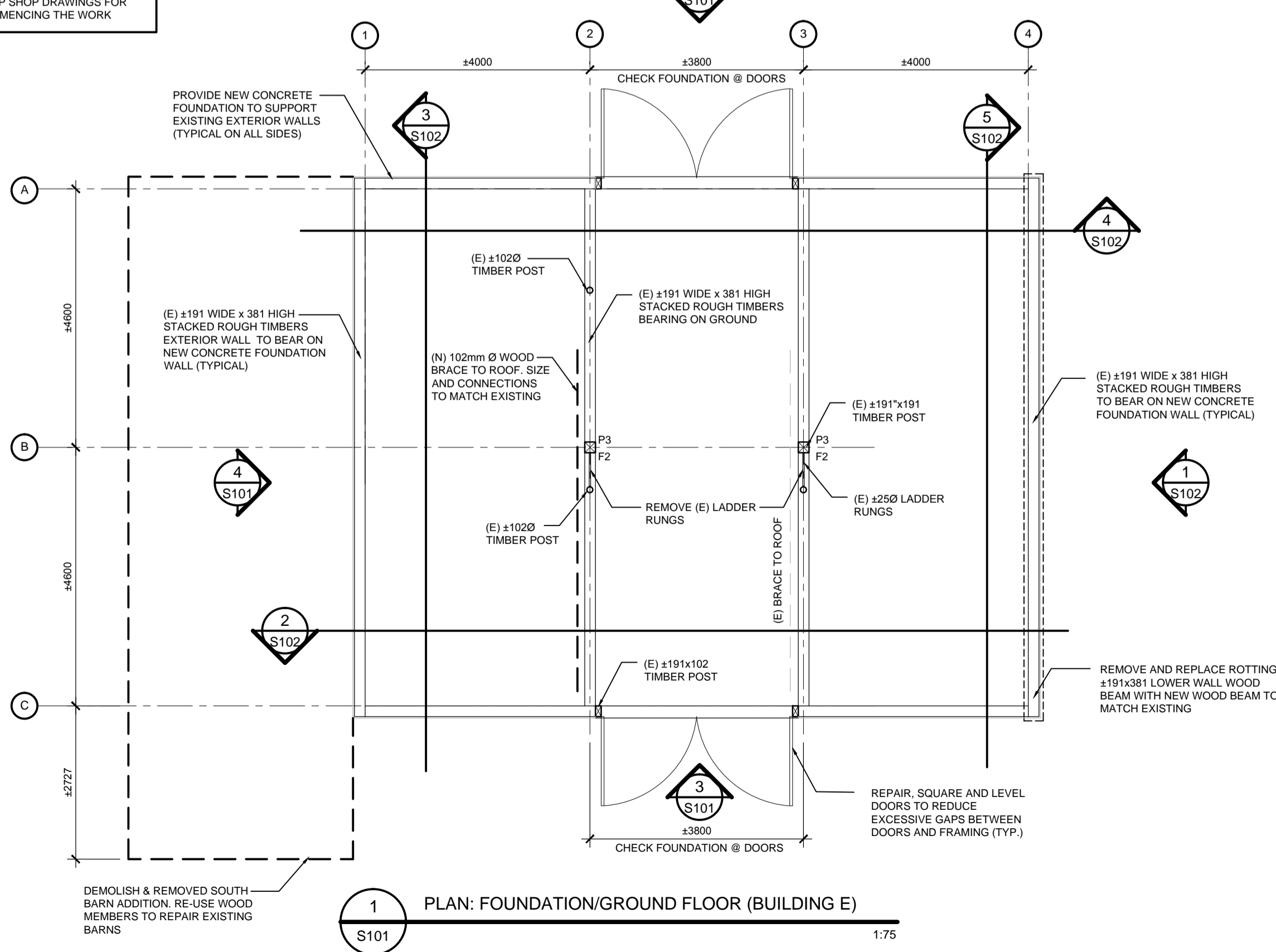
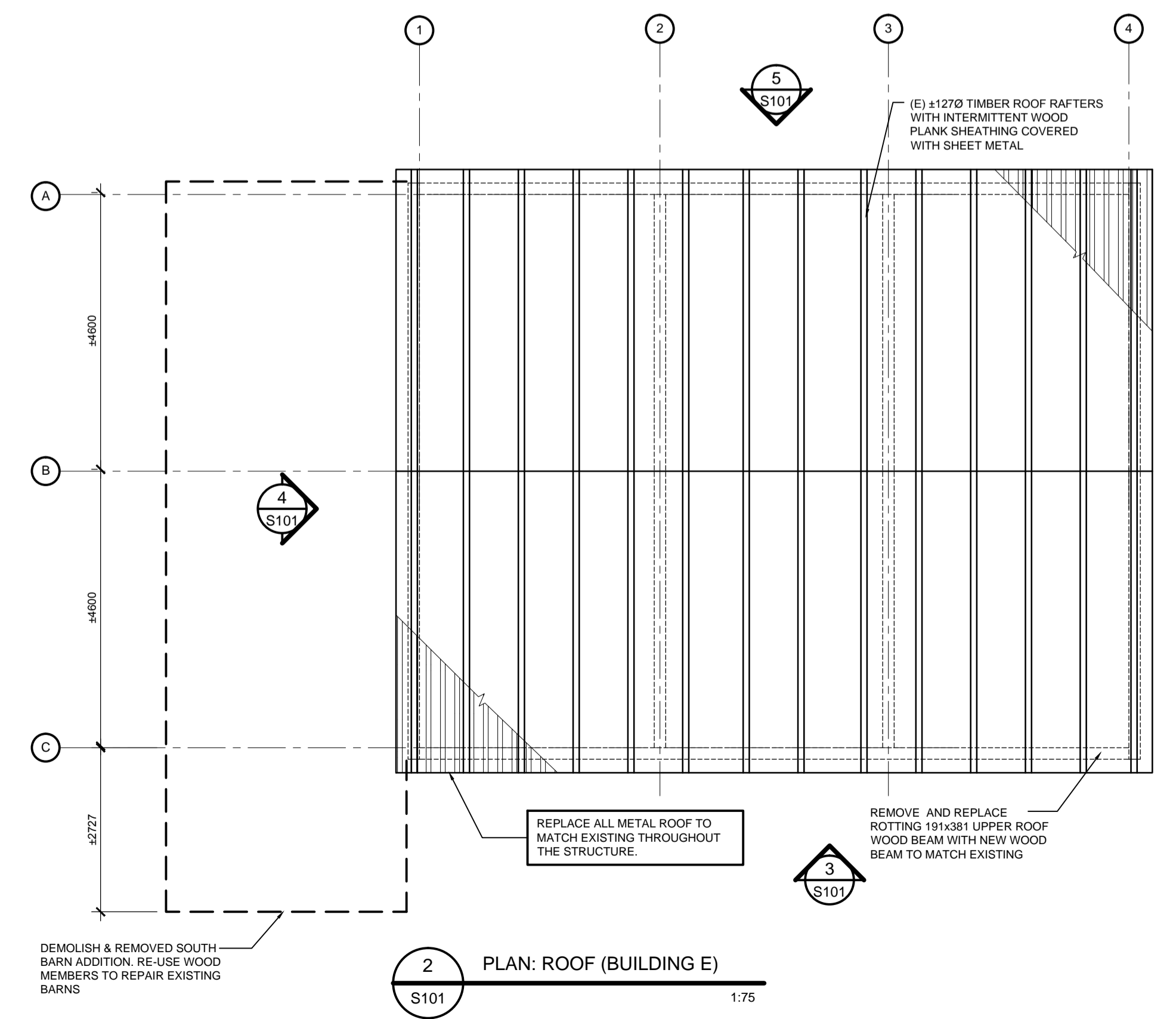
project
projet
**5039 RUSSELL ROAD
BARN REHABILITATION**

drawing
dessin
SITE PLAN

approved by
approuvé par E. RICHER
designed by
conçu par G. FALCOMER
drawn by
dessiné par M. EPPICH
date 28/07/2017 scale
échelle AS SHOWN
NCC project no. sheet no.
no. du projet de la CCN no. de la feuille
DC **S100**



CONTRACTOR IS RESPONSIBLE TO PROVIDE TEMPORARY SHORING AS REQUIRED TO SUPPORT THE BARN STRUCTURE DURING THE WORK. PROVIDE STAMP SHOP DRAWINGS FOR REVIEW PRIOR TO COMMENCING THE WORK



no.	description	date
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2	ISSUED FOR REVIEW	SEP 1, 2017
1	ISSUED FOR PRELIMINARY COORDINATION EMIS POUR UNE COORDINATION PRELIMINAIRE	AUG 10, 2017 10 AUG. 2017

**5039 RUSSELL ROAD
BARN REHABILITATION**

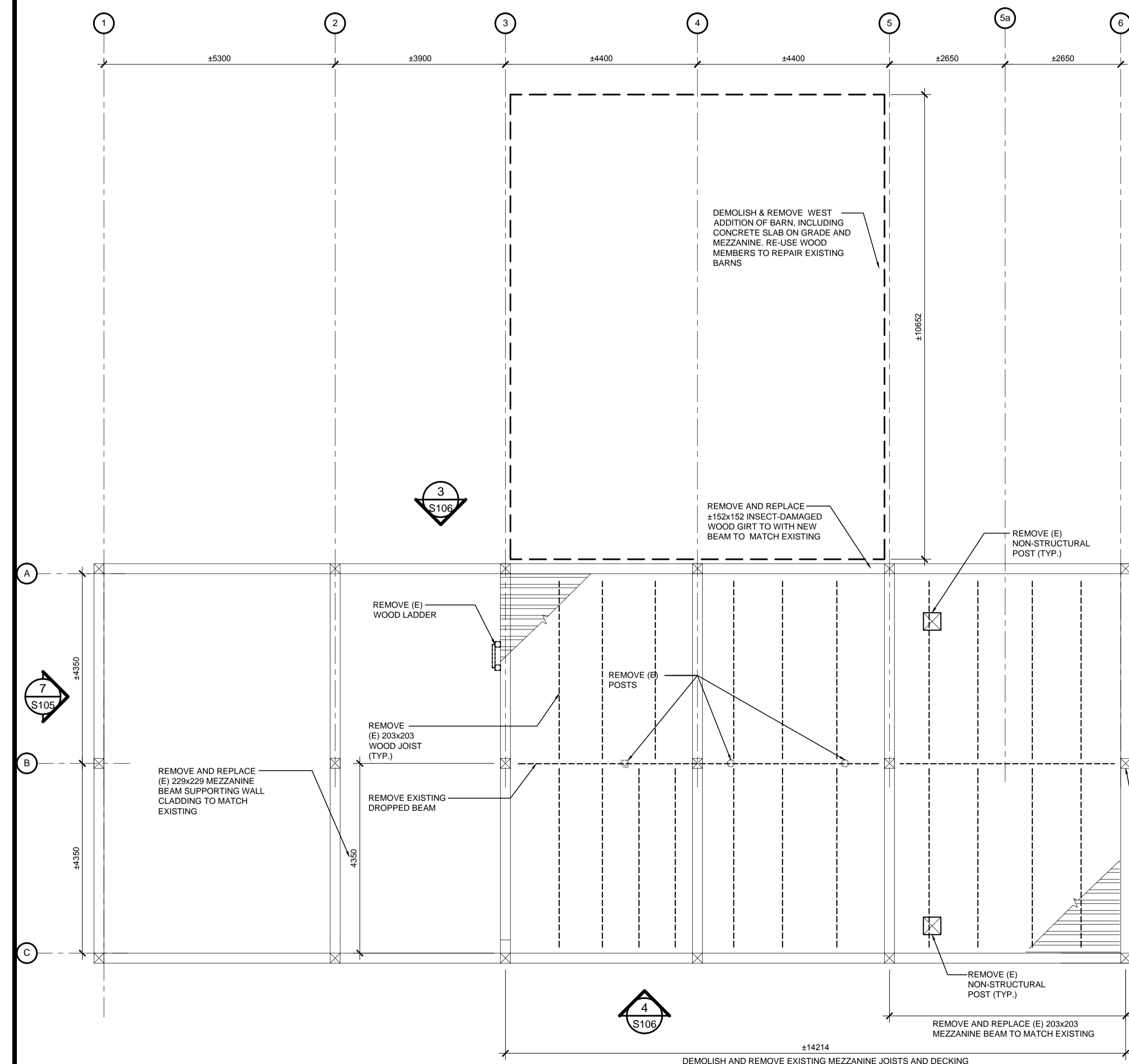
**FLOOR PLANS
& ELEVATIONS
(BUILDING E)**

approved by approuvé par	E. RICHER
designed by conçu par	G. FALCOMER
drawn by dessiné par	M. EPPICH
date	28/07/2017
scale échelle	AS SHOWN
NCC project no. no. du projet de la CCN	sheet no. no. de la feuille
DC	S101

