

---

# VILLAGE OF McBRIDE WATER TREATMENT PLANT BRIDGE REPLACEMENT



## CONTRACT DOCUMENTS

September 2025

***Radloff***

R. Radloff & Associates Inc.  
Engineering, Planning & Consulting

**SECTION****DESCRIPTION****DIVISION 00            PROCUREMENT AND CONTRACTING REQUIREMENTS*****INTRODUCTORY INFORMATION***

00 01 01	Title Page
00 01 10	Table of Contents

***TENDERING REQUIREMENTS******00 11 00 Advertisements & Invitations***

00 11 16	Invitation to Tender
----------	----------------------

***00 40 00 Procurement Forms and Supplements***

00 41 13	Bid Form – Stipulated Price
----------	-----------------------------

***CONTRACTING REQUIREMENTS******00 50 00 Contracting Forms and Supplements***

00 51 00	Notice of Acceptance
00 52 63	Agreement Form – CCDC 2 Stipulated Price Contract

---

**APPENDICES****DESCRIPTION**

<b>APPENDIX A</b>	<b>WATER TREATMENT PLANT BRIDGE REPLACEMENT DRAWINGS</b>
<b>APPENDIX B</b>	<b>BRIDGE INSPECTION AND REPAIR REPORT</b>
<b>APPENDIX C</b>	<b>NOTICE OF AUTHORIZED CHANGES - CHANGES IN AND ABOUT A STREAM</b>
<b>APPENDIX D</b>	<b>WATER INTAKE UPGRADES AND BRIDGE REPLACEMENT ENVIRONMENTAL MANAGEMENT PLAN</b>

**END OF SECTION 00 01 10**

# **TENDERING REQUIREMENTS**

---

00 40 00 - PROCUREMENT FORMS AND SUPPLEMENTS

**Project/Contract:** Water Treatment Plant Bridge Replacement  
100 Robson Centre 855 SW Frontage Road, McBride, BC, V0J  
2E0

**Project/Contract No.:** 403-039-03

**Owner:** Corporation of Village of McBride

The Corporation of Village of McBride invites tenders for the replacement of the existing bridge that crosses Dominion Creek to access the Village's water treatment plant. The bridge works are located at 2870 Lucille Forest Service Road, McBride, BC. The bridge replacement will comprise of the reassembly of the majority of the existing bridge components per the bridge inspection and repair report contained in Appendix B with the exception of the bridge deck. The Village has 3 bridge deck sections on site that will replace the existing decking. The work includes adjustments to the deck sections to suit the actual bridge length. The major work components for this project include:

- Temporary stream diversion and erosion and sediment control measures
- Environmental monitoring complying with environmental permits and environmental management plan
- Structural engineer certification of bridge construction and subsequent bridge load rating
- Removal of the existing bridge
- Reinstall bridge per contractor's structural engineer requirements
- Place riprap armoring of lock blocks and channel slopes per design
- Cut new bridge decks to length and install per contractor's structural engineer requirements.
- After receipt of Notice of Acceptance, the CONTRACTOR shall provide a Performance Bond for ten (10%) percent of the CONTRACT PRICE and the Performance Bond shall remain in effect for the duration of construction and the Guarantee Period. The Performance bond may be in the form of a bond, cash, bank draft, or letter of credit in a form acceptable to the Owner

A **site meeting** will be held on site at **10:00am local time September 11, 2025**. Please email [dfranzmann@radloffeng.com](mailto:dfranzmann@radloffeng.com) to confirm attendance.



Tenders must:

- be submitted in a sealed envelope
- indicate the Project No. and Contract Title as: **“Project # 403-GEN: Water Treatment Plant Bridge Replacement”**
- be addressed to **Attn: Phil Strain**
- be received at the Village of McBride office at Box 519 100 Robson Centre 855 SW Frontage Road, McBride, BC, V0J 2E0 by no later than **3:00 p.m. local time, September 15, 2025.**

Late tenders will not be accepted or considered and will be returned unopened.

All questions relating to this tender can be directed to:

**David Franzmann, EIT**

Project Manager

R. Radloff & Associates Inc.

1820 3<sup>rd</sup> Ave, Prince George, BC V2M 1G4

Phone: (250) 562-6861 | Fax: (250) 562-6826 | email: dfranzmann@radloffeng.com

Tenders must be submitted in accordance with the terms and conditions specified in this tender package. Tenders must be accompanied by tender security (“*Bid Security*”) in the form of:

- a) a bid bond issued by a surety licensed to carry on the business of suretyship in British Columbia in a form reasonably satisfactory to the *Owner*; or
- b) cash, bank draft or letter of credit in a form acceptable to the *Owner*;

in an amount equal to 10% of the *Tender Price*.

Tenders must be submitted in accordance with the terms and conditions specified in this tender package. The lowest priced tender will not necessarily be accepted.

Upon review of submitted tenders for these works, the Corporation of Village of McBride will provide *Notice of Acceptance* to the contractor within three weeks of receipt.



---

**David Franzmann, EIT**

Project Manager

**END OF SECTION 00 11 16**

**STIPULATED PRICE BID FORM****Project/Contract:** Water Treatment Plant Bridge Replacement**Project/Contract No.:** 403-GEN**From (Bidder):**

---

*company name*

---

*street address or postal box number*

---

*city/town, province, and postal code***To (Owner):**Corporation of Village of McBride  
Box 519 100 Robson Centre 855 SW Frontage Road, McBride,  
BC, V0J 2E0

We, the undersigned, having examined the Bid Documents for the above-named project/contract, hereby offer to perform the Work in accordance with the Bid Documents for the stipulated price as set out below in the Schedule of Bid Prices:

**SCHEDULE OF BID PRICES**

ITEM No.	DESCRIPTION OF WORK	BID PRICE
1	Bridge Replacement per Drawings and Repair Report	\$ _____
Total Bid Price (excluding Value Added Taxes)		\$ _____

We, the undersigned, declare that:

- (a) we agree to attain Substantial Performance of the Work within \_\_\_\_\_ [months]  
[weeks] [days] after receiving notice of contract award,
- (b) this bid is open to acceptance by the Owner for a period of \_\_\_\_\_ days from the date of bid closing, and

**Signatures:**

Signed and submitted by:

---

*company name*

---

*name and title of authorized signing officer*

---

*signature of authorized signing officer*

---

*name of witness*

---

*signature of witness*

---

*name and title of authorized signing officer*

---

*signature of authorized signing officer*

---

*name of witness*

---

*signature of witness*

Dated this \_\_\_\_\_ day of \_\_\_\_\_, 20 \_\_\_\_\_.

# **CONTRACTING REQUIREMENTS**

---

00 50 00 - CONTRACTING FORMS AND SUPPLEMENTS

Dated: \_\_\_\_\_

**Project/Contract:** Water Treatment Plant Bridge Replacement**Owner:** Corporation of the Village of McBride**Owner's Address:** 100 Robson Centre 855 SW Frontage Road,  
McBride, BC, V0J 2E0**Project/Contract No.:** 403-GEN**Bidder:** \_\_\_\_\_  
*company name***Bidder's Address** \_\_\_\_\_  
*company address*

You are notified that your Bid dated \_\_\_\_\_ for the above Contract has been considered. You are the Successful Bidder and are awarded a Contract for the Water Treatment Plant Bridge Replacement.

The Total Price of your Contract is:

\_\_\_\_\_ and \_\_\_\_\_ /100 Dollars ( \$ \_\_\_\_\_ )  
(Use words) (Use figures)

Two sets of the Contract Documents will be delivered separately after compliance with the following conditions. You must comply with the following conditions precedent within 7 days of the date you receive this Notice of Acceptance.

1. a "clearance letter" indicating that the Bidder is in Worksafe BC compliance; and
2. a copy of the insurance policies as specified in General Condition's section 11.1 of the CCDC 2 Contract indicating that all such insurance coverage is in place.
3. provide a Performance Bond for ten (10%) percent of the CONTRACT PRICE and the Performance Bond shall remain in effect for the duration of construction and the

Guarantee Period. The Performance bond may be in the form of a bond, cash, bank draft, or letter of credit in a form acceptable to the Owner

Failure to comply with these conditions within the time specified will entitle the Buyer to consider you in default and annul this Notice of Acceptance.

Within 7 days after you comply with the above conditions, the Buyer will provide copies of the Agreement and conformed Contract Documents for execution.

---

Owner

---

Authorized Signature

---

Title



## AGREEMENT FORM

---

### CCDC 2 STIPULATED PRICE CONTRACT

CCDC 2

# Stipulated Price Contract

2 0 2 0

Name of Project

Apply a CCDC 2 copyright seal here. The application of the seal demonstrates the intention of the party proposing the use of this document that it be an accurate and unamended form of CCDC 2 – 2020 except to the extent that any alterations, additions or modifications are set forth in supplementary conditions.

CANADIAN CONSTRUCTION DOCUMENTS COMMITTEE  
CANADIAN CONSTRUCTION DOCUMENTS COMMITTEE  
CANADIAN CONSTRUCTION DOCUMENTS COMMITTEE

# CCDC 2 STIPULATED PRICE CONTRACT

## TABLE OF CONTENTS

### AGREEMENT BETWEEN OWNER AND CONTRACTOR

- A-1 The Work
- A-2 Agreements and Amendments
- A-3 Contract Documents
- A-4 Contract Price
- A-5 Payment
- A-6 Receipt of and Addresses for Notices in Writing
- A-7 Language of the Contract
- A-8 Succession

### DEFINITIONS

- Change Directive
- Change Order
- Construction Equipment
- Consultant
- Contract
- Contract Documents
- Contract Price
- Contract Time
- Contractor
- Drawings
- Notice in Writing
- Owner
- Other Contractor
- Payment Legislation
- Place of the Work
- Product
- Project
- Ready-for-Takeover
- Shop Drawings
- Specifications
- Subcontractor
- Substantial Performance of the Work
- Supplemental Instruction
- Supplier
- Temporary Work
- Value Added Taxes
- Work
- Working Day

### GENERAL CONDITIONS

#### PART 1 GENERAL PROVISIONS

- GC 1.1 Contract Documents
- GC 1.2 Law of the Contract
- GC 1.3 Rights and Remedies
- GC 1.4 Assignment

#### PART 2 ADMINISTRATION OF THE CONTRACT

- GC 2.1 Authority of the Consultant
- GC 2.2 Role of the Consultant
- GC 2.3 Review and Inspection of the Work
- GC 2.4 Defective Work

#### PART 3 EXECUTION OF THE WORK

- GC 3.1 Control of the Work
- GC 3.2 Construction by the Owner or Other Contractors
- GC 3.3 Temporary Work
- GC 3.4 Construction Schedule
- GC 3.5 Supervision
- GC 3.6 Subcontractors and Suppliers
- GC 3.7 Labour and Products
- GC 3.8 Shop Drawings

#### PART 4 ALLOWANCES

- GC 4.1 Cash Allowances
- GC 4.2 Contingency Allowance

#### PART 5 PAYMENT

- GC 5.1 Financing Information Required of the Owner
- GC 5.2 Applications for Payment
- GC 5.3 Payment
- GC 5.4 Substantial Performance of the Work and Payment of Holdback
- GC 5.5 Final Payment
- GC 5.6 Deferred Work
- GC 5.7 Non-conforming Work

#### PART 6 CHANGES IN THE WORK

- GC 6.1 Owner's Right to Make Changes
- GC 6.2 Change Order
- GC 6.3 Change Directive
- GC 6.4 Concealed or Unknown Conditions
- GC 6.5 Delays
- GC 6.6 Claims for a Change in Contract Price

#### PART 7 DEFAULT NOTICE

- GC 7.1 Owner's Right to Perform the Work, Terminate the Contractor's Right to Continue with the Work or Terminate the Contract
- GC 7.2 Contractor's Right to Suspend the Work or Terminate the Contract

#### PART 8 DISPUTE RESOLUTION

- GC 8.1 Authority of the Consultant
- GC 8.2 Adjudication
- GC 8.3 Negotiation, Mediation and Arbitration
- GC 8.4 Retention of Rights

#### PART 9 PROTECTION OF PERSONS AND PROPERTY

- GC 9.1 Protection of Work and Property
- GC 9.2 Toxic and Hazardous Substances
- GC 9.3 Artifacts and Fossils
- GC 9.4 Construction Safety
- GC 9.5 Mould

#### PART 10 GOVERNING REGULATIONS

- GC 10.1 Taxes and Duties
- GC 10.2 Laws, Notices, Permits, and Fees
- GC 10.3 Patent Fees
- GC 10.4 Workers' Compensation

#### PART 11 INSURANCE

- GC 11.1 Insurance

#### PART 12 OWNER TAKEOVER

- GC 12.1 Ready-for-Takeover
- GC 12.2 Early Occupancy by the Owner
- GC 12.3 Warranty

#### PART 13 INDEMNIFICATION AND WAIVER

- GC 13.1 Indemnification
- GC 13.2 Waiver of Claims

CCDC 2 is the product of a consensus-building process aimed at balancing the interests of all parties on the construction project. It reflects recommended industry practices. The CCDC and its constituent member organizations do not accept any responsibility or liability for loss or damage which may be suffered as a result of the use or interpretation of CCDC 2.

#### CCDC Copyright 2020

Must not be copied in whole or in part without the written permission of the CCDC.

## AGREEMENT BETWEEN OWNER AND CONTRACTOR

For use when a stipulated price is the basis of payment.

This Agreement made on \_\_\_\_\_ day of \_\_\_\_\_ in the year \_\_\_\_\_.  
by and between the parties

hereinafter called the "Owner"

and

hereinafter called the "Contractor"

The Owner and the Contractor agree as follows:

### ARTICLE A-1 THE WORK

The Contractor shall:

1.1 perform the *Work* required by the *Contract Documents* for (insert below the description or title of the Work)

located at (insert below the Place of the Work)

for which the Agreement has been signed by the parties, and for which (insert below the name of the Consultant)

is acting as and is hereinafter called the "Consultant" and

1.2 do and fulfill everything indicated by the *Contract Documents*, and

1.3 commence the *Work* by the \_\_\_\_\_ day of \_\_\_\_\_ in the year \_\_\_\_\_ and, subject to adjustment in *Contract Time* as provided for in the *Contract Documents*, attain *Ready-for-Takeover*, by the \_\_\_\_\_ day of \_\_\_\_\_ in the year \_\_\_\_\_.

### ARTICLE A-2 AGREEMENTS AND AMENDMENTS

2.1 The *Contract* supersedes all prior negotiations, representations or agreements, either written or oral, relating in any manner to the *Work*, including the bid documents that are not expressly listed in Article A-3 of the Agreement – CONTRACT DOCUMENTS.

2.2 The *Contract* may be amended only as provided in the *Contract Documents*.

## ARTICLE A-3 CONTRACT DOCUMENTS

3.1 The following are the *Contract Documents* referred to in Article A-1 of the Agreement – THE WORK:

- Agreement between *Owner* and *Contractor*
- Definitions
- General Conditions

\*

*\* (Insert here, attaching additional pages if required, a list identifying all other Contract Documents e.g. supplementary conditions; Division 01 of the Specifications – GENERAL REQUIREMENTS; Project information that the Contractor may rely upon; technical Specifications, giving a list of contents with section numbers and titles, number of pages and date; material finishing schedules; Drawings, giving drawing number, title, date, revision date or mark; addenda, giving title, number, date; time schedule)*

## ARTICLE A-4 CONTRACT PRICE

4.1 The *Contract Price*, which excludes *Value Added Taxes*, is:

/100 dollars \$

4.2 *Value Added Taxes* (of \_\_\_\_\_ %) payable by the *Owner* to the *Contractor* are:

/100 dollars \$

4.3 Total amount payable by the *Owner* to the *Contractor* for the *Work* is:

/100 dollars \$

4.4 These amounts shall be subject to adjustments as provided in the *Contract Documents*.

4.5 All amounts are in Canadian funds.

## ARTICLE A-5 PAYMENT

5.1 Subject to the provisions of the *Contract Documents* and *Payment Legislation*, and in accordance with legislation and statutory regulations respecting holdback percentages, the *Owner* shall:

- .1 make progress payments to the *Contractor* on account of the *Contract Price* when due in the amount certified by the *Consultant* unless otherwise prescribed by *Payment Legislation* together with such *Value Added Taxes* as may be applicable to such payments,
- .2 upon *Substantial Performance of the Work*, pay to the *Contractor* the unpaid balance of the holdback amount when due together with such *Value Added Taxes* as may be applicable to such payment, and
- .3 upon the issuance of the final certificate for payment, pay to the *Contractor* the unpaid balance of the *Contract Price* when due together with such *Value Added Taxes* as may be applicable to such payment.

5.2 Interest

- .1 Should either party fail to make payments as they become due under the terms of the *Contract* or in an award by adjudication, arbitration or court, interest at the following rates on such unpaid amounts shall also become due and payable until payment:
  - (1) 2% per annum above the prime rate for the first 60 days.
  - (2) 4% per annum above the prime rate after the first 60 days.Such interest shall be compounded on a monthly basis. The prime rate shall be the rate of interest quoted by  
(Insert name of chartered lending institution whose prime rate is to be used)

for prime business loans as it may change from time to time.

- .2 Interest shall apply at the rate and in the manner prescribed by paragraph 5.2.1 of this Article on the settlement amount of any claim in dispute that is resolved either pursuant to Part 8 of the General Conditions – DISPUTE RESOLUTION or otherwise, from the date the amount would have been due and payable under the *Contract*, had it not been in dispute, until the date it is paid.

## ARTICLE A-6 RECEIPT OF AND ADDRESSES FOR NOTICES IN WRITING

6.1 *Notices in Writing* will be addressed to the recipient at the address set out below.

6.2 The delivery of a *Notice in Writing* will be by hand, by courier, by prepaid first class mail, or by other form of electronic communication during the transmission of which no indication of failure of receipt is communicated to the sender.

6.3 A *Notice in Writing* delivered by one party in accordance with this *Contract* will be deemed to have been received by the other party on the date of delivery if delivered by hand or courier, or if sent by mail it will be deemed to have been received five calendar days after the date on which it was mailed, provided that if either such day is not a *Working Day*, then the *Notice in Writing* will be deemed to have been received on the *Working Day* next following such day.

6.4 A *Notice in Writing* sent by any form of electronic communication will be deemed to have been received on the date of its transmission provided that if such day is not a *Working Day* or if it is received after the end of normal business hours on the date of its transmission at the place of receipt, then it will be deemed to have been received at the opening of business at the place of receipt on the first *Working Day* next following the transmission thereof.

6.5 An address for a party may be changed by *Notice in Writing* to the other party setting out the new address in accordance with this Article.



## Owner

*name of Owner\**

*address*

*email address*

## Contractor

*name of Contractor\**

*address*

*email address*

## Consultant

*name of Consultant\**

*address*

*email address*

*\* If it is intended that a specific individual must receive the notice, that individual's name shall be indicated.*

## ARTICLE A-7 LANGUAGE OF THE CONTRACT

- 7.1 When the *Contract Documents* are prepared in both the English and French languages, it is agreed that in the event of any apparent discrepancy between the English and French versions, the English / French # language shall prevail.  
*# Complete this statement by striking out inapplicable term.*
- 7.2 This Agreement is drawn in English at the request of the parties hereto. La présente convention est rédigée en anglais à la demande des parties.

## ARTICLE A-8 SUCCESSION

- 8.1 The *Contract* shall enure to the benefit of and be binding upon the parties hereto, their respective heirs, legal representatives, successors, and assigns.

**In witness whereof** the parties hereto have executed this Agreement by the hands of their duly authorized representatives.

SIGNED AND DELIVERED  
in the presence of:

**WITNESS**

**OWNER**

\_\_\_\_\_  
*name of Owner*

\_\_\_\_\_  
*signature*

\_\_\_\_\_  
*signature*

\_\_\_\_\_  
*name of person signing*

\_\_\_\_\_  
*name and title of person signing*

**WITNESS**

**CONTRACTOR**

\_\_\_\_\_  
*name of Contractor*

\_\_\_\_\_  
*signature*

\_\_\_\_\_  
*signature*

\_\_\_\_\_  
*name of person signing*

\_\_\_\_\_  
*name and title of person signing*

- N.B. Where legal jurisdiction, local practice or Owner or Contractor requirement calls for:*
- (a) proof of authority to execute this document, attach such proof of authority in the form of a certified copy of a resolution naming the representative(s) authorized to sign the Agreement for and on behalf of the corporation or partnership; or*
  - (b) the affixing of a corporate seal, this Agreement should be properly sealed.*

## DEFINITIONS

The following Definitions shall apply to all *Contract Documents*.

### Change Directive

A *Change Directive* is a written instruction prepared by the *Consultant* and signed by the *Owner* directing the *Contractor* to proceed with a change in the *Work* within the general scope of the *Contract Documents* prior to the *Owner* and the *Contractor* agreeing upon adjustments in the *Contract Price* and the *Contract Time*.

### Change Order

A *Change Order* is a written amendment to the *Contract* prepared by the *Consultant* and signed by the *Owner* and the *Contractor* stating their agreement upon:

- a change in the *Work*;
- the method of adjustment or the amount of the adjustment in the *Contract Price*, if any; and
- the extent of the adjustment in the *Contract Time*, if any.

### Construction Equipment

*Construction Equipment* means all machinery and equipment, either operated or not operated, that is required for preparing, fabricating, conveying, erecting, or otherwise performing the *Work* but is not incorporated into the *Work*.

### Consultant

The *Consultant* is the person or entity engaged by the *Owner* and identified as such in the Agreement. The *Consultant* is the Architect, the Engineer or entity licensed to practise in the province or territory of the *Place of the Work*.

### Contract

The *Contract* is the undertaking by the parties to perform their respective duties, responsibilities and obligations as prescribed in the *Contract Documents* and represents the entire agreement between the parties.

### Contract Documents

The *Contract Documents* consist of those documents listed in Article A-3 of the Agreement – CONTRACT DOCUMENTS and amendments agreed upon between the parties.

### Contract Price

The *Contract Price* is the amount stipulated in Article A-4 of the Agreement – CONTRACT PRICE.

### Contract Time

The *Contract Time* is the time from commencement of the *Work* to the date of *Ready-for-Takeover* as stipulated in paragraph 1.3 of Article A-1 of the Agreement – THE WORK.

### Contractor

The *Contractor* is the person or entity identified as such in the Agreement.

### Drawings

The *Drawings* are the graphic and pictorial portions of the *Contract Documents*, wherever located and whenever issued, showing the design, location and dimensions of the *Work*, generally including plans, elevations, sections, details, and diagrams.

### Notice in Writing

A *Notice in Writing*, where identified in the *Contract Documents*, is a written communication between the parties or between them and the *Consultant* that is transmitted in accordance with the provisions of Article A-6 of the Agreement – RECEIPT OF AND ADDRESSES FOR NOTICES IN WRITING.

### Owner

The *Owner* is the person or entity identified as such in the Agreement.

### Other Contractor

*Other Contractor* means a contractor, other than the *Contractor* or a *Subcontractor*, engaged by the *Owner* for the *Project*.

### Payment Legislation

*Payment Legislation* means such legislation in effect at the *Place of the Work* which governs payment under construction contracts.

### Place of the Work

The *Place of the Work* is the designated site or location of the *Work* identified in the *Contract Documents*.

### Product

*Product or Products* means material, machinery, equipment, and fixtures forming part of the *Work*, but does not include *Construction Equipment*.

**Project**

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

**Ready-for-Takeover**

*Ready-for-Takeover* shall have been attained when the conditions set out in paragraph 12.1.1 of GC 12.1 – READY-FOR-TAKEOVER have been met, as verified by the *Consultant* pursuant to paragraph 12.1.4.2 of GC 12.1 – READY-FOR-TAKEOVER.

**Shop Drawings**

*Shop Drawings* are drawings, diagrams, illustrations, schedules, performance charts, brochures, *Product* data, and other data which the *Contractor* provides to illustrate details of portions of the *Work*.

**Specifications**

The *Specifications* are that portion of the *Contract Documents*, wherever located and whenever issued, consisting of the written requirements and standards for *Products*, systems, workmanship, quality, and the services necessary for the performance of the *Work*.

**Subcontractor**

A *Subcontractor* is a person or entity having a direct contract with the *Contractor* to perform a part or parts of the *Work* at the *Place of the Work*.

**Substantial Performance of the Work**

*Substantial Performance of the Work* is as defined in the lien legislation applicable to the *Place of the Work*.

**Supplemental Instruction**

A *Supplemental Instruction* is an instruction, not involving adjustment in the *Contract Price* or *Contract Time*, in the form of *Specifications*, *Drawings*, schedules, samples, models, or written instructions, consistent with the intent of the *Contract Documents*. It is to be issued by the *Consultant* to supplement the *Contract Documents* as required for the performance of the *Work*.

**Supplier**

A *Supplier* is a person or entity having a direct contract with the *Contractor* to supply *Products*.

**Temporary Work**

*Temporary Work* means temporary supports, structures, facilities, services, and other temporary items, excluding *Construction Equipment*, required for the execution of the *Work* but not incorporated into the *Work*.

**Value Added Taxes**

*Value Added Taxes* means such sum as shall be levied upon the *Contract Price* by the Federal or any Provincial or Territorial Government and is computed as a percentage of the *Contract Price* and includes the Goods and Services Tax, the Quebec Sales Tax, the Harmonized Sales Tax, and any similar tax, the collection and payment of which have been imposed on the *Contractor* by tax legislation.

**Work**

The *Work* means the total construction and related services required by the *Contract Documents*.

**Working Day**

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

## GENERAL CONDITIONS

### PART 1 GENERAL PROVISIONS

#### GC 1.1 CONTRACT DOCUMENTS

- 1.1.1 The intent of the *Contract Documents* is to include the labour, *Products* and services necessary for the performance of the *Work* by the *Contractor* in accordance with these documents. It is not intended, however, that the *Contractor* shall supply products or perform work not consistent with, not covered by, or not properly inferable from the *Contract Documents*.
- 1.1.2 The *Contract Documents* are complementary, and what is required by one shall be as binding as if required by all. Performance by the *Contractor* shall be required only to the extent consistent with the *Contract Documents*.
- 1.1.3 The *Contractor* shall review the *Contract Documents* for the purpose of facilitating co-ordination and execution of the *Work* by the *Contractor*.
- 1.1.4 The *Contractor* is not responsible for errors, omissions or inconsistencies in the *Contract Documents*. If there are perceived errors, omissions or inconsistencies discovered by or made known to the *Contractor*, the *Contractor* shall promptly report to the *Consultant* and shall not proceed with the work affected until the *Contractor* has received corrected or additional information from the *Consultant*.
- 1.1.5 If there is a conflict within the *Contract Documents*:
- .1 the order of priority of documents, from highest to lowest, shall be
    - the Agreement between *Owner* and *Contractor*,
    - the Definitions,
    - Supplementary Conditions,
    - the General Conditions,
    - Division 01 of the *Specifications*,
    - technical *Specifications*,
    - material and finishing schedules,
    - the *Drawings*.
  - .2 *Drawings* of larger scale shall govern over those of smaller scale of the same date.
  - .3 dimensions shown on *Drawings* shall govern over dimensions scaled from *Drawings*.
  - .4 amended or later dated documents shall govern over earlier documents of the same type.
  - .5 noted materials and annotations shall govern over graphic indications.
- 1.1.6 Nothing contained in the *Contract Documents* shall create any contractual relationship between:
- .1 the *Owner* and a *Subcontractor*, a *Supplier*, or their agent, employee, or other person performing any portion of the *Work*.
  - .2 the *Consultant* and the *Contractor*, a *Subcontractor*, a *Supplier*, or their agent, employee, or other person performing any portion of the *Work*.
- 1.1.7 Words and abbreviations which have well known technical or trade meanings are used in the *Contract Documents* in accordance with such recognized meanings.
- 1.1.8 References in the *Contract Documents* to the singular shall be considered to include the plural as the context requires.
- 1.1.9 Neither the organization of the *Specifications* nor the arrangement of *Drawings* shall control the *Contractor* in dividing the work among *Subcontractors* and *Suppliers*.
- 1.1.10 *Specifications*, *Drawings*, models, and copies thereof furnished by the *Consultant* are and shall remain the *Consultant's* property, with the exception of the signed *Contract* sets, which shall belong to each party to the *Contract*. All *Specifications*, *Drawings* and models furnished by the *Consultant* are to be used only with respect to the *Work* and are not to be used on other work. These *Specifications*, *Drawings* and models are not to be copied or altered in any manner without the written authorization of the *Consultant*.
- 1.1.11 Physical models furnished by the *Contractor* at the *Owner's* expense are the property of the *Owner*.

#### GC 1.2 LAW OF THE CONTRACT

- 1.2.1 The law of the *Place of the Work* shall govern the interpretation of the *Contract*.

#### GC 1.3 RIGHTS AND REMEDIES

- 1.3.1 Except as expressly provided in the *Contract Documents*, the duties and obligations imposed by the *Contract Documents* 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.

- 1.3.2 No action or failure to act by the *Owner*, the *Consultant* or the *Contractor* shall constitute a waiver of any right or duty afforded any of them under the *Contract*, nor shall any such action or failure to act constitute an approval of or acquiescence in any breach thereunder, except as may be specifically agreed in writing.

#### **GC 1.4 ASSIGNMENT**

- 1.4.1 Neither party to the *Contract* shall assign the *Contract* or a portion thereof without the written consent of the other, which consent shall not be unreasonably withheld.

### **PART 2 ADMINISTRATION OF THE CONTRACT**

#### **GC 2.1 AUTHORITY OF THE CONSULTANT**

- 2.1.1 The *Consultant* will have authority to act on behalf of the *Owner* only to the extent provided in the *Contract Documents*, unless otherwise modified by written agreement as provided in paragraph 2.1.2.
- 2.1.2 The duties, responsibilities and limitations of authority of the *Consultant* as set forth in the *Contract Documents* shall be modified or extended only with the written consent of the *Owner*, the *Consultant* and the *Contractor*.

#### **GC 2.2 ROLE OF THE CONSULTANT**

- 2.2.1 The *Consultant* will provide administration of the *Contract* as described in the *Contract Documents*.
- 2.2.2 The *Consultant* will visit the *Place of the Work* at intervals appropriate to the progress of construction to become familiar with the progress and quality of the work and to determine if the *Work* is proceeding in general conformity with the *Contract Documents*.
- 2.2.3 If the *Owner* and the *Consultant* agree, the *Consultant* will provide at the *Place of the Work*, one or more project representatives to assist in carrying out the *Consultant's* responsibilities. The duties, responsibilities and limitations of authority of such project representatives shall be as set forth in writing to the *Contractor*.
- 2.2.4 Based on the *Consultant's* observations and evaluation of the *Contractor's* applications for payment, the *Consultant* will determine the amounts owing to the *Contractor* under the *Contract* and will issue certificates for payment as provided in Article A-5 of the Agreement – PAYMENT, GC 5.3 – PAYMENT and GC 5.5 – FINAL PAYMENT.
- 2.2.5 The *Consultant* will not be responsible for and will not have control, charge or supervision of construction means, methods, techniques, sequences, or procedures, or for safety precautions and programs required in connection with the *Work* in accordance with the applicable construction safety legislation, other regulations or general construction practice. The *Consultant* will not be responsible for the *Contractor's* failure to perform the *Work* in accordance with the *Contract Documents*.
- 2.2.6 Except with respect to GC 5.1 – FINANCING INFORMATION REQUIRED OF THE OWNER, the *Consultant* will be, in the first instance, the interpreter of the requirements of the *Contract Documents*.
- 2.2.7 Matters in question relating to the performance of the *Work* or the interpretation of the *Contract Documents* shall be initially referred in writing to the *Consultant* by the party raising the question for interpretations and findings and copied to the other party.
- 2.2.8 Interpretations and findings of the *Consultant* shall be consistent with the intent of the *Contract Documents*. In making such interpretations and findings the *Consultant* will not show partiality to either the *Owner* or the *Contractor*.
- 2.2.9 The *Consultant's* interpretations and findings will be given in writing to the parties within a reasonable time.
- 2.2.10 With respect to claims for a change in *Contract Price*, the *Consultant* will make findings as set out in GC 6.6 – CLAIMS FOR A CHANGE IN CONTRACT PRICE.
- 2.2.11 The *Consultant* will have authority to reject work which in the *Consultant's* opinion does not conform to the requirements of the *Contract Documents*. Whenever the *Consultant* considers it necessary or advisable, the *Consultant* will have authority to require inspection or testing of work, whether or not such work is fabricated, installed or completed. However, neither the authority of the *Consultant* to act nor any decision either to exercise or not to exercise such authority shall give rise to any duty or responsibility of the *Consultant* to the *Contractor*, *Subcontractors*, *Suppliers*, or their agents, employees, or other persons performing any of the *Work*.
- 2.2.12 During the progress of the *Work* the *Consultant* will furnish *Supplemental Instructions* to the *Contractor* with reasonable promptness or in accordance with a schedule for such instructions agreed to by the *Consultant* and the *Contractor*.
- 2.2.13 The *Consultant* will review and take appropriate action upon *Shop Drawings*, samples and other submittals by the *Contractor*, in accordance with the *Contract Documents*.



- 2.2.14 The *Consultant* will prepare *Change Orders* and *Change Directives* as provided in GC 6.2 – CHANGE ORDER and GC 6.3 – CHANGE DIRECTIVE.
- 2.2.15 The *Consultant* will conduct reviews of the *Work* to determine the date of *Substantial Performance of the Work* and verify that *Ready-for-Takeover* has been attained.
- 2.2.16 All certificates issued by the *Consultant* will be to the best of the *Consultant's* knowledge, information and belief. By issuing any certificate, the *Consultant* does not guarantee the *Work* is correct or complete.
- 2.2.17 The *Consultant* will receive and review written warranties and related documents required by the *Contract* and provided by the *Contractor* and will forward such warranties and documents to the *Owner* for the *Owner's* acceptance.
- 2.2.18 If the *Consultant's* engagement is terminated, the *Owner* shall immediately engage a *Consultant* against whom the *Contractor* makes no reasonable objection and whose duties and responsibilities under the *Contract Documents* will be that of the former *Consultant*.

## **GC 2.3 REVIEW AND INSPECTION OF THE WORK**

- 2.3.1 The *Owner* and the *Consultant* shall have access to the *Work* at all times. The *Contractor* shall provide sufficient, safe and proper facilities at all times for the review of the *Work* by the *Consultant* and the inspection of the *Work* by authorized agencies. If parts of the *Work* are in preparation at locations other than the *Place of the Work*, the *Owner* and the *Consultant* shall be given access to such work whenever it is in progress.
- 2.3.2 If work is designated for tests, inspections or approvals in the *Contract Documents*, by the *Consultant's* instructions, or by the laws or ordinances of the *Place of the Work*, the *Contractor* shall give the *Consultant* reasonable notification of when the work will be ready for review and inspection. The *Contractor* shall arrange for and shall give the *Consultant* reasonable notification of the date and time of inspections by other authorities.
- 2.3.3 The *Contractor* shall furnish promptly to the *Consultant* two copies of certificates and inspection reports relating to the *Work*.
- 2.3.4 If the *Contractor* covers, or permits to be covered, work that has been designated for special tests, inspections or approvals before such special tests, inspections or approvals are made, given or completed, the *Contractor* shall, if so directed, uncover such work, have the inspections or tests satisfactorily completed, and make good covering work at the *Contractor's* expense.
- 2.3.5 The *Consultant* may order any portion or portions of the *Work* to be examined to confirm that such work is in accordance with the requirements of the *Contract Documents*. If the work is not in accordance with the requirements of the *Contract Documents*, the *Contractor* shall correct the work and pay the cost of examination and correction. If the work is in accordance with the requirements of the *Contract Documents*, the *Owner* shall pay the cost of examination and restoration.
- 2.3.6 The *Contractor* shall pay the cost of making any test or inspection, including the cost of samples required for such test or inspection, if such test or inspection is designated in the *Contract Documents* to be performed by the *Contractor* or is required by the laws or ordinances applicable to the *Place of the Work*.
- 2.3.7 The *Contractor* shall pay the cost of samples required for any test or inspection to be performed by others if such test or inspection is designated in the *Contract Documents*.

## **GC 2.4 DEFECTIVE WORK**

- 2.4.1 The *Contractor* shall promptly correct defective work that has been rejected by the *Consultant* as failing to conform to the *Contract Documents* whether or not the defective work was incorporated in the *Work* or the defect is the result of poor workmanship, use of defective products or damage through carelessness or other act or omission of the *Contractor*.
- 2.4.2 The *Contractor* shall make good promptly *Other Contractors' work* destroyed or damaged by such corrections at the *Contractor's* expense.
- 2.4.3 If in the opinion of the *Consultant* it is not expedient to correct defective work or work not performed as provided in the *Contract Documents*, the *Owner* 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*. If the *Owner* and the *Contractor* do not agree on the difference in value, they shall refer the matter to the *Consultant* for a finding.

## **PART 3 EXECUTION OF THE WORK**

### **GC 3.1 CONTROL OF THE WORK**

- 3.1.1 The *Contractor* shall have total control of the *Work* and shall effectively direct and supervise the *Work* so as to ensure conformity with the *Contract Documents*.

- 3.1.2 The *Contractor* shall be solely responsible for construction means, methods, techniques, sequences, and procedures and for co-ordinating the various parts of the *Work* under the *Contract*.

### **GC 3.2 CONSTRUCTION BY THE OWNER OR OTHER CONTRACTORS**

- 3.2.1 The *Owner* reserves the right to award separate contracts in connection with other parts of the *Project* to *Other Contractors* and to perform work with own forces.
- 3.2.2 When separate contracts are awarded for other parts of the *Project*, or when work is performed by the *Owner's* own forces, the *Owner* shall:
- .1 provide for the co-ordination of the activities and work of *Other Contractors* and the *Owner's* own forces with the *Work* of the *Contract*;
  - .2 enter into separate contracts with *Other Contractors* under conditions of contract which are compatible with the conditions of the *Contract*;
  - .3 ensure that insurance coverage is provided to the same requirements as are called for in GC 11.1 – INSURANCE and co-ordinate such insurance with the insurance coverage of the *Contractor* as it affects the *Work*; and
  - .4 take all reasonable precautions to avoid labour disputes or other disputes on the *Project* arising from the work of *Other Contractors* or the *Owner's* own forces.
- 3.2.3 When separate contracts are awarded for other parts of the *Project*, or when work is performed by the *Owner's* own forces, the *Contractor* shall:
- .1 afford the *Owner* and *Other Contractors* reasonable opportunity to store their products and execute their work;
  - .2 co-ordinate and schedule the *Work* with the work of *Other Contractors* or the *Owner's* own forces that are identified in the *Contract Documents*;
  - .3 participate with *Other Contractors* and the *Owner* in reviewing their construction schedules when directed to do so; and
  - .4 report promptly to the *Consultant* in writing any apparent deficiencies in the work of *Other Contractors* or of the *Owner's* own forces, where such work affects the proper execution of any portion of the *Work*, prior to proceeding with that portion of the *Work*.
- 3.2.4 Where a change in the *Work* is required as a result of the co-ordination and integration of the work of *Other Contractors* or *Owner's* own forces with the *Work*, the changes shall be authorized and valued as provided in GC 6.1 – OWNER'S RIGHT TO MAKE CHANGES, GC 6.2 – CHANGE ORDER and GC 6.3 – CHANGE DIRECTIVE.
- 3.2.5 Disputes and other matters in question between the *Contractor* and *Other Contractors* shall be dealt with as provided in Part 8 of the General Conditions – DISPUTE RESOLUTION provided the *Other Contractors* have reciprocal obligations. The *Contractor* shall be deemed to have consented to arbitration of any dispute with any *Other Contractor* whose contract with the *Owner* contains a similar agreement to arbitrate. In the absence of *Other Contractors* having reciprocal obligations, disputes and other matters in question initiated by the *Contractor* against *Other Contractors* will be considered disputes and other matters in question between the *Contractor* and the *Owner*.
- 3.2.6 Should the *Owner*, the *Consultant*, *Other Contractors*, or anyone employed by them directly or indirectly be responsible for ill-timed work necessitating cutting or remedial work to be performed, the cost of such cutting or remedial work shall be valued as provided in GC 6.1 – OWNER'S RIGHT TO MAKE CHANGES, GC 6.2 – CHANGE ORDER and GC 6.3 – CHANGE DIRECTIVE.

### **GC 3.3 TEMPORARY WORK**

- 3.3.1 The *Contractor* shall have the sole responsibility for the design, erection, operation, maintenance, and removal of *Temporary Work* unless otherwise specified in the *Contract Documents*.
- 3.3.2 The *Contractor* shall engage and pay for registered professional engineering personnel skilled in the appropriate disciplines to perform those functions referred to in paragraph 3.3.1 where required by law or by the *Contract Documents* and in all cases where such *Temporary Work* is of such a nature that professional engineering skill is required to produce safe and satisfactory results.
- 3.3.3 Notwithstanding the provisions of GC 3.1 – CONTROL OF THE WORK, paragraphs 3.3.1 and 3.3.2 or provisions to the contrary elsewhere in the *Contract Documents* where such *Contract Documents* include designs for *Temporary Work* or specify a method of construction in whole or in part, such designs or methods of construction shall be considered to be part of the design of the *Work* and the *Contractor* shall not be held responsible for that part of the design or the specified method of construction. The *Contractor* shall, however, be responsible for the execution of such design or specified method of construction in the same manner as for the execution of the *Work*.

### GC 3.4 CONSTRUCTION SCHEDULE

3.4.1 The *Contractor* shall:

- .1 prepare and submit to the *Owner* and the *Consultant* prior to the first application for payment, a construction schedule that indicates the timing of the major activities of the *Work* and provides sufficient detail of the critical events and their inter-relationship to demonstrate the *Work* will be performed in conformity with the *Contract Time*;
- .2 monitor the progress of the *Work* relative to the construction schedule and update the schedule on a monthly basis or as stipulated by the *Contract Documents*; and
- .3 advise the *Consultant* of any revisions required to the schedule as the result of extensions of the *Contract Time* as provided in Part 6 of the General Conditions – CHANGES IN THE WORK.

### GC 3.5 SUPERVISION

3.5.1 The *Contractor* shall provide all necessary supervision and appoint a competent representative who shall be in attendance at the *Place of the Work* while the *Work* is being performed. The appointed representative shall not be changed except for valid reason.

3.5.2 The appointed representative shall represent the *Contractor* at the *Place of the Work*. Information and instructions provided by the *Consultant* to the *Contractor's* appointed representative shall be deemed to have been received by the *Contractor*, except with respect to Article A-6 of the Agreement – RECEIPT OF AND ADDRESSES FOR NOTICES IN WRITING.

### GC 3.6 SUBCONTRACTORS AND SUPPLIERS

3.6.1 The *Contractor* shall preserve and protect the rights of the parties under the *Contract* with respect to work to be performed under subcontract, and shall:

- .1 enter into contracts or written agreements with *Subcontractors* and *Suppliers* to require them to perform their work as provided in the *Contract Documents*;
- .2 incorporate the applicable terms and conditions of the *Contract Documents* into all contracts or written agreements with *Subcontractors* and *Suppliers*; and
- .3 be as fully responsible to the *Owner* for acts and omissions of *Subcontractors*, *Suppliers* and any persons directly or indirectly employed by them as for acts and omissions of persons directly employed by the *Contractor*.

3.6.2 The *Contractor* shall indicate in writing, if requested by the *Owner*, those *Subcontractors* or *Suppliers* whose bids have been received by the *Contractor* which the *Contractor* would be prepared to accept for the performance of a portion of the *Work*. Should the *Owner* not object before signing the *Contract*, the *Contractor* shall employ those *Subcontractors* or *Suppliers* so identified by the *Contractor* in writing for the performance of that portion of the *Work* to which their bid applies.

3.6.3 The *Owner* may, for reasonable cause, at any time before the *Owner* has signed the *Contract*, object to the use of a proposed *Subcontractor* or *Supplier* and require the *Contractor* to employ one of the other subcontract bidders.

3.6.4 If the *Owner* requires the *Contractor* to change a proposed *Subcontractor* or *Supplier*, the *Contract Price* and *Contract Time* shall be adjusted by the difference occasioned by such required change.

3.6.5 The *Contractor* shall not be required to employ as a *Subcontractor* or *Supplier*, a person or firm to which the *Contractor* may reasonably object.

3.6.6 The *Owner*, through the *Consultant*, may provide to a *Subcontractor* or *Supplier* information as to the percentage of the *Subcontractor's* or *Supplier's* work which has been certified for payment.

### GC 3.7 LABOUR AND PRODUCTS

3.7.1 The *Contractor* shall maintain good order and discipline among the *Contractor's* employees engaged on the *Work* and employ only workers that are skilled in the tasks assigned.

3.7.2 The *Contractor* shall provide and pay for labour, *Products*, tools, *Construction Equipment*, water, heat, light, power, transportation, and other facilities and services necessary for the performance of the *Work* in accordance with the *Contract*.

3.7.3 Unless otherwise specified in the *Contract Documents*, *Products* provided shall be new. *Products* which are not specified shall be of a quality consistent with those specified and their use acceptable to the *Consultant*.

### GC 3.8 SHOP DRAWINGS

3.8.1 The *Contractor* shall provide *Shop Drawings* as required in the *Contract Documents*.

3.8.2 The *Contractor* shall provide *Shop Drawings* to the *Consultant* to review in accordance with an agreed schedule, or in the absence of an agreed schedule, in orderly sequence and sufficiently in advance so as to cause no delay in the *Work* or in the work of *Other Contractors* or the *Owner's* own forces.

- 3.8.3 The *Contractor* shall review all *Shop Drawings* before providing them to the *Consultant*. The *Contractor* represents by this review that:
- .1 the *Contractor* has determined and verified all applicable field measurements, field construction conditions, *Product* requirements, catalogue numbers and similar data, or will do so, and
  - .2 the *Contractor* has checked and co-ordinated each *Shop Drawing* with the requirements of the *Work* and of the *Contract Documents*.
- 3.8.4 The *Consultant's* review is for conformity to the design concept and for general arrangement only.
- 3.8.5 At the time of providing *Shop Drawings*, the *Contractor* shall expressly advise the *Consultant* in writing of any deviations in a *Shop Drawing* from the requirements of the *Contract Documents*. The *Consultant* shall indicate the acceptance or rejection of such deviation expressly in writing.
- 3.8.6 The *Consultant's* review shall not relieve the *Contractor* of responsibility for errors or omissions in the *Shop Drawings* or for meeting all requirements of the *Contract Documents*.
- 3.8.7 The *Consultant* will review and return *Shop Drawings* in accordance with the schedule agreed upon, or, in the absence of such schedule, with reasonable promptness so as to cause no delay in the performance of the *Work*.

## **PART 4 ALLOWANCES**

### **GC 4.1 CASH ALLOWANCES**

- 4.1.1 The *Contract Price* includes the cash allowances, if any, stated in the *Contract Documents*. The scope of the *Work* or costs included in such cash allowances shall be as described in the *Contract Documents*.
- 4.1.2 The *Contract Price*, and not the cash allowances, includes the *Contractor's* overhead and profit in connection with such cash allowances.
- 4.1.3 Expenditures under cash allowances shall be authorized by the *Owner* through the *Consultant*.
- 4.1.4 Where the actual cost of the *Work* under any cash allowance exceeds the amount of the allowance, any unexpended amounts from other cash allowances shall be reallocated, at the *Consultant's* direction, to cover the shortfall, and, in that case, there shall be no additional amount added to the *Contract Price* for overhead and profit. Only where the actual cost of the *Work* under all cash allowances exceeds the total amount of all cash allowances shall the *Contractor* be compensated for the excess incurred and substantiated, plus an amount for overhead and profit on the excess only, as set out in the *Contract Documents*.
- 4.1.5 The net amount of any unexpended cash allowances, after providing for any reallocations as contemplated in paragraph 4.1.4, shall be deducted from the *Contract Price* by *Change Order* without any adjustment for the *Contractor's* overhead and profit on such amount.
- 4.1.6 The value of the *Work* performed under a cash allowance is eligible to be included in progress payments.
- 4.1.7 The *Contractor* and the *Consultant* shall jointly prepare a schedule that shows when the items called for under cash allowances must be ordered to avoid delaying the progress of the *Work*.

### **GC 4.2 CONTINGENCY ALLOWANCE**

- 4.2.1 The *Contract Price* includes the contingency allowance, if any, stated in the *Contract Documents*.
- 4.2.2 The contingency allowance includes the *Contractor's* overhead and profit in connection with such contingency allowance.
- 4.2.3 Expenditures under the contingency allowance shall be authorized and valued as provided in GC 6.1 – OWNER'S RIGHT TO MAKE CHANGES, GC 6.2 – CHANGE ORDER and GC 6.3 – CHANGE DIRECTIVE.
- 4.2.4 The *Contract Price* shall be adjusted by *Change Order* to provide for any difference between the expenditures authorized under paragraph 4.2.3 and the contingency allowance.

## **PART 5 PAYMENT**

### **GC 5.1 FINANCING INFORMATION REQUIRED OF THE OWNER**

- 5.1.1 The *Owner* shall, at the request of the *Contractor*, before signing the *Contract*, and promptly from time to time thereafter, furnish to the *Contractor* reasonable evidence that financial arrangements have been made to fulfill the *Owner's* obligations under the *Contract*.
- 5.1.2 The *Owner* shall give the *Contractor Notice in Writing* of any material change in the *Owner's* financial arrangements to fulfil the *Owner's* obligations under the *Contract* during the performance of the *Contract*.

## **GC 5.2 APPLICATIONS FOR PAYMENT**

- 5.2.1 Applications for payment on account as provided in Article A-5 of the Agreement – PAYMENT shall be submitted monthly to the *Owner* and the *Consultant* simultaneously as the *Work* progresses.
- 5.2.2 Applications for payment shall be dated the last day of each payment period, which is the last day of the month or an alternative day of the month agreed in writing by the parties.
- 5.2.3 The amount claimed shall be for the value, proportionate to the amount of the *Contract*, of *Work* performed and *Products* delivered to the *Place of the Work* as of the last day of the payment period.
- 5.2.4 The *Contractor* shall submit to the *Consultant*, at least 15 calendar days before the first application for payment, a schedule of values for the parts of the *Work*, aggregating the total amount of the *Contract Price*, so as to facilitate evaluation of applications for payment.
- 5.2.5 The schedule of values shall be made out in such form as specified in the *Contract* and supported by such evidence as the *Consultant* may reasonably require.
- 5.2.6 Applications for payment shall be based on the schedule of values accepted by the *Consultant* and shall comply with the provisions of *Payment Legislation*.
- 5.2.7 Each application for payment shall include evidence of compliance with workers' compensation legislation at the *Place of the Work* and after the first payment, a declaration by the *Contractor* as to the distribution made of the amounts previously received using document CCDC 9A 'Statutory Declaration'.
- 5.2.8 Applications for payment for *Products* delivered to the *Place of the Work* but not yet incorporated into the *Work* shall be supported by such evidence as the *Consultant* may reasonably require to establish the value and delivery of the *Products*.

## **GC 5.3 PAYMENT**

- 5.3.1 After receipt by the *Consultant* and the *Owner* of an application for payment submitted by the *Contractor* in accordance with GC 5.2 – APPLICATIONS FOR PAYMENT:
  - .1 The *Consultant* will issue to the *Owner* and copy to the *Contractor*, no later than 10 calendar days after the receipt of the application for payment, a certificate for payment in the amount applied for, or in such other amount as the *Consultant* determines to be properly due. If the *Consultant* certifies a different amount, or rejects the application or part thereof, the *Owner* shall promptly issue a written notice to the *Contractor* giving reasons for the revision or rejection, such written notice to be in compliance with *Payment Legislation*.
  - .2 The *Owner* shall make payment to the *Contractor* on account as provided in Article A-5 of the Agreement – PAYMENT on or before 28 calendar days after the receipt by the *Owner* and the *Consultant* of the application for payment, and in any event, in compliance with *Payment Legislation*.

## **GC 5.4 SUBSTANTIAL PERFORMANCE OF THE WORK AND PAYMENT OF HOLDBACK**

- 5.4.1 The *Consultant* will review the *Work* to certify or verify the validity of the application for *Substantial Performance of the Work* and will promptly, and in any event, no later than 20 calendar days after receipt of the *Contractors* application:
  - .1 advise the *Contractor* in writing that the *Work* or the designated portion of the *Work* is not substantially performed and give reasons why, or
  - .2 state the date of *Substantial Performance of the Work* or a designated portion of the *Work* in a certificate and issue a copy of that certificate to each of the *Owner* and the *Contractor*.
- 5.4.2 Where the holdback amount required by the applicable lien legislation has not been placed in a separate lien holdback account, the *Owner* shall, no later than 10 calendar days prior to the expiry of the holdback period stipulated in the lien legislation applicable to the *Place of the Work*, place the holdback amount in a bank account in the joint names of the *Owner* and the *Contractor*.
- 5.4.3 Subject to the requirements of any *Payment Legislation*, all holdback amount prescribed by the applicable lien legislation for the *Work* shall become due and payable to the *Contractor* no later than 10 *Working Days* following the expiration of the holdback period stipulated in the lien legislation applicable to the *Place of the Work*.
- 5.4.4 The *Contractor* shall submit an application for payment of the lien holdback amount in accordance with GC 5.3 – PAYMENT.
- 5.4.5 Where legislation permits progressive release of the holdback for a portion of the *Work* and the *Consultant* has certified or verified that the part of the *Work* has been performed prior to *Substantial Performance of the Work*, the *Owner* hereby agrees to release, and shall release, such portion to the *Contractor* in accordance with such legislation.

- 5.4.6 Notwithstanding any progressive release of the holdback, the *Contractor* shall ensure that such parts of the *Work* are protected pending the issuance of a final certificate for payment and be responsible for the correction of defects or work not performed regardless of whether or not such was apparent when the holdback was released.

## **GC 5.5 FINAL PAYMENT**

- 5.5.1 When the *Contractor* considers that the *Work* is completed, the *Contractor* shall submit an application for final payment.
- 5.5.2 The *Consultant* will, no later than 10 calendar days after the receipt of an application from the *Contractor* for final payment, review the *Work* to verify the validity of the application and when the *Consultant* finds the *Contractor's* application for final payment valid, the *Consultant* will promptly issue a final certificate for payment to the *Owner*, with a copy to the *Contractor*.
- 5.5.3 If the *Consultant* rejects the application or part thereof, the *Owner* will promptly issue a written notice to the *Contractor* giving reasons for the revision or rejection, such written notice to be in compliance with *Payment Legislation*.
- 5.5.4 Subject to the provision of paragraph 10.4.1 of GC 10.4 – WORKERS' COMPENSATION, and any legislation applicable to the *Place of the Work*, the *Owner* shall, no later than 5 calendar days after the issuance of a final certificate for payment, pay the *Contractor* as provided in Article A-5 of the Agreement – PAYMENT and in any event, in compliance with *Payment Legislation*.

## **GC 5.6 DEFERRED WORK**

- 5.6.1 If because of climatic or other conditions reasonably beyond the control of the *Contractor*, or if the *Owner* and the *Contractor* agree that, there are items of work that must be deferred, payment in full for that portion of the *Work* which has been performed as certified by the *Consultant* shall not be withheld or delayed by the *Owner* on account thereof, but the *Owner* may withhold, until the remaining portion of the *Work* is finished, only such an amount that the *Consultant* determines is sufficient and reasonable to cover the cost of performing such deferred *Work*.

## **GC 5.7 NON-CONFORMING WORK**

- 5.7.1 No payment by the *Owner* under the *Contract* nor partial or entire use or occupancy of the *Work* by the *Owner* shall constitute an acceptance of any portion of the *Work* or *Products* which are not in accordance with the requirements of the *Contract Documents*.

## **PART 6 CHANGES IN THE WORK**

### **GC 6.1 OWNER'S RIGHT TO MAKE CHANGES**

- 6.1.1 The *Owner*, through the *Consultant*, without invalidating the *Contract*, may make:
- .1 changes in the *Work* consisting of additions, deletions or other revisions to the *Work* by *Change Order* or *Change Directive*, and
  - .2 changes to the *Contract Time* for the *Work*, or any part thereof, by *Change Order*.
- 6.1.2 The *Contractor* shall not perform a change in the *Work* without a *Change Order* or a *Change Directive*.

### **GC 6.2 CHANGE ORDER**

- 6.2.1 When a change in the *Work* is proposed or required, the *Consultant* will provide the *Contractor* with a written description of the proposed change in the *Work*. The *Contractor* shall promptly present to the *Consultant*, in a form that can be reasonably evaluated, a method of adjustment or an amount of adjustment for the *Contract Price*, if any, and the adjustment in the *Contract Time*, if any, for the proposed change in the *Work*.
- 6.2.2 When the *Owner* and the *Contractor* agree to the adjustments in the *Contract Price* and *Contract Time* or to the method to be used to determine the adjustments, such agreement shall be effective immediately and shall be recorded in a *Change Order*. The value of the work performed as the result of a *Change Order* shall be included in the applications for progress payment.

### **GC 6.3 CHANGE DIRECTIVE**

- 6.3.1 If the *Owner* requires the *Contractor* to proceed with a change in the *Work* prior to the *Owner* and the *Contractor* agreeing upon the corresponding adjustment in *Contract Price* and *Contract Time*, the *Owner*, through the *Consultant*, shall issue a *Change Directive*.
- 6.3.2 A *Change Directive* shall only be used to direct a change in the *Work* which is within the general scope of the *Contract Documents*.
- 6.3.3 A *Change Directive* shall not be used to direct a change in the *Contract Time* only.

- 6.3.4 Upon receipt of a *Change Directive*, the *Contractor* shall proceed promptly with the change in the *Work*.
- 6.3.5 For the purpose of valuing *Change Directives*, changes in the *Work* that are not substitutions or otherwise related to each other shall not be grouped together in the same *Change Directive*.
- 6.3.6 The adjustment in the *Contract Price* for a change carried out by way of a *Change Directive* shall be determined on the basis of the cost of the *Contractor's* actual expenditures and savings attributable to the *Change Directive*, valued in accordance with paragraph 6.3.7 and as follows:
- .1 If the change results in a net increase in the *Contractor's* cost, the *Contract Price* shall be increased by the amount of the net increase in the *Contractor's* cost, plus the *Contractor's* percentage fee on such net increase.
  - .2 If the change results in a net decrease in the *Contractor's* cost, the *Contract Price* shall be decreased by the amount of the net decrease in the *Contractor's* cost, without adjustment for the *Contractor's* percentage fee.
  - .3 The *Contractor's* fee shall be as specified in the *Contract Documents* or as otherwise agreed by the parties.
- 6.3.7 The cost of performing the work attributable to the *Change Directive* shall be limited to the actual cost of the following in as much as it contributes directly to the implementation of the *Change Directive*:

#### **Labour**

- .1 rates that are listed in the schedule or as agreed by the *Owner* and the *Contractor* including wages, benefits, compensation, contributions, assessments, or taxes incurred for such items as employment insurance, provincial or territorial health insurance, workers' compensation, and Canada or Quebec Pension Plan for:
  - (1) trade labour in the direct employ of the *Contractor*;
  - (2) the *Contractor's* personnel when stationed at the field office;
  - (3) the *Contractor's* personnel engaged at shops or on the road, in expediting the production or transportation of materials or equipment; and
  - (4) the *Contractor's* office personnel engaged in a technical capacity, or other personnel identified in Article A-3 of the Agreement – CONTRACT DOCUMENTS for the time spent in the performance of the *Work*;

#### **Products, Construction Equipment and Temporary Work**

- .2 cost of all *Products* including cost of transportation thereof;
- .3 in the absence of agreed rates, cost less salvage value of *Construction Equipment*, *Temporary Work* and tools, exclusive of hand tools under \$1,000 owned by the *Contractor*;
- .4 rental cost of *Construction Equipment*, *Temporary Work* and tools, exclusive of hand tools under \$1,000;
- .5 cost of all equipment and services required for the *Contractor's* field office;

#### **Subcontract**

- .6 subcontract amounts of Subcontractor with pricing mechanism approved by the *Owner*;

#### **Others**

- .7 travel and subsistence expenses of the *Contractor's* personnel described in paragraph 6.3.7.1;
- .8 deposits lost provided that they are not caused by negligent acts or omissions of the *Contractor*;
- .9 cost of quality assurance such as independent inspection and testing services;
- .10 charges levied by authorities having jurisdiction at the *Place of the Work*;
- .11 royalties, patent license fees, and damages for infringement of patents and cost of defending suits therefor subject always to the *Contractor's* obligations to indemnify the *Owner* as provided in paragraph 10.3.1 of GC 10.3 – PATENT FEES;
- .12 premium for all contract securities and insurance for which the *Contractor* is required, by the *Contract Documents*, to provide, maintain and pay in relation to the performance of the *Work*;
- .13 losses and expenses sustained by the *Contractor* for matters which are the subject of insurance under the policies prescribed in GC 11.1 – INSURANCE when such losses and expenses are not recoverable because the amounts are in excess of collectible amounts or within the deductible amounts;
- .14 taxes and duties, other than *Value Added Taxes*, income, capital, or property taxes, relating to the *Work* for which the *Contractor* is liable;
- .15 charges for voice and data communications, courier services, expressage, transmittal and reproduction of documents, and petty cash items;
- .16 cost for removal and disposal of waste products and debris;
- .17 legal costs, incurred by the *Contractor*, in relation to the performance of the *Work* provided that they are not:
  - (1) relating to a dispute between the *Owner* and the *Contractor* unless such costs are part of a settlement or awarded by arbitration or court,
  - (2) the result of the negligent acts or omissions of the *Contractor*, or
  - (3) the result of a breach of this *Contract* by the *Contractor*;
- .18 cost of auditing when requested by the *Owner*; and
- .19 cost of *Project* specific information technology in accordance with the method determined by the parties.