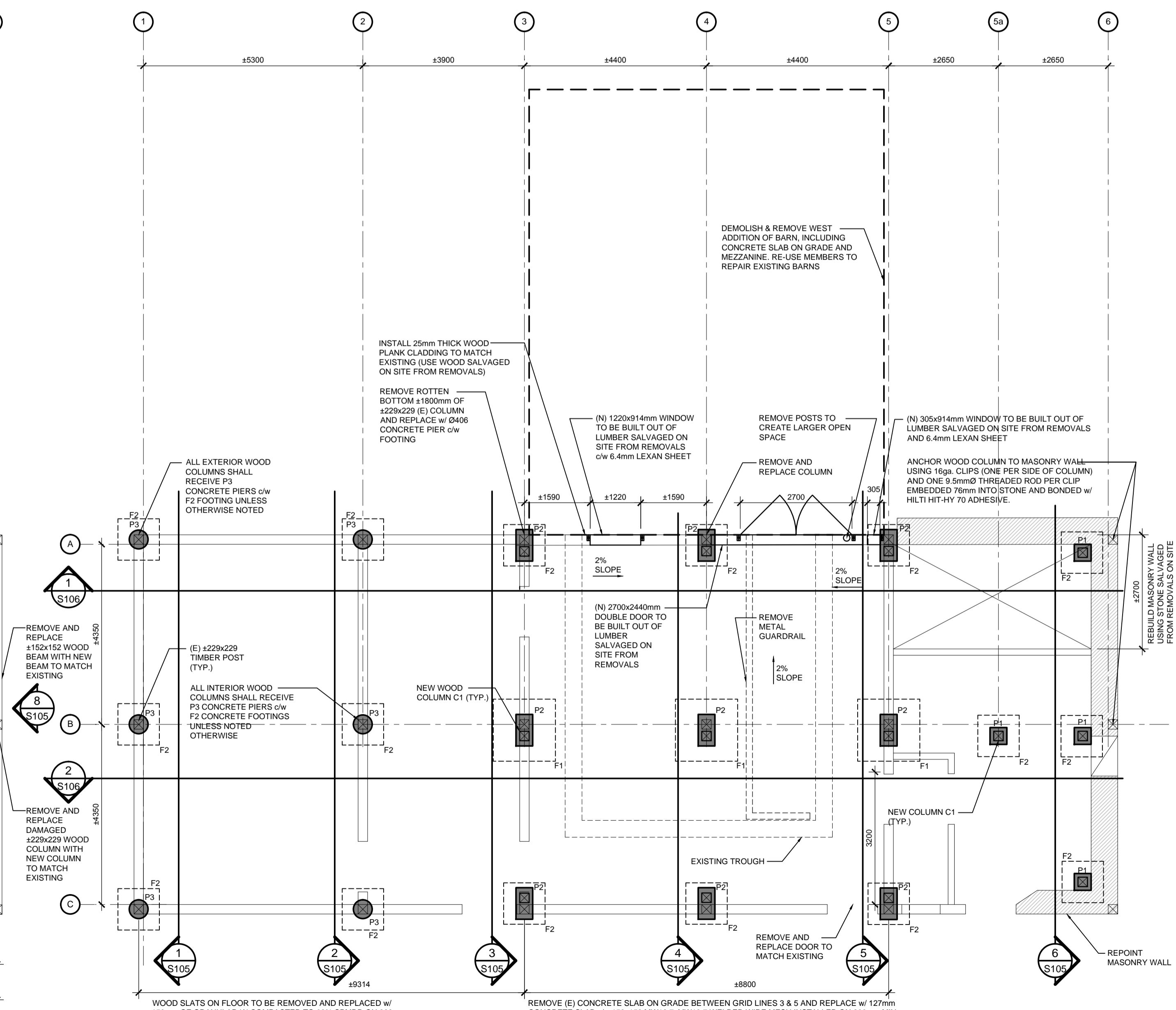
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CONTRACTOR IS RESPONSIBLE TO PROVIDE TEMPORARY SHORING AS REQUIRED TO SUPPORT THE BARN STRUCTURE DURING THE WORK. PROVIDE STAMPED SHOP DRAWINGS FOR REVIEW PRIOR TO COMMENCING THE WORK.

NEW SLAB ON GRADE JOINTS:
PROVIDE ISOLATION JOINTS AROUND COLUMN PIERS USING PREFORMED BOND BREAK JOINT FILLER.
PROVIDE 32 mm DEEP, 3 mm WIDE SAWCUT CONTRACTION JOINTS ALONG GRIDLINE 4 AND GRIDLINE 8 AS WELL AS SQUARE SAWCUT CONTRACTION JOINTS OFFSET 250 mm FROM EDGES OF COLUMN PIERS AT INTERSECTION OF GRIDLINE 4 AND GRIDLINE 8. PROVIDE ADDITIONAL SAWCUT CONTRACTION JOINTS SO THAT CONTRACTION JOINT SPACING IS 3000 mm MAX. FILL CONTRACTION JOINTS WITH LOW FLEX JOINT FILLER.



2 PLAN: EXISTING MEZZANINE/HAY LOFT (BUILDING F)
S103 1:75



1 PLAN: FOUNDATION/GROUND FLOOR (BUILDING F)
S103 1:75

issued or revised
émis ou révisé

no.	description	date
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2	ISSUED FOR REVIEW	SEP 1, 2017
1	ISSUED FOR PRELIMINARY COORDINATION EMIS POUR UNE COORDINATION PRELIMINAIRE	AUG 10, 2017 10 AUG. 2017

project
projet

5039 RUSSELL ROAD
BARN REHABILITATION

drawing
dessin

FOUNDATION/GROUND
& MEZZANINE FLOOR
PLANS (BUILDING F)

approved by
approuvé par E. RICHER

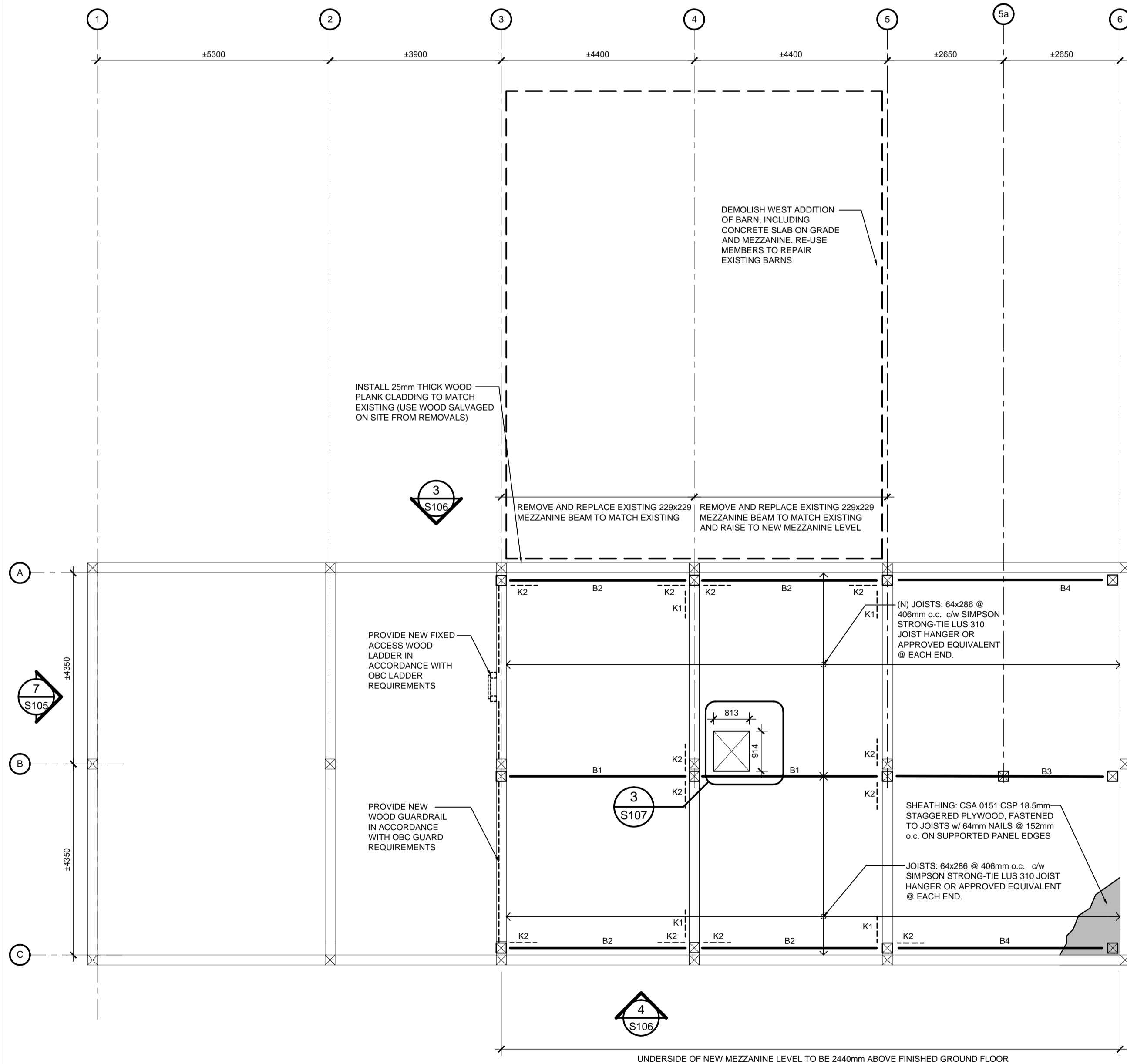
designed by
conçu par G. FALCOMER

drawn by
dessiné par M. EPPICH

date 28/07/2017 scale
échelle AS SHOWN

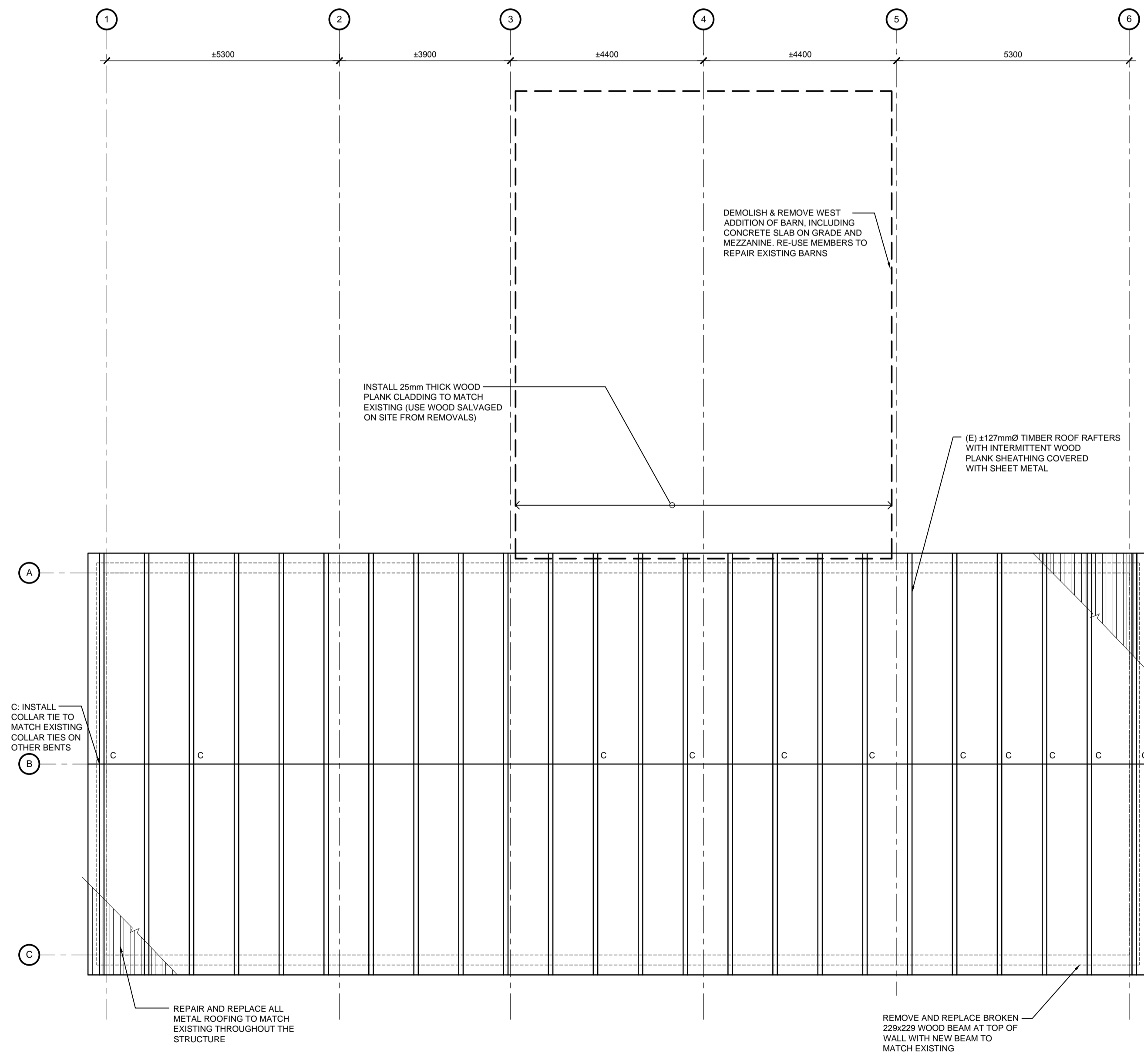
NCC project no. sheet no.
no. du projet de la CCN no. de la feuille

DC S103



2 PLAN: NEW MEZZANINE (BUILDING F)

1:75



1 PLAN: ROOF (BUILDING F)

1:75

issued or revised
émis ou révisé

no.	description	date
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2	ISSUED FOR REVIEW	SEP 1, 2017
1	ISSUED FOR PRELIMINARY COORDINATION EMIS POUR UNE COORDINATION PRELIMINAIRE	AUG 10, 2017 10 AUG. 2017

project
projet

5039 RUSSELL ROAD
BARN REHABILITATION

drawing
dessin

ROOF PLAN
(BUILDING F)

approved by
approuvé par E. RICHER

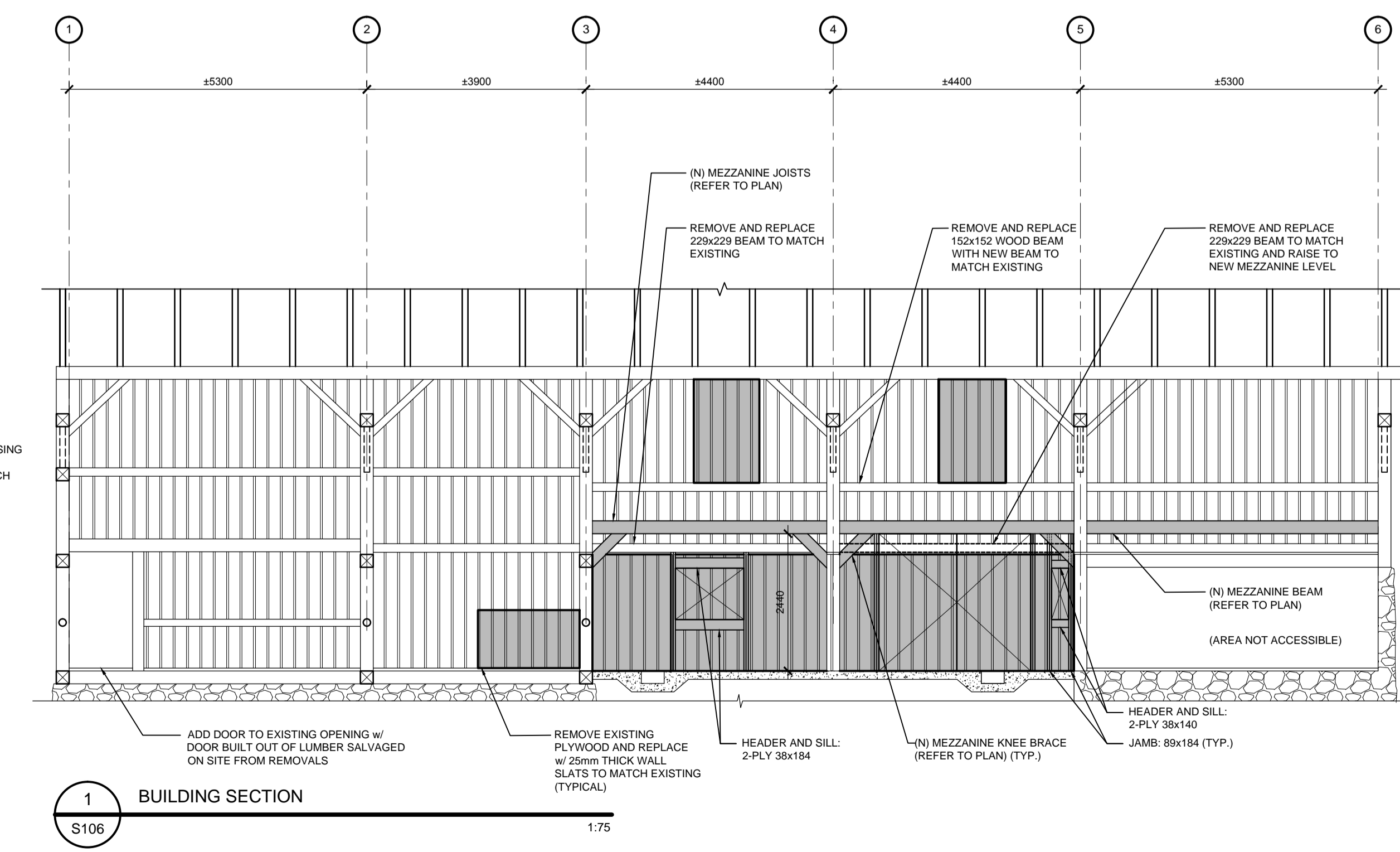
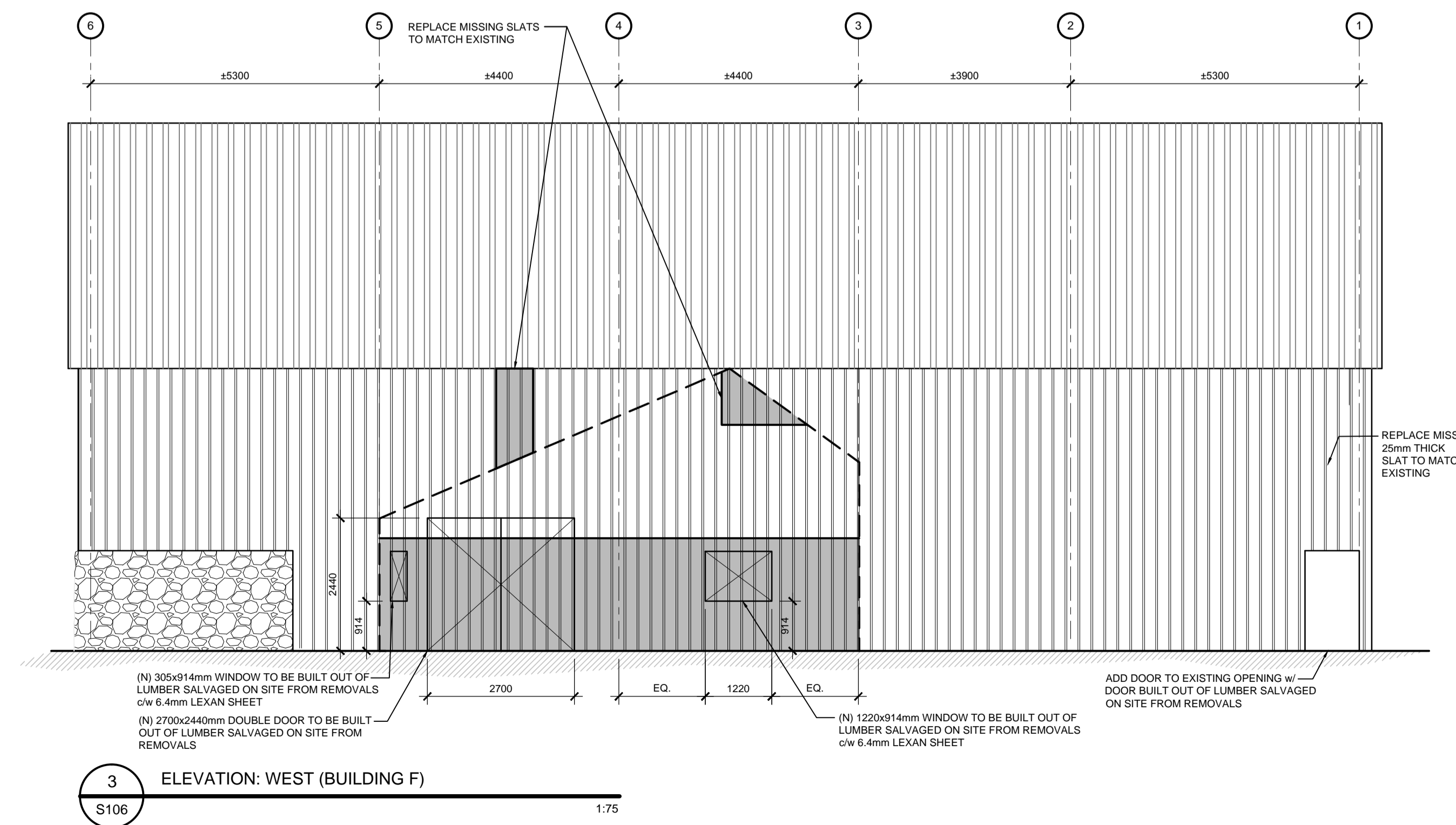
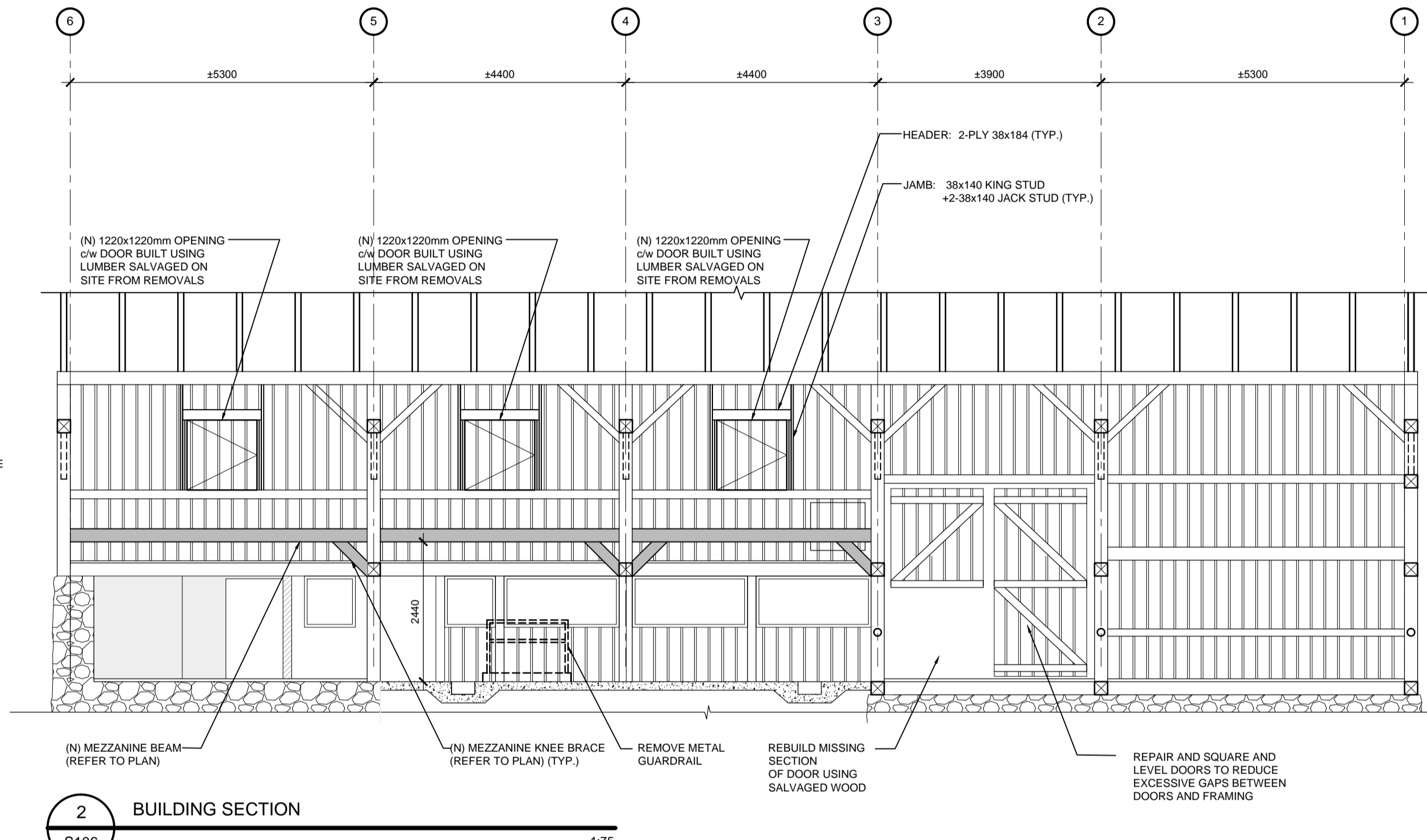
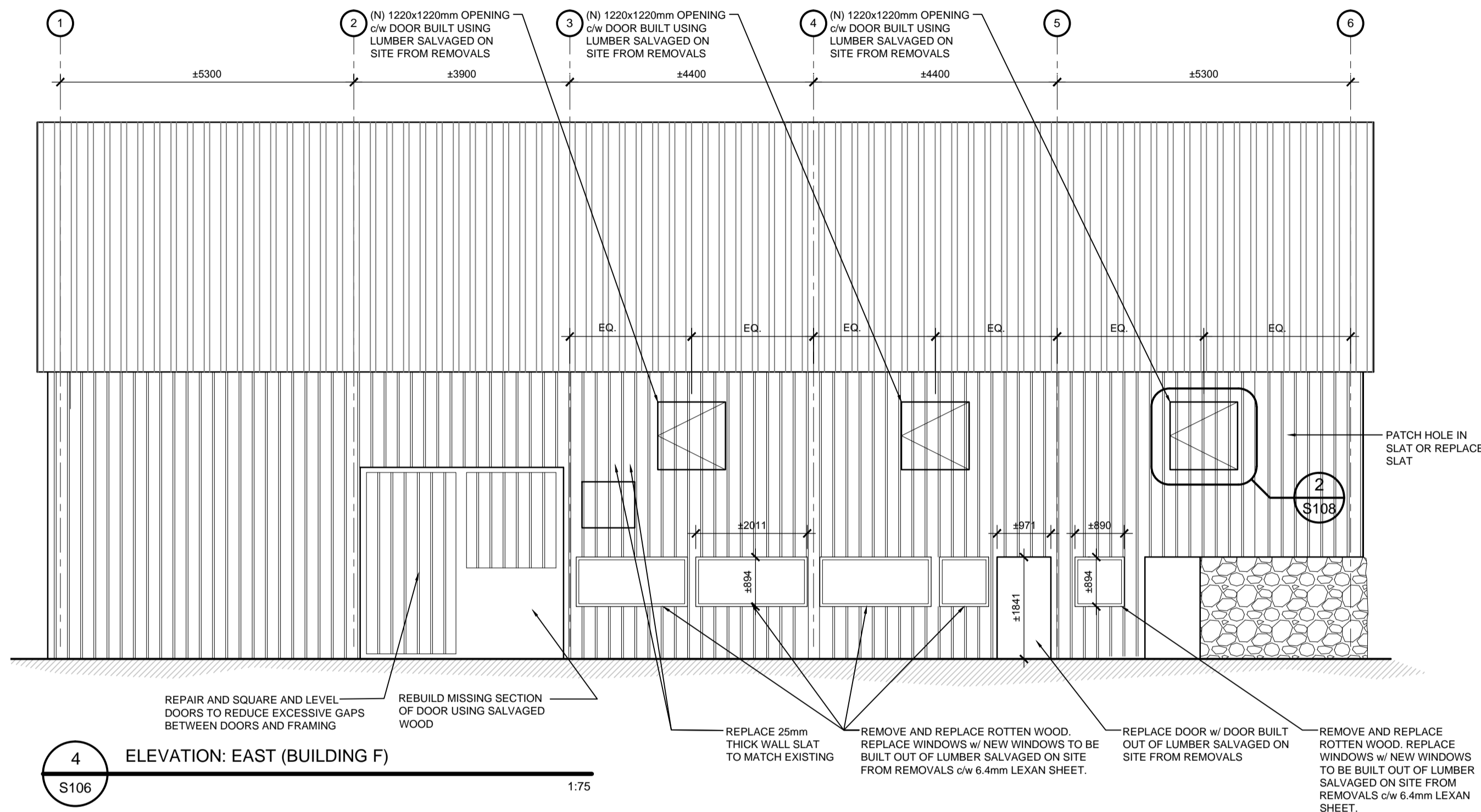
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conçu par G. FALCOMER