- 6.3.8 Notwithstanding any other provisions contained in the General Conditions of the *Contract*, it is the intention of the parties that the cost of any item under any cost element referred to in paragraph 6.3.7 shall cover and include any and all costs or liabilities attributable to the *Change Directive* other than those which are the result of or occasioned by any failure on the part of the *Contractor* to exercise reasonable care and diligence in the *Contractor's* attention to the *Work*. Any cost due to failure on the part of the *Contractor* to exercise reasonable care and diligence in the *Contractor's* performance of the *Work* attributable to the *Change Directive* shall be borne by the *Contractor*.
- 6.3.9 The *Contractor* shall keep full and detailed accounts and records necessary for the documentation of the cost of performing the *Work* attributable to the *Change Directive* and shall provide the *Consultant* with copies thereof.
- 6.3.10 For the purpose of valuing *Change Directives*, the *Owner* shall be afforded reasonable access to all of the *Contractor's* pertinent documents related to the cost of performing the *Work* attributable to the *Change Directive*.
- 6.3.11 Pending determination of the final amount of a *Change Directive*, the undisputed value of the *Work* performed as the result of a *Change Directive* is eligible to be included in progress payments.
- 6.3.12 If the *Owner* and the *Contractor* do not agree on the proposed adjustment in the *Contract Time* attributable to the change in the *Work*, or the method of determining it, the adjustment shall be referred to the *Consultant* for a finding.
- 6.3.13 When the *Owner* and the *Contractor* reach agreement on the adjustment to the *Contract Price* and to the *Contract Time*, this agreement shall be recorded in a *Change Order*.

#### **GC 6.4 CONCEALED OR UNKNOWN CONDITIONS**

- 6.4.1 If the *Owner* or the *Contractor* discover conditions at the *Place of the Work* which are:
- .1 subsurface or otherwise concealed physical conditions which existed before the commencement of the *Work* and differ materially from those indicated in the *Contract Documents*; or
  - .2 physical conditions, other than conditions due to weather, that are of a nature which differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the *Contract Documents*,
- then the observing party shall give *Notice in Writing* to the other party of such conditions before they are disturbed and in no event later than 5 *Working Days* after first observance of the conditions.
- 6.4.2 The *Consultant* will promptly investigate such conditions and make a finding. If the finding is that the conditions differ materially and this would cause an increase or decrease in the *Contractor's* cost or time to perform the *Work*, the *Owner*, through the *Consultant*, shall issue appropriate instructions for a change in the *Work* as provided in GC 6.2 – CHANGE ORDER or GC 6.3 – CHANGE DIRECTIVE.
- 6.4.3 If the *Consultant* finds that the conditions at the *Place of the Work* are not materially different or that no change in the *Contract Price* or the *Contract Time* is justified, the *Consultant* will promptly inform the *Owner* and the *Contractor* in writing.
- 6.4.4 If such concealed or unknown conditions relate to toxic and hazardous substances and materials, artifacts and fossils, or mould, the parties will be governed by the provisions of GC 9.2 – TOXIC AND HAZARDOUS SUBSTANCES, GC 9.3 – ARTIFACTS AND FOSSILS and GC 9.5 – MOULD.

#### **GC 6.5 DELAYS**

- 6.5.1 If the *Contractor* is delayed in the performance of the *Work* by the *Owner*, the *Consultant*, or anyone employed or engaged by them directly or indirectly, contrary to the provisions of the *Contract Documents*, then the *Contract Time* shall be extended for such reasonable time as the *Consultant* may recommend in consultation with the *Contractor*. The *Contractor* shall be reimbursed by the *Owner* for reasonable costs incurred by the *Contractor* as the result of such delay.
- 6.5.2 If the *Contractor* is delayed in the performance of the *Work* by a stop work order issued by a court or other public authority and providing that such order was not issued as the result of an act or fault of the *Contractor* or any person employed or engaged by the *Contractor* directly or indirectly, resulting in the failure of the *Contractor* to attain *Ready-for-Takeover* by the date stipulated in Article A-1 of the Agreement – THE WORK, then the *Contract Time* shall be extended for such reasonable time as the *Consultant* may recommend in consultation with the *Contractor*. The *Contractor* shall be reimbursed by the *Owner* for reasonable costs incurred by the *Contractor* as the result of such delay.
- 6.5.3 If the *Contractor* is delayed in the performance of the *Work* by:
- .1 labour disputes, strikes, lock-outs (including lock-outs decreed or recommended for its members by a recognized contractors' association, of which the *Contractor* is a member or to which the *Contractor* is otherwise bound),
  - .2 fire, unusual delay by common carriers or unavoidable casualties,
  - .3 abnormally adverse weather conditions, or



- .4 any cause beyond the *Contractor's* control other than one resulting from a default or breach of *Contract* by the *Contractor*, then the *Contract Time* shall be extended for such reasonable time as the *Consultant* may recommend in consultation with the *Contractor*. The extension of time shall not be less than the time lost as the result of the event causing the delay, unless the *Contractor* agrees to a shorter extension. The *Contractor* shall not be entitled to payment for costs incurred by such delays unless such delays result from actions by the *Owner*, the *Consultant* or anyone employed or engaged by them directly or indirectly.

6.5.4 No extension shall be made for delay unless *Notice in Writing* of the cause of delay is given to the *Consultant* not later than 10 *Working Days* after the commencement of the delay. In the case of a continuing cause of delay only one *Notice in Writing* shall be necessary.

6.5.5 If no schedule is made under paragraph 2.2.12 of GC 2.2 – ROLE OF THE CONSULTANT, then no request for extension shall be made because of failure of the *Consultant* to furnish instructions until 10 *Working Days* after demand for such instructions has been made.

## **GC 6.6 CLAIMS FOR A CHANGE IN CONTRACT PRICE**

6.6.1 If the *Contractor* intends to make a claim for an increase to the *Contract Price*, or if the *Owner* intends to make a claim against the *Contractor* for a credit to the *Contract Price*, the party that intends to make the claim shall give timely *Notice in Writing* of intent to claim to the other party and to the *Consultant*.

6.6.2 Upon commencement of the event or series of events giving rise to a claim, the party intending to make the claim shall:

- .1 take all reasonable measures to mitigate any loss or expense which may be incurred as a result of such event or series of events, and
- .2 keep such records as may be necessary to support the claim.

6.6.3 The party making the claim shall submit within a reasonable time to the *Consultant* a detailed account of the amount claimed and the grounds upon which the claim is based and the *Consultant* will make a finding upon such claim.

6.6.4 Where the event or series of events giving rise to the claim has a continuing effect, the detailed account submitted under paragraph 6.6.3 shall be considered to be an interim account and the party making the claim shall, at such intervals as the *Consultant* may reasonably require, submit further interim accounts giving the accumulated amount of the claim and any further grounds upon which it is based. The party making the claim shall submit a final account after the end of the effects resulting from the event or series of events.

6.6.5 The *Consultant's* findings, with respect to a claim made by either party, will be given by *Notice in Writing* to both parties within 30 *Working Days* after receipt of the claim by the *Consultant*, or within such other time period as may be agreed by the parties.

6.6.6 If such finding is not acceptable to either party, the claim shall be settled in accordance with Part 8 of the General Conditions – DISPUTE RESOLUTION.

## **PART 7 DEFAULT NOTICE**

### **GC 7.1 OWNER'S RIGHT TO PERFORM THE WORK, TERMINATE THE CONTRACTOR'S RIGHT TO CONTINUE WITH THE WORK OR TERMINATE THE CONTRACT**

7.1.1 If the *Contractor* is adjudged bankrupt, or makes a general assignment for the benefit of creditors because of the *Contractor's* insolvency, or if a receiver is appointed because of the *Contractor's* insolvency, the *Owner* may, without prejudice to any other right or remedy the *Owner* may have, terminate the *Contractor's* right to continue with the *Work*, by giving the *Contractor* or receiver or trustee in bankruptcy *Notice in Writing* to that effect.

7.1.2 If the *Contractor* neglects to perform the *Work* properly or otherwise fails to comply with the requirements of the *Contract* to a substantial degree and if the *Consultant* has given a written statement to the *Owner* and *Contractor* which provides the detail of such neglect to perform the *Work* properly or such failure to comply with the requirements of the *Contract* to a substantial degree, the *Owner* may, without prejudice to any other right or remedy the *Owner* may have, give the *Contractor Notice in Writing*, containing particulars of the default including references to applicable provisions of the *Contract*, that the *Contractor* is in default of the *Contractor's* contractual obligations and instruct the *Contractor* to correct the default in the 5 *Working Days* immediately following the receipt of such *Notice in Writing*.

7.1.3 If the default cannot be corrected in the 5 *Working Days* specified or in such other time period as may be subsequently agreed in writing by the parties, the *Contractor* shall be in compliance with the *Owner's* instructions if the *Contractor*:

- .1 commences the correction of the default within the specified time,
- .2 provides the *Owner* with an acceptable schedule for such correction, and
- .3 corrects the default in accordance with the *Contract* terms and with such schedule.

- 7.1.4 If the *Contractor* fails to correct the default in the time specified or in such other time period as may be subsequently agreed in writing by the parties, without prejudice to any other right or remedy the *Owner* may have, the *Owner* may by giving *Notice in Writing*:
- .1 correct such default and deduct the cost thereof from any payment then or thereafter due the *Contractor* for the *Work* provided the *Consultant* has certified such cost to the *Owner* and the *Contractor*, or
  - .2 terminate the *Contractor*'s right to continue with the *Work* in whole or in part or terminate the *Contract*.
- 7.1.5 If the *Owner* terminates the *Contractor*'s right to continue with the *Work* as provided in paragraphs 7.1.1 and 7.1.4, the *Owner* shall be entitled to:
- .1 take possession of the *Work* and *Products* at the *Place of the Work*; subject to the rights of third parties, utilize the *Construction Equipment* at the *Place of the Work*; finish the *Work* by whatever method the *Owner* may consider expedient, but without undue delay or expense,
  - .2 withhold further payment to the *Contractor* until a final certificate for payment is issued,
  - .3 charge the *Contractor* the amount by which the full cost of finishing the *Work* as certified by the *Consultant*, including compensation to the *Consultant* for the *Consultant*'s additional services and a reasonable allowance as determined by the *Consultant* to cover the cost of corrections to work performed by the *Contractor* that may be required under GC 12.3 – WARRANTY, exceeds the unpaid balance of the *Contract Price*; however, if such cost of finishing the *Work* is less than the unpaid balance of the *Contract Price*, the *Owner* shall pay the *Contractor* the difference, and
  - .4 on expiry of the warranty period, charge the *Contractor* the amount by which the cost of corrections to the *Contractor*'s work under GC 12.3 – WARRANTY exceeds the allowance provided for such corrections, or if the cost of such corrections is less than the allowance, pay the *Contractor* the difference.
- 7.1.6 The *Contractor*'s obligation under the *Contract* as to quality, correction and warranty of the work performed by the *Contractor* up to the time of termination shall continue in force after such termination of the *Contract*.

## **GC 7.2 CONTRACTOR'S RIGHT TO SUSPEND THE WORK OR TERMINATE THE CONTRACT**

- 7.2.1 If the *Owner* is adjudged bankrupt, or makes a general assignment for the benefit of creditors because of the *Owner*'s insolvency, or if a receiver is appointed because of the *Owner*'s insolvency, the *Contractor* may, without prejudice to any other right or remedy the *Contractor* may have, terminate the *Contract* by giving the *Owner* or receiver or trustee in bankruptcy *Notice in Writing* to that effect.
- 7.2.2 If the *Work* is suspended or otherwise delayed for a period of 20 *Working Days* or more under an order of a court or other public authority and providing that such order was not issued as the result of an act or fault of the *Contractor* or of anyone directly or indirectly employed or engaged by the *Contractor*, the *Contractor* may, without prejudice to any other right or remedy the *Contractor* may have, terminate the *Contract* by giving the *Owner* *Notice in Writing* to that effect.
- 7.2.3 The *Contractor* may give *Notice in Writing* to the *Owner*, with a copy to the *Consultant*, that the *Owner* is in default of the *Owner*'s contractual obligations if:
- .1 the *Owner* fails to furnish, when so requested by the *Contractor*, reasonable evidence that financial arrangements have been made to fulfill the *Owner*'s obligations under the *Contract*,
  - .2 the *Consultant* fails to issue a certificate as provided in Part 5 of the General Conditions – PAYMENT,
  - .3 the *Owner* fails to pay the *Contractor* when due the amounts certified by the *Consultant* or awarded by adjudication, arbitration or court, or
  - .4 the *Owner* fails to comply with the requirements of the *Contract* to a substantial degree and the *Consultant*, except for GC 5.1 – FINANCING INFORMATION REQUIRED OF THE OWNER, gives a written statement to the *Owner* and the *Contractor* that provides detail of such failure to comply with the requirements of the *Contract* to a substantial degree.
- 7.2.4 The *Contractor*'s *Notice in Writing* to the *Owner* provided under paragraph 7.2.3 shall advise that if the default is not corrected within 5 *Working Days* following the receipt of the *Notice in Writing*, the *Contractor* may, without prejudice to any other right or remedy the *Contractor* may have, suspend the *Work* or terminate the *Contract*.
- 7.2.5 If the *Contractor* terminates the *Contract* by giving a *Notice in Writing* to the *Owner* under the conditions set out above, the *Contractor* shall be entitled to be paid for all work performed including reasonable profit, for loss sustained upon *Products* and *Construction Equipment*, and such other damages as the *Contractor* may have sustained as a result of the termination of the *Contract*.

## **PART 8 DISPUTE RESOLUTION**

### **GC 8.1 AUTHORITY OF THE CONSULTANT**

- 8.1.1 Differences between the parties to the *Contract* as to the interpretation, application or administration of the *Contract* or any failure to agree where agreement between the parties is called for, herein collectively called disputes, which are not resolved

in the first instance by findings of the *Consultant* as provided in GC 2.2 – ROLE OF THE CONSULTANT, shall be settled in accordance with the requirements of Part 8 of the General Conditions – DISPUTE RESOLUTION.

- 8.1.2 If a dispute arises under the *Contract* in respect of a matter in which the *Consultant* has no authority under the *Contract* to make a finding, the procedures set out in paragraph 8.1.3 and paragraphs 8.3.3 to 8.3.8 of GC 8.3 – NEGOTIATION, MEDIATION AND ARBITRATION, and in GC 8.4 – RETENTION OF RIGHTS apply to that dispute with the necessary changes to detail as may be required.
- 8.1.3 If a dispute is not resolved promptly, the *Consultant* will give such instructions as in the *Consultant's* opinion are necessary for the proper performance of the *Work* and to prevent delays pending settlement of the dispute. The parties shall act immediately according to such instructions, it being understood that by so doing neither party will jeopardize any claim the party may have. If it is subsequently determined that such instructions were in error or at variance with the *Contract Documents*, the *Owner* shall pay the *Contractor* costs incurred by the *Contractor* in carrying out such instructions which the *Contractor* was required to do beyond what the *Contract Documents* correctly understood and interpreted would have required, including costs resulting from interruption of the *Work*.

## **GC 8.2 ADJUDICATION**

- 8.2.1 Nothing in this *Contract* shall be deemed to affect the rights of the parties to resolve any dispute by adjudication as may be prescribed by applicable legislation.

## **GC 8.3 NEGOTIATION, MEDIATION AND ARBITRATION**

- 8.3.1 In accordance with the rules for mediation as provided in CCDC 40 ‘Rules for Mediation and Arbitration of Construction Industry Disputes’ in effect at the time of bid closing, the parties shall appoint a Project Mediator
- .1 within 20 *Working Days* after the *Contract* was awarded, or
  - .2 if the parties neglected to make an appointment within the 20 *Working Days*, within 10 *Working Days* after either party by *Notice in Writing* requests that the Project Mediator be appointed.
- 8.3.2 A party shall be conclusively deemed to have accepted a finding of the *Consultant* under GC 2.2 – ROLE OF THE CONSULTANT and to have expressly waived and released the other party from any claims in respect of the particular matter dealt with in that finding unless, within 15 *Working Days* after receipt of that finding, the party sends a *Notice in Writing* of dispute to the other party and to the *Consultant*, which contains the particulars of the matter in dispute and the relevant provisions of the *Contract Documents*. The responding party shall send a *Notice in Writing* of reply to the dispute within 10 *Working Days* after receipt of such *Notice in Writing* setting out particulars of this response and any relevant provisions of the *Contract Documents*.
- 8.3.3 The parties shall make all reasonable efforts to resolve their dispute by amicable negotiations and agree to provide, without prejudice, frank, candid, and timely disclosure of relevant facts, information and documents to facilitate these negotiations.
- 8.3.4 After a period of 10 *Working Days* following receipt of a responding party’s *Notice in Writing* of reply under paragraph 8.3.2, the parties shall request the Project Mediator to assist the parties to reach agreement on any unresolved dispute. The mediated negotiations shall be conducted in accordance with the rules for mediation as provided in CCDC 40 in effect at the time of bid closing.
- 8.3.5 If the dispute has not been resolved at the mediation or within such further period as is agreed by the parties, the Project Mediator will terminate the mediated negotiations by giving *Notice in Writing* to the *Owner*, the *Contractor* and the *Consultant*.
- 8.3.6 By giving a *Notice in Writing* to the other party and the *Consultant*, not later than 10 *Working Days* after the date of termination of the mediated negotiations under paragraph 8.3.5, either party may refer the dispute to be finally resolved by arbitration under the rules of arbitration as provided in CCDC 40 in effect at the time of bid closing. The arbitration shall be conducted in the jurisdiction of the *Place of the Work*.
- 8.3.7 On expiration of the 10 *Working Days*, the arbitration agreement under paragraph 8.3.6 is not binding on the parties and, if a *Notice in Writing* is not given under paragraph 8.3.6 within the required time, the parties may refer the unresolved dispute to the courts or to any other form of dispute resolution, including arbitration, which they have agreed to use.
- 8.3.8 If neither party, by *Notice in Writing*, given within 10 *Working Days* of the date of *Notice in Writing* requesting arbitration in paragraph 8.3.6, requires that a dispute be arbitrated immediately, all disputes referred to arbitration as provided in paragraph 8.3.6 shall be:
- .1 held in abeyance until:
    - (1) *Ready-for-Takeover*,
    - (2) the *Contract* has been terminated, or
    - (3) the *Contractor* has abandoned the *Work*,whichever is earlier; and

- .2 consolidated into a single arbitration under the rules governing the arbitration under paragraph 8.3.6.

#### **GC 8.4 RETENTION OF RIGHTS**

- 8.4.1 It is agreed that no act by either party shall be construed as a renunciation or waiver of any rights or recourses, provided the party has given the *Notice in Writing* required under Part 8 of the General Conditions – DISPUTE RESOLUTION and has carried out the instructions as provided in paragraph 8.1.3 of GC 8.1 – AUTHORITY OF THE CONSULTANT.
- 8.4.2 Nothing in Part 8 of the General Conditions – DISPUTE RESOLUTION shall be construed in any way to limit a party from asserting any statutory right to a lien under applicable lien legislation of the jurisdiction of the *Place of the Work* and the assertion of such right by initiating judicial proceedings is not to be construed as a waiver of any right that party may have under paragraph 8.3.6 of GC 8.3 – NEGOTIATION, MEDIATION AND ARBITRATION to proceed by way of arbitration to adjudicate the merits of the claim upon which such a lien is based.

### **PART 9 PROTECTION OF PERSONS AND PROPERTY**

#### **GC 9.1 PROTECTION OF WORK AND PROPERTY**

- 9.1.1 The *Contractor* shall protect the *Work*, the *Owner's* property and property adjacent to the *Place of the Work* from damage which may arise as the result of the *Contractor's* operations under the *Contract*, and shall be responsible for such damage, except damage which occurs as the result of:
- .1 errors or omissions in the *Contract Documents*; or
  - .2 acts or omissions by the *Owner*, the *Consultant*, *Other Contractors*, or their agents and employees.
- 9.1.2 Before commencing any work, the *Contractor* shall determine the location of all underground utilities and structures indicated in the *Contract Documents* or that are reasonably apparent in an inspection of the *Place of the Work*.
- 9.1.3 Should the *Contractor* in the performance of the *Contract* damage the *Work*, the *Owner's* property or property adjacent to the *Place of the Work*, the *Contractor* shall be responsible for making good such damage at the *Contractor's* expense.
- 9.1.4 Should damage occur to the *Work* or the *Owner's* property for which the *Contractor* is not responsible, as provided in paragraph 9.1.1, the *Contractor* shall make good such damage to the *Work* and, if the *Owner* so directs, to the *Owner's* property. The *Contract Price* and *Contract Time* shall be adjusted as provided in GC 6.1 – OWNER'S RIGHT TO MAKE CHANGES, GC 6.2 – CHANGE ORDER and GC 6.3 – CHANGE DIRECTIVE.

#### **GC 9.2 TOXIC AND HAZARDOUS SUBSTANCES**

- 9.2.1 For the purposes of applicable legislation related to toxic and hazardous substances, the *Owner* shall be deemed to have control and management of the *Place of the Work* with respect to existing conditions.
- 9.2.2 Prior to the *Contractor* commencing the *Work*, the *Owner* shall,
- .1 take all reasonable steps to determine whether any toxic or hazardous substances are present at the *Place of the Work*, and
  - .2 provide the *Consultant* and the *Contractor* with a written list of any such substances that are known to exist and their locations.
- 9.2.3 The *Owner* shall take all reasonable steps to ensure that no person's exposure to any toxic or hazardous substance exceeds the time weighted levels prescribed by applicable legislation at the *Place of the Work* and that no property is damaged or destroyed as a result of exposure to, or the presence of, toxic or hazardous substances which were at the *Place of the Work* prior to the *Contractor* commencing the *Work*.
- 9.2.4 Unless the *Contract* expressly provides otherwise, the *Owner* shall be responsible for taking all necessary steps, in accordance with applicable legislation in force at the *Place of the Work*, to dispose of, store or otherwise render harmless any toxic or hazardous substance which was present at the *Place of the Work* prior to the *Contractor* commencing the *Work*.
- 9.2.5 If the *Contractor*
- .1 encounters toxic or hazardous substances at the *Place of the Work*, or
  - .2 has reasonable grounds to believe that toxic or hazardous substances are present at the *Place of the Work*, which were not brought to the *Place of the Work* by the *Contractor* or anyone for whom the *Contractor* is responsible and which were not disclosed by the *Owner* or which were disclosed but have not been dealt with as required under paragraph 9.2.4, the *Contractor* shall
  - .3 take all reasonable steps, including stopping the *Work*, to ensure that no person's exposure to any toxic or hazardous substance exceeds any applicable time weighted levels prescribed by applicable legislation at the *Place of the Work*, and
  - .4 immediately report the circumstances to the *Consultant* and the *Owner* in writing.

- 9.2.6 If the *Owner* and the *Contractor* do not agree on the existence, significance of, or whether the toxic or hazardous substances were brought onto the *Place of the Work* by the *Contractor* or anyone for whom the *Contractor* is responsible, the *Owner* shall retain and pay for an independent qualified expert to investigate and determine such matters. The expert's report shall be delivered to the *Owner* and the *Contractor*.
- 9.2.7 If the *Owner* and the *Contractor* agree or if the expert referred to in paragraph 9.2.6 determines that the toxic or hazardous substances were not brought onto the place of the *Work* by the *Contractor* or anyone for whom the *Contractor* is responsible, the *Owner* shall promptly at the *Owner's* own expense:
- .1 take all steps as required under paragraph 9.2.4;
  - .2 reimburse the *Contractor* for the costs of all steps taken pursuant to paragraph 9.2.5;
  - .3 extend the *Contract Time* for such reasonable time as the *Consultant* may recommend in consultation with the *Contractor* and the expert referred to in 9.2.6 and reimburse the *Contractor* for reasonable costs incurred as a result of the delay; and
  - .4 indemnify the *Contractor* as required by GC 13.1 – INDEMNIFICATION.
- 9.2.8 If the *Owner* and the *Contractor* agree or if the expert referred to in paragraph 9.2.6 determines that the toxic or hazardous substances were brought onto the place of the *Work* by the *Contractor* or anyone for whom the *Contractor* is responsible, the *Contractor* shall promptly at the *Contractor's* own expense:
- .1 take all necessary steps, in accordance with applicable legislation in force at the *Place of the Work*, to safely remove and dispose the toxic or hazardous substances;
  - .2 make good any damage to the *Work*, the *Owner's* property or property adjacent to the place of the *Work* as provided in paragraph 9.1.3 of GC 9.1 – PROTECTION OF WORK AND PROPERTY;
  - .3 reimburse the *Owner* for reasonable costs incurred under paragraph 9.2.6; and
  - .4 indemnify the *Owner* as required by GC 13.1 – INDEMNIFICATION.
- 9.2.9 If either party does not accept the expert's findings under paragraph 9.2.6, the disagreement shall be settled in accordance with Part 8 of the General Conditions – DISPUTE RESOLUTION. If such disagreement is not resolved promptly, the parties shall act immediately in accordance with the expert's determination and take the steps required by paragraph 9.2.7 or 9.2.8 it being understood that by so doing, neither party will jeopardize any claim that party may have to be reimbursed as provided by GC 9.2 – TOXIC AND HAZARDOUS SUBSTANCES.

### GC 9.3 ARTIFACTS AND FOSSILS

- 9.3.1 Fossils, coins, articles of value or antiquity, structures and other remains or things of scientific or historic interest discovered at the *Place or Work* shall, as between the *Owner* and the *Contractor*, be deemed to be the absolute property of the *Owner*.
- 9.3.2 The *Contractor* shall take all reasonable precautions to prevent removal or damage to discoveries as identified in paragraph 9.3.1, and shall advise the *Consultant* upon discovery of such items.
- 9.3.3 The *Consultant* will investigate the impact on the *Work* of the discoveries identified in paragraph 9.3.1. If conditions are found that would cause an increase or decrease in the *Contractor's* cost or time to perform the *Work*, the *Owner*, through the *Consultant*, shall issue appropriate instructions for a change in the *Work* as provided in GC 6.2 – CHANGE ORDER or GC 6.3 – CHANGE DIRECTIVE.

### GC 9.4 CONSTRUCTION SAFETY

- 9.4.1 The *Contractor* shall be responsible for establishing, initiating, maintaining, and supervising all health and safety precautions and programs in connection with the performance of the *Work* in accordance with the applicable health and safety legislation.
- 9.4.2 The *Owner* and the *Contractor* shall comply with all health and safety precautions and programs established at the *Place of the Work*.
- 9.4.3 The *Owner* and the *Contractor* shall comply with the rules, regulations and practices required by the applicable health and safety legislation.
- 9.4.4 The *Owner* shall cause the *Consultant*, *Other Contractors* and the *Owner's* own forces to comply with all health and safety precautions and programs established by the *Contractor* at the *Place of the Work*.
- 9.4.5 Nothing in this *Contract* shall affect the determination of liability under the applicable health and safety legislation.

### GC 9.5 MOULD

- 9.5.1 If the *Contractor* or the *Owner* observes or reasonably suspects the presence of mould at the *Place of the Work*, the remediation of which is not expressly part of the *Work*,
- .1 the observing party shall promptly report the circumstances to the other party in writing,
  - .2 the *Contractor* shall promptly take all reasonable steps, including stopping the *Work* if necessary, to ensure that no person suffers injury, sickness or death and that no property is damaged as a result of exposure to or the presence of the mould, and

- .3 if the *Owner* and the *Contractor* do not agree on the existence, significance or cause of the mould or as to what steps need be taken to deal with it, the *Owner* shall retain and pay for an independent qualified expert to investigate and determine such matters. The expert's report shall be delivered to the *Owner* and the *Contractor*.
- 9.5.2 If the *Owner* and the *Contractor* agree, or if the expert referred to in paragraph 9.5.1.3 determines that the presence of mould was caused by the *Contractor*'s operations under the *Contract*, the *Contractor* shall promptly, at the *Contractor*'s own expense:
- .1 take all reasonable and necessary steps to safely remediate or dispose of the mould,
  - .2 make good any damage to the *Work*, the *Owner*'s property or property adjacent to the *Place of the Work* as provided in paragraph 9.1.3 of GC 9.1 – PROTECTION OF WORK AND PROPERTY,
  - .3 reimburse the *Owner* for reasonable costs incurred under paragraph 9.5.1.3, and
  - .4 indemnify the *Owner* as required by GC 13.1 – INDEMNIFICATION.
- 9.5.3 If the *Owner* and the *Contractor* agree, or if the expert referred to in paragraph 9.5.1.3 determines that the presence of mould was not caused by the *Contractor*'s operations under the *Contract*, the *Owner* shall promptly, at the *Owner*'s own expense:
- .1 take all reasonable and necessary steps to safely remediate or dispose of the mould,
  - .2 reimburse the *Contractor* for the cost of taking the steps under paragraph 9.5.1.2 and making good any damage to the *Work* as provided in paragraph 9.1.4 of GC 9.1 – PROTECTION OF WORK AND PROPERTY,
  - .3 extend the *Contract Time* for such reasonable time as the *Consultant* may recommend in consultation with the *Contractor* and the expert referred to in paragraph 9.5.1.3 and reimburse the *Contractor* for reasonable costs incurred as a result of the delay, and
  - .4 indemnify the *Contractor* as required by GC 13.1 – INDEMNIFICATION.
- 9.5.4 If either party does not accept the expert's finding under paragraph 9.5.1.3, the disagreement shall be settled in accordance with Part 8 of the General Conditions – DISPUTE RESOLUTION. If such disagreement is not resolved promptly, the parties shall act immediately in accordance with the expert's determination and take the steps required by paragraphs 9.5.2 or 9.5.3, it being understood that by so doing neither party will jeopardize any claim the party may have to be reimbursed as provided by GC 9.5 – MOULD.