drawn by
dessiné par M. EPPICH

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issued or revised
émis ou révisé

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2	ISSUED FOR REVIEW	SEP 1, 2017
1	ISSUED FOR PRELIMINARY COORDINATION EMIS POUR UNE COORDINATION PRELIMINAIRE	AUG 10, 2017 10 AUG. 2017

project
projet
**5039 RUSSELL ROAD
BARN REHABILITATION**

drawing
dessin

**BUILDING SECTIONS
& ELEVATIONS
(BUILDING F)**

approved by
approuvé par E. RICHER

designed by
conçu par G. FALCOMER

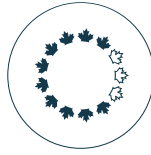
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DC **S106**

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NATIONAL CAPITAL COMMISSION
COMMISSION DE LA CAPITALE NATIONALE

Species at Risk Compensation Plan

2018 BARN RESTORATION PROJECT
AT 5039 RUSSELL ROAD

Final - 11-Jan-2018

Canada

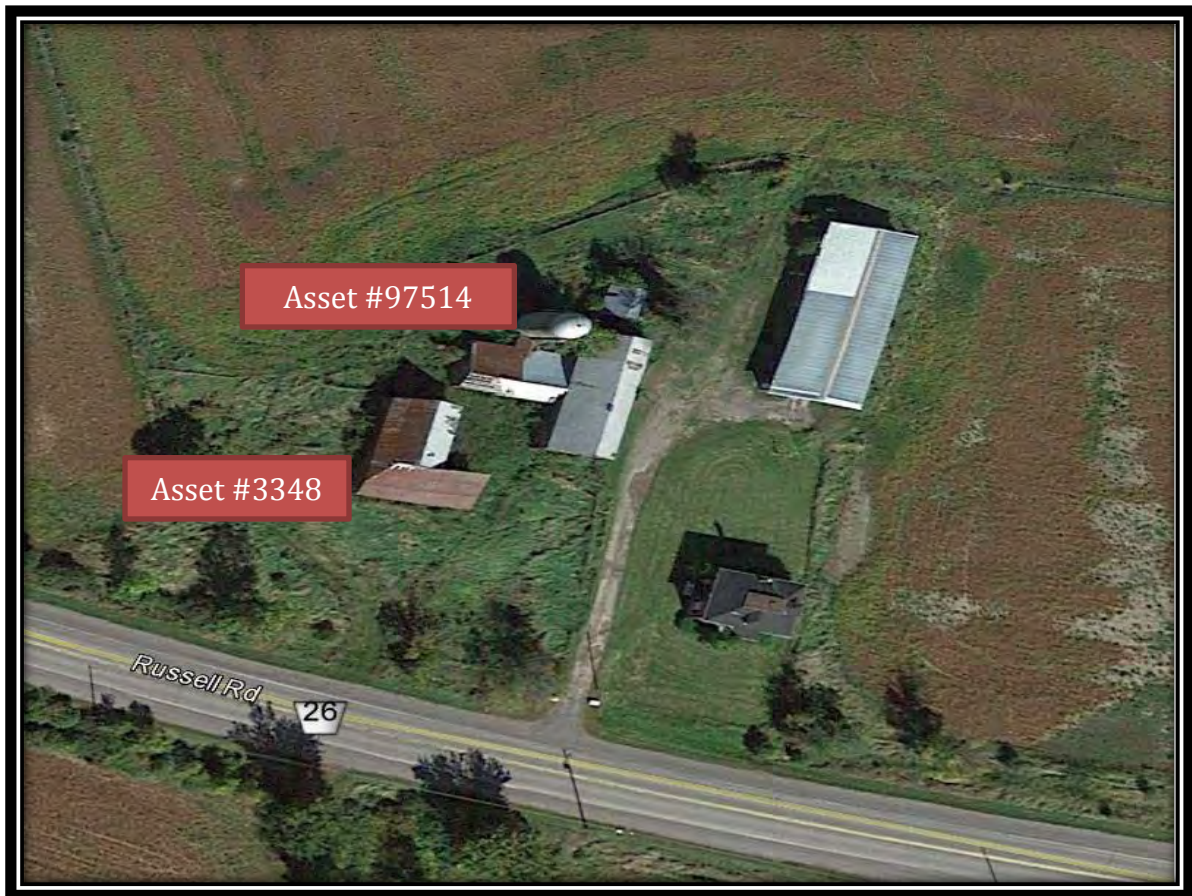




Species at Risk Compensation Plan Barn Restoration Project at 5039 Russell Road

Project No.: _____
Version No.: Final
Date: January 11th, 2018

Project Address: 5039 Russell Road
Ottawa, Ontario
National Capital Commissions Greenbelt





Introduction

The National Capital Commission (NCC) intends to solicit bids from qualified Contractors to complete a barn restoration project within Canada's Capital Greenbelt. Field surveys conducted at the project location confirmed the presence of Barn Swallow within the areas of proposed work.

The Barn Swallow is listed as Threatened under the Species at Risk Act (SARA) and listed as Threatened under the Endangered Species Act, 2007 (ESA) in Ontario legislation, and is protected under the Migratory Birds Convention Act, 1994. Repair, maintenance, or replacement of structures providing nesting habitats require environmental assessment and review when assuming those works will alter or destroy nests or works will be undertaken during the Barn Swallow active season¹ therefore potentially disturbing or harassing the birds or their young during nesting.

This Species at Risk Compensation Plan intends to address project-specific requirements for the protections of Barn Swallow Habitats from impacts associated with the proposed barn restoration works.



Figure 1 : "Barn Swallow" – *Hirundo rustica*
<https://www.ontario.ca/page/barn-swallow>

Project Location

The two (2) barns, NCC assets #3348 and #97514, are located at 5039 Russell Road, Ottawa, within Canada's Capital Greenbelt, approximately 6 kilometers South-East of Ontario's Trans-Canada Highway 417, exit 110.

Barn asset #3348 is described as an English Log three-bay Barn believed built in the mid-19th century with an early-20th century timber addition; not designated by the Federal Heritage Buildings Review Office (FHBRO). Barn asset #97514 is described as a late-19th century English timber five-bay barn with a mid-20th century timber dairy addition; not designated by FHBRO. Both original structures are excellent examples of the specific barn typology which they represent. The restoration of both original barns supports the NCCs Sustainable Agriculture and Food Strategy as well as the Barn Rehabilitation Strategy.

¹ "Barn Swallow active season" identifies the yearly period when Barn Swallow carry out life processes relating to breeding and nesting. In Ontario, this process is generally from May to end of August. Refer to [Committee on the Status of Endangered Wildlife in Canada \(COSEWIC\) Assessment and Status Report on the Barn Swallow \(*Hirundo rustica*\) in Canada](#)



Description and Purpose of the Works

The existing additions on barn assets #3348 and #97514 will have their components dismantled, salvaged and re-used as part of the rehabilitation and restoration of the original barn structures (See Appendix A).

The proposed restoration Works will be completed during a late-winter/early-spring 2018 construction season, with an overall construction schedule of approximately 3 months. The Works are required to maintain and restore the existing structures, as well as resolve health and safety concerns resulting from the observed failure and collapse of structural members within the additions. If the Works are not completed, further deterioration and the possible complete loss of the NCC assets may occur.

SAR Presence and Assessment of Potential Impact

Barn Swallow is a Species at Risk that has been observed within the proposed area of construction that is likely to be impacted by the Works.

Barn Swallows nesting habits require a source of mud and a horizontal or vertical surface complete with a “roof” or “ceiling” on which to construct nests. In Ontario, Barn Swallows may return from migration as early as the end of April and begin nest construction in mid-May. Barn swallows have evolved to live in close association with Humans, usually establishing their nests in deteriorated or accessible Human structures, including barns. Foraging habits occur within 500m of the nests. Nesting activities are generally completed by the end of July, however can still occur until late August.

Both the existing main barn structures and their additions support habitat for Barn Swallow nesting, and since Barn Swallows return to previous nest locations, the risk of Works impacting active nests during the breeding period is high. Field Surveys conducted by NCC staff in November 2017 identified 33 unoccupied Barn Swallow nests which would be impacted by the Proposed Works.

During the Works, disturbance within the active season will be limited to the temporary exclusion and deterrence from the areas of Work, in addition to compensatory replacement habitat opportunities. Once the Works are completed, the overall habitat will remain available and accessible to the Barn Swallow as well as the compensatory replacement habitat.

Barn Swallow Compensation

The measures listed below must be followed to minimize anticipated adverse effects of the proposed Works on the Barn Swallow and its habitat. These measures are additional to those set forth in the Species at Risk Mitigation Plan.

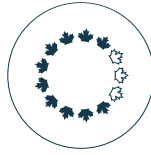


- For each nest that is to be removed, damaged or destroyed, an additional artificial nest cups will be installed before the beginning of the next Barn Swallow active season (before May 1st 2018) up to a total of 60 artificial nest cups. This will create a greater amount of Barn Swallow habitat than that which was lost. The substitute nest cup will be installed on a new structure created to be suitable for Barn Swallow nesting within 1 km.
- The new structure will be installed within 200 meters of an area that provides suitable foraging conditions for Barn Swallow and that is accessible to barn swallow. A total of two (2) structures, including multiple habitat bays, will be located at one of the location options (See Appendix B).
- The nest cup placement and nesting structure design will follow the guidelines set out in MNR (2014) Best practices technical note 'Creating nesting habitat for barn swallows'.
- The replacement habitat will be maintained and monitored by the NCC for a period of 3 years after the habitat is created. Monitoring must be made during the Barn Swallow active season of each year and shall record information collected during monitoring, including the following information: number, description and location of new nests created by Barn Swallow and an estimate of the number of Barn Swallow using the building or structure.

Conclusion

Throughout the implementation of the Species at Risk Compensation plan, encounters with Barn Swallow will be reported immediately to the NCC Representative and NCC Environmental Officer, as well as any other applicable Federal regulating bodies. Encounters are to be documented within a reasonable amount of time, and are to include the date, location, number of individuals sighted, and any other relevant or requested information.

The Species at Risk Compensation Plan is prepared to meet the requirements to adequately compensate Barn Swallows habitat. The NCC will monitor Contractor compliance with the Species at Risk Compensation Plan and the Contract Specifications.



NATIONAL CAPITAL COMMISSION
COMMISSION DE LA CAPITALE NATIONALE

APPENDIX A –

BARN SWALLOW REPLACEMENT HABITAT DRAWINGS

Canada



Capital Planning Branch

Design and Construction Division
Division design et construction

director - Pierre Vaillancourt - directeur

consultant n/a
expert-conseil

issued or revised
émis ou révisé

no.	description	date
2	DESIGN REVISION	JAN 11, 2018
1	ISSUED FOR REVIEW	JAN 9, 2018

project
projet

NCC BARNs

drawing
dessin

BARN SWALLOW
NESTING HABITAT

approved by
approuvé par

designed by
conçu par CD

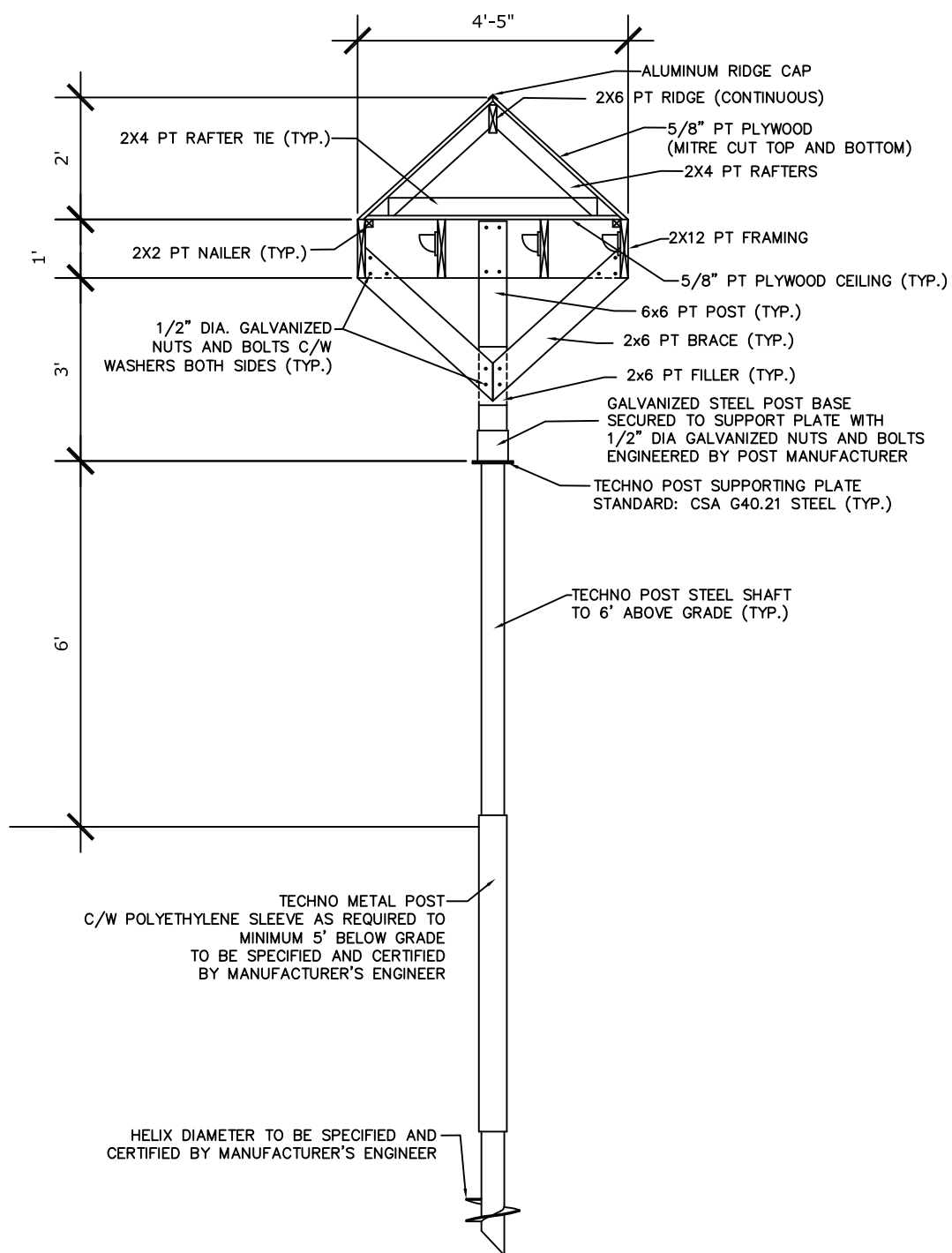
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dessiné par CD

date JAN 5, 2018 scale
échelle NTS

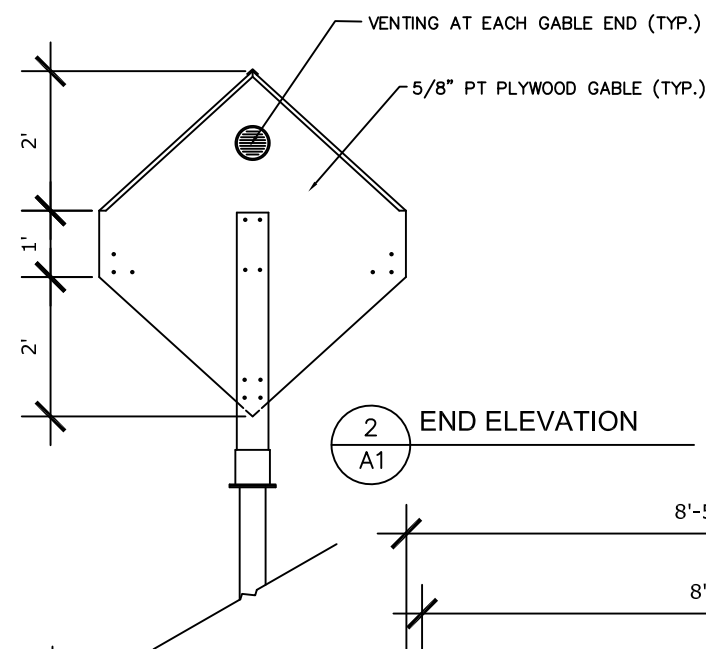
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no. du projet de la CCN 194-03

sheet no.
no. de la feuille

A1

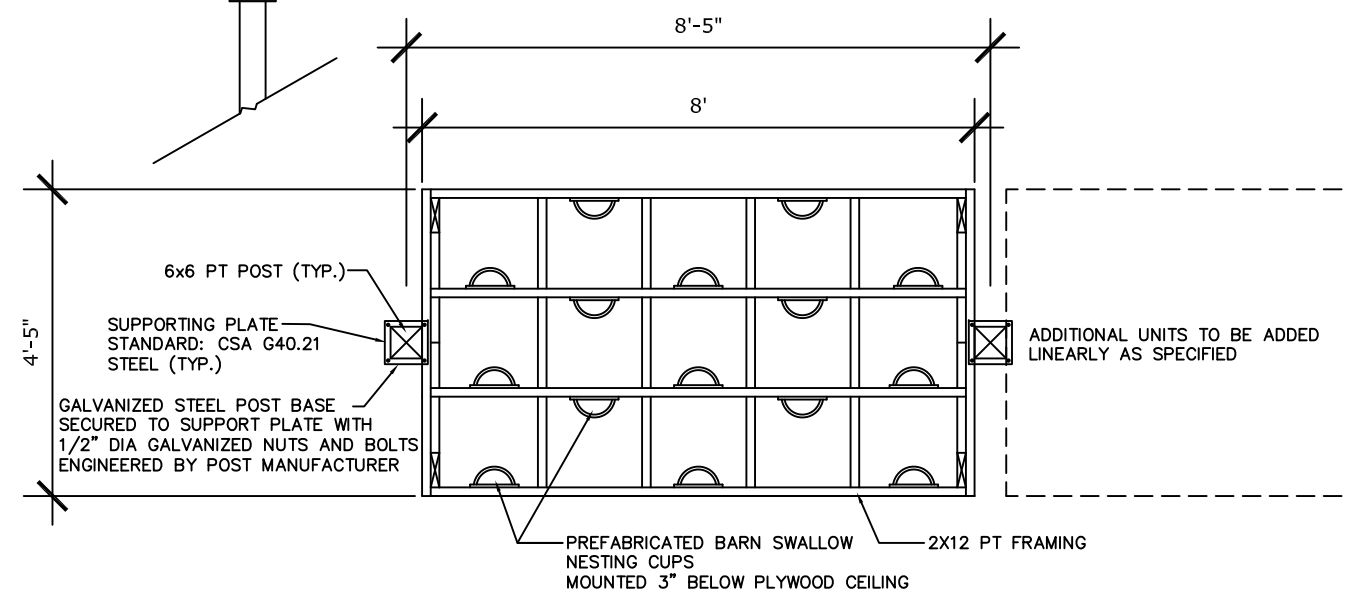


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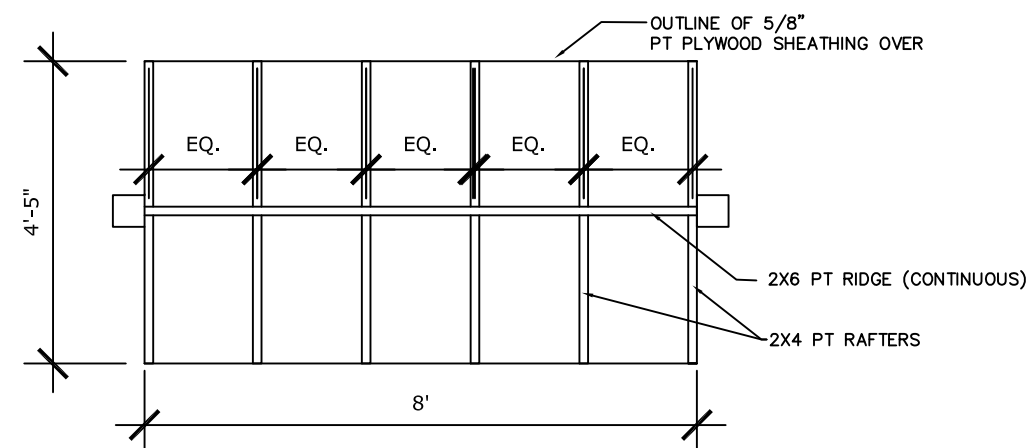


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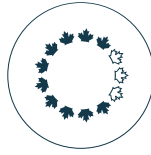
- ALL WOOD TO BE BROWN PRESSURE TREATED
- ALL FASTENERS AND HARDWARE TO BE GALVANIZED OR STAINLESS STEEL



3 BASE FRAMING PLAN
A1



4 ROOF FRAMING PLAN
A1



NATIONAL CAPITAL COMMISSION
COMMISSION DE LA CAPITALE NATIONALE

APPENDIX B—
COMPENSATORY REPLACEMENT HABITAT PROPOSED
LOCATION OPTIONS

Canada





Imagery ©2017 Google, Map data ©2017 Google 100 m

August 4, 2017
PG4211-LET.01

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Geotechnical Engineering
Environmental Engineering
Hydrogeology
Geological Engineering
Materials Testing
Building Science
Archaeological Services

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Attention: **Mr. Geoff Frigon**

Subject: **Geotechnical Investigation
Proposed Building Renovations
5039 Russell Road - Ottawa**

Dear Sir,

Paterson Group (Paterson) was commissioned by the National Capital Commission (NCC) to conduct a geotechnical investigation for the proposed building renovations at the aforementioned site.

The proposed renovation is understood to include new concrete footings to replace the existing dry rock footings for each of the two barns currently occupying the subject site.

1.0 Field Investigation

The fieldwork for the current investigation was carried out on July 21, 2017, and consisted of excavating seven (7) test pits to a maximum depth of 3.2 m. The test pits were excavated using a mini-excavator provided by the client. The test pits were reviewed in the field by Paterson personnel under the direction of a senior engineer from the geotechnical division. The field procedure consisted of reviewing the excavation, sampling and testing the overburden at selected locations.

The test pit was placed in a manner to provide general coverage of the property taking into consideration existing site features and underground services. The approximate location of the test hole is shown on Drawing PG4211-1 - Test Hole Location Plan attached to the present report.

2.0 Field Observations

The subject site is currently occupied by two barns with an adjacent silo, as well as a two-storey dwelling with an associated gravel laneway and an existing detached garage toward the rear of the property. The property is generally at grade with Russell Road, with a ditch line running parallel to the road at the front of the property. The property is surrounded by farmland in all directions and Russell Road to the south.

Generally, the subsurface profile encountered at the test pit locations consisted of topsoil with trace gravel, cobbles and boulders overlying a brown silty sand fill. A very stiff to hard brown silty clay deposit was encountered below the fill layer. Refer to the Soil Profile and Test Data sheets attached for specific details of the soil profile encountered at the test pit locations.