## PART 10 GOVERNING REGULATIONS

### GC 10.1 TAXES AND DUTIES

- 10.1.1 The *Contract Price* shall include all taxes and customs duties in effect at the time of the bid closing except for *Value Added Taxes* payable by the *Owner* to the *Contractor* as stipulated in Article A-4 of the Agreement – CONTRACT PRICE.
- 10.1.2 Any increase or decrease in costs to the *Contractor* due to changes in taxes and duties after the time of the bid closing shall increase or decrease the *Contract Price* accordingly.

### GC 10.2 LAWS, NOTICES, PERMITS, AND FEES

- 10.2.1 The laws of the *Place of the Work* shall govern the *Work*.
- 10.2.2 The *Owner* shall obtain and pay for development approvals, building permit, permanent easements, rights of servitude, and all other necessary approvals and permits, except for the permits and fees referred to in paragraph 10.2.3 or for which the *Contract Documents* specify as the responsibility of the *Contractor*.
- 10.2.3 The *Contractor* shall be responsible for the procurement of permits, licences, inspections, and certificates, which are necessary for the performance of the *Work* and customarily obtained by contractors in the jurisdiction of the *Place of the Work* after the issuance of the building permit. The *Contract Price* includes the cost of these permits, licences, inspections, and certificates, and their procurement.
- 10.2.4 The *Contractor* shall give the required notices and comply with the laws, ordinances, rules, regulations, or codes which are or become in force during the performance of the *Work* and which relate to the *Work*, to the preservation of the public health, and to construction safety.
- 10.2.5 The *Contractor* shall not be responsible for verifying that the *Contract Documents* are in compliance with the applicable laws, ordinances, rules, regulations, or codes relating to the *Work*. If the *Contract Documents* are at variance therewith, or if, subsequent to the time of bid closing, changes are made to the applicable laws, ordinances, rules, regulations, or codes which require modification to the *Contract Documents*, the *Contractor* shall advise the *Consultant* in writing requesting direction immediately upon such variance or change becoming known. The *Consultant* will issue the changes required to the *Contract Documents* as provided in GC 6.1 – OWNER'S RIGHT TO MAKE CHANGES, GC 6.2 – CHANGE ORDER and GC 6.3 – CHANGE DIRECTIVE.

- 10.2.6 If the *Contractor* fails to advise the *Consultant* in writing; fails to obtain direction as required in paragraph 10.2.5; and performs work knowing it to be contrary to any laws, ordinances, rules, regulations, or codes; the *Contractor* shall be responsible for and shall correct the violations thereof; and shall bear the costs, expenses and damages attributable to the failure to comply with the provisions of such laws, ordinances, rules, regulations, or codes.
- 10.2.7 If, subsequent to the time of bid closing, changes are made to applicable laws, ordinances, rules, regulations, or codes of authorities having jurisdiction which affect the cost of the *Work*, either party may submit a claim in accordance with the requirements of GC 6.6 – CLAIMS FOR A CHANGE IN CONTRACT PRICE.

### GC 10.3 PATENT FEES

- 10.3.1 The *Contractor* shall pay the royalties and patent licence fees required for the performance of the *Contract*. The *Contractor* shall hold the *Owner* harmless from and against claims, demands, losses, costs, damages, actions, suits, or proceedings arising out of the *Contractor*'s performance of the *Contract* which are attributable to an infringement or an alleged infringement of a patent of invention by the *Contractor* or anyone for whose acts the *Contractor* may be liable.
- 10.3.2 The *Owner* shall hold the *Contractor* harmless against claims, demands, losses, costs, damages, actions, suits, or proceedings arising out of the *Contractor*'s performance of the *Contract* which are attributable to an infringement or an alleged infringement of a patent of invention in executing anything for the purpose of the *Contract*, the physical model, plan or design of which was supplied to the *Contractor* as part of the *Contract*.

### GC 10.4 WORKERS' COMPENSATION

- 10.4.1 Prior to commencing the *Work*, and again with the *Contractor*'s applications for payment, the *Contractor* shall provide evidence of compliance with workers' compensation legislation at the *Place of the Work*.

## PART 11 INSURANCE

### GC 11.1 INSURANCE

- 11.1.1 Without restricting the generality of GC 13.1 – INDEMNIFICATION, the *Contractor* shall provide, maintain and pay for the following insurance coverages, the requirements of which are specified in CCDC 41 'CCDC Insurance Requirements' in effect at the time of bid closing except as hereinafter provided:
- .1 General liability insurance in the name of the *Contractor* and include, or in the case of a single, blanket policy, be endorsed to name, the *Owner* and the *Consultant* as insureds but only with respect to liability, other than legal liability arising out of their sole negligence, arising out of the operations of the *Contractor* with regard to the *Work*. General liability insurance shall be maintained from the date of commencement of the *Work* until one year from the date of *Ready-for-Takeover*. Liability coverage shall be provided for completed operations hazards from the date of *Ready-for-Takeover* on an ongoing basis for a period of 6 years following *Ready-for-Takeover*.
  - .2 Automobile Liability Insurance from the date of commencement of the *Work* until one year after the date of *Ready-for-Takeover*.
  - .3 Unmanned aerial vehicle aircraft, manned aircraft or watercraft Liability Insurance when owned or non-owned manned or unmanned aircraft or watercraft are used directly or indirectly in the performance of the *Work*.
  - .4 "Broad form" property insurance in the joint names of the *Contractor*, the *Owner* and the *Consultant*. The policy shall include as insureds all *Subcontractors*. The "Broad form" property insurance shall be provided from the date of commencement of the *Work* until the earliest of:
    - (1) 10 calendar days after the date of *Ready-for-Takeover*;
    - (2) on the commencement of use or occupancy of any part or section of the *Work* unless such use or occupancy is for construction purposes, habitational, office, banking, convenience store under 465 square metres in area, or parking purposes, or for the installation, testing and commissioning of equipment forming part of the *Work*; and
    - (3) when left unattended for more than 30 consecutive calendar days or when construction activity has ceased for more than 30 consecutive calendar days.
  - .5 Boiler and machinery insurance in the joint names of the *Contractor*, the *Owner* and the *Consultant*. The policy shall include as insureds all *Subcontractors*. The coverage shall be maintained continuously from commencement of use or operation of the boiler and machinery objects insured by the policy and until 10 calendar days after the date of *Ready-for-Takeover*.
  - .6 The "Broad form" property and boiler and machinery policies shall provide that, in the case of a loss or damage, payment shall be made to the *Owner* and the *Contractor* as their respective interests may appear. In the event of loss or damage:
    - (1) the *Contractor* shall act on behalf of the *Owner* for the purpose of adjusting the amount of such loss or damage payment with the insurers. When the extent of the loss or damage is determined, the *Contractor* shall proceed to restore the *Work*. Loss or damage shall not affect the rights and obligations of either party under the *Contract* except

that the *Contractor* shall be entitled to such reasonable extension of *Contract Time* relative to the extent of the loss or damage as the *Consultant* may recommend in consultation with the *Contractor*;

- (2) the *Contractor* shall be entitled to receive from the *Owner*, in addition to the amount due under the *Contract*, the amount which the *Owner's* interest in restoration of the *Work* has been appraised, such amount to be paid as the restoration of the *Work* proceeds in accordance with the progress payment provisions. In addition the *Contractor* shall be entitled to receive from the payments made by the insurer the amount of the *Contractor's* interest in the restoration of the *Work*; and
- (3) to the *Work* arising from the work of the *Owner*, the *Owner's* own forces or *Other Contractors*, the *Owner* shall, in accordance with the *Owner's* obligations under the provisions relating to construction by the *Owner* or *Other Contractors*, pay the *Contractor* the cost of restoring the *Work* as the restoration of the *Work* proceeds and as in accordance with the progress payment provisions.

- .7 *Contractors' Equipment Insurance* from the date of commencement of the *Work* until one year after the date of *Ready-for-Takeover*.
- .8 *Contractors' Pollution Liability Insurance* from the date of commencement of the *Work* until one year after the date of *Ready-for-Takeover*.

- 11.1.2 Prior to commencement of the *Work* and upon the placement, renewal, amendment, or extension of all or any part of the insurance, the *Contractor* shall promptly provide the *Owner* with confirmation of coverage and, if required, a certified true copy of the policies certified by an authorized representative of the insurer together with copies of any amending endorsements applicable to the *Work*.
- 11.1.3 The parties shall pay their share of the deductible amounts in direct proportion to their responsibility in regards to any loss for which the above policies are required to pay, except where such amounts may be excluded by the terms of the *Contract*.
- 11.1.4 If the *Contractor* fails to provide or maintain insurance as required by the *Contract Documents*, then the *Owner* shall have the right to provide and maintain such insurance and give evidence to the *Contractor* and the *Consultant*. The *Contractor* shall pay the cost thereof to the *Owner* on demand or the *Owner* may deduct the cost from the amount which is due or may become due to the *Contractor*.
- 11.1.5 All required insurance policies shall be with insurers licensed to underwrite insurance in the jurisdiction of the *Place of the Work*.
- 11.1.6 If a revised version of CCDC 41 is published, which specifies reduced insurance requirements, the parties shall address such reduction, prior to the *Contractor's* insurance policy becoming due for renewal, and record any agreement in a *Change Order*.
- 11.1.7 If a revised version of CCDC 41 is published, which specifies increased insurance requirements, the *Owner* may request the increased coverage from the *Contractor* by way of a *Change Order*.
- 11.1.8 A *Change Directive* shall not be used to direct a change in the insurance requirements in response to the revision of CCDC 41.

## PART 12 OWNER TAKEOVER

### GC 12.1 READY-FOR-TAKEOVER

- 12.1.1 The prerequisites to attaining *Ready-for-Takeover* of the *Work* are limited to the following:
  - .1 The *Consultant* has certified or verified the *Substantial Performance of the Work*.
  - .2 Evidence of compliance with the requirements for occupancy or occupancy permit as prescribed by the authorities having jurisdiction.
  - .3 Final cleaning and waste removal at the time of applying for *Ready-for-Takeover*, as required by the *Contract Documents*.
  - .4 The delivery to the *Owner* of such operations and maintenance documents reasonably necessary for immediate operation and maintenance, as required by the *Contract Documents*.
  - .5 Make available a copy of the as-built drawings completed to date on site.
  - .6 Startup, testing required for immediate occupancy, as required by the *Contract Documents*.
  - .7 Ability to secure access to the *Work* has been provided to the *Owner*, if required by the *Contract Documents*.
  - .8 Demonstration and training, as required by the *Contract Documents*, is scheduled by the *Contractor* acting reasonably.
- 12.1.2 If any prerequisites set forth in paragraphs 12.1.1.3 to 12.1.1.6 must be deferred because of conditions reasonably beyond the control of the *Contractor*, or by agreement between the *Owner* and the *Contractor* to do so, *Ready-for-Takeover* shall not be delayed.
- 12.1.3 When the *Contractor* considers that the *Work* is *Ready-for-Takeover*, the *Contractor* shall deliver to the *Consultant* and to the *Owner* a comprehensive list of items to be completed or corrected, together with a written application for *Ready-for-Takeover* for review. Failure to include an item on the list does not alter the responsibility of the *Contractor* to complete the *Contract*.
- 12.1.4 The *Consultant* will review the *Work* to verify the validity of the application and will promptly, and in any event, no later than 10 calendar days after receipt of the *Contractor's* list and application:



- .1 advise the *Contractor* in writing that the *Work* is not *Ready-for-Takeover* and give reasons why, or
- .2 confirm the date of *Ready-for-Takeover* in writing to each of the *Owner* and the *Contractor*.

12.1.5 Immediately following the confirmation of the date of *Ready-for-Takeover*, the *Contractor*, in consultation with the *Consultant*, shall establish a reasonable date for finishing the *Work*.

12.1.6 The provision of GC 12.1 – READY-FOR-TAKEOVER shall be subject to GC 12.2 – EARLY OCCUPANCY BY THE OWNER.

## **GC 12.2 EARLY OCCUPANCY BY THE OWNER**

12.2.1 The *Owner* may take occupancy of a part or the entirety of the *Work* before *Ready-for-Takeover* has been attained only as agreed by the *Contractor* which agreement shall not be unreasonably withheld.

12.2.2 The *Owner* shall not occupy a part or the entirety of the *Work* without prior approval by authorities having jurisdiction.

12.2.3 If the *Owner* takes occupancy of a part of the *Work* before *Ready-for-Takeover* has been attained:

- .1 The part of the *Work* which is occupied shall be deemed to have been taken over by the *Owner* as from the date on which it is occupied.
- .2 The *Contractor* shall cease to be liable for the care of such part as from this date, when responsibility shall pass to the *Owner*.
- .3 The warranty period specified in paragraph 12.3.1 of GC 12.3 – WARRANTY for that part of the *Work* shall start from the date on which it is occupied.

12.2.4 If the *Owner* takes occupancy of the entirety of the *Work* before all the prerequisites are met as described in paragraph 12.1.1 of GC 12.1 – READY-FOR-TAKEOVER, the *Work* shall, subject to the requirements of the applicable lien legislation, be deemed to achieve *Ready-for-Takeover*. This shall not relieve the *Contractor*'s responsibility to complete the *Work* in a timely manner.

## **GC 12.3 WARRANTY**

12.3.1 Except for extended warranties as described in paragraph 12.3.6, the warranty period under the *Contract* is one year from the date when *Ready-for-Takeover* has been attained.

12.3.2 The *Contractor* shall be responsible for the proper performance of the *Work* to the extent that the design and *Contract Documents* permit such performance.

12.3.3 The *Owner*, through the *Consultant*, shall promptly give the *Contractor Notice in Writing* of observed defects and deficiencies which occur during the one year warranty period.

12.3.4 Subject to paragraph 12.3.2, the *Contractor* shall correct promptly, at the *Contractor*'s expense, defects or deficiencies in the *Work* which appear prior to and during the one year warranty period.

12.3.5 The *Contractor* shall correct or pay for damage resulting from corrections made under the requirements of paragraph 12.3.4.

12.3.6 Any extended warranties required beyond the one year warranty period as described in paragraph 12.3.1, shall be as specified in the *Contract Documents*. Extended warranties shall be issued by the warrantor to the benefit of the *Owner*. The *Contractor*'s responsibility with respect to extended warranties shall be limited to obtaining any such extended warranties from the warrantor. The obligations under such extended warranties are solely the responsibilities of the warrantor.

## **PART 13 INDEMNIFICATION AND WAIVER**

### **GC 13.1 INDEMNIFICATION**

13.1.1 Without restricting the parties' obligation to indemnify respecting toxic and hazardous substances, patent fees and defect in title claims all as described in paragraphs 13.1.4 and 13.1.5, the *Owner* and the *Contractor* shall each indemnify and hold harmless the other from and against all claims, demands, losses, costs, damages, actions, suits, or proceedings whether in respect to losses suffered by them or in respect to claims by third parties that arise out of, or are attributable in any respect to their involvement as parties to this *Contract*, provided such claims are:

- .1 caused by:
  - (1) the negligent acts or omissions of the party from whom indemnification is sought or anyone for whose negligent acts or omissions that party is liable, or
  - (2) a failure of the party to the *Contract* from whom indemnification is sought to fulfill its terms or conditions; and
- .2 made by *Notice in Writing* within a period of 6 years from the *Ready-for-Takeover* date or within such shorter period as may be prescribed by any limitation statute of the Province or Territory of the *Place of the Work*.

The parties expressly waive the right to indemnity for claims other than those provided for in this *Contract*.

- 13.1.2 The obligation of either party to indemnify as set forth in paragraph 13.1.1 shall be limited as follows:
- .1 In respect to losses suffered by the *Owner* and the *Contractor* for which insurance is to be provided by either party pursuant to GC 11.1 – INSURANCE, the minimum liability insurance limit for one occurrence, of the applicable insurance policy, as referred to in CCDC 41 in effect at the time of bid closing.
  - .2 In respect to losses suffered by the *Owner* and the *Contractor* for which insurance is not required to be provided by either party in accordance with GC 11.1 – INSURANCE, the greater of the *Contract Price* as recorded in Article A-4 – CONTRACT PRICE or \$2,000,000, but in no event shall the sum be greater than \$20,000,000.
  - .3 In respect to indemnification by a party against the other with respect to losses suffered by them, such obligation shall be restricted to direct loss and damage, and neither party shall have any liability to the other for indirect, consequential, punitive or exemplary damages.
  - .4 In respect to indemnification respecting claims by third parties, the obligation to indemnify is without limit.
- 13.1.3 The obligation of either party to indemnify the other as set forth in paragraphs 13.1.1 and 13.1.2 shall be inclusive of interest and all legal costs.
- 13.1.4 The *Owner* and the *Contractor* shall indemnify and hold harmless the other from and against all claims, demands, losses, costs, damages, actions, suits, or proceedings arising out of their obligations described in GC 9.2 – TOXIC AND HAZARDOUS SUBSTANCES.
- 13.1.5 The *Owner* shall indemnify and hold harmless the *Contractor* from and against all claims, demands, losses, costs, damages, actions, suits, or proceedings:
- .1 as described in paragraph 10.3.2 of GC 10.3 – PATENT FEES, and
  - .2 arising out of the *Contractor*'s performance of the *Contract* which are attributable to a lack of or defect in title or an alleged lack of or defect in title to the *Place of the Work*.
- 13.1.6 In respect to any claim for indemnity or to be held harmless by the *Owner* or the *Contractor*:
- .1 *Notice in Writing* of such claim shall be given within a reasonable time after the facts upon which such claim is based become known; and
  - .2 should any party be required as a result of its obligation to indemnify another to pay or satisfy a final order, judgment or award made against the party entitled by this contract to be indemnified, then the indemnifying party upon assuming all liability for any costs that might result shall have the right to appeal in the name of the party against whom such final order or judgment has been made until such rights of appeal have been exhausted.

## GC 13.2 WAIVER OF CLAIMS

- 13.2.1 Subject to any lien legislation applicable to the *Place of the Work*, the *Contractor* waives and releases the *Owner* from all claims which the *Contractor* has or reasonably ought to have knowledge of that could be advanced by the *Contractor* against the *Owner* under the *Contract*, including, without limitation, those arising from negligence or breach of contract in respect to which the cause of action is based upon acts or omissions which occurred prior to or on the *Ready-for-Takeover* date, except as follows:
- .1 claims arising prior to or on the *Ready-for-Takeover* date for which *Notice in Writing* of claim has been received by the *Owner* from the *Contractor* no later than 5 calendar days before the expiry of the lien period provided by the lien legislation applicable at the *Place of the Work* or 20 calendar days following the *Ready-for-Takeover* date, whichever is later;
  - .2 indemnification for claims advanced against the *Contractor* by third parties for which a right of indemnification may be asserted by the *Contractor* against the *Owner* pursuant to the provisions of this *Contract*;
  - .3 claims respecting toxic and hazardous substances, patent fees and defect in title matters for which a right of indemnity could be asserted by the *Contractor* pursuant to the provisions of paragraphs 13.1.4 or 13.1.5 of GC 13.1 – INDEMNIFICATION; and
  - .4 claims resulting from acts or omissions which occur after the *Ready-for-Takeover* date.
- 13.2.2 The *Contractor* waives and releases the *Owner* from all claims resulting from acts or omissions which occurred after the *Ready-for-Takeover* date except for:
- .1 indemnification respecting third party claims, and claims respecting toxic and hazardous substances, patent fees and defect in title matters, all as referred in paragraphs 13.2.1.2 and 13.2.1.3; and
  - .2 claims for which *Notice in Writing* of claim has been received by the *Owner* from the *Contractor* within 395 calendar days following the *Ready-for-Takeover* date.
- 13.2.3 Subject to any lien legislation applicable to the *Place of the Work*, the *Owner* waives and releases the *Contractor* from all claims which the *Owner* has or reasonably ought to have knowledge of that could be advanced by the *Owner* against the *Contractor* under the *Contract*, including, without limitation, those arising from negligence or breach of contract in respect to which the cause of action is based upon acts or omissions which occurred prior to or on the *Ready-for-Takeover* date, except as follows:
- .1 claims arising prior to or on the *Ready-for-Takeover* date for which *Notice in Writing* of claim has been received by the *Contractor* from the *Owner* no later than 20 calendar days following the *Ready-for-Takeover* date;

- .2 indemnification for claims advanced against the *Owner* by third parties for which a right of indemnification may be asserted by the *Owner* against the *Contractor* pursuant to the provisions of this *Contract*;
  - .3 claims respecting toxic and hazardous substances for which a right of indemnity could be asserted by the *Owner* against the *Contractor* pursuant to the provisions of paragraph 13.1.4 of GC 13.1 – INDEMNIFICATION;
  - .4 damages arising from the *Contractor*'s actions which result in substantial defects or deficiencies in the *Work*. "Substantial defects or deficiencies" mean those defects or deficiencies in the *Work* which affect the *Work* to such an extent or in such a manner that a significant part or the whole of the *Work* is unfit for the purpose intended by the *Contract Documents*;
  - .5 claims arising pursuant to GC 12.3 – WARRANTY; and
  - .6 claims arising from acts or omissions which occur after the *Ready-for-Takeover* date.
- 13.2.4 Respecting claims arising upon substantial defects and deficiencies in the *Work*, as referenced in paragraph 13.2.3.4, and notwithstanding paragraph 13.2.3.5, the *Owner* waives and releases the *Contractor* from all claims except claims for which *Notice in Writing* of claim has been received by the *Contractor* from the *Owner* within a period of six years from the *Ready-for-Takeover* date, provided that any limitation statute of the Province or Territory of the *Place of the Work* permit such agreement. If the applicable limitation statute does not permit such agreement, the time within which any such claim may be brought shall be such shorter period as may be prescribed by any limitation statute of the Province or Territory of the *Place of the Work*.
- 13.2.5 The *Owner* waives and releases the *Contractor* from all claims arising from acts or omissions which occur after the *Ready-for-Takeover* date, except for:
- .1 indemnification for claims advanced against the *Owner* by third parties, as referenced in paragraph 13.2.3.2;
  - .2 claims respecting toxic and hazardous substances for which a right of indemnity could be asserted by the *Owner* against the *Contractor*, as referenced in paragraph 13.2.3.3;
  - .3 claims arising under GC 12.3 – WARRANTY; and
  - .4 claims for which *Notice in Writing* has been received by the *Contractor* from the *Owner* within 395 calendar days following the *Ready-for-Takeover* date.
- 13.2.6 "Notice in Writing of claim" as provided for in GC 13.2 – WAIVER OF CLAIMS to preserve a claim or right of action which would otherwise, by the provisions of GC 13.2 – WAIVER OF CLAIMS, be deemed to be waived, must include the following:
- .1 a clear and unequivocal statement of an intention to claim;
  - .2 a statement as to the nature of the claim and the grounds upon which the claim is based; and
  - .3 a statement of the estimated quantum of the claim.
- 13.2.7 A claim for lien asserted under the lien legislation prevailing at the *Place of the Work* shall qualify as notice of claim for the purposes of this *Contract*.
- 13.2.8 The party giving the *Notice in Writing* of claim as provided for in GC 13.2 – WAIVER OF CLAIMS shall submit within a reasonable time a detailed account of the amount claimed.
- 13.2.9 Where the event or series of events giving rise to a claim made under paragraphs 13.2.1 or 13.2.3 has a continuing effect, the detailed account submitted under paragraph 13.2.8 shall be considered to be an interim account and the party making the claim shall submit further interim accounts, at reasonable intervals, giving the accumulated amount of the claim and any further grounds upon which such claim is based. The party making the claim shall submit a final account after the end of the effects resulting from the event or series of events.
- 13.2.10 Nothing in GC 13.2 – WAIVER OF CLAIMS shall be deemed to affect the rights of the parties under any lien legislation or limitations legislation prevailing at the *Place of the Work*.

## **APPENDIX A**

---

**WATER TREATMENT PLANT BRIDGE REPLACEMENT DRAWINGS  
(PROVIDED UNDER SEPARATE COVER)**

## **APPENDIX B**

---

### **BRIDGE INSPECTION AND REPAIR REPORT**



DWB Consulting Services Ltd.

# **Village of McBride Reservoir Road Bridge Inspection and Load Rating Report and Repair Procedure: 7.670m Steel Girder/Timber Deck Bridge**



Prepared for: Village of McBride  
Attn: Brian Taphorn, Public Works Manager



Prepared by: DWB Consulting Services Ltd.  
Prince George Division  
1579 – 9th Avenue, Prince George, BC, V2L 3R8  
250.562.5541 | [www.dwbconsulting.ca](http://www.dwbconsulting.ca)

Date: July 18, 2024 | DWB File: 24596-187 | Rev. A





DWB Consulting Services Ltd.

July 18, 2024

DWB File: 24596-187

**Village Of McBride**

855 S W Frontage Road

McBride, BC V0J 2E0

**Attention: Brian Taphorn, Public Works Manager**

**RE: Reservoir Road Bridge Inspection and Load Rating Report and Repair Procedure**

---

## 1.0 INTRODUCTION

As requested, DWB Consulting Services Ltd. (DWB) carried out a visual inspection of the crossing located on the Reservoir Road. The inspection was carried out on June 6, 2024 by Rudy Klaue, EIT and Gavin Caillier, to review the condition of the structure and provide recommendations to enable industrial use. Superstructure measurements were taken to complete a load rating analysis of the structure. Photographs from the inspection and the field inspection form are enclosed with this report.

This report provides a brief description of the bridge structure, assumptions made, loads, member capacities, load and resistance factors used, and presents the results of the evaluations. The load carrying capacity of the bridge has been evaluated in accordance with the requirements of CAN/CSA-S6 Canadian Highway Bridge Design Code (CHBDC).

## 2.0 STRUCTURE DESCRIPTION

The bridge is a simply supported, single span steel and timber, non-composite structure. The bridge configuration is straight and un-skewed. The running width between rails is 4300 mm. The deck system consists of timber cross ties (200 x 200 mm) spaced at 410 mm on center with a timber plank running surface (100 x 300 mm).

The bridge superstructure consists of two steel girders spaced at 3000 mm on center. The overall length of the steel girders are 7672 mm and the bearing to bearing length is 6880 mm. The top and bottom flanges are 250 x 22 mm with a 648 x 9.5 mm web plate.

The two abutment diaphragms consist of round pipe 300 mm in diameter with a single interior diaphragm consisting of angles (90 x 90 x 10 mm). The interior diaphragm bay has a spacing of approximately 3440 mm from the ends of the bridge.

The bridge is situated on lock block abutments, consisting of three lock blocks per abutment. Each abutment has a 100 mm thick treated timber sill. The ballast wall consists of creosote treated timbers with untreated timbers extending beyond to retain additional roadfill.

### 3.0 STRUCTURE INSPECTION

The following are items of note during the inspection:

- Approaches
  - Minor potholes on the approaches.
  - Brush encroaching on the roadway that is impacting the visibility of the delineators.
  - No narrow structure signs installed.
  - Approach fenders were not visible in the brush.
- Timber decking
  - Cross ties do not meet current Ministry of Forests standards for highway loading, the cross ties are too small when comparing against the Ministry standards (200 vs 250).
  - The deck clips are missing the spacer plates required to fill the top flange thickness gap.
  - Numerous guardrail bolts have loose nuts and washers.
  - Fungus growth was observed on the underside of the cross ties and the underside of the main deck planks.
- Abutments
  - Settlement was observed in the lock blocks, the lock blocks are sitting directly against the stream edge.
  - The treated timber sill is not situated under the bearing stiffener of the girders, the timber sills are not situated in the centre of the lock blocks but rather near the front edge.
  - It is unclear if the timber sills are anchored to the lock blocks.
  - The skid plate on the steel girder does not allow for an even bearing location on the timber sill.
- Steel Girders
  - Steel girders are in good conditions, the skid plates do not allow for a proper bearing on the timber sills.
  - The steel girders are not bolted to the timber sills.

### 4.0 EVALUATION ASSUMPTIONS

The load evaluation of the bridge is based on the component dimensions measured during the site visit. Evaluation of the structure was limited to the steel superstructure.

No documentation on the structure design was available; however, it was assumed the steel was fabricated after 1975. No identification marks were visible on the steel structure; therefore, the steel properties utilized in our evaluation were  $F_y = 250 \text{ MPa}$ ,  $F_u = 420 \text{ MPa}$ .

- The load evaluation for the structure is based on the following criteria:
- The load will travel within 400 mm of centreline of the bridge;
- Vehicle speed crossing the structure is over 40 km/hr;
- Timber deck modules meet Ministry of Forests standards;



- Only one vehicle will be on the bridge at a time; and,
- The dead load of the bridge is evenly distributed to all girders.

The distribution of the live load between girders was calculated based on the relative reactions from the deck on the girders as a function of the girder spacing and the axle loading.

The dead loads considered in the load evaluation are the self-weight of the steel girders, along with the weight of the deck and bridge rails.

In accordance with the Clause 3.8.4.5 of the CHBDC, a dynamic load allowance of 30% was utilized in the load evaluation analysis.

The live load configuration considered in the load evaluation is based on the following loading diagram:

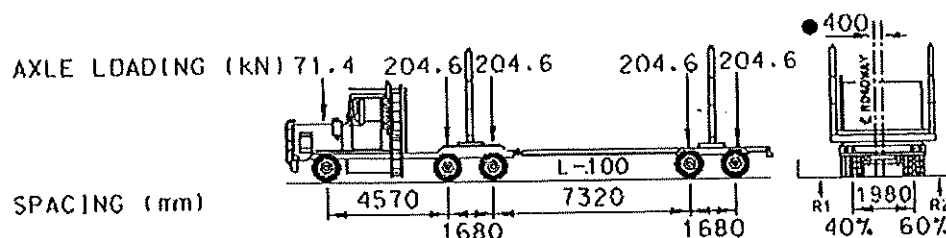


Figure 1: L-100 Loading Diagram (GVW = 90,680kg)

## 5.0 LOAD AND RESISTANCE FACTORS

The capacity of the steel girders was calculated in accordance with the provisions of CAN/CSA-S6 based on the geometric information gathered during the field inspection, along with the steel properties outlined in the previous section.