Based on available geological mapping, the bedrock consists of grey sandy shale with some dolomitic layers, from the Carlsbad formation. Bedrock is expected to range between 10 and 15 m depth.

Based on the field observations, experience in the local area, moisture levels and colour of the recovered soil samples, the long-term groundwater level is expected between 2 to 3 m depth. Groundwater levels are subject to seasonal fluctuations and therefore, the groundwater levels could vary at the time of construction.

3.0 Geotechnical Assessment

From a geotechnical perspective, the subject site is suitable for the proposed renovations. It is expected that the proposed buildings can be founded by conventional style shallow foundations. However, due to the presence of a silty clay layer, the proposed development will be subjected to grade raise restrictions.

Site Grading and Preparation

Topsoil, fill, disturbed material or any other soils containing deleterious or organic materials, should be removed from within the perimeter of the proposed buildings and other settlement sensitive structures. Care should be taken to not disturb adequate bearing soils at subgrade level during site preparation activities.

Fill Placement

Fill placed for grading beneath the proposed buildings, unless otherwise specified, should consist of clean imported granular fill, such as Ontario Provincial Standard Specifications (OPSS) Granular A or Granular B Type II. The fill should be tested and approved prior to delivery to the site. The fill should be placed in maximum lift thicknesses of 300 mm and compacted with suitable compaction equipment. Fill placed beneath the building should be compacted to a minimum of 98% of the Standard Proctor Maximum Dry Density (SPMDD), noting that excessive vibration could lead to subgrade softening.

Non-specified existing fill along with site-excavated soil could be placed as general landscaping fill where surface settlement is of minor concern. The existing materials should be spread in thin lifts and at least compacted by the tracks of the spreading equipment to minimize voids. If the existing materials are to be placed to increase the subgrade level for areas to be paved, the non-specified existing fill should be placed in 300 mm lifts and compacted to a minimum density of 95% of the respective SPMDD.

Foundation Design

Footings placed on an undisturbed, stiff brown silty clay bearing surface can be designed using a bearing resistance value at Serviceability Limit States (SLS) of **100 kPa** and a factored bearing resistance value at Ultimate Limit States (ULS) of **150 kPa**. A geotechnical resistance factor of 0.5 was applied to the bearing resistance value at ULS.

An undisturbed soil bearing surface consists of one from which all topsoil and deleterious materials, such as loose, frozen or disturbed soil, have been removed prior to the placement of concrete for footings. The bearing resistance value at SLS given for footings will be subjected to potential post construction total and differential settlements of 25 and 20 mm, respectively.

The bearing medium under footing-supported structures is required to be provided with adequate lateral support with respect to excavations and different foundation levels. Adequate lateral support is provided to the soil subgrade medium when a plane extending down and out from the bottom edge of the footing at a minimum of 1.5H:1V, passes only through in situ soil or engineered fill of the same or higher capacity as the soil.

A permissible grade raise restriction has been determined for the subject site based on the undrained shear strength values completed within the silty clay deposit. Based on the testing results, a permissible grade raise restriction of **1.5 m** above existing ground surface is recommended for the subject site.

To reduce potential long term liabilities, consideration should be given to accounting for a larger groundwater lowering and to providing means to reduce long term groundwater lowering (e.g. clay dykes, restrictions on planting, etc). It should be noted that building over silty clay deposits increases the likelihood of building movements and therefore of cracking. The use of steel reinforcement in foundations placed at key structural locations will tend to reduce foundation cracking as compared to unreinforced foundations.

4.0 Design and Construction Precautions

Protection of Footings Against Frost Action

Perimeter footings of heated structures are required to be insulated against the deleterious effect of frost action. A minimum of 1.5 m thick soil cover (or equivalent) should be provided.

Exterior unheated footings, such as isolated exterior piers, are more prone to deleterious movement associated with frost action than the exterior walls of the structure proper and require additional protection, such as soil cover of 2.1 m or a combination of soil cover and foundation insulation.

Winter Construction

If winter construction is considered for this project, precautions should be provided for frost protection. The subsurface soil conditions mainly consist of frost susceptible materials. In presence of water and freezing conditions ice could form within the soil mass. Heaving and settlement upon thawing could occur.

In the event of construction during below zero temperatures, the founding stratum should be protected from freezing temperatures by the installation of straw, propane heaters and tarpaulins or other suitable means. The excavation base should be insulated from sub-zero temperatures immediately upon exposure and until such time as heat is adequately supplied to the building and the footings are protected with sufficient soil cover to prevent freezing at founding level.

The trench excavations should be completed in a manner to avoid the introduction of frozen materials, snow or ice into the trenches. Where excavations are constructed in proximity of existing structures precaution to adversely affecting the existing structure due to the freezing conditions should be provided.

5.0 Recommendations

A materials testing and observation services program is a requirement for the provided foundation design data to be applicable. The following aspects of the program should be performed by the geotechnical consultant:

- Observation of all bearing surfaces prior to the placement of concrete.
- Sampling and testing of the concrete and fill materials used.
- Periodic observation of the condition of unsupported excavation side slopes in excess of 3 m in height, if applicable.
- Observation of all subgrades prior to backfilling.
- Field density tests to determine the level of compaction achieved.

A report confirming that the construction have been conducted in general accordance with Paterson's recommendations could be issued upon the completion of a satisfactory inspection program by the geotechnical consultant.

6.0 Statement of Limitations

The recommendations provided in the report are in accordance with Paterson's present understanding of the project. Paterson request permission to review the recommendations when the drawings and specifications are completed.

A soils investigation is a limited sampling of a site. Should any conditions at the site be encountered which differ from the test locations, Paterson requests immediate notification to permit reassessment of the recommendations.

The recommendations provided should only be used by the design professionals associated with this project. The recommendations are not intended for contractors bidding on or constructing the project. The latter should evaluate the factual information provided in the report. The contractor should also determine the suitability and completeness for the intended construction schedule and methods. Additional testing may be required for the contractors purpose.

The present report applies only to the project described in the report. The use of the report for purposes other than those described above or by person(s) other than the NCC or their agents is not authorized without review by Paterson.

Best Regards,

Paterson Group Inc.



Nathan Christie, P.Eng.



David J. Gilbert, P.Eng.

Attachments

- Soil Profile and Test Data sheets
- Figure 1 - Key Plan
- Drawing PG4211-1 - Test Hole Location Plan

Report Distribution

- National Capital Commission (1 electronic copy)
- Paterson Group (1 copy)

DATUM

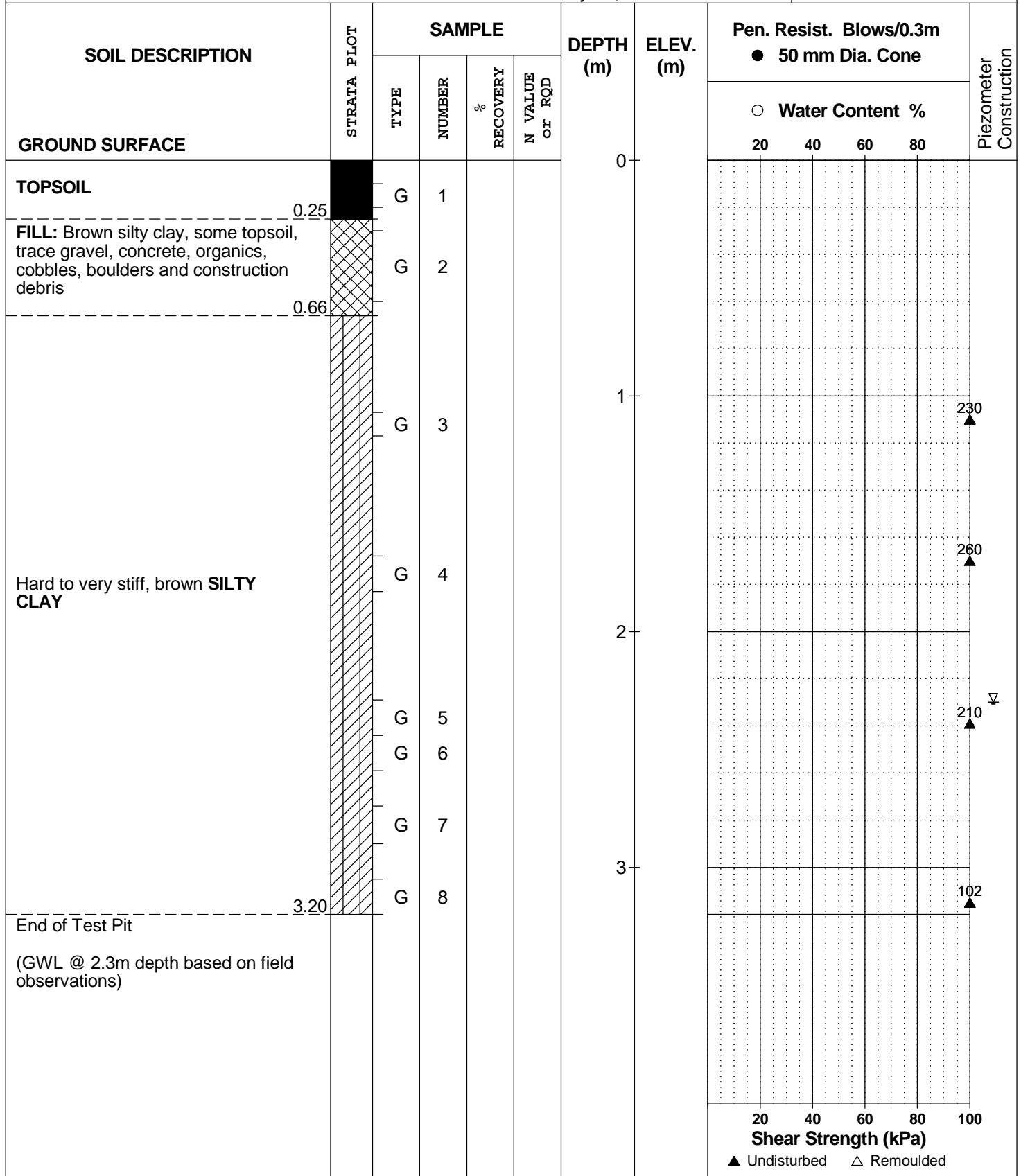
REMARKS

BORINGS BY Backhoe

DATE July 21, 2017

FILE NO. **PG4211**

HOLE NO. **TP 1**



DATUM

REMARKS

BORINGS BY Backhoe

DATE July 21, 2017

FILE NO. **PG4211**

HOLE NO. **TP 2**

SOIL DESCRIPTION	STRATA PLOT	SAMPLE				DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone				Piezometer Construction
		TYPE	NUMBER	% RECOVERY	N VALUE or RQD			20	40	60	80	
GROUND SURFACE						0						
FILL: Topsoil with organics, trace sand, cobbles and boulders	0.23	G	1									
Loose, brown SILTY SAND , trace organics	0.76	G	2									▽
End of Test Pit (GWL @ 0.7m depth based on field observations)												

20 40 60 80 100
Shear Strength (kPa)
 ▲ Undisturbed △ Remoulded

DATUM

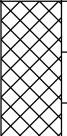

REMARKS

BORINGS BY Backhoe

DATE July 21, 2017

FILE NO. **PG4211**

HOLE NO. **TP 3**

SOIL DESCRIPTION	STRATA PLOT	SAMPLE				DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone				Piezometer Construction
		TYPE	NUMBER	% RECOVERY	N VALUE or RQD			○ Water Content %				
GROUND SURFACE								20	40	60	80	
FILL: Brown silty sand with topsoil, some gravel, cobbles and boulders, trace organics and construction debris 0.41		G	1			0						
Loose, brown SILTY SAND , trace clay 0.64		G	2									
End of Test Pit (TP dry upon completion)												

20 40 60 80 100
Shear Strength (kPa)
 ▲ Undisturbed △ Remoulded

DATUM

REMARKS

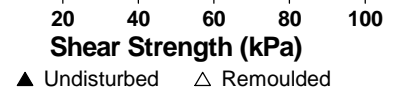
BORINGS BY Backhoe

DATE July 21, 2017

FILE NO. **PG4211**

HOLE NO. **TP 4**

SOIL DESCRIPTION	STRATA PLOT	SAMPLE				DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone				Piezometer Construction	
		TYPE	NUMBER	% RECOVERY	N VALUE or RQD			○ Water Content %					
GROUND SURFACE								20	40	60	80		
FILL: Topsoil with organics, some cobbles and boulders, trace sand	0.20	G	1			0							
Loose, brown SILTY SAND	0.46	G	2										
End of Test Pit (TP dry upon completion)													



DATUM

REMARKS

BORINGS BY Backhoe

DATE July 21, 2017

FILE NO. **PG4211**

HOLE NO. **TP 5**

SOIL DESCRIPTION	STRATA PLOT	SAMPLE				DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone				Piezometer Construction
		TYPE	NUMBER	% RECOVERY	N VALUE or RQD			○ Water Content %				
GROUND SURFACE								20	40	60	80	
FILL: Brown silty sand, some topsoil, cobbles and boulders	0.25	G	1		0							
Loose, brown SILTY SAND	0.48											
End of Test Pit (TP dry upon completion)												

20 40 60 80 100
Shear Strength (kPa)
 ▲ Undisturbed △ Remoulded

DATUM

REMARKS

BORINGS BY Backhoe

DATE July 21, 2017

FILE NO. **PG4211**

HOLE NO. **TP 6**

SOIL DESCRIPTION	STRATA PLOT	SAMPLE				DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone				Piezometer Construction
		TYPE	NUMBER	% RECOVERY	N VALUE or RQD			20	40	60	80	
GROUND SURFACE						0						
Loose to very loose, brown SILTY SAND		G	1									
End of Test Pit (TP dry upon completion)												

○ Water Content %

20 40 60 80 100
Shear Strength (kPa)


▲ Undisturbed △ Remoulded




FIGURE 1
KEY PLAN



LEGEND:

 TEST PIT LOCATION

SCALE: 1:500



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NO.	REVISIONS	DATE	INITIAL
0			

NATIONAL CAPITAL COMMISSION

GEOTECHNICAL INVESTIGATION - PROPOSED BUILDING RENOVATIONS

5039 RUSSELL ROAD

OTTAWA, ONTARIO

Title: **TEST HOLE LOCATION PLAN**

Scale:	~1:500	Date:	07/2017
Drawn by:	RCG	Report No.:	PG4211-1
Checked by:	NC	Dwg. No.:	PG4211-1
Approved by:	DJG	Revision No.:	0



Del Management Solutions

Outbuilding Designated Substances Survey
5039 Russell Road
Ottawa, Ontario
Building Assets 3347, 97516, 3349, 97514 and 3348

March 2014
EHS^P Project No.: 04-0034-14-003



**OUTBUILDING DESIGNATED SUBSTANCES SURVEY REPORT
5039 RUSSELL ROAD
OTTAWA, ONTARIO
BUILDING ASSETS 3347, 97516, 3349, 97514 AND 3348**

EHS^P Project No.: 04-0034-14-003

Prepared by:

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Prepared for:

Mr. Nicholas Pope
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March 2014

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Reviewed by:

Trent Windsor, C.E.T.
Associate

CONFIDENTIAL

Distribution:

1 copy (PDF) – Del Management Solutions

EXECUTIVE SUMMARY

EHS Partnerships Ltd. (EHS^P) was commissioned by Del Management Solutions (DMS) to complete a Designated Substances Survey (DSS) of the barns (Building Assets 97514 and 3348), silo (Building Asset 3349), storage shed (Building Asset 3347) and shed (Building Asset 97516) located at 5039 Russell Road, Ottawa, Ontario (Site).

The survey was requested to satisfy Section 30 of the Occupational Health and Safety Act and Ontario Regulation 278/05 “Regulation Respecting Asbestos on Construction Projects and in Building and Repair Operations” (O. Reg. 278/05) in order to identify any designated and hazardous materials that may be present at the site.

EHS^P personnel completed the site reconnaissance on March 6, 2014. Based on the findings of the visual inspection, suspect materials were documented, collected and subsequently submitted for analysis at a 3rd party analytical laboratory.

FINDINGS

Asbestos

Asbestos containing materials are present at the Site. All ACMs were observed to be in good to poor condition during the DSS and do not currently pose a hazard to occupants, workers, and others unless this material is damaged or disturbed without using the proper engineering controls. See Section 6.0.

Lead

Lead-based paint was discovered at the Site. The painted surfaces were observed to be in good to poor condition and do not pose a risk to occupants, workers, or others unless painted surfaces become damaged or are disturbed without taking the proper precautions. See Section 7.0.

Mercury

Mercury vapour is present in fluorescent light tubes observed at the Site. Mercury containing equipment was observed to be in good condition during the DSS and do not pose a hazard to occupants, workers and others if mercury containing equipment is handled properly.

Polychlorinated Biphenyls (PCB's)

PCB's are potentially present within fluorescent light ballasts observed throughout the Site. Potential PCB containing ballasts at the Site do not currently pose a risk to occupants, workers, or others at the Site unless they are handled without taking the proper precautions.

Silica

Silica is present in the concrete, mortar and any additional cementitious material present at the site. Silica containing materials were observed to be in good condition at the time of the DSS and do not currently pose a hazard to occupants, workers, or others unless these materials are damaged or disturbed without using proper engineering controls.

Other Designated Substances and Hazardous Materials

Arsenic, acrylonitrile, benzene, isocyanates, coke oven emissions, ethylene oxide, mould, ozone depleting substances, radioactive smoke detectors, vinyl chloride, urea formaldehyde foam insulation (UFFI) and animal feces were not observed at the site.

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1.0 INTRODUCTION

EHS Partnerships (EHS^P) was retained by Mr. Nicholas Pope of Del Management Solutions (DMS) to complete a Designated Substances Survey (DSS) of the barns (Building Assets 97514 and 3348), silo (Building Asset 3349), storage shed (Building Asset 3347) and shed (Building Asset 97516) located at 5039 Russell Road, Ottawa, Ontario (Site). This report details the results of the DSS completed at the site on March 6, 2014. A Site abstract provided by the National Capital Commission (NCC) is presented in Appendix A.

2.0 SITE DESCRIPTION

Building asset 3347 is a storage shed with steel walls and roofing. Building Asset 3348 is a wooden barn with an aluminium roof and was not accessible during the Site inspection. Building Asset 97514 is a wooden barn with an aluminium roof constructed on a concrete pad. Building Asset 3349 is a silo consisting of steel and concrete. Building Asset 97516 is a wooden shed with a aluminium roof.

3.0 OBJECTIVE

The survey was requested to satisfy Section 30 of the Occupational Health and Safety Act (OHSA) and Ontario Regulation 278/05 “Regulation Respecting Asbestos on Construction Projects and in Building and Repair Operations” (O.Reg. 278/05) in order to identify any designated and hazardous materials that may be present at the site.

4.0 SCOPE

The scope of work included the following activities:

- Preparation of a Health and Safety Plan (HASP) prior to conducting the field work;
- Inspection and sampling of potential hazardous materials within the buildings in areas that could be reasonably accessed by field personnel;
- Documenting the location of potential hazardous materials and estimating quantities;
- Submission of representative samples of potential hazardous materials for laboratory analysis; and
- Preparation of a report summarizing the designated substances survey.

5.0 DESIGNATED SUBSTANCE SURVEY METHODOLOGY AND RESULTS

The field survey included the visual identification of potential designated substances and collection of samples for laboratory analysis to confirm the absence/presence of hazardous materials.

Designated substances in Ontario are defined in accordance with OHSA as a biological, chemical, or physical agent or combination thereof as a designated substance to which the exposure of a worker is prohibited, regulated, restricted, limited or controlled. Under section 30 of OHSA – “Duty of Project Owners”, owners are required to determine if designated substances are present at a project site and disclose this information to project participants.

Designated substances that individuals are likely to be exposed to during construction projects include asbestos and silica. The Ontario Ministry of Labour provides guidance regarding these substances during construction in the following documents:

1. Ontario Regulation 278/05 (O.Reg. 278/05) – Designated Substance – Asbestos on Construction Projects and in Buildings and Repair Operations.

-
2. Guideline – Silica on Construction Projects, Ministry of Labour 2004.
 3. Guideline – Lead on Construction Projects, Ministry of Labour 2004.

The following sections provide an overview of the regulated designated substances and the potential presence of such substances at the site.

5.1 Acrylonitrile

Acrylonitrile is a chemical compound that exists as a clear pungent smelling liquid. Acrylonitrile is an important compound used in the production of other chemicals and products.

This designated substance is highly flammable and toxic. When burned it releases hazardous compounds into the air including hydrogen sulfide which has been used in chemical warfare.

Based on EHS^P observations Acrylonitrile was not identified at the site during the DSS.

5.2 Arsenic

Arsenic is chemical element that occurs in several different minerals in nature. Arsenic is used in a wide variety of applications including the strengthening of steel and copper alloys, it is a valuable semiconductor, and has been used in the production of herbicides and pesticides.

Arsenic is a known human carcinogen and potent poison.

Based on EHS^P observations Arsenic was not identified at the site during the DSS.

5.3 Asbestos

Asbestos is a group of naturally occurring mineral silicates that has been used in the manufacture of building materials due to their desirable physical properties. Asbestos was used in a number of building materials such as roofing shingles, acoustic ceiling tile, vinyl flooring, cement products, insulation and other applications.

The association between the inhalation of asbestos fibres and various respiratory diseases is undisputed. Asbestos containing material (ACM) survey was conducted by EHS^P as part of this DSS. Details of the ACM survey are presented in section 6.0.

5.4 Benzene

Benzene is natural compound found in petroleum based products such as gasoline and diesel fuels, asphalt and other hydrocarbon based products. It is used as a catalyst in various chemical processes including the production of plastics, rubber, drugs and pesticides.

Benzene is a known human carcinogen. Exposure to airborne benzene has been linked to various forms of leukemia.

Benzene was not observed at the site during the DSS.

5.5 Coke Oven Emissions

Coke Oven Emissions are the airborne by-product resulting from the distillation of low-ash and sulfur coal or coke. Coke is a useful fuel, chemical reducer, and is even used in the production of Scotch whisky.

Coke oven emissions potentially cause lung and skin cancers.

Based on EHS^P observations coke oven emissions are not present at the site.

5.6 Ethylene Oxide

Ethylene Oxide is a colourless gas with a faint sweet odour. This organic compound has various applications in the chemical engineering industry.

Ethylene oxide is a known human carcinogen and poison. Chronic exposure is known to cause genetic mutations (damage caused to DNA resulting in physical mutations).

Based on observations noted during the DSS and historical use of the site, ethylene oxide is not present.

5.7 Isocyanates

Isocyanates are any organic compound that contains a specific chemical functional group made up of a specific structure of one atom of nitrogen, carbon, and oxygen. The presence of this functional group gives chemical compounds unique properties that may be exploited in the production of polymers. Isocyanate containing polymers are used in the manufacture of paints, foams, and electrical insulation.

All isocyanates must be treated as highly hazardous with inhalation being the primary exposure hazard.

Based on observations noted during the DSS and historical use of the site, Isocyanates are not present.

5.8 Lead

Lead is a chemical element that is a soft malleable metal. Lead is used in the production of a number of products including ammunition, batteries, pipes, and paint.

Lead is potent neurotoxin that accumulates in the body and results in brain and nervous system damage. The primary routes of exposure to lead include inhalation and ingestion.

EHS^P conducted a lead-based paint sampling program as part of the DSS. The findings of this sampling program are presented in section 7.0.

5.9 Mercury

Mercury is a chemical element that is the only metal that exists in the liquid state at standard temperature and pressure. Elemental mercury has been used in a number of scientific instruments such as thermometers and barometers. In buildings liquid mercury has been used widely in thermostats and switch gear. Mercury vapour is used to produce light in fluorescent light tubes.

Chronic and acute inhalation of mercury vapour has been shown to have profound effects on the central nervous system including impaired cognitive skills, tremors, hallucinations, delirium, and suicidal tendency.

Mercury containing fluorescent materials were observed at the Site during the DSS.

5.10 Silica

Silica is the common name for the chemical compound silicon dioxide that occurs naturally as sand or quartz. Due to the hardness of silica it has been used as the primary raw material in products such as glass, ceramics, and cement.

Inhalation of silica is known to cause irreversible lung diseases including cancer and silicosis.

Based on EHS^P observations silica is present in the concrete, transite cement panels, plaster and any additional cementitious material present at the site. If the aforementioned materials are to be disturbed, appropriate precautions should be taken during disturbance.

5.11 Vinyl Chloride

Vinyl Chloride is a chemical compound that exists as a gas at standard temperature and pressure. It is used in the production of polyvinyl chloride (PVC) which is non-hazardous.

Vinyl chloride is a known human carcinogen and is known to cause liver damage.

Based on EHS^P observations vinyl chloride is not present at the site; however there is the potential that vinyl chloride could be released if PVC pipes, plastic, or wire coatings are burnt.

6.0 ASBESTOS CONTAINING MATERIALS SURVEY

6.1 General

The asbestos containing materials (ACMs) survey was conducted by EHS^P to satisfy Section 30 of the Occupational Health and Safety Act of Ontario and Ontario Regulation 278/05: Regulation Respecting Asbestos on Construction Projects and in Buildings and Repair Operations (O.Reg.278/05).

The ACMs survey was carried out in accordance with the measures prescribed in O.Reg.278/05.

6.2 Findings

EHS^P personnel completed site reconnaissance including visual inspection and sampling of potential ACMs on March 6, 2014. Based on the findings of the visual inspection, suspect materials were documented, collected and subsequently submitted for analysis at a 3rd party analytical laboratory.