The load and resistance factors used in the load evaluation as per CAN/CSA-S6 are shown in Table 1. The factored load effects and factored resistances under the given conditions are shown in Tables 2 and 3 respectively.

Table 1: Load and Resistance Factors – Normal Traffic

Component	System Behaviour	Element Behaviour	Inspection Level	B	$\alpha_{D1} / \alpha_{D2}$	$\alpha_L$	DLA	Resistance Adjustment Factor, U	Capacity Adjustment Factor*
Moment – Yield (ULS Non-composite)	S1	E3	INSP2	3.25	1.08/1.16	1.56	1.3	1.00	0.91
Shear	S1	E3	INSP2	3.25	1.08/1.16	1.56	1.3	1.00	0.77

\*A capacity adjustment factor 0.95 was used based on NCHRP Report 301 to account steel in good condition with some minor section loss due to corrosion.

Table 2: Factored Load Effects per Girder

Live Load Model	Max Moment (kNm)	Max Shear (kN)
L-100	902	589

Table 3: Factored Resistances per Girder

Type of Structure	Moment (kNm)	Shear (kN)
Steel Girder – Non-Composite	987	768

The maximum live load deflection per girder is limited to 34mm.

## 6.0 EVALUATION RESULTS

It should be noted that the evaluation of the steel superstructure with respect to fatigue limit states has not been carried out due to an absence of information related to the historical loading of the bridge.

Evaluation of the steel superstructure for the proposed load configurations was conducted in accordance with CAN/CSA-S6, Clause 14.15 based on the assumptions previously noted. The results of the evaluation are summarized in Table 4.

Table 4: Live Load Capacity Factor Results

Live Load Capacity Factor (LLCF)*	L-100 Design Vehicle
Moment – LLCF $LLCF^M = \frac{M_{RI} - M_D}{M_{L+I}}$	1.73
Shear – LLCF $LLCF^V = \frac{V_{RI} - V_{DX}}{V_{LX}}$	1.41
Live Load Deflection	Span/966

\*A LLCF greater than 1 concludes that the steel superstructure has adequate capacity to carry a Ministry of Forests L-100 design vehicle configuration provided the recommendations below are completed.

An evaluation of the foundation system for the proposed load configurations was not completed due to a lack of soil information.

## 7.0 CONCLUSIONS AND RECOMMENDATIONS

In the current state, it is recommended that the structure be limited to an 8000kg GVW, two axle vehicle.

Overall, the existing bridge superstructure is in fair to poor condition and the steel superstructure has been determined to have a load carrying capacity equivalent to an L-100 load configuration as shown in Section 5 provided the following recommended repair procedure is completed:

### 1. Bridge Removal

- **Remove the Timber Deck:** Carefully dismantle and remove the timber deck.
- **Excavate Soil:** Remove the soil located behind the ballast wall.
- **Dismantle the Ballast Wall:** Take down the ballast wall.
- **Remove Anchor Bolts:** Remove all anchor bolts connecting the steel girders to the sill beam.
- **Lift and Relocate the Bridge:** Lift the bridge and place it aside in a secure location.

### 2. Reset the Lock Block Foundation

- **Remove Existing Lock Blocks:** Carefully remove the existing lock blocks.
- **Line Foundation and Riprap Base:** Line the foundation and riprap base with non-woven geotextile fabric.
- **Level and Compact Foundation:** Level the foundation with 300mm granular subbase and compact it to a minimum of 98% Standard Proctor Density (SPD).
- **Reset Lock Blocks:** Reinstall the lock blocks in their original position (lock blocks to be spaced 6.88m center to center) using 4 lock blocks per abutment.
- **New Sill Beams:** Install new sill beams 400mmx200mmx6.0m secure with dowels as per MOF standard drawing # STD-EC-050-11.
- **Maintain original underside of girder elevation:** After installation of the new lock blocks and sill beam the elevation at the top of the sill beam (underside of girders) should be the same as the original elevation.

### 3. Foundation Armoring

- **Apply Riprap:** Armor the lock block foundation with minimum Class 50kg riprap. Riprap should extend around the upstream and downstream ends of lock blocks for full protection.

### 4. Bridge Installation

- **Inspect and Repair:** Inspect the bridge for any damage and repair or replace damaged components as necessary.
- **Install the Bridge:** Position and secure the bridge in place using total of 4-19φx200mm galvanized lag screw per abutment.

### 5. Install New Ballast Wall

- **Build Ballast Wall:** Install the new ballast wall according to design specifications.

## 6. Backfill Bridge Approaches

- **Backfill to 95% SPD:** Backfill the bridge approaches to 95% Standard Proctor Density (SPD).
- **Top Layer Compaction:** Compact the top 300mm of the backfill to 98% SPD.

## 7. Install New Timber Deck

- **Install Timber Deck:** Install and secure the new L-100 timber decks as per MOF standard drawing # STD-EC-020.
- **Guardrail nuts and washer:** Tighten all associated guardrail nuts and washer and install proper deck clips with spacers that match the steel girder flange thickness.

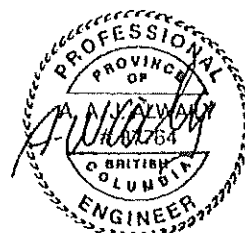
Consideration should be given to installing a longer structure that will avoid any instream works and future impacts of stream flow at the abutments and settlement of the foundations.

We trust this report satisfies your requirements at this time. If you have questions or concerns do not hesitate to contact our office.

Sincerely,

DWB Consulting Services Ltd.  
Prepared By:

Reviewed By:



---

Rudy Klaue, EIT  
Junior Project Engineer

---

Adel Al-Waily, MEng, P.Eng  
Sr. Civil Structural Engineer

ENCL: Inspection Photographs  
Field Inspection Form  
MOF Standard Drawings

## INSPECTION PHOTOGRAPHS



Figure: Highchain abutment shifting



Figure 2: Lowchain upstream Skewed timber cap



Figure 3: Lowchain upstream off-centre bearing



Figure 4: Lowchain upstream looking highchain





Figure 5: Highchain approach



Figure 6: Structure from downstream



Figure 7: Highchain downstream ballast wall and extension



Figure 8: Intermediate Diaphragm Brace





DWB Consulting Services Ltd.

## BRIDGE INSPECTION REPORT

STEEL / CONCRETE / GLULAM,

BRIDGE INSPECTION

STRUCTURE NO. N	Road Name Reservoir Bridge		km	PAGE 1/1
CROSSING Reservoir Bridge	DISTRICT		PROJECT NO. 24596-187	
DATE OF THIS INSPECTION 2024-06-06	YYYY-MM 2024-06-06	DATE OF NEXT INSPECTION	BRIDGE CLASS Permanent Bridge	NUMBER OF SPANS 1
NOTE: a) Spans, abutments and piers are numbered from the left bank, facing downstream; piles, posts, curbs and stringers are numbered from upstream of bridge; use additional forms for multi-span bridge. b) Use back of form or separate sheet to sketch and detail problem area and/or materials required for repairs. c) CONDITION: 1 - Very Good (new); 2 - Good; 3 - Fair; 4 - Poor; 5 - Very Poor; 6 - N/A (not applicable)				
BRIDGE ELEMENT		CONDITION	REMARKS	
DECK / APPROACH	Running Planes	3		
	Structural Decking	3	Is solid but has lots of growth on it.	
	Concrete Deck			
	Completed Deck Elevation			
	Gravel Surfacing			
	Ties (incl. Shims)			
	Nails			
	Curbs and Blocks	3	still fine	
	Hand Rails			
	Deck to Grider Edits			
	Ergonomics / Deflectors	2		
	No Posts / Hardware	4	→ None present	
	Flares	4	No real flares	
	Site Rehab			
Turnouts	2/4	No HC turnout		
Road Grade	2	Minor pot holes on HC side		
Seed and Hay Mutch				
SUPER-STRUCTURE SPAN #	Girders / Slabs	3		
	Diaphragms	3		
	Girder Depth / Girder Length		0.692 / 8.00 m	
	Corrosion (Low, mod, heavy)	mod		
	Peeling Stiffener Offset		0.392	
	Bracing / Hardware	3		
	Trussing			
PIERS	Caps			
	Piles or Posts			
	Concrete			
	Bracing or Sheathing			
	Cribs			
	Hardware			
	Riprap			
ABUTMENTS	Cribs			
	Tie-backs			
	Bin Walls			
	Caps or Sills	3	Some moss growing on it, but still solid	
	Piles or Posts			
	Concrete	3	Some moss growing but concrete solid and HC	
	Bearings - check for compression, cracking, any damage	3/4	No visible cracking except for HC/US where the girder slipped off	
	Ballast Wall	3/4	Ballast wall solid, but gap underneath may allow esp. pushing cap over sloughing	
	Wing Wall			
	Bracing			
	Hardware			
	Girder to Ballast Wall		No bolts present	
	Geogrid			
	Geotextile			
Completed Stream Width		3.4m		
Fill	4	soft ground around		
Riprap	6	none really present		
PRESENT WATER LEVEL 0.23 m	PRESENT WATER CLEARANCE 0.82 m	ESTIMATED HIGH-WATER LEVEL 0.35 m	HAZARDS: High water, Debris, Scour, Ice, Htons	
REPAIR REQUIRED? Yes (No)	REPAIR DESCRIPTION AND COST ESTIMATE Reset lock blocks and timber caps			
AS-BUILT CHECKED? Yes (No)	NUMBER OF PICTURES TAKEN 44	NARROW STRUCTURE SIGNS? Yes (No)	PRESENT POSTED RATING Excess	SUGGESTED REPLACEMENT DATE at new load rating at original
COMMENTS Appears good, but abutments have lots of gouging, shuffling, etc. Appraise bridge may be too short				
INSPECTOR'S SIGNATURE M. DO	DATE 2024-06-06	NEW LOAD RATING Excess	REVIEWED AND NOTED BY (SIGNATURE) P. Eng	DATE SIGNED YYYY-MM-DD

VMB Bridge Inspection

Inspected by

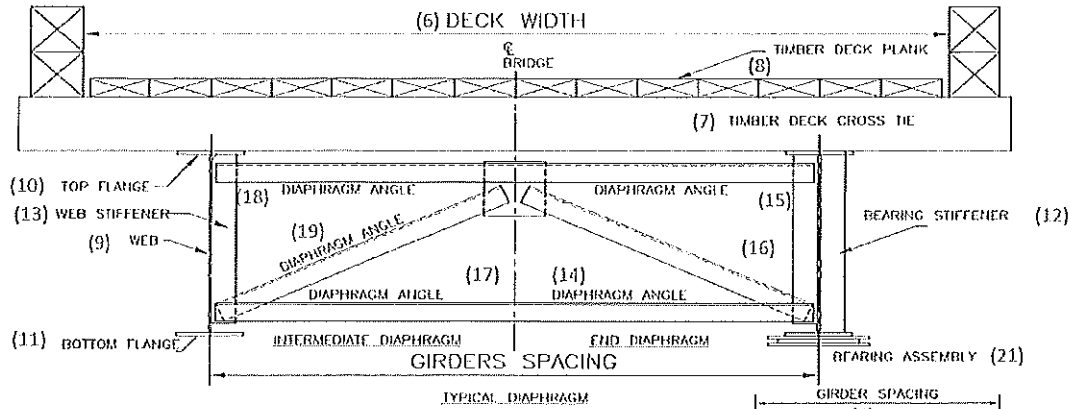
Reviewed by

Date \_\_\_\_\_

10

0.76

## BRIDGE INSPECTION MESURMENT (TIMBER DECK BRIDGE)



Item	Description	
1	Bridge Length (End/End) (E/E)	2.672
2	Bridge End to Bearing CL	6.880
3	Bridge Length Brg / Brg	0.392
4	Girder Spacing	3.000
5	Diaphragm Spacing	3.455

### Bridge Deck Dimensions

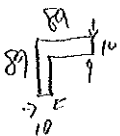
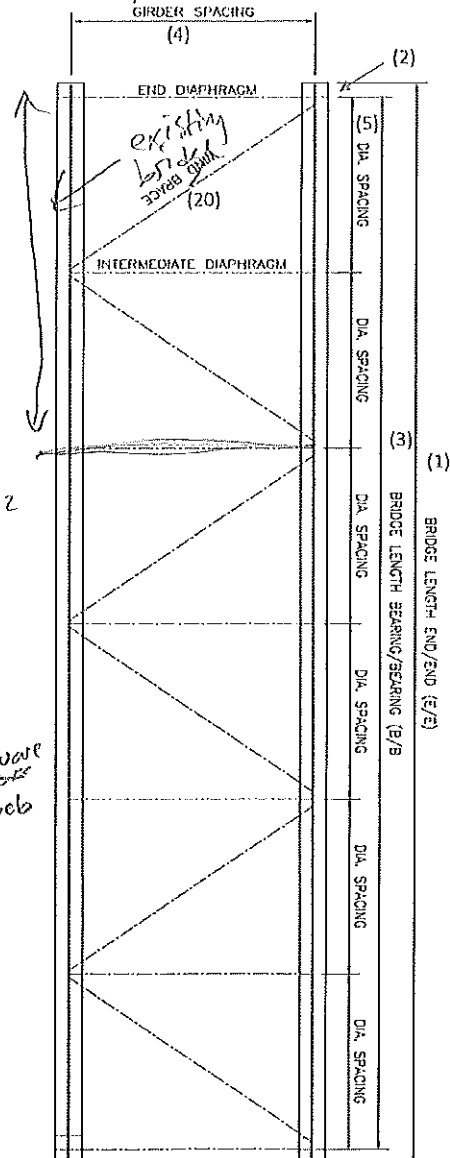
6	Bridge Deck Width	4.304 m
7	Timber Deck Cross tie Depth x Width x Spacing	0.2 x 0.2 x 0.215
8	Timber Deck Plank Depth x Width x Layers	0.10 x 0.30 x 1

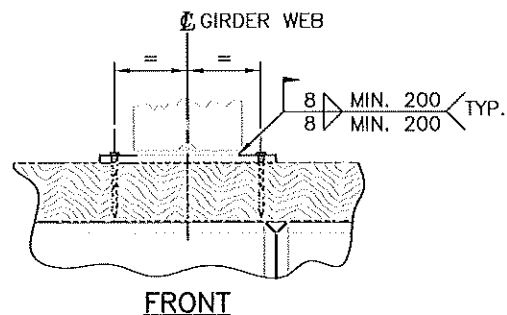
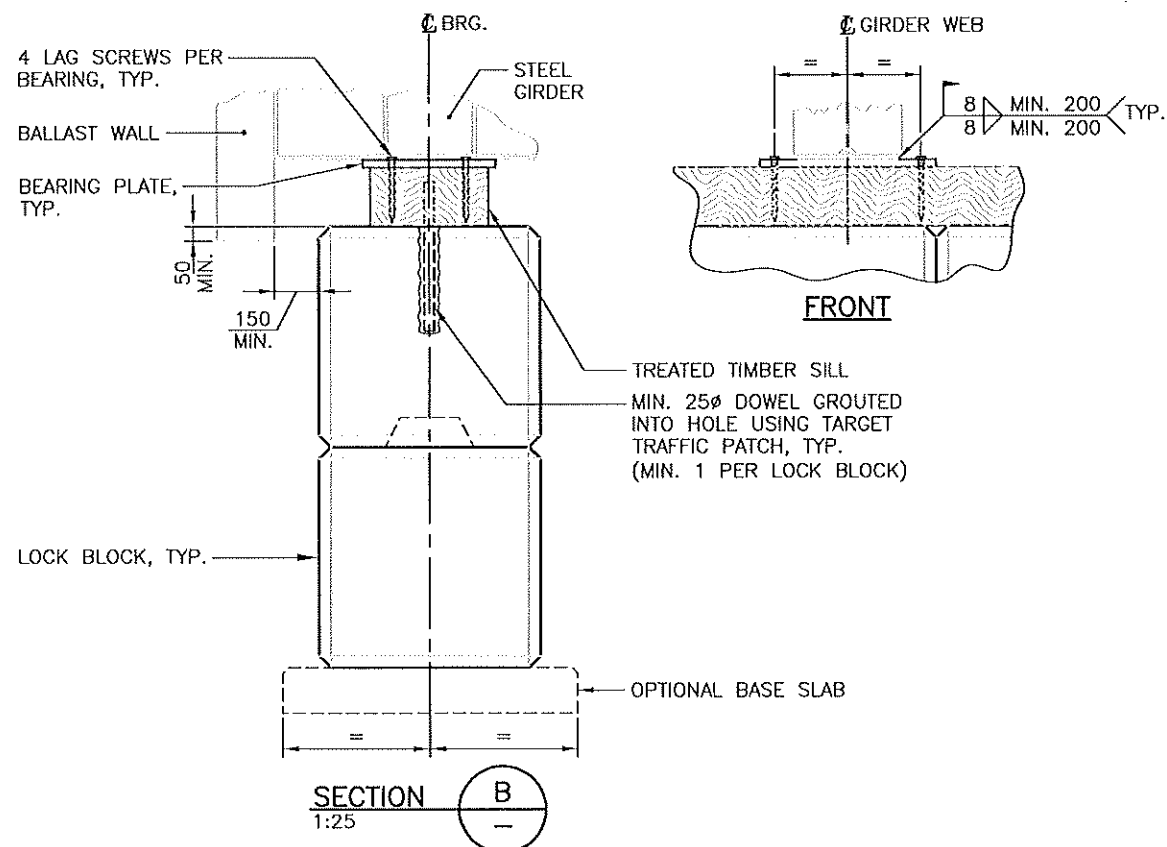
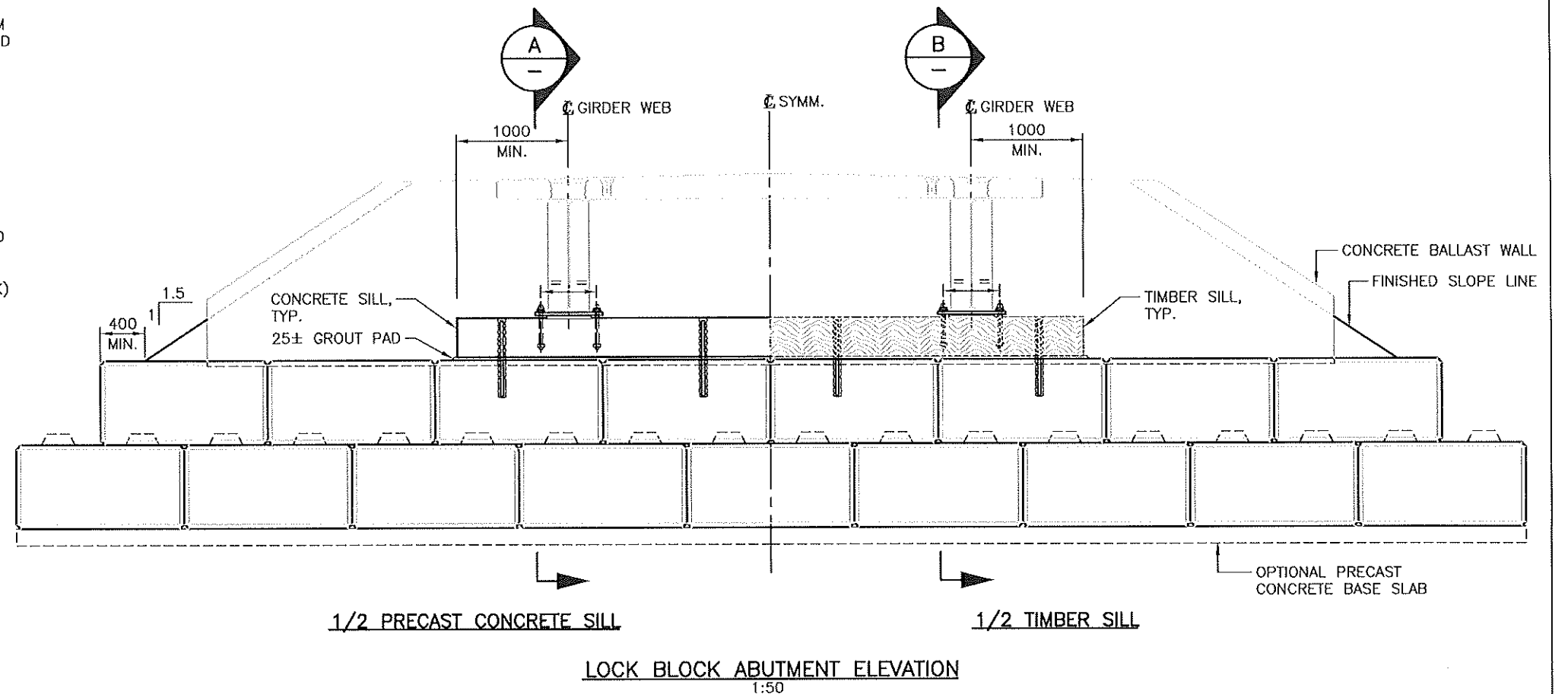
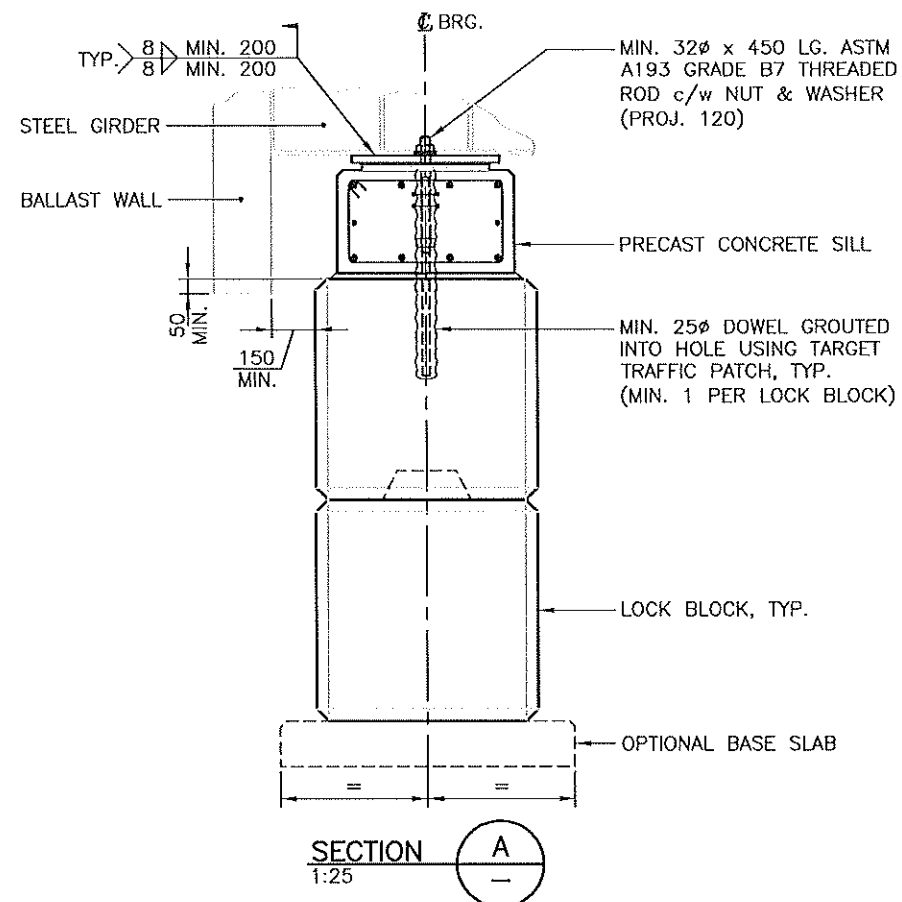
## Steel Girders Dimensions

9	Web plate (height x thickness)	10	mm
10	Top Flange plate (width x thickness)	250 x 22	mm
11	Bot. Flange plate (width x thickness)	250 x 21.8-22	mm
12	Bearing Stiffener (Width x thick.)	130 x 13	mm
13	Internal Stiffener (Width x depth x thick. x Spacing)	130 x 590 x 13 mm x 125 k 3429	mm
14	Diaphragm Angle (END)	1500	
15	Diaphragm Angle (END)	118 x 1500	
16	Diaphragm Angle (END)	120	
17	Diaphragm Angle (Intermediate)	84	
18	Diaphragm Angle (Intermediate)	78	
19	Diaphragm Angle (Intermediate)	78	
20	Wind Bracing (V / X)	V: 10mm x 10mm X: 89mm x 89mm	

## Bearing Assembly

21 Bearing Pad Size (Length x Width x Depth)	timber cop over
Bearing top / Bot Plate Size (L x W x T)	lock plate
Expansion Bearing Sliding distance	





ASSUME NOT TO SCALE  
NOT FOR CONSTRUCTION

NOTE:

1. SEE DWG. STD-EC-050-05 FOR BEARING DETAILS.

DESIGN ENGINEER

0 2 4 6 8 10 meters

0 20 40 mm

SCALE  
AS SHOWN

BAR LENGTH IS 40mm ON ORIGINAL.

Checked JULIEN HENLEY Date 14/04/01

Drawn ERFUN FARJOO Date 14/04/01

Rev	Date	DESCRIPTION	Init
1	15/03/31	REVISED NOTES	

PROFESSIONAL SEAL

REVISIONS



Ministry of  
Forests, Lands and  
Natural Resource Operations

ENGINEERING  
BRANCH

STANDARD BRIDGE DRAWING

DRAWING TITLE:  
CONCEPTUAL LOCK BLOCK ABUTMENT FOR STEEL BRIDGES

DESIGNED BY:  
HELEN DU, P.ENG.

APPROVED BY:

COORDINATING REGISTERED PROFESSIONAL:

FLNR ENGINEER:

FILE No.

DRAWING No.  
STD-EC-050-11

CANCEL FROM IS BEARING  
PREVIOUS LETTER

1



# MINISTRY OF FORESTS, LANDS AND NATURAL RESOURCE OPERATIONS

ENGINEERING BRANCH, TIMBER OPERATIONS, PRICING AND  
FIRST NATIONS DIVISION

## TIMBER DECK BRIDGE STANDARDS

ASSUME NOT TO SCALE

DRAWING SCHEDULE			
DRAWING No.	DESCRIPTION	REV.	DATE
STD-EC-020-01	TIMBER DECK BRIDGES, GENERAL NOTES – SHEET 1		
STD-EC-020-02	TIMBER DECK BRIDGES, GENERAL NOTES – SHEET 2		
STD-EC-020-03	PERMANENT, CONTINUOUS TIMBER DECK BRIDGE – GENERAL ARRANGEMENT		
STD-EC-020-04	PORTABLE, CONTINUOUS TIMBER DECK BRIDGE – GENERAL ARRANGEMENT		
STD-EC-020-05	MODULAR TIMBER DECK BRIDGE, GENERAL ARRANGEMENT & DETAILS		
STD-EC-020-06	MODULAR TIMBER BRIDGE DECK, ATTACHMENT DETAILS - NEW BRIDGES		
STD-EC-020-07	MODULAR TIMBER BRIDGE DECK, ATTACHMENT DETAILS – FIELD RETROFIT TO EXISTING BRIDGES		

1. **GENERAL**
- 1.1 THESE STANDARD DRAWINGS APPLY TO THE DESIGN AND SUPPLY OF SIMPLE SPAN SINGLE LANE STEEL GIRDER BRIDGES WITH TIMBER DECKS. THE STANDARD DRAWINGS PROVIDE DESIGN GUIDELINES AND STANDARD DETAILS.
- 1.2 VARIATIONS FROM THE STANDARD DESIGN REQUIREMENTS MAY BE ACCEPTABLE IN CERTAIN SPECIAL SITUATIONS. ALL SUCH VARIATIONS SHALL BE DOCUMENTED AND REQUIRE APPROVAL FROM THE MINISTRY PRIOR TO USE.
- 1.3 A PROFESSIONAL ENGINEER REGISTERED TO PRACTICE IN THE PROVINCE OF BRITISH COLUMBIA SHALL DESIGN ALL BRIDGE GIRDER ELEMENTS.
- 1.4 DEFINITIONS
  - ENGINEER:
    - A PROFESSIONAL ENGINEER REGISTERED IN THE PROVINCE OF BRITISH COLUMBIA EXPERIENCED IN THE DESIGN OF TIMBER DECK ON STEEL GIRDER BRIDGES, WHO IS RESPONSIBLE FOR THE DETAILED STRUCTURAL DESIGN OF A BRIDGE IN CONFORMANCE WITH THESE DRAWINGS
  - MINISTRY ENGINEER
    - A PROFESSIONAL ENGINEER DESIGNATED BY THE MINISTRY

- 1.5 APPLICABLE OVERALL BRIDGE GIRDER LENGTH (OUT-TO-OUT):
  - TYPICAL APPLICABLE OVERALL TIMBER DECK ON STEEL GIRDER BRIDGE GIRDER LENGTH IS 6.096 m (20 FEET) TO 30.48 m (100 FEET)
  - OVERALL BRIDGE GIRDER LENGTHS GREATER THAN 30.48M OR CONTINUOUS MULTI-SPAN BRIDGES WILL REQUIRE SPECIAL INVESTIGATION DETAILS TO BE APPROVED BY THE MINISTRY PRIOR TO DESIGN AND USE.

- 1.6 STANDARD DECK WIDTHS
  - THE FOLLOWING TABLE SPECIFIES STANDARD DECK WIDTHS FOR THE DESIGNATED DESIGN VEHICLES

DESIGN VEHICLE	STANDARD DECK WIDTH (mm)
BCL625, L100	4268 (14 FEET)
L150, L165	4876 (16 FEET)

- 1.7 STANDARD GIRDER SPACINGS
  - THE FOLLOWING TABLE SPECIFIES STANDARD GIRDER SPACINGS FOR SEVERAL DECK WIDTHS

DECK WIDTH mm (FEET)	STANDARD GIRDER SPACING (mm)
4268 (14 FEET)	3000
4876 (16 FEET)	3600

- 1.8 TIMBER DECK CROSS TIE DIMENSIONS:

Load Type	Girder Spacing (mm)	Tie Size (mm X mm)	Maximum Tie Spacing (mm)
BCL-625	3000	200x250	406
BCL-625	3600	200x250	406
L-100	3000	200x300	406
L-100	3600	200x300	406
L-150	3000	250x300	406
L-150	3600	250x300	406
L-165	3000	250x300	305
L-165	3600	250x300	305

- 1.9 SUPERSTRUCTURE IDENTIFICATION MARKING:
  - PER MINISTRY *BRIDGE IDENTIFICATION STANDARD*


- 1.10 BOLTED GIRDER FIELD SPLICES:
  - PROVIDE BOLTED FIELD SPLICES ON ALL BRIDGE SPANS PROCURED THROUGH A DESIGN/SUPPLY CONTRACT FOR GIRDERS WITH AN OVERALL LENGTH (OUT-TO-OUT) LENGTH > 24.384 m (80 FEET) UNLESS APPROVED BY THE MINISTRY
  - WHERE THE CONTRACT IS DESIGN/SUPPLY AND INSTALL, BOLTED FIELD SPLICES SHALL BE PROVIDED AT THE DISCRETION OF THE ENGINEER
- 1.11 DIAPHRAGMS:
  - PROVIDE DIAPHRAGMS AT BEARING LOCATIONS
  - PROVIDE INTERNAL DIAPHRAGMS AS REQUIRED. MAXIMUM SPACING OF INTERNAL DIAPHRAGMS NOT TO EXCEED 8.0 m
- 1.12 PLAN BRACING:
  - PROVIDE CONTINUOUS PLAN BRACING ON ALL BRIDGES.
- 1.13 COMPONENT WEIGHTS
  - THE FOLLOWING COMPONENT WEIGHTS SHALL BE SPECIFIED ON THE DESIGN DRAWING:
    - GIRDER WEIGHT – SINGLE GIRDER
    - ASSEMBLED STEEL GIRDERS PLUS BRACING, DIAPHRAGMS AND BEARING/SKID PLATES – TOTAL WEIGHT
    - TIMBER COMPONENT WEIGHTS (DECK, BALLAST WALL, CAPS AND FOOTINGS)

2. **GIRDER DESIGN**

- 2.1 DESIGN LIFE: BRIDGE DESIGN LIFE: 45 YEARS
- 2.2 DESIGN CODE AND THE MINISTRY REFERENCE STANDARDS:
  - DESIGN IN ACCORDANCE WITH CAN/CSA-S6 & VARIATIONS TO COMPENSATE FOR PECULIARITIES OF LOGGING TRUCK LOADS
  - MINISTRY *BRIDGE DESIGN AND CONSTRUCTION MANUAL*
  - MINISTRY BRIDGE DESIGN GUIDELINES
- 2.3 DESIGN VEHICLES
  - REFER TO MINISTRY STANDARD DRAWING STD-EC-000-01 TO STC-EC-000-02
  - THE DESIGN DRAWINGS SHALL CLEARLY SPECIFY THE DESIGN VEHICLE THAT WAS USED FOR THE BRIDGE DESIGN
- 2.4 MULTI-LANE LOADING
  - WHERE A BRIDGE IS ABLE TO SIMULTANEOUSLY SUPPORT MORE THAN ONE LANE OF TRAFFIC, THE DESIGNER SHOULD SEEK CLARIFICATION FROM THE MINISTRY ON HOW TO ACCOUNT FOR MULTI-LANE LOADING.
- 2.5 DYNAMIC LOAD ALLOWANCE:
  - DYNAMIC LOAD ALLOWANCE SHALL BE APPLIED IN ACCORDANCE WITH CAN/CSA-S6.

- 2.6 FATIGUE DESIGN FOR STEEL GIRDERS
  - FATIGUE DESIGN TO BE COMPLETED IN ACCORDANCE WITH CAN/CSA-S6 WITH THE FOLLOWING MODIFICATIONS:
    - DESIGN VEHICLE:
      - AS PER PROJECT SPECIFICATIONS
      - FOR L165 USE L150 FOR FATIGUE DESIGN LOAD
    - FATIGUE DESIGN VEHICLE TO BE CENTERED ON BRIDGE
    - LATERAL WHEEL LOAD DISTRIBUTION: 50% - 50%
    - FATIGUE STRESS RANGE
      - $f_{sr} < F_{SR}$
      - WHERE:
        - $f_{sr}$  = THE CALCULATED STRESS RANGE AT THE DETAIL DUE TO THE PASSAGE OF THE DESIGN VEHICLE
        - $F_{SR}$  = FATIGUE STRESS RANGE RESISTANCE
    - NUMBER OF DESIGN CYCLES:
      - 500 000 FOR SPANS > 12 m
      - 1 000 000 FOR SPANS  $\leq$  12 m
- 2.7 FRACTURE CRITICAL AND PRIMARY TENSION COMPONENTS
  - ENGINEER TO SPECIFY FRACTURE CRITICAL AND PRIMARY TENSION COMPONENTS ON THE DESIGN DRAWINGS
- 2.8 MAXIMUM LIVE LOAD DEFLECTION OF STEEL GIRDERS:
  - BRIDGES MUST BE DESIGNED SO THAT LIVE LOAD DEFLECTION (CALCULATED AS THAT CAUSED BY ONE TRUCK ONLY, PLACED AT THE CENTRE LINE OF THE TRAVELLED ROADWAY, DYNAMIC LOAD ALLOWANCE INCLUDED) DOES NOT EXCEED L/450. WHERE USING THE L165 DESIGN VEHICLE, THE DEFLECTION SHALL BE CALCULATED USING THE L150 DESIGN VEHICLE
- 2.9 SEISMIC DESIGN:
  - SEISMIC DESIGN NOT REQUIRED UNLESS OTHERWISE SPECIFIED.
- 2.10 CONSTRUCTION LOAD:
  - ENGINEER MUST CONSIDER THE WEIGHT OF MATERIALS, WORK CREWS AND EQUIPMENT SUPPORTED DURING CONSTRUCTION WHEN DESIGNING THE BRIDGE. ENGINEER MUST SPECIFY MAXIMUM PERMISSIBLE CONSTRUCTION EQUIPMENT LOADS ON THE DRAWINGS
  - WHERE A BRIDGE WILL BE INSTALLED UNDER A SEPARATE CONTRACT FROM THE DESIGN/SUPPLY CONTRACT FOR THE MAIN BRIDGE COMPONENTS, AS A MINIMUM, UNLESS OTHERWISE SPECIFIED BY THE MINISTRY, THE DESIGNER SHALL CONSIDER THE FOLLOWING MINIMUM CONSTRUCTION LOADS:
    - SELF WEIGHT OF THE STRUCTURE, SUPPORTED AT THE BEARINGS, INCLUDING DECK
    - A VERTICAL LIVE LOAD OF 445 kN (40 TON EQUIPMENT + 10 TON LOAD) DISTRIBUTED OVER A LENGTH OF 4 m, POSITIONED ON THE BRIDGE TO PRODUCE THE MAXIMUM EFFECT; ECCENTRICITY = 100 mm
    - LOAD FACTORS IN ACCORDANCE WITH CAN/CSA-S6-06
    - MIN DLA = 10% (ASSUMED DESIGN SPEED = 10 Km /hr)

ASSUME NOT TO SCALE

<div><div></div><div>MINISTRY OF FORESTS, LANDS AND NATURAL RESOURCE OPERATIONS ENGINEERING BRANCH</div></div>				
SCALE AS SHOWN Designed _____ Date: _____ Checked _____ Date: _____ Drawn _____ Date: _____				
Rev.	Date	DESCRIPTION	Init	
REVISIONS				
ORIGINAL SIGNED and SEALED BY:			FLNR ENGINEER: DATE	
DESIGN ENGINEER			APPROVED BY: BRIAN CHOW, P.Eng. CHIEF ENGINEER	
DATE			DATE	
FILE No.			DRAWING No.	
			STD-EC-020-01	

3.

MATERIALS AND FABRICATION
- 3.1

ALL MATERIALS UTILIZED IN FABRICATION SHALL BE NEW, NOT PREVIOUSLY USED IN ANY APPLICATION
- 3.2

STRUCTURAL STEEL

- TO CAN/CSA-G40.21M

- STEEL GIRDER FLANGES AND WEB PLATES GRADE 350AT CATEGORY 3

- OTHER STEEL PLATE: 350A

- BRACING (DIAPHRAGMS AND PLAN BRACING): GRADE 350A

- ANY REQUIRED VARIATIONS REQUIRE MINISTRY APPROVAL.. IF NON WEATHERING STEEL IS APPROVED BY THE MINISTRY, A CORROSION PROTECTION SYSTEM APPROVED BY THE MINISTRY WILL BE REQUIRED

- COMPLETE ALL WELDS IN ACCORDANCE WITH CSA W59. WELD METAL OF PRIMARY TENSION MEMBERS AND FRACTURE CRITICAL MEMBERS SHALL MEET THE CVN TOUGHNESS REQUIREMENTS OF TABLE 10.14 OF CAN/CSA S6

- INSPECT ALL BUTT WELDS BY ULTRASONIC OR X-RAY EXAMINATION IN ACCORDANCE WITH CSA W59

- FABRICATOR TO BE CERTIFIED FOR DIVISION 1 OR 2 IN ACCORDANCE WITH CSA W47.1 THROUGHOUT THE DURATION OF THE PROJECT

- FIELD WELDING BY COMPANY CERTIFIED TO CSA W47.1 DIVISION 1, 2 OR 3

- FABRICATE GIRDERS AS FRACTURE CRITICAL MEMBERS IN ACCORDANCE WITH CAN/CSA-S6-06, AS NOTED ON DESIGN DRAWINGS. STEEL PLATES FOR BOTTOM FLANGES AND WEBS SHALL CONFORM TO THE REQUIREMENTS FOR FRACTURE CRITICAL IN ACCORDANCE WITH CAN/CSA-S6, EXCEPT THAT CHARPY V-NOTCH TESTING RESULTS ARE ONLY REQUIRED ON A PER HEAT FREQUENCY

- MAKE ALL I-GIRDER FLANGE TO WEB WELDS USING SUBMERGED ARC WELDING

- SHOP TRIAL FIT ALL FIELD SPLICES UNLESS CNC EQUIPMENT IS USED
- 3.3

STRUCTURAL BOLTS:

- ALL BOLTS INCORPORATED INTO STEEL GIRDER CONNECTIONS (BOLTED FIELD SPLICES, DIAPHRAGMS AND BRACING) TO BE ASTM A325 TYPE 3 M22 U.N.O. INSTALLED IN ACCORDANCE WITH CAN/CSA-S6
- 3.4

GALVANIZING:

- ALL ITEMS SPECIFIED AS GALVANIZED ARE TO BE GALVANIZED TO CSA G164
- 3.5

BEARINGS:

- TO CAN/CSA-S6: OZONE RESISTING NATURAL RUBBER (NATURAL POLYISOPRENE)

- WHERE EXPANSION JOINTS ARE USED, ENGINEER TO INCLUDE SUFFICIENT INFORMATION TO FACILITATE INSTALLATION AT VARIOUS TEMPERATURES
- 3.6

TIMBER DECK MATERIALS:

- ALLOWABLE WOOD SPECIES, LUMBER GRADES, GRADING CRITERIA AND REQUIRED DOCUMENTATION SHALL BE AS PER MINISTRY: *BRIDGE TIMBER AND LUMBER MATERIAL STANDARD*
- 3.8

TIMBER DECK HARDWARE:

- LAG SCREWS, BOLTS, NUTS, WASHERS TO BE ASTM A307 (GALVANIZED)

- DECK NAILING PATTERN TO BE AS SHOWN ON DRAWINGS
- 3.9

TIMBER PRESERVATIVE TREATMENT:

- ALL TREATED WOOD SHALL BE COASTAL DOUGLAS-FIR, TREATED USING CHROMATE COPPER ARSENATE (CCA) TREATMENT, AND THIRD PARTY INSPECTED, IN ACCORDANCE WITH THE MINISTRY *PROCESS SPECIFICATION FOR CCA TREATMENT OF COASTAL DOUGLAS-FIR WOOD*

4.


TRANSPORTATION AND ERECTION OF BRIDGES
- 4.1

SUPPORT STEEL GIRDERS IN SUCH A WAY THAT THEY SUSTAIN NO DAMAGE DURING TRANSPORTATION. WHEN TRANSPORTING STEEL GIRDERS ON THE FLAT, PROVIDE A TRANSPORTATION PLAN PREPARED BY A PROFESSIONAL ENGINEER REGISTERED IN THE PROVINCE OF BRITISH COLUMBIA.
5.

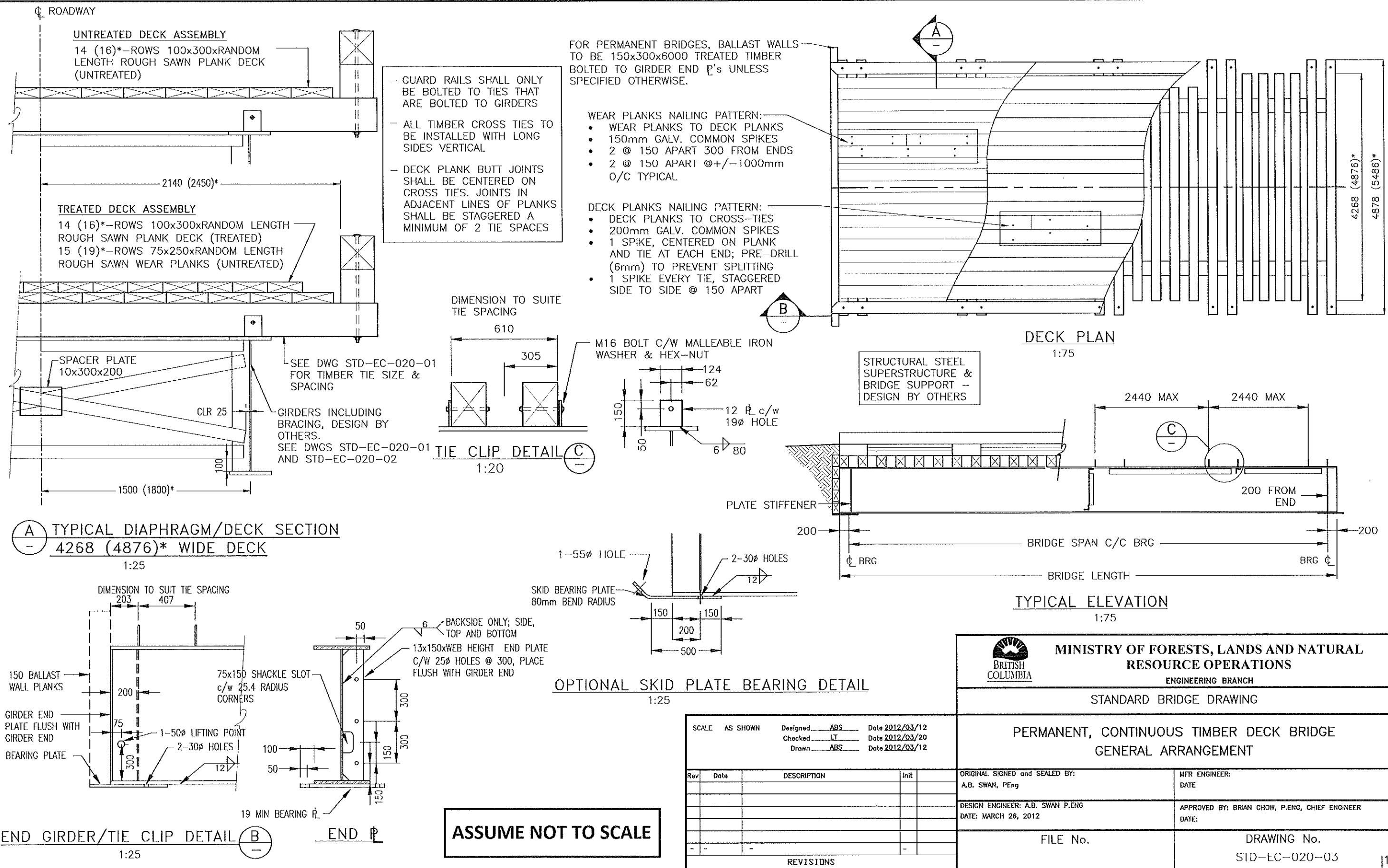
STEEL CERTIFICATION AND QUALITY CONTROL
- 5.1

PROVIDE MILL CERTIFICATES FOR ALL STEEL MATERIAL.

ASSUME NOT TO SCALE

<div>SCALEAS SHOWN<div>Designed____Date:____ Checked____Date:____ Drawn____Date:____</div></div>					<div><div><div></div><div>MINISTRY OF FORESTS, LANDS AND NATURAL RESOURCE OPERATIONS ENGINEERING BRANCH</div></div></div>	
					STANDARD BRIDGE DRAWING	
					TIMBER DECK BRIDGES GENERAL NOTES – SHEET 2	
Rev.	Date	DESCRIPTION	Init		ORIGINAL SIGNED and SEALED BY:	FLNR ENGINEER: DATE
					DESIGN ENGINEER	APPROVED BY: BRIAN CHOW, P.Eng. CHIEF ENGINEER
					DATE	DATE
					FILE No.	DRAWING No.
REVISIONS						STD-EC-020-02

2009/02/19 \\STUDY-PC\Public\Documents\ACAD Dwg



MINISTRY OF FORESTS, LANDS AND NATURAL  
RESOURCE OPERATIONS

ENGINEERING BRANCH

STANDARD BRIDGE DRAWING

PERMANENT, CONTINUOUS TIMBER DECK BRIDGE  
GENERAL ARRANGEMENT

ORIGINAL SIGNED and SEALED BY:  
A.B. SWAN, PEng

MFR ENGINEER:  
DATE

DESIGN ENGINEER: A.B. SWAN P.ENG  
DATE: MARCH 26, 2012

APPROVED BY: BRIAN CHOW, P.ENG, CHIEF ENGINEER  
DATE:

FILE No.

DRAWING No.  
STD-EC-020-03

SCALE AS SHOWN  
Designed: ABS Date 2012/03/12  
Checked: LT Date 2012/03/20  
Drawn: ABS Date 2012/03/12

Rev	Date	DESCRIPTION	Init

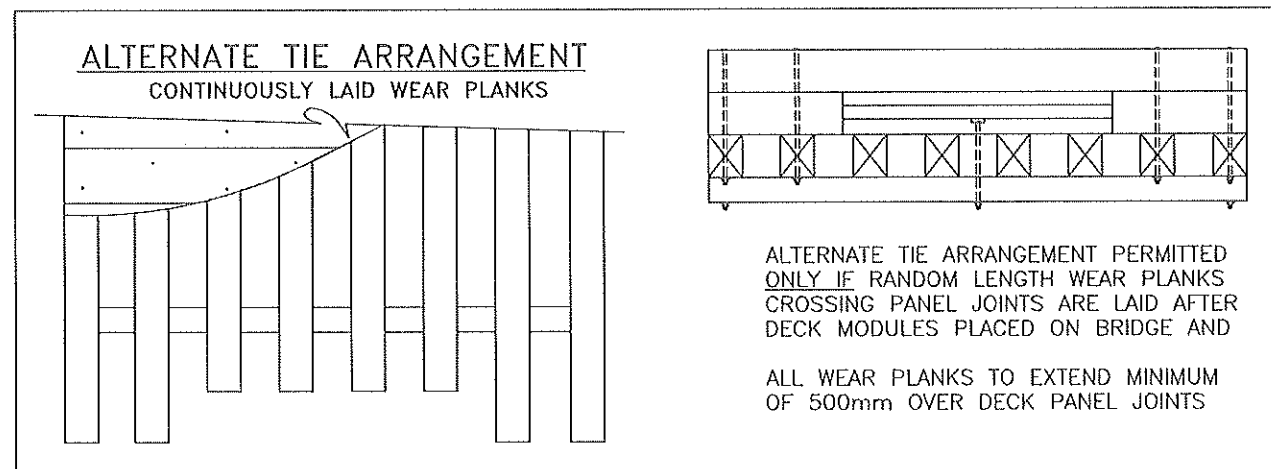
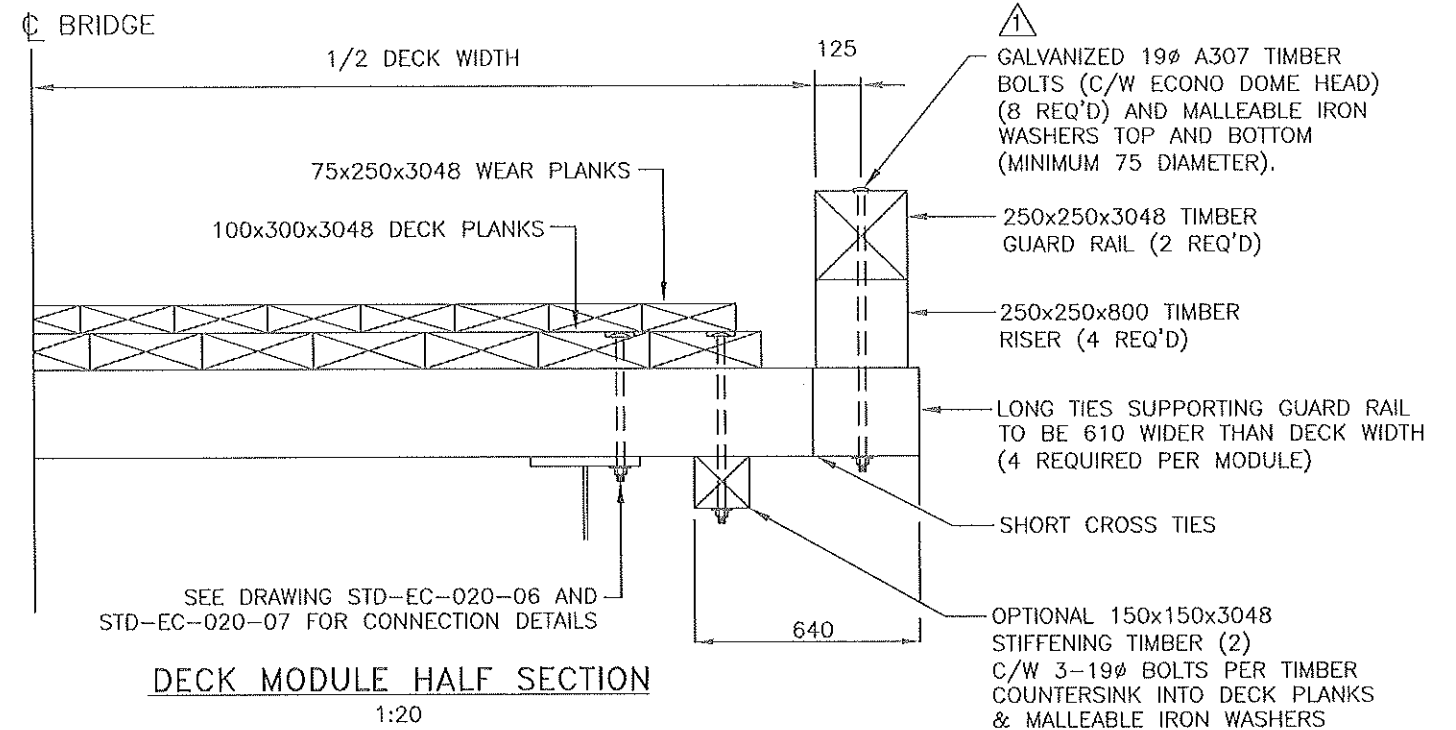
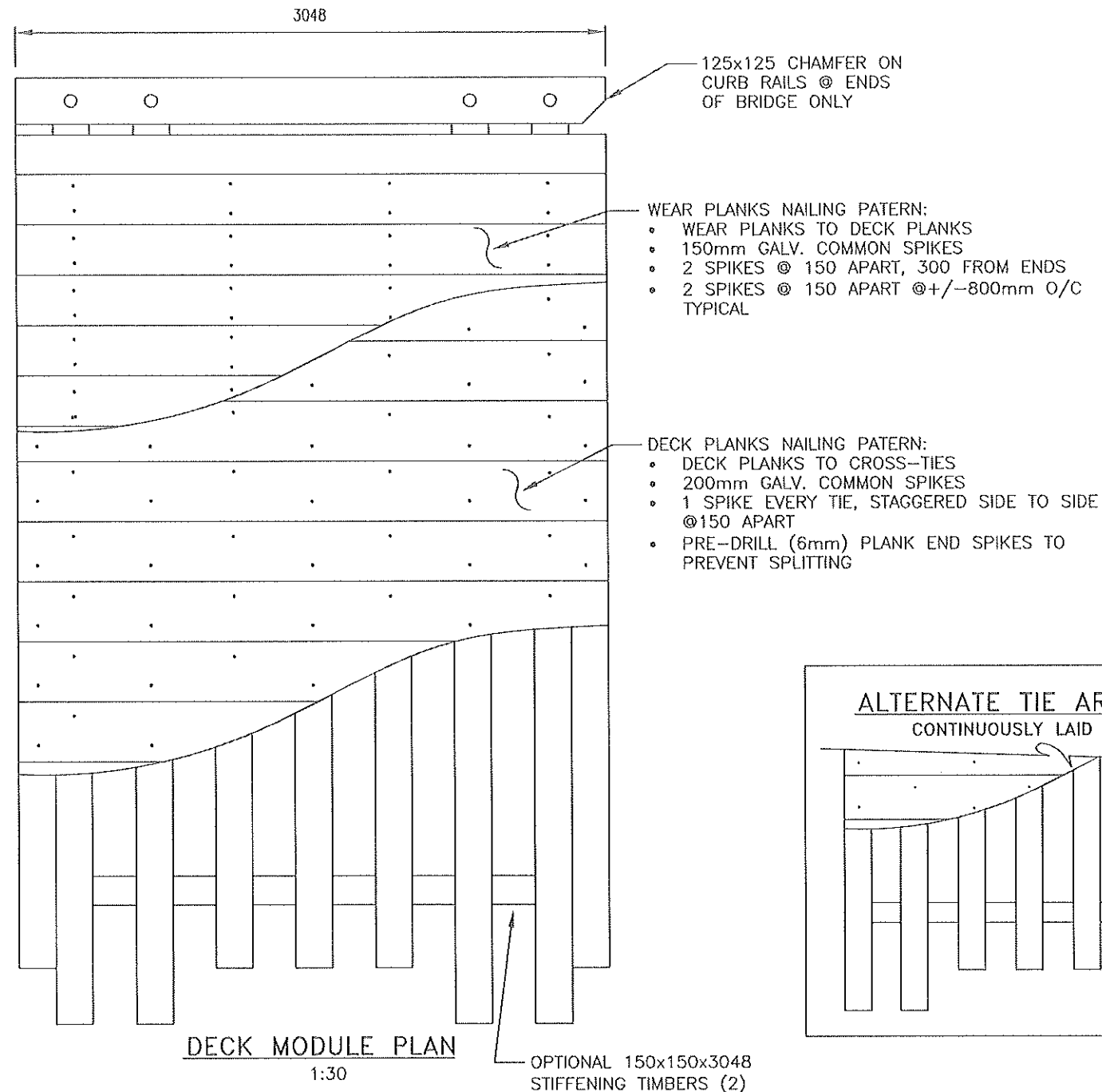
REVISIONS

CANCEL PRINTS BEARING  
PREVIOUS LETTER



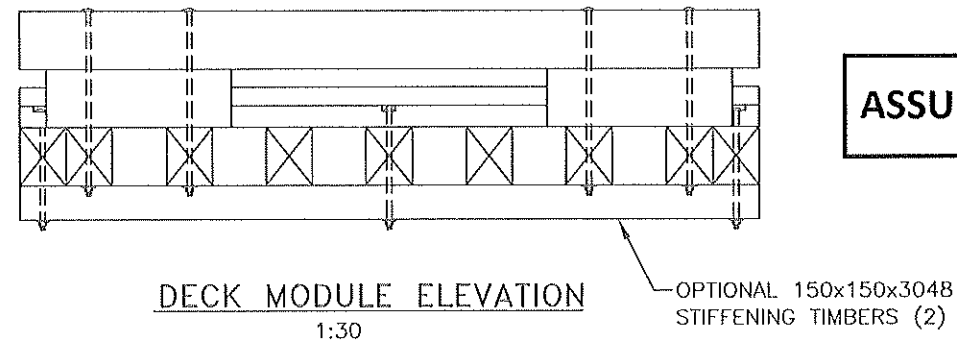


2009/02/19 \\STUDY-PC\Public\Documents\ACAD Drawings




#### NOTES

- SEE DRAWING STD-EC-020-02 FOR TIMBER CROSS TIE SIZES AND SPACINGS.
- SEE DRAWING STD-EC-020-06 FOR NEW BRIDGE DECK MODULE CONNECTION DETAILS.
- SEE DRAWING STD-EC-020-07 FOR RETROFIT DECK MODULE CONNECTION DETAILS.
- WHEN TREATED MODULE SPECIFIED, ALL TIMBERS SHALL BE TREATED EXCEPT FOR WEAR PLANKS.