As part of the ACMs survey, EHS^P collected six (6) representative samples from two (2) distinct materials that were suspected to contain asbestos. Potential ACMs sampled during the DSS included transite and plaster. Sampled materials were submitted using a chain of custody to Steve Moody Micro Services, of Farmers Branch, Texas. The analytical results are presented in Appendix B and are summarized in the following table:

Table 1: Summary of Laboratory Analytical Results – Asbestos Containing Materials

Sample ID	Material	Location	% Asbestos Concentration	Friability	Condition	Photo #
T-01A	Transite	Interior – Asset 97514	15% Chrysotile	Non-Friable	Poor	6
T-01B						
T-01C						
PLA-01A	Plaster	Interior – Asset 97514	<0.5% Chrysotile	Non-Friable	Good	9
PLA-01B						
PLA-01C						

Based on the analytical results the transite cement panels were found to contain greater than 0.5% asbestos by dry weight and is therefore considered to be ACM in accordance with O.Reg 278/05.

Asbestos was detected at a concentration of less than 0.5% asbestos by dry weight in the sampled plaster and therefore these materials are not considered ACM in accordance with O. Reg 278/05.

This assessment does not account for any potential ACMs that were inaccessible during the DSS. Inaccessible locations of potential ACMs include but are not limited to inaccessible interiors, wall cavities, ceiling cavities, and materials enclosed by flooring or other materials. Additional assessment of ACMs may be required prior renovations, alterations, or demolition of the site.

7.0 LEAD BASED PAINT SURVEY

7.1 General

The lead based paint survey was conducted by EHS^P to satisfy Section 30 of the Occupational Health and Safety Act of Ontario. The Federal Government has been limiting the concentration of lead allowed in manufactured paints since the 1970's. Painted surfaces that were applied prior to the 1980's likely contain elevated concentrations of lead. Exterior painted surfaces applied prior to the 1990's potentially contain elevated concentrations of lead. General industry practice is to categorize any painted surface that contains 0.5% (5000 ppm) as lead based paint. Paints with a lead concentration between 0.009% (90 ppm) and 0.499% (4999 ppm) are classified as lead containing.

7.2 Findings

EHS^P personnel completed the site reconnaissance including visual inspection and sampling of potential lead based paints. As part of the lead based paint survey five (5) representative paint chip samples were collected for lead characterization.

Sampled material was submitted using a chain of custody to EMSL Laboratories, Ontario. The analytical results are presented in appendix C and are summarized in the following table:

Table 2: Summary of Laboratory Analytical Results – Lead Paint

Sample ID	Colour (Painted Surface)	Location	Lead Concentration (ppm)	Condition	Photo #
P-01	Grey (Door)	Exterior – Asset 97516	51,000	Fair	7

Sample ID	Colour (Painted Surface)	Location	Lead Concentration (ppm)	Condition	Photo #
P-02	White (Wall)	Interior – Asset 97516	47,000	Fair	8
P-03	White (Wall)	Interior – Asset 97514	680	Poor	6
P-04	Red (Wall)	Exterior – Asset 3347	Insufficient sample	Good	11
P-05	White (Door)	Exterior – Asset 3347	<280	Good	11

Based on the analytical results the sampled grey door paint and white wall paint in the shed (building asset 97516) were found to contain greater than 5,000ppm and are considered to be lead-based paints. In addition the white wall paint located in the barn (building asset 97514) and white door paint on the storage shed (building asset 3347) were found to be lead containing. EHS^P was unable to collect a sufficient amount of red wall paint from the storage shed (building asset 3347) for analysis.

Lead may be present in other painted surfaces in varying concentrations.

8.0 HAZARDOUS MATERIALS SURVEY

8.1 General

The field survey included the visual identification of materials that are potentially hazardous to site occupants, workers, and others.

The following sections provide an overview of the potential hazardous materials of interest and the potential presence of such substances at the site.

8.2 Ozone Depleting Substances

8.2.1 General

Ozone Depleting Substances (ODSs) are a group of man-made halocarbon refrigerants. They were invented in the 1920's and were used widely as refrigerants and aerosol propellants before 1980. The removal and disposal of ODSs is governed by Federal Regulation SOR/2003-289, Federal Halocarbons Regulations, 2003 made under the Canadian Environmental Protection Act.

ODSs are the primary cause of man-made ozone layer depletion and therefore must be not released into the environment.

8.2.2 Findings

ODS-containing equipment was not observed at the Site during the DSS.

8.3 Polychlorinated Biphenyls

8.3.1 General

Polychlorinated Biphenyls (PCBs) are a group of man-made organic compounds made up of a specific structure that includes two benzene rings or phenyl functional groups. Commercial production began in the 1920's and they were used primarily as coolants and insulating fluids used widely in transformers and capacitors. The removal and disposal of PCBs is governed by Federal Regulation SOR/2008-273, PCBs Regulations, made under the Canadian Environmental Protection Act.

PCBs interfere with hormone production in people causing toxic and mutagenic affects. PCBs are a persistent pollutant and must not be released into the environment.

8.3.2 Findings

Potential PCB containing light ballasts were observed at the Site during the DSS.

8.4 Mould

8.4.1 General

Mould is a term that generally refers to a specific group of fungi. Mould growth on building materials can impact air quality because toxigenic or allergenic constituents can be dispersed in the air and may be inhaled. Reactions to mould vary depending on physical health, genetics, and age. Common symptoms of mould exposure include cough, congestion, eye irritation, runny nose, headache, fatigue, and vexation of asthma. In some cases, mould is known or suspected to cause serious illness.

8.4.2 Findings

Based on EHS^P observations no visible moisture intrusion or potential mould growth was observed at the Site during the DSS.

8.5 Radioactive Smoke Detectors

8.5.1 General

Smoke detectors can contain a small amount of the radioactive isotope Americium-241. The radiation emitted from these detectors is negligible when compared to natural background radiation and is not considered hazardous. The disposal of radioactive smoke detectors is not controlled.

8.5.2 Findings

Based on EHS^P observations radioactive smoke detectors are not present at the Site.

8.6 Urea Formaldehyde Foam Insulation

8.6.1 General

Urea Formaldehyde Foam Insulation (UFFI) is a foam insulation that contains a urea-formaldehyde resin. In the 1970's UFFI was installed in homes throughout Canada. For a short period of time the insulation would off-gas formaldehyde. Authorities became concerned about potential exposure to formaldehyde and the application was banned in 1980. It is unlikely that UFFI installed before the ban would produce a significant concentration of airborne formaldehyde.

8.6.2 Findings

Based on EHS^P observations during the DSS, UFFI was not observed at the Site.

8.7 Animal Feces

8.7.1 General

Animal feces such as that from birds, bats, and rodents may carry human pathogens. Animal feces from birds and bats are known to release airborne fungal spores that may cause serious illness including significant respiratory infection and in some cases blindness. Disturbance of significant deposits of animal feces should only be conducted by a pest control specialist.

8.7.2 Findings

No animal feces were observed at the Site during the DSS.

9.0 CONCLUSIONS AND RECOMMENDATIONS

The following recommendations are based on the DSS conducted by EHS^P at 5039 Russell Road, Ottawa, Ontario on March 6, 2014:

General

The Occupational Health and Safety Act requires building owners and their agents to notify all employees, and contractors of the presence of designated substances at a project site. Additional assessment of designated substances may be required prior to renovations, alterations, or demolition of the site.

Asbestos

Asbestos containing transite cement board is present in the barn (Building Asset 97514) and is rated to be in good to poor condition. ACMs rated to be in poor condition should be removed as soon as possible and prior to demolition.

Potential ACM observed at the site include roofing materials. Potential ACM must be tested prior to disturbance, or treated as ACM.

The following recommendations are based on the requirements of Ontario Regulation 278/05 – Regulation Respecting Asbestos on Construction Projects and in Buildings and Repair Operations:

1. Provide written notice to any occupant detailing potential ACM at the Site.
2. Provide a copy of this report or applicable portions of this report to maintenance personnel or contractors that work in close vicinity to ACM.
3. The building owner or their agents must inspect the condition of ACM at reasonable intervals. A reasonable interval is not defined by the regulation.
4. This record must be updated when there are any changes to the ACM inventory or at least once every 12 months if there are no changes.

-
5. Asbestos waste generated by asbestos abatement activities must be packaged, labelled, and disposed of in accordance with Ontario Regulation 347/90 (as amended).
 6. The building owner must institute and maintain a training program for the instruction of every worker employed who is likely to work in close proximity and may disturb ACM. The minimum requirements for this training program include the following:
 - Hazards of Asbestos Exposure;
 - Use, care, and disposal of protective equipment and clothing to be used and personal hygiene; and
 - Work practices and procedures to be used with ACM.

Lead

Measures prescribed in the Ministry of Labour's Guideline titled "Lead on Construction Projects" should be followed during the disturbance of any painted surface.

Mercury

Mercury containing fluorescent light tubes must be carefully removed and containerized for disposal in accordance with Ontario Regulation 347/09 (as amended) when removed.

Polychlorinated Biphenyls (PCBs)

Potential PCB containing ballasts observed at the Site should be separated from the light fixtures, containerized, and removed in accordance with Federal Regulation SOR/2008-273 – PCB Regulations.

Silica

Measures prescribed in the Ministry of Labour's Guideline titled "Silica on Construction Projects", should be followed during the disturbance of any silica containing material.

10.0 LIMITATIONS

The conclusions and recommendations contained in this assessment report are based upon professional opinions with regard to the subject matter. These opinions are in accordance with currently accepted environmental assessment standards and practices applicable to these locations and are subject to the following inherent limitations:

1. The data and findings presented in this report are valid as of the dates of the investigations. The passage of time, manifestation of latent conditions or occurrence of future events may warrant further exploration at the properties, analysis of the data, and re-evaluation of the findings, observations, and conclusions expressed in this report.
2. The data reported and the findings, observations and conclusions expressed in this report are limited by the Scope of Work. The Scope of Work was defined by the request of the client, the time and budgetary constraints imposed by the client, and availability of access to the properties.
3. Because of the limitations stated above, the findings, observations and conclusions expressed by EHS^P in this report are not, and should not be, considered an opinion concerning compliance of any past or present owner or operator of the site with any federal, provincial or local laws or regulations.
4. No warranty or guarantee, whether expressed or implied, is made with respect to the data or the reported findings, observations, and conclusions, which are based solely upon site conditions in existence at the time of investigation.
5. EHS^P assessment reports present professional opinions and findings of a scientific and technical nature. While attempts were made to relate the data and findings to applicable environmental laws and regulations, the report shall not be construed to offer legal opinion or representations as to the requirements of, nor compliance with, environmental laws, rules, regulations or policies of federal, provincial, or local governmental agencies. Any use of the assessment report constitutes acceptance of the limits of EHS^P's liability. EHS^P's liability extends only to its client and not to other parties who may obtain this assessment report. Issues raised by the report should be reviewed by appropriate legal counsel.

Appendix A
Site Abstract

Outbuilding Designated Substances Survey
Del Management Solutions
5039 Russell Road
Ottawa, Ontario
EHS^P Project No.: 04-0034-14-003

5039 Russell Road

Land (NCC Ownership)



NCC Buildings



Roads (Labels)



Imagery/Imagerie: 2011/2007 Aerial image

Published/Publié : 2014/2/12

Disclaimer: The NCC does not guarantee this information to be correct, current, or complete. The maps are only intended for internal use as a general reference and are not intended or suitable for site-specific, financial or legal decisions. Any use to the contrary of the above stated uses is the responsibility of the user and such use is at the user's own risk.
Dégagement de responsabilité : La Commission de la capitale nationale (CCN) ne garantit pas ces informations pour être correct, actuel, ou complet. Les cartes sont seulement destinées à l'utilisation interne comme une référence générale et ne sont pas destinées ou approprié aux décisions spécifiques d'un site, financières ou légales. N'importe quelle utilisation au contraire des susdites utilisations exposées est la responsabilité de l'utilisateur et une telle utilisation est au propre risque de l'utilisateur

Appendix B Photolog

Outbuilding Designated Substances Survey
Del Management Solutions
5039 Russell Road
Ottawa, Ontario
EHS^P Project No.: 04-0034-14-003



Photo 1: View of barn (building asset 3348).



Photo 2: View of barn (building asset 97514).



Photo 3: View of silo (building asset 3349).



Photo 4: View of shed (building asset 97516).



Photo 5: View of storage shed (building asset 3347).



Photo 6: View of asbestos containing transite cement board in building asset 97514. Sample set T-01A-C. As well as lead containing white wall paint. Sample P-03.



Photo 7: View of lead based grey door paint in building 97516. Sample P-01.



Photo 8: View of lead based white wall paint in building 97516. Sample P-02.



Photo 9: View of representative plaster in building 97514. Sample set PLA-01A-C.



Photo 10: View of mercury containing fluorescent light tube and potential PCB containing ballast in building 3347.



Photo 11: View of lead containing white door paint (P-05) and potential lead containing red wall paint (P-04).

Appendix C

Analytical Results

Outbuilding Designated Substances Survey
Del Management Solutions
5039 Russell Road
Ottawa, Ontario
EHS^P Project No.: 04-0034-14-003