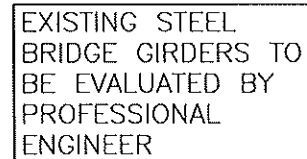
**ASSUME NOT TO SCALE**

SCALE AS SHOWN		Designed: ABS	Date 2012/03/12
		Checked: LT	Date 2012/03/20
		Drawn: ABS	Date 2012/03/12
Rev	Date	DESCRIPTION	Init
1	JAN-17-14	REVISED BOLT AND WASHER DETAILS	JV
REVISIONS			

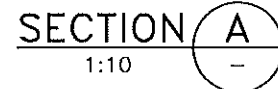
		<b>MINISTRY OF FORESTS, LANDS AND NATURAL RESOURCE OPERATIONS</b>	
		ENGINEERING BRANCH	
STANDARD BRIDGE DRAWING			
MODULAR TIMBER DECK PANEL GENERAL ARRANGEMENT & DETAILS			
ORIGINAL SIGNED and SEALED BY: A.B. SWAN, PEng		MFR ENGINEER: DATE:	
DESIGN ENGINEER: A.B. SWAN P.ENG DATE: MARCH 26, 2012		APPROVED BY: BRIAN CHOW, P.ENG, CHIEF ENGINEER DATE:	
FILE No.		DRAWING No. STD-EC-020-05	



3048 TIMBER DECK MODULE

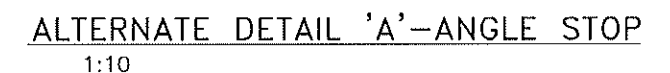
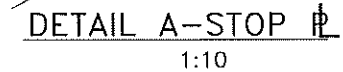
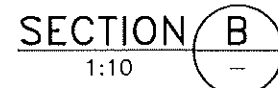


1:20



- LAG SCREWS SHALL 19mm DIA x 200mm LONG (6 REQUIRED)
- PRE-DRILLING FOR LAG SCREW HOLES SHALL BE AS FOLLOWS:
  - 19 mm DIA HOLE FOR SHANK PENETRATION LENGTH INTO CROSSTIE ONLY
  - 12.5 mm DIA HOLE FOR FULL PENETRATION LENGTH INTO CROSSTIE ONLY
- A NON-PETROLEUM LUBRICANT (IE .SOAP) MAY BE USED TO FACILITATE INSTALLATION
- IF LAG SCREWS HAVE BEEN INSTALLED MORE THAN TWO TIMES OR IF LAG SCREWS ARE STRIPPED, USE BOLT THROUGH OPTION

SECTION B  
1:10



## STD-EC-020-07

CANCEL PRINTS BEARING  
PREVIOUS LETTER

## **APPENDIX C**

---

### **NOTICE OF AUTHORIZED CHANGES - CHANGES IN AND ABOUT A STREAM**



August 25, 2025

Job Number: 134477  
vFCBC Tracking Number: 100480257

Village of McBride  
100 Robson Centre, 855 SW Frontage Rd.  
McBride, BC V0J 2E0

Dear Village of McBride,

Notice of Authorized Changes - Changes In and About a Stream (File 7003382)

Thank you for your Authorized Change Application for changes in and about a stream regarding the replacement of a bridge on Dominion Creek and the access road to the Village of McBride water intake facility, at 53.2861380, - 120.1970480.

All works shall be completed in accordance with "Water Intake Upgrades and Bridge Replacement Environmental Management Plan" (Triton Environmental Consultants Ltd., 2025), and the provincial "[Requirements and Best Management Practices for Making Changes In and About a Stream](#)" (Government of BC, 2022).

As a Habitat Officer under the *Water Sustainability Act*, I am requiring that the proposed changes in and about a stream be made in accordance with the following terms and conditions to protect fish, fish habitat, and/or water quality as per Section 44(2) of the *Water Sustainability Regulation*.

**TERMS AND CONDITIONS:**

**a) THE TIMING WINDOW DURING WHICH THE CHANGE MAY BE MADE**

The least risk fish window is between July 15<sup>th</sup> and August 15<sup>th</sup> to accommodate both spring and fall spawning fish or July 15<sup>th</sup> and April 15<sup>th</sup> for spring spawning fish species that may be present.

**As a Habitat Officer I authorize a variance your instream works; permitting works from September 1<sup>st</sup> to December 1<sup>st</sup>, 2025 with conditions:**

Minimize the amount of time the work site is in a disturbed state by completing work as quickly as possible, while considering worker safety and minimizing environmental risk.

**b) THE MINIMUM INSTREAM FLOW OR THE MINIMUM FLOW OF WATER THAT MUST REMAIN IN THE STREAM WHILE THE CHANGE IS BEING MADE**

The natural rate of water flow must be maintained upstream and downstream of the worksite during all phases of instream activity.

**c) THE REMOVAL OF MATERIAL FROM THE STREAM OR STREAM CHANNEL IN CONNECTION WITH THE CHANGE**

The removal of material must not lead to stream channel instability or increase the risk of sedimentation into the watercourse.

Any spoil materials must be placed in a location which ensures that sediment or debris does not enter the watercourse.

**d) THE ADDITION OF SUBSTANCE, SEDIMENT, DEBRIS OR MATERIAL TO THE STREAM OR STREAM CHANNEL IN CONNECTION WITH THE CHANGE**

Instream activities must be conducted in the dry and the worksite must be isolated from water flowing in the stream channel.

All equipment must be located and operated in the dry.

Equipment used in close proximity to the wetted perimeter must be free of deleterious material (e.g. hydrocarbons) and in good mechanical condition (e.g. no fuel or hydraulic leaks).

Measures must be taken to ensure that no harmful material (e.g. fuel and other hydrocarbons, soil, road fill, or sediment) which could adversely impact water quality, fish and other aquatic life, and/or fish habitat, be allowed to enter the wetted perimeter as a result of the project activities.

All rock used in the works shall be clean and free of sediment producing material, durable, non-acid generating and suitably graded.

Ensure that all works involving the use of concrete, cement, mortars, and other Portland cement or lime-containing construction materials will not deposit, directly or indirectly, sediments, debris, concrete, concrete fines, wash or contact water into or about any watercourse. Concrete materials cast in place must remain inside sealed formed structures.

Erosion and sediment control structures are to be available onsite and utilized as necessary.

Do not work in weather conditions likely to contribute to sediment production to the stream.

**e) THE SALVAGE OR PROTECTION OF FISH OR WILDLIFE WHILE THE CHANGE IS BEING MADE OR AFTER THE CHANGE HAS BEEN MADE**

If dewatering of the worksite is necessary, fish salvage must occur on a fish-bearing stream prior to commencing works. A fish salvage permit must be obtained (<https://portal.nrs.gov.bc.ca/web/client/home>).

Do not disturb wildlife and/or their residences (e.g. beaver lodges) within the project area.

Measures must be taken to ensure that equipment (e.g., water pumps) does not harm aquatic life.

**f) THE PROTECTION OF NATURAL MATERIALS AND VEGETATION THAT CONTRIBUTE TO THE AQUATIC ECOSYSTEM OR STREAM CHANNEL STABILITY**

Minimize disturbance to natural materials (e.g. embedded logs) and vegetation that contribute to habitat or stream channel stability.

Minimize the disturbance to existing vegetation on and adjacent to the stream banks.

**g) THE RESTORATION OF THE WORKSITE AFTER THE CHANGE HAS BEEN MADE**

Grade disturbed areas to a stable angle after work is completed and revegetate these areas to prevent surface erosion.

Revegetate any disturbed areas using appropriately selected species. Riparian areas which are disturbed by the works shall be restored to their original condition and protected from erosion.

Remove any remaining sediment and erosion control measures once site has stabilized.

Complete post-construction monitoring to ensure your revegetation is successful.

#### **h) THE REQUIREMENT TO OBTAIN AN APPROVAL FROM THE FEDERAL DEPARTMENT OF FISHERIES AND OCEANS IN CONNECTION WITH THE CHANGES**

Proponents are responsible for complying with the federal *Fisheries Act*. No serious harm to fish is authorized by this document, where serious harm is the death of fish or any permanent alteration to, or destruction of, fish habitat.

Proponents are responsible for determining whether Fisheries and Oceans Canada (DFO) must be consulted and whether an authorization from DFO is required prior to making the change.

#### **i) OTHER**

An Environmental Monitor must be on site while operations take place.

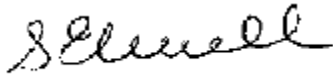
This document does not supersede the requirements of the *Water Sustainability Act*, *Water Sustainability Regulation*, federal *Fisheries Act* or any other related legislation. The proponent is obligated to comply with all applicable federal, provincial or municipal enactments. Further information on the *Water Sustainability Act*, Section 11 Change Approval and Authorization for "Changes In and About a Stream" can be found at: <http://www2.gov.bc.ca/gov/content/environment/air-land-water/water/water/water-licensing-rights/working-around-water>.

**Retain a copy of this document on site during construction of the works.**



If you have any questions or concerns, please contact [Sherri.Elwell@gov.bc.ca](mailto:Sherri.Elwell@gov.bc.ca) who can also be reached at 250-649-4367.

Sincerely,

A handwritten signature in black ink, appearing to read 'S Elwell', written in a cursive style.

Sherri Elwell, M.Sc., R.P.Bio.  
Sr. Ecosystems Biologist / Habitat Officer

Cc: Triton Environmental Consultants Ltd., ATTN: Jenifer Bond

## **APPENDIX D**

---

### **WATER INTAKE UPGRADES AND BRIDGE REPLACEMENT ENVIRONMENTAL MANAGEMENT PLAN**



## Water Intake Upgrades and Bridge Replacement Environmental Management Plan

Village of McBride

**TRITON**  
Environmental Consultants



**PAIR SILVER**  
PARTNERSHIP ACCREDITATION  
IN INDIGENOUS RELATIONS

<b>Revision History</b>			
<b>Project Name</b>		Village of McBride EMP	
<b>Project Number</b>		12573	
<b>Report Title</b>		Water Intake Upgrades and Bridge Replacement Environmental Management Plan	
<b>Document #</b>		P6226	
<b>Report Author(s)</b>		Sebastian van Leeuwen BSc., RPBio	
<b>Version</b>	<b>Date</b>	<b>Document Stage</b>	<b>Description/Notes</b>
A	June 4, 2025	Draft	
B	July 2, 2025	Draft	Incorporated changes

<b>Document Reviews</b>			
<b>Version</b>	<b>Date</b>	<b>Review Type</b>	<b>Reviewed by</b>
A	June 16, 2025	Senior Review	Jen Bond, RPBio
C	July 5, 2025	Document Review	Christa Porter, PMP

Document authentication is conducted in accordance with the requirements of provincial regulations (as applicable), professional organizations to which our Professionals of Record belong, and Triton's Quality Management System.

<b>Authentication</b>			
<b>Version</b> (and sections, if applicable) <sup>1</sup>	<b>Role</b>	<b>Name</b>	<b>Signature/Date or Professional Seal<sup>2</sup></b>
Final	Author	Sebastian van Leeuwen	

**Notes:**

1. In cases where more than one author or Professional of Record have contributed to different parts of the document, they must indicate which sections they are authenticating.
2. Only Professionals of Record are required to stamp or seal documents; however if the author is not the Professional of Record, they are encouraged to also add their signature or stamp/seal if applicable.

## **Disclaimer**

This report is rendered solely for the use of the Village of McBride (the Village), in connection with the Water Intake Upgrades and Bridge Replacement Project (the Project) and no person may rely on it for any other purpose without Triton Environmental Consultants Ltd.'s (Triton) prior written approval. Should a third party use this report without Triton's approval, they may not rely upon it. Triton accepts no responsibility for loss or damages suffered by any third party as a result of decisions made or actions taken based on this report.

This report is based on facts and opinions contained within the referenced documents, including the results of any data collection programs carried out in relation to this report. We have attempted to identify and consider facts and documents relevant to the scope of work, accurate as of the time period during which we conducted this analysis. However, the results, our opinions, or recommendations may change if new information becomes available or if information we have relied on is altered.

The following assumptions were relied on during the preparation of this report:

- Project drawings used for this report were at issued for discussion stage with no detailed designs provided. It is assumed no major revisions are forthcoming; if any revisions occur, or detailed design become available, the results and recommendations in this report may need to be revisited.
- A Qualified Environmental Monitor will be provided by the Contractor to be on-site on an as needed basis.

We applied accepted professional practices and standards in developing and interpreting data. While we used accepted professional practices in interpreting data provided by the Village of McBride or third-party sources, we did not verify the accuracy of any such data.

This report must be considered as a whole; selecting only portions of this report may result in a misleading view of the results, our opinions, or recommendations.

**TABLE OF CONTENTS**

<b>Disclaimer.....</b>	<b>iii</b>
<b>1.0 Introduction .....</b>	<b>1</b>
1.1 Project Description .....	1
1.2 Purposes of the EMP .....	3
<b>2.0 Environmental Setting .....</b>	<b>4</b>
2.1 Fish and Fish Habitat.....	4
2.2 Wildlife and Wildlife Habitat .....	5
2.3 Potential Environmental Effects.....	5
<b>3.0 Key Project Requirements .....</b>	<b>6</b>
3.1 Environmental Legislation and Regulatory Context.....	6
3.2 Permits .....	6
3.3 Timing Windows .....	7
3.4 Environmental Best Management Practices .....	8
<b>4.0 Environmental Specifications .....</b>	<b>10</b>
4.1 Environmental Monitoring Plan .....	10
4.1.1 Environmental Incident Reporting.....	11
4.2 Vegetation Management .....	11
4.3 Invasive Plant Management .....	12
4.4 Wildlife Management .....	13
4.5 Erosion and Sediment Control.....	14
4.6 Water Quality Monitoring .....	15
4.7 Construction Waste Management.....	15
4.7.1 Concrete .....	16
4.8 Spill Prevention and Response .....	16
4.8.1 Spill Prevention .....	16
4.8.2 Spill Response.....	18
<b>5.0 Environmental Procedures .....</b>	<b>20</b>
5.1 Bridge Replacement.....	20
5.2 Intake Pond Upgrades.....	20
5.3 Reclamation .....	21
<b>6.0 References.....</b>	<b>22</b>

**LIST OF FIGURES**

Figure 1. Project Location .....	2
----------------------------------	---

**LIST OF TABLES**

Table 1. Summary of water quality guidelines for turbidity & suspended sediments.....	15
Table 2. Recommended Spill Kit Contents .....	17

## **LIST OF APPENDICES**

- Appendix 1. Bridge and Intake Pond Design
- Appendix 2. Example Environmental Monitoring Form
- Appendix 3. Example Spill Response Form



## 1.0 Introduction

Triton Environmental Consultants Ltd. (Triton) was retained by the Village of McBride (the Village) to prepare an Environmental Management Plan (EMP) for the Water Intake Upgrades and Bridge Replacement Project on Dominion Creek (herein referred to as “the Project”).

### 1.1 Project Description

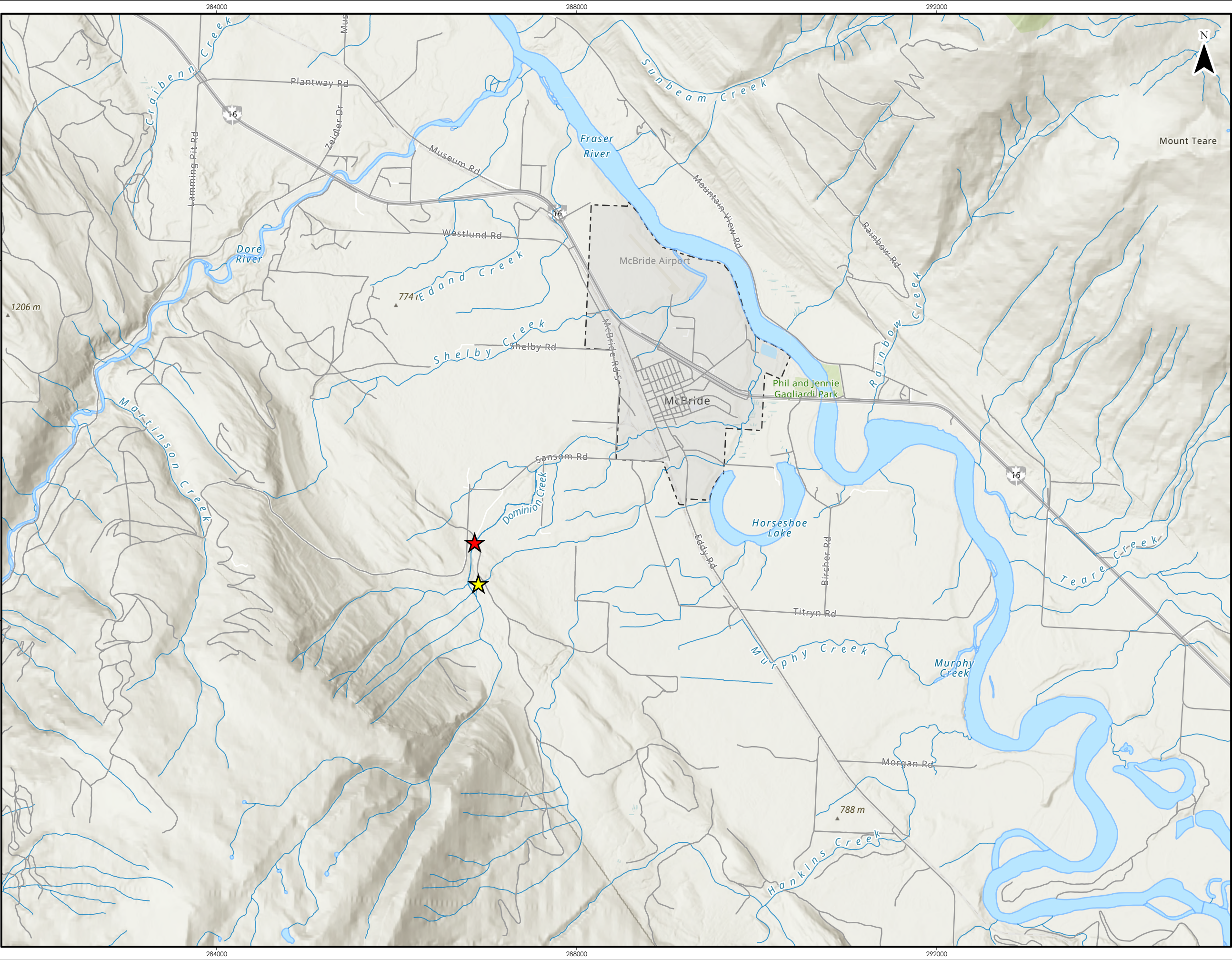
The Village is proposing to perform capacity upgrades to their water intake pond on Dominion Creek and to replace an existing wooden bridge that provides access to the water intake pond. The Project is located off the Lucille Mountain Forest Service Road approximately 4 km south of the Village of McBride, British Columbia (BC; Figure 1).

The existing water intake pond consists of a short concrete weir and gravity intake with two 60 m<sup>3</sup> settling tanks. The water is treated with ultraviolet light (UV) and chlorine before storage in an 800 m<sup>3</sup> underground concrete reservoir that supplies drinking water to approximately 1,200 residents (Village of McBride 2025). In 2023 a local “state of emergency” was declared due to a shortage of water leading the Village to explore other potential water sources and temporary options. The proposed upgrades will include a new 36 m long and 1 m high concrete dam which will tie into the existing infrastructure and will result in an increase in capacity of 885 m<sup>3</sup> in the head-pond. The new dam will be installed outside of the high-water mark (HWM) except for the new spillway. An old wood and steel bridge over Dominion Creek which provides access to the water intake pond was deemed unsafe for industrial equipment and will require replacement prior to pond upgrades occurring. A conceptual site drawing has been provided in Appendix 1, though detailed construction designs were not available at the time of this report.

Construction for both the bridge replacement and water intake upgrades is anticipated to begin in the summer of 2025. The proposed work activities will include, but are not limited to:

- Removal of the existing bridge;
- Clearing vegetation for the new bridge approach;
- Install new bridge abutments;
- Install riprap protection;
- Install new bridge;
- Clearing vegetation for water intake;
- Excavate weir footings;
- Install new weir;
- Complete intake and spillway upgrades; and
- Site remediation including stabilizing disturbed soils and reseeding.





# Village of McBride Water Intake Upgrades

Figure 1.  
Project Location

Project No.	Date	Revision
12573	Jun 06, 2025	00
Prepared By	Reviewed By	Page Size
TK	SL	11" x 17"



★ Bridge Replacement

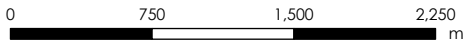
★ McBride Water Intake

— Road

~ Watercourse

○ Waterbody

▭ Municipality



Scale: 1:40,000

Projection: NAD 1983 UTM Zone 11N

Base map Source: ESRI Basemaps

**Disclaimer:** This map is a visual aid to be used together with the accompanying report, including and incorporating any disclaimer contained therein. This map illustrates the results of Triton Environmental Consultants Ltd. work, and is not to be used for navigation. Information shown on this map is based, in whole or in part, on geographic information that may have been provided by third parties, including government data. Triton Environmental Consultants Ltd. disclaims (without limiting the generality of the foregoing) all responsibility for the accuracy of any such third party information, regardless of the source.





## **1.2 Purposes of the EMP**

This Environmental Management Plan (EMP) has been developed for the Village to provide guidance and recommendations for achieving environmental stewardship during the construction of the Project. The purpose of this EMP is to outline the scope of work identified by the Village, to guide and provide recommendations during construction, and it will be submitted as part of the regulatory applications and form part of the tender package.

This EMP should be considered a living document, it is anticipated that revisions/addendums to this document may be needed once the construction approach is discussed or as construction progresses. The approaches provided herein are suggestions only and may be subject to discussions by those contracted to conduct the works. The construction approaches suggested are based on general mitigation measures or the most up-to-date information available at the time this report was prepared. An Environmental Monitor (EM), hired by the Contractor, will be available during the works to ensure mitigation measures outlined in this document are followed or that proper mitigation measures are implemented should the approach be altered. The Contractor's EM must be a Qualified Professional as outlined in the tender documents.

This EMP is specifically intended to:

- Clearly outline roles and responsibilities of all parties involved in construction;
- Provide a summary of environmental resources within the Project area and identify potential negative effects to these resources that may occur due to the Project;
- Provide regulatory context with respect to proposed activities with the potential to interact with environmental sensitivities, including identifying any Environmental Approvals that may be required; and
- Describe proposed construction activities as they relate to or interact with Environmentally Sensitive Areas (ESAs), and include specific environmental specifications captured in sub-plans and Environmental Procedures where required.

## 2.0 Environmental Setting

The Project site falls near the boundary of the McLennan dry hot subzone of the Sub-Boreal Spruce (SBSdh1) and moist mild Interior Cedar-Hemlock biogeoclimatic unit (ICHmm) (Province of BC 2025a). The SBS is a common ecosystem in lower elevations of the Rocky Mountain Trench while the ICH is found in cooler and moister mid elevations of the Rocky Mountain Trench (BC MOF 2025). The climax forest community in the SBS is characterized by the presence of hybrid white spruce (*Picea engelmannii* x *glauca*), Sub-alpine fir (*Abies lasiocarpa*), and Douglas fir (*Pseudotsuga menziesii*), while the ICH unit is dominated by western red-cedar (*Thuja plicata*) and western hemlock (*Tsuga heterophylla*) (BC MOF 2025). Sediment deposits of the SBS are characterized by glaciolacustrine and glaciofluvial clays and sands (Meidinger et al. 1998). A field survey was conducted in May 2025 to assess for environmental conditions of the site and potential effects of the upgrades on those areas.

### 2.1 Fish and Fish Habitat

The Project is located on Horseshoe Creek (locally referred to as Dominion Creek Watershed Code: 100-837900), which is a second order tributary of the Fraser River and has a total stream length of 11.94 km (Province of BC 2025b). Five species of fish have been documented in Dominion Creek including Chinook Salmon (*Oncorhynchus tshawytscha*), Rainbow Trout (*Oncorhynchus mykiss*), Peamouth Chub (*Mylocheilus caurinus*), Redside Shiner (*Richardsonius balteatus*), and White Sucker (*Catostomus commersonii*) (Province of BC 2025b). Only Rainbow Trout have been documented at the Project site, with the remaining four fish species found approximately 4.5 km downstream near Highway 16 (Province of BC 2025b).

Dominion Creek was assessed approximately 50 m upstream and 50 m downstream from the bridge crossing. The stream had an average channel width of 4.48 m, average wetted width of 3.81 m, average gradient of 5%, and a bankfull depth of 0.55 m. Substrates were dominated by gravels, cobbles, and fines, with moderate to high amounts of large woody debris (LWD), small woody debris (SWD), undercuts and deep pools, providing high quality habitat to fish. Rearing habitat was assessed to be high, while spawning and overwintering habitat were both found to be moderate. Overall, fish habitat was rated as important based on the *Fish-Stream Crossing Guidebook* (BC MFLNRO, BC MOE and DFO 2012). With an average channel width of 4.48 m and historical records of Rainbow Trout the stream was classified as a fish-bearing 'S3' stream according to guidelines in the *Fish-stream Identification Guidebook* (Province of BC 2025c).

Fish habitat was found to be similar near the intake pond located approximately 500 m upstream from the bridge. Though stream gradient was slightly steeper at 9% with numerous small (~1 m) cascades and plunge pools formed by LWD and boulders that were present. Substrates were also generally of larger size with predominately cobbles, gravels, and the occasional boulder. A 1.7 m vertical drop was present at the spillway which likely limits Rainbow Trout migration upstream. However, considering the structure

is man-made and perennial fish habitat exists upstream, fish presence above the intake cannot be excluded.

## 2.2 **Wildlife and Wildlife Habitat**

The Project site does not overlap any designated ungulate winter range or wildlife habitat areas. However, it is located on the edge of the critical habitat polygon for the Southern Mountain Woodland Caribou (*Rangifer tarandus*) population which is a federally listed species at risk (Province of BC 2025a).

Based on a search using the BC Species and Ecosystem Explorer (BC CDC 2025) for the Upper Fraser Trench ecosection, several bird species of conservation concern as well as Caribou, Grizzly Bear (*Ursus arctos*), Wolverine (*Gulo gulo luscus*), Fisher (*Pekania pennanti*), Hoary Bat (*Lasiurus cinereus*), Northern Myotis (*Myotis septentrionalis*), Little Brown Myotis (*Myotis lucifugus*), and Western Toad (*Anaxyrus boreas*) have the potential to occur within the general Project area. During the field survey Western Toads were the only at-risk species confirmed to be present while the remainder of the species may be seasonal or transient within the Project area. Signs of Moose (*Alces alces*), Black Bear (*Ursus americanus*), and Mule Deer (*Odocoileus hemionus*) were also observed; general mitigation measures for wildlife management have been captured below in Section 4.4 to avoid adverse effects to wildlife during the Project.

## 2.3 **Potential Environmental Effects**

Construction activities that may have an impact on environmental sensitivities at the Project site include:

- Vegetation clearing;
- Excavations near Dominion Creek for bridge abutment installation; and
- Construction of the weir and spillway over Dominion Creek.

In general, the potential environmental effects of the proposed works may include:

- Erosion of exposed surfaces resulting in an increase in suspended sediment concentrations in Dominion Creek;
- Change or alteration of fish habitat through removal of riparian vegetation;
- Change in habitat and/or disturbance to wildlife and nesting birds;
- Introduction of wildlife attractants leading to negative interactions with wildlife;
- Introduction of invasive plant species; and
- Potential for accidents and equipment malfunctions resulting in hydrocarbon spills to water or soil.

The Project is expected to interact with some environmental sensitivities; however, it is anticipated that any adverse environmental effects to these resources is manageable and can be appropriately mitigated by implementing the measures and best management practices (BMPs) described in Section 4.0.

## 3.0 Key Project Requirements

### 3.1 Environmental Legislation and Regulatory Context

All parties involved in construction shall adhere to applicable provincial and federal legislation, regulations, and guidelines.

Federal environmental protection legislation potentially applicable may include, but is not limited to the following:

- *Transportation of Dangerous Goods Act* (1992)
- *Species at Risk Act* (SARA) (2002)
- *Migratory Birds Convention Act* (MBCA) (1994)
- *Canada Wildlife Act* (1973)
- *Canadian Environmental Protection Act* (1999)
- *Fisheries Act* (1985, revised 2019)
- Fisheries and Oceans Canada (DFO) Fisheries Protection Policy Statement (2019)

Provincial legislation and regulations that may be applicable to the Project may include, but is not limited to the following:

- *Forest and Range Practices Act* (BC 2002)
- Forest Planning and Practices Regulation (BC 2004)
- *Environmental Management Act* (BC 2003)
- *Waste Management Act* (BC 1998)
- Hazardous Waste Regulation (BC 2009)
- Contaminated Sites Regulation (BC 2021)
- *Heritage Conservation Act* (BC 1996)
- *Water Sustainability Act* (BC 2014) and Water Sustainability Regulation (BC 2016)
- *Weed Control Act* (BC 1996) and Weed Control Regulation (BC 2011)
- *Wildlife Act* (BC 1996) and Wildlife Regulation (BC 2021)
- Spill Reporting Regulation (BC 2017)

### 3.2 Permits

The proposed bridge replacement is considered an authorized change<sup>1</sup> under Section 39(1) of the Water Sustainability Regulation under the *Water Sustainability Act*, thus a

---

<sup>1</sup> The conditions in sections 39(1)(b) of the Water Sustainability Regulation are either known or assumed to be met; the Village of McBride and the Contractor responsible for the bridge replacement are responsible to ensure that these conditions are met.

change approval is not required. Triton has submitted a Notification on behalf of the Village to the BC Ministry of Water, Land, and Resource Stewardship (MWLRS) for review.

The proposed weir construction is classified under section 12.1(1)(b) of the *Water Act* as an authorized work under the existing water license (C115839) which is held by the Village. Thus, a Water License Amendment for a 'change of works' will be required to construct the new weir and spillway. Triton has submitted an Amendment on behalf of the Village of McBride to the MWLRS for approval.

By employing the measures contained within this EMP and following DFO's Code of Practice: Clear span bridges it is expected that no *harmful alteration, disruption, or destruction* (HADD) of fish or fish habitat will occur; it is not anticipated that an authorization under sections 34.4(2)(b) or 35(2)(b) of the *Fisheries Act* will be necessary.

Based on known project activities, site isolation and a fish salvage will be required to conduct instream works. An application for a Scientific Fish Collection Permit under Section 18 of the Angling and Scientific Regulations will be required from the BC MWLRS and a Scientific Fish License from DFO will be required to conduct the fish salvage and it is assumed that the Contractor will be responsible for obtaining these permits.

A General Wildlife Permit is required for the collection, transfer/salvage, and release of amphibian species. Western Toads have been confirmed to be present within the Project area, and a permit from the BC MWLRS will be required to salvage amphibians which will be applied for by the Contractor.

### **3.3        *Timing Windows***

Reduced risk work windows are one of several measures used to protect environmental sensitivities when carrying out a project. Reduced risk work windows are a requirement for all activities where there is a risk of depositing sediment into a fish stream (Province of BC 2025d). Within the Omineca Region the timing window for spring and fall spawners (Rainbow Trout, Chinook Salmon) is July 15 to August 15 (Province of BC 2025d). The instream work planned should attempt to be completed inside this window; however, if the Contractor is not able to complete works during this time, a variance with rational prepared by a Qualified Professional will need to be prepared.

Additionally, it is recommended to complete instream works during a natural period of low-flow (i.e., late-summer low flow conditions) such that sedimentation can be adequately managed.

The general migratory breeding bird window for the Project area is March 10 to August 31 (Birds Canada 2025). Potential habitat for migratory birds is present within and adjacent to the Project area. Large trees and snags may provide suitable habitat for cavity-nesting species, in addition to suitable nesting sites for raptors such as hawks, osprey, and eagles. Trees and shrubs will provide potential nest sites for songbirds. Long grasses, shrubs and bridge structure may provide nesting opportunities for ground-nesting

species. Therefore, bird nest sweeps prior to any clearing, grubbing, ground disturbance or bridge removal will be completed to ensure compliance with the BC *Wildlife Act* and *Migratory Bird Convention Act*. Bird nest surveys must be conducted by an appropriately qualified professional (AQP) in accordance with industry best practices and protocols to identify occupied nests and provide recommendations.

Native birds and their nests are protected under section 34 of the BC *Wildlife Act* [RSBC 1996] and the federal *Migratory Bird Convention Act* [S.C. 1994]. Section 34 of the BC *Wildlife Act* states that a person may not possess, take, injure, molest or destroy:

- a) a bird or its egg,
- b) the nest of an eagle, peregrine falcon, gyrfalcon, osprey, heron or burrowing owl, or
- c) the nest of a bird not referred to in paragraph (b) when the nest is occupied by a bird or its egg.

Nests of specified species are protected year-round regardless of whether they are occupied. These species include, but are not limited to, bald eagle, golden eagle, osprey, burrowing owl, gyrfalcon, great blue heron, and pileated woodpecker.

### **3.4 Environmental Best Management Practices**

Guidance documents that may be applicable to the Project are listed below but may not be all inclusive depending on proposed construction methodologies by the Contractor, or changes in Project scope. The Contractor must ensure that all appropriate BMPs are taken into consideration, whether provided below or not, and that sufficient measures are employed.

- "Requirements and Best Management Practices for Making Changes In and About a Stream in British Columbia," Government of British Columbia (2022).
- "Projects Near Water – Measures to Protect Fish and Fish Habitat," Fisheries and Oceans Canada (2025).
- "Land Development Guidelines for the Protection of Aquatic Habitat," Fisheries and Oceans Canada and the BC Ministry of Environment, Lands and Parks (1992).
- "Fish-stream Crossing Guidebook," the BC Ministry of Forests, Lands, and Natural Resource Operation, the BC Ministry of Environment and Fisheries and Oceans Canada (2012).
- "Terms and Conditions for Water Sustainability Act Changes In and About a Stream (Omineca Region)," the Ministry of Forests, Lands, Natural Resource Operations and Rural Development (2004).
- "British Columbia Approved Water Quality Guidelines: Aquatic Life, Wildlife & Agriculture," the BC Ministry of Environment and Climate Change Strategy (2021).
- "Guidelines for Raptor Conservation during Urban and Rural Land Development in British Columbia," the BC Ministry of Environment (2013).



- "Develop with Care 2012: Environmental Guidelines for Urban and Rural Land Development," the BC Ministry of Environment (2012).
- "Transport of Dangerous Goods Regulations; A field guide to Fuel Handling, Transportation and Storage," the BC Ministry of Water, Land and Air Protection (2002).

## 4.0 Environmental Specifications

Below, the EMP provides environmental specifications that describe how works shall be conducted with respect to certain activities and/or resources throughout the Project area.

### 4.1 Environmental Monitoring Plan

The Contractor's EM will be responsible for directing all environmental monitoring activities and determining sampling requirements and protocols, as required. They will be responsible for all technical aspects of environmental sampling and monitoring and will be present on-site during key construction activities that present a higher risk of having adverse effects on the environment or have associated mitigation measures the EM is responsible for monitoring. Environmental monitoring activities must be sufficient to reliably determine whether the construction activities are being conducted in compliance with this EMP and regulatory approvals obtained for the Project. Responsibilities of the EM should include, but may not be limited to, the following:

- Reviewing the EMP, and updating and distributing the document as necessary.
- Attending Project meetings related to environmental protection or other relevant topics.
- Conducting pre-work meeting prior to works in environmentally sensitive areas and informing site supervisor of key environmental issues.
- Completing a nest survey ahead of clearing activities.
- Completing an amphibian salvage ahead of clearing activities as necessary.
- Completing a fish salvage following permit conditions prior to instream works.
- Conducting daily water quality monitoring during all instream works.
- Reviewing work plans to ensure compliance and making recommendations to resolve any non-conformances.
- Monitoring work activities as they relate to environmental protection when work is taking place in environmentally sensitive areas (e.g., instream works).
- Reporting all non-conformances to the Village in the form of Incident Reports.
- Distributing copies of Incident Reports and other environmental occurrence documents to the appropriate agencies.
- Being on call and attending on-site in the event of an environmental emergency.
- Conducting regular inventories of spill response kits.
- Completing and documenting equipment inspections as well as inspections of fuel and chemical storage areas.
- Maintaining detailed records of construction activities on-site.

- Preparing field notes and photographs describing the progress of the work, any environmental issues that arise, and mitigation measures that are used to resolve the issue.
- Liaising with agencies in the event of an environmental incident or the development of unforeseen site conditions with the potential to result in a significant impact.
- Overseeing site cleanup and restoration activities.
- Preparing environmental monitoring reports during active construction periods for submission to the Village (example report can be found in Appendix 2).

The frequency of EM site visits must be appropriate to the nature/sensitivity of construction activities occurring, on an as needed (e.g., bird nest sweeps/amphibian searches ahead of clearing) or bi-weekly basis.

#### 4.1.1 Environmental Incident Reporting

The EM is responsible for adequately documenting and providing incident reporting to the Village. Notes detailing an environmental incident will be documented on an environmental monitoring form at the time of the incident. An incident memorandum will be provided to the Village within 24 hours of the incident occurring. The incident report will outline the nature of the incident, mitigation measures used, actions taken, and changes made to prevent similar events within the current Project.

## 4.2 **Vegetation Management**

Clearing of vegetation may be required within the Project area, and may include, but is not limited to, the removal of fallen and standing trees, shrubs, saplings, and other vegetation. During clearing activities, the following requirements will be adhered to:

- Riparian vegetation removal/disturbance areas will be identified and flagged in the field prior to clearing and will be limited to the boundaries indicated in Project-specific design drawings.
- Work should be planned to minimize damage to existing vegetation wherever possible. Limit travel of equipment off designated access routes.
- Vegetation clearing or disturbance will be required during the general migratory bird breeding season (March 10 to August 31). In order to protect bird nesting habitat as per the MBCA and *Wildlife Act*, a bird nest survey will be performed to ensure that no active bird nests are observed within the proposed clearing area. The survey will be carried out by a QEP proficient with bird nest surveys.
- Prior to any clearing the QEP will conduct a cavity nest sweep to identify any potential nest cavities and/or wildlife trees. Any cavity nests identified will be suitably buffered and protected under the MBCA. If discovered within the nesting period, a 50 m buffer will apply until the QEP establishes a more suitable species and work activities specific buffer per occurrence.

- Any active nests identified will be suitably buffered and protected under the MBCA. A 50 m buffer will apply until the EM establishes a more suitable species and work activities specific buffer per occurrence. Construction may only resume within the buffer once the nest has been vacated and/or the QEP has confirmed no further activity.
- Bird nest surveys are valid for 48 hours from the time they are conducted. Should additional clearing be required 48 hours from the time of the initial survey, a new bird nest survey is required.
- Limb or top vegetation rather than grub vegetation to minimize overall disturbance in work areas. Avoid grubbing and retain established root networks to promote natural revegetation.
- If vegetation clearing is required near Dominion Creek, it will be performed by pulling material back to reduce potential for sedimentation. No materials will be piled in or adjacent to the creek. The Contractor should avoid falling timber into or across the creek.
- Debris from clearing will be disposed of off-site, or in an on-site location approved by the Village.
- No burning of clearing debris will occur.
- If plant species of conservation concern are identified during the Project, the EM will be notified and will provide follow up management recommendations.

### 4.3 Invasive Plant Management

The Invasive Alien Plant Program (IAPP) map display (Province of BC 2025e) was queried for invasive plant species occurrences in and around the Project area. Eight invasive species were noted within 500 m of the Project area including Bull thistle (*Cirsium vulgare*), Canada thistle (*Cirsium arvense*), common tansy (*Tanacetum vulgare*), dames rocket (*Hesperis matronalis*), marsh plume thistle (*Cirsium palustre*), meadow buttercup (*Ranunculus acris*), orange hawkweed (*Pilosella aurantiaca*), and oxeye daisy (*Leucanthemum vulgare*). During the field visit both marsh plume thistle and orange hawkweed were observed to be present at the Project site. Canada thistle is the only invasive plant listed as noxious under the *Weed Control Act* while marsh plume thistle is listed as regionally noxious in the Fraser-fort George Regional District. The following BMPs will be implemented to avoid the spread, introduction, and/or propagation of invasive plant species:

- Management of noxious weeds and invasive plant measures will be discussed during the on-site kick-off meeting.
- All equipment will be washed clean of soil, seeds, and plant parts prior to entering the Project site at the start of the Project and documented by the Contractor's EM. All equipment will be inspected for soil/seeds/plant parts when the Project is completed.
- Minimize soil disturbance and revegetate disturbed areas as quickly as possible.

- If possible, locate staging and lay down areas such that they are not located in infested areas.
- Any observation of an invasive plant or noxious weed is to be reported to the EM. Coordinates will be taken, and these sites will be flagged and reported to the Invasive Alien Plant Program (IAPP).
- Straw (mulch) sources, if required on site, shall be visually inspected prior to application to ensure they are weed-free. Hay shall not be used as mulch unless it is from a local area demonstrated to be free of invasive species.

#### **4.4 Wildlife Management**

During all phases of Project construction, wildlife may be encountered. Habitat features that are particularly sensitive include wildlife trees, denning sites, roosting areas, and active bird nests. Measures that require implementation to prevent or minimize impacts to wildlife resulting from construction activities include the following:

- The EM shall perform a ground survey prior to work commencing to determine the presence/absence of wildlife including amphibians, reptiles, small mammals, bird nests, species at risk or others prior to initiating work.
- The EM shall perform a pre-clearing bird nest survey to mitigate the risk of incidental take of active bird nests.
- If any occupied nests or pileated woodpecker cavities are observed in the Project area, the Contractor should notify the EM immediately.
- The Contractor will adhere to setback distances established by the EM (e.g., bird nest/cavity buffer zone).
- If amphibians are encountered on-site notify the EM immediately to determine if salvage activities are required. The Contractor may allow individuals to leave the area on their own prior to disturbance to prevent injury and mortality. Amphibian exclusion may also be installed in select areas to prevent amphibians from entering the Project site at the direction of the EM.
- Avoid damage to wildlife habitat outside of the Project footprint.
- All attractants will be properly stored and regularly removed from the Project site so as not to attract wildlife to the Project site.
- Harassment and/or feeding of wildlife within and adjacent to the Project site will not be permitted.
- All significant wildlife encounters or observations will be reported to the EM and the Village.
- If dangerous wildlife is encountered on-site, work should be halted, and they should be allowed to depart the work area prior to re-commencing work.
- Incidents of nuisance wildlife or worker injuries caused by wildlife must be reported to the EM and the Village. Nuisance animals may also be reported to a Conservation Officer (1-877-952-7277).

#### 4.5 Erosion and Sediment Control

The Project occurs within the riparian area of Dominion Creek and, as such, managing erosion and sediment will be required to ensure downstream water quality is not impacted to protect aquatic resources. Therefore, the following BMPs will be implemented to minimize transport of sediment to the creek and local water supply:

- Weather forecasts will be monitored, and the Contractor will be responsible for considering inclement weather prior to completing the proposed construction activities. The Contractor will consider suspending construction work during and immediately after weather events that may result in excessive runoff and erosion.
- All work will be undertaken and completed in such a manner as to prevent the release of silt, sediment or sediment-laden water, or any other deleterious substances into any watercourse, or drainage.
- Effective erosion and sediment control (ESC) measures will be installed by the Contractor, prior to beginning construction to minimize the potential for introduction of sediment into watercourses or drainages.
- The Contractor will supply appropriate ESC materials (e.g., sediment fencing, straw bales, erosion control blankets, polyethylene material, geotextile, sediment bags, pump(s), hoses, and generator(s), etc.) for on-site use.
- Maintain all ESC throughout the construction period. ESC measures will be regularly inspected by the EM for effectiveness.
- Exposed soils that will be left during extended periods (i.e., greater than 24 hours) or have the potential to be eroded by anticipated adverse weather, must be protected from erosion if there is a sensitive receptor nearby. Soil stockpiles are to be covered by polyethylene sheeting or tarps that are securely fastened in place during inclement weather. Should stockpiles become a source of siltation to a watercourse, the Contractor shall immediately remedy the situation, as necessary.
- Sediment fence will be keyed into a depth of 15 cm, where there is potential for sediment-laden water to enter Dominion Creek (within 30 m). When sediment or debris accumulation exceeds 30 cm on the fencing, the materials will be cleaned out.
- The EM will work with the Contractor to identify contingency or alternative disposal locations or options in the event water quality leaving the Project site exceeds guidelines.
- Sediment-laden water may require discharge to a suitable area away from watercourses, drainages, or another sensitive receptor. These discharge areas will be approved by the EM and will be regularly monitored to ensure erosion, sediment, and drainage management measures are implemented and are operating effectively. The discharge location will be appropriately constructed to prevent erosion (e.g., dissipate discharge over rock or polyethylene sheeting).
- Slopes are to be appropriately graded, and original drainage patterns restored, to prevent sedimentation following the completion of the Project.

#### 4.6 Water Quality Monitoring

Water quality monitoring will be required in Dominion Creek during all instream work. The primary water quality parameter of concern is suspended sediment (turbidity) that can impact fish and fish habitat. Other potential contamination sources include hydrocarbon releases from equipment and machinery working near the creek and concrete work that will be required during installation of the new weir. Hydrocarbon contamination of a watercourse or waterbody will be subject to spill response protocols which are outlined in Section 4.8.

Water quality monitoring will involve at a minimum, daily visual inspections and measurements of turbidity using a portable turbidity meter capable of measuring nephelometric turbidity units (NTU) at background (upstream) and downstream locations. Additional parameters to document include pH, temperature, and conductivity. Water quality monitoring will be conducted during all instream construction activities.

Water quality guidelines for the protection of aquatic life are outlined in Table 1.

**Table 1. Summary of water quality guidelines for turbidity & suspended sediments**

Maximum Induced Turbidity (NTU) or % of Background	Maximum Induced Suspended Sediments or % of Background
Change from background of 8 NTU for a duration of 24 hours during clear flows	Change from background of 25 mg/L for a duration of 24 hours during clear flows
Change from background of 2 NTU for a duration of 30 days during clear flows	Change from background of 5 mg/L for a duration of 30 days during clear flows
Change from background of 5 NTU when background is 8 to 50 NTU	Change from background of 10 mg/L when background is 25 to 100 mg/L
Change from background of 10% NTU when background is >50 NTU	Change from background of 10% NTU when background is >100 mg/L

Source: Caux et al. (1997)

#### 4.7 Construction Waste Management

The Project has the potential to generate wastes. Therefore, the following BMPs will be implemented to ensure construction wastes are properly stored and disposed of:

- No waste materials of any kind will be disposed of, buried, or burned on-site.
- Temporary waste storage areas will be located >30 m away from any watercourse or drainage.
- All waste, debris and other construction related materials will be removed from the site on a regular basis and will be disposed of at an approved disposal facility, in compliance with applicable legislation and regulations. Waste containers will be appropriately labelled and stored in a secure location, protected from weather and wildlife until removal and disposal can be arranged.

- Wherever possible, materials that can be recycled will be separated from the waste stream and recycled at a local recycling facility.

#### 4.7.1 Concrete

The use of concrete will be required for this Project as cast-in-place concrete will be used to construct the new weir. Because leachate from concrete is harmful to aquatic life and is considered a deleterious substance, any concrete works will be conducted in a manner that prevents leachate from entering any watercourse or drainage.

Fresh concrete used within the Project area will be isolated away from any watercourse for 48 hours after placement. Any concrete waste located on the ground will be completely removed to an approved disposal site. The work area will be isolated from surface water with a waterproof barrier such as polyethylene sheets. To prevent groundwater contamination, surface water that has contact with any amount of leachate will be pumped to a treatment sump until neutralized with a carbon dioxide diffuser. Treated water from the sump can then be safely pumped to a vegetated area (i.e., adjacent mature forest) to continue filtration.

### 4.8 **Spill Prevention and Response**

The Project has the potential for accidents and malfunctions resulting in hydrocarbon spills to water or soil. This Spill Prevention and Response Plan has been developed to minimize the potential for spills to occur and describes the actions and clean-up procedures to be taken if a leak or spill occurs.

#### 4.8.1 Spill Prevention

The following BMPs and mitigation measures will be implemented to minimize the potential for spills at the Project site and ensure the Contractor is prepared to handle spills and/or leaks from equipment:

- Any equipment required to complete Project activities will be operated from outside the wetted portions of Dominion Creek.
- Equipment will be inspected by the EM on arrival to ensure the machinery is free of excess oils, grease, and lubricants, and to ensure it is in good operating condition.
- All fuel-containing portable equipment (e.g., light plants, generators) must be placed in secondary containment (e.g., spill tray) that can contain 110% of the fluids contained within the equipment.
- Refuelling, servicing, cleaning, and maintenance of equipment will be carried out in the designated laydown area and >30 m from the any watercourse or wetland.
- Temporary storage, handling, and re-fuelling sites will be located on flat, stable ground in a suitable location above the HWM (>30 m away if possible) that is approved by the EM (e.g., laydown area).



- Jerry cans must be kept in secondary containment with the capacity to contain 110% of the volume of the fuel container(s).
- Temporary fuel storage areas will be regularly inspected and will include, among other things, ensuring that all personal protective equipment and other emergency response equipment are in place.
- Refuelling of equipment must occur with the use of a spill tray and spill pads to capture any drips that may occur.
- All waste fuel or products, such as filters, will be stored in spill proof containers and will be discarded at an appropriate facility.
- All applicable personnel will be appropriately trained in the handling of fuel, and controlled substances. Crews will be trained in the use of the spill response kits.
- Spill response kits will be present on-site that are proportionate to the scope and scale of potential spills that could result from the construction work occurring (see Table 2 for recommended spill kit contents).
- Each piece of equipment, where fuel or hazardous materials are present, must be equipped with a spill kit. A barrel sized spill kit will also be staged at the work site during all instream work in Dominion Creek.
- Contents of spill kits, including those on each piece of heavy equipment, will be inspected by the EM and will be re-stocked promptly if used.
- The Contractor will supply a minimum of 20 m long floating oil spill containment boom and 75 m of rope to remain on shore during the Project which would be used in the event of a spill to Dominion Creek.

**Table 2. Recommended Spill Kit Contents**

<b>Location</b>	<b>Spill Kit Type</b>	<b>Required Minimum Contents</b>
Heavy equipment, machinery and/or vehicles (with onboard fuel capacity of <500 L)	30 L spill kit	<ul style="list-style-type: none"> <li>• 20 absorbent hydrophobic pads (for hydrocarbons)</li> <li>• 2 absorbent socks (3" x 4')</li> <li>• 2 heavy duty disposable bags</li> <li>• Nitrile gloves and eye protection (goggles).</li> </ul>
On shore during work near the high-water mark	231 L spill barrel	<ul style="list-style-type: none"> <li>• 100 absorbent hydrophobic pads (for hydrocarbons)</li> <li>• 6 small absorbent pillows</li> <li>• 2 large absorbent pillows</li> <li>• 5 large absorbent socks (or booms)</li> <li>• 2 small absorbent socks</li> <li>• 1 bag of granular absorbent</li> <li>• 1 plug pattie (instant stop leak)</li> <li>• 2 heavy duty disposable bags</li> <li>• 2 sets of nitrile gloves, eye protection (goggles) and poly-coated ChemMax coveralls</li> <li>• Emergency Response Guide</li> </ul>
	Additional supplies	<ul style="list-style-type: none"> <li>• 20 m long floating oil spill containment boom and 75 m of rope</li> </ul>

#### 4.8.2 Spill Response

In the event of a spill, construction work will cease, and the Contractor will take all necessary steps to abate the discharge, and provide the necessary labour, equipment, materials, and absorbents to contain the spill. The following procedures will be followed:

1. Stop work, assess the risk, and identify the product.
2. Ensure safety (i.e., consult Safety Data Sheet) and use appropriate personal protective equipment (PPE).
3. Stop the source of the flow (i.e., shut down equipment, upright containers).
4. Secure the area using flagging tape or other barriers.
5. Contain the spill to one area (i.e., protect drains, culverts, watercourses, and ditches). Cover if raining to prevent contact with surface water.
6. Immediately notify the EM and on-site Supervisor; subsequently notify the Village Representative.
7. Evaluate the incident and implement appropriate clean-up measures.
8. Properly dispose of contaminated spill response material.
9. Prepare and submit an environment incident report (example found in Appendix 3) summarizing the spill to the Village Representative within 24 hours of the occurrence. This must be prepared by the party responsible (e.g., Contractor) for the spill and must include:
  - i. A general description of the incident;
  - ii. Pictures of the spill, damages (if any), and cleanup efforts;
  - iii. Source and cause of the incident;
  - iv. Description of the response effort;
  - v. Quantity of the spill and percent recovered;
  - vi. Recommendations for preventative and mitigation measures; and
  - vii. Plans for upgrading emergency preparedness and response plans.

##### **4.8.2.1 Spills to Land**

For spills to land, impacted material will be contained and collected using absorbents (i.e., spill pads) and/or shovels. Absorbents and containment materials (i.e., contaminated soils) will be separated and transferred to drums or other inert sealed containers. Contaminated absorbents and/or soils will be stored in properly marked, sealed containers, and disposed of through an approved agent or disposal facility. Absorbent materials or soils saturated with hydrocarbons (>3% by weight) in more than 5 kg, or any quantity of gasoline, are classified as hazardous waste; therefore, cannot be stored on-site and must be properly disposed of as soon as possible.

#### **4.8.2.2 Spills to Water**

For spills to water, workers will immediately take remedial actions to control and contain the release. Absorbent booms will be placed to prevent the spilled product from flowing downstream. Absorbent materials will then be used to recover the floating product. Once the product is recovered and the spill abated, spill materials will be contained in drums or other inert containers. Again, drums will be clearly labelled with their contents and stored in a secured area from subsequent off-site disposal at an appropriate facility.

#### **4.8.2.3 Internal Spill Reporting Requirements**

If any spill occurs, the on-site Supervisor must immediately notify the Village. An environmental incident report will also be prepared by the Contractor for submission to the Village within 24 hours.

#### **4.8.2.4 External Spill Reporting Requirements**

Reporting thresholds for listed substances are provided in the Spill Reporting Regulation of the *BC Environmental Management Act*. However, for Class 3 flammable liquids (e.g., gasoline, diesel) as well as oil and waste oil, which are most likely to be encountered on the Project site, a spill is reportable to the Province if it exceeds 100 L. If such reportable levels are spilled, they will be reported by the responsible party in consultation with the Village to Emergency Management BC's 24-hour phone line at **1-800-663-3456**.

All spills to water of a deleterious substance are to be reported by the responsible party in consultation with the Village to Emergency Management BC's 24-hour phone line and DFO's Observe, Record, and Report Hotline at **1-800-465-4336**.

## **5.0 Environmental Procedures**

Environmental Procedures (EP) are required for works in and around environmentally sensitive areas (ESAs). At a minimum, the EPs should adhere to all industry BMPs and DFO Measures to Avoid Causing Harm to Fish and Fish Habitat (DFO 2025). It should be noted that recommendations provided herein are suggestions, and the exact construction approach may be altered once the crew is on-site and assesses the current site conditions.

### **5.1 Bridge Replacement**

The existing 8.1 m long by 4.3 m wide timber bridge with steel support crossing Dominion Creek will be removed. Any equipment used for the bridge work must be free of leaks and must not be allowed to enter or remain within 30 m of Dominion Creek should leaks be observed. Prior to the removal of bridge components, care should be taken to ensure that no loose dirt or debris ends up in Dominion Creek. To prevent this, sweeping of the bridge deck may be required in addition to the installation of tarps under the bridge to ensure all debris is contained may be necessary. During removal activities, the bridge structure must be lifted over the creek rather than dragged through; the removed bridge components such as the abutments must be carefully lifted or pulled back from the creek and placed outside of the riparian area until disposed of off-site.

A new clear span, steel girder bridge will be installed at the existing bridge location. The new bridge will be placed on concrete abutments which will be protected in place with local riprap. Prior to installing the new abutments and associated riprap, a fish salvage will be conducted to remove any fish within the work area prior to dewatering. Temporary fish exclusion fencing can be installed upstream and downstream of the bridge or on both banks around the abutments to isolate smaller areas to be salvaged. Additionally, during instream riprap placement site isolation may not be practical or feasible, as such an open fish salvage using seine nets, electrofishing, and or dip nets will be conducted prior to riprap placement.

Once the bridge is installed, the bridge approaches will be constructed, to bring the road surface up to the surface of the bridge. Equipment used will work from the existing road and take measures to ensure that no soil enters the adjacent creek. Silt fencing and other measures may be used on the shoulders of the road to prevent sediment mobilization into the creek as necessary.

### **5.2 Intake Pond Upgrades**

The existing concrete weir will be replaced with a new weir and will tie into the existing intake and spillway. The new weir will be 36 m long and 1 m high and use cast in place concrete. With exception of the spillway and tie into the left bank all work will be constructed in the dry and outside the HWM. Due to scouring and erosion of the concrete structure below the spillway, sections of this structure may need to be reconstructed and protected using local riprap. The environmental monitor will be present during all works below the HWM.

During spillway removal and reconstruction, a temporary bypass or diversion using sandbags and a bypass flume/pipe may need to be installed to dewater the work area and maintain flows downstream. Depending on the length of flume/pipe a temporary dam to prevent backwatering into the site and to contain any turbid water may need to be installed downstream of the work area using sandbags and or filter cloth and local rock. Care will be taken during flume removal to prevent a sudden rush of water and or sediment from being transported to downstream fish habitat.

Once isolated a fish salvage following permit conditions will be conducted to remove any fish from the work area. Fish that are salvaged will be released downstream of the work area to similar habitat, and if large numbers are captured, they will be released over a larger area to prevent concentrating fish within one or two holding pools. Should any dewatering be required, all pump intakes will be outfitted with fish screens to prevent entrainment and or impingement of fish as per DFO *Interim code-of-practice: End-of-pipe fish protection screens* (DFO 2025).

### **5.3 Reclamation**

Exposed areas that are completed or will remain inactive for a period greater than 21-days, will be stabilized as soon as possible to reduce the potential for erosion and sedimentation during rain events. Reclamation of disturbed areas will be completed using a seed mix, as approved by the Village. The North-East General Mix is the recommended seed mix used by the Ministry of Transportation and Transit (MOTT) in the Project area and is comprised of the following:

- Tall Fescue (20%)
- Perennial Ryegrass (20%)
- Creeping Red Fescue (20%)
- Timothy (15%)
- Alfalfa (15%)
- Alsike Clover (10%)

To minimize prolonged impacts related to disturbance from construction activities at the Project site, the following BMPs will be implemented:

- Topsoil material will be replaced in suitable areas above the HWM to facilitate plant growth following construction completion.
- Restore and/or reclaim disturbed areas as soon as possible after works in the area are completed (i.e., stabilize slopes/banks, revegetate, restore natural drainage patterns, scarify non-erodible and compacted soils, etc.).
- Ensure final site clean-up following completion of construction (i.e., removal of all construction equipment, materials, wastes, etc.).

## 6.0 References

[BC CDC] BC Conservation Data Centre. 2025. BC Species & Ecosystems Explorer [web utility]. BC Ministry of Environment and Climate Change Strategy, Victoria, BC. Available from: <https://a100.gov.bc.ca/pub/eswp/>.

[BC MFLNRO, BC MOE and DFO] British Columbia Ministry of Forests, Lands, and Natural Resource Operation, British Columbia Ministry of Environment and Department of Fisheries and Oceans Canada. 2012. Fish-stream crossing guidebook, revised edition. Forest Practices Code, Victoria, BC.

[BC MOF] British Columbia Ministry of Forests. 2025. Biogeoclimatic Ecosystem Classification Program, Zone and Subzone Descriptions. Available from: <https://www.for.gov.bc.ca/hre/becweb/resources/classificationreports/subzones/index.html>.

Birds Canada. 2025. Nesting Calendar Query Tool. [Accessed April 2025]. Available from: <https://www.naturecounts.ca/apps/rnest/index.jsp?lang=EN>.

Caux, P. Y., D. R. J. Moore and D. MacDonald. 1997. Ambient Water Quality Guidelines (Criteria) for Turbidity, Suspended and Benthic Sediments. Technical Appendix. Prepared for BC Ministry of Environment, Lands and Parks by: Cadmus group, Inc. and MacDonald Environmental Sciences Ltd.

[DFO] Department of Fisheries and Oceans Canada. 2025. Interim code of practice: End-of-pipe fish protection screens for small water intakes in freshwater. Available from: <https://www.dfo-mpo.gc.ca/pnw-ppe/codes/screen-ecran-eng.html>.

Province of BC. 2025a. iMapBC Program (web-mapping and data tool) [Accessed June 2025]. Available from: <https://maps.gov.bc.ca/ess/hm/imap4m/>.

Province of BC. 2025b. Habitat Wizard Program (web-mapping and data tool). [Accessed June 2025]. Available from: <https://www2.gov.bc.ca/gov/content/environment/plants-animals-ecosystems/ecosystems/habitatwizard>.

Province of BC. 2025c. Fish-stream Identification, handbook. Guidance to Support Forestry Stream Classification. Available from: <https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/forestry/visual-resource-mgmt/fish-handbook.pdf>.

Province of BC. 2025d. Standards and Best Practices for Instream Works – Omineca Reduced Risk Timing Windows for Fish and Wildlife. Available from: [https://www2.gov.bc.ca/assets/gov/environment/natural-resource-stewardship/best-management-practices/omineca\\_tw\\_bmp.pdf](https://www2.gov.bc.ca/assets/gov/environment/natural-resource-stewardship/best-management-practices/omineca_tw_bmp.pdf).

Province of BC. 2025e. Invasive Alien Plant Program (web-mapping and data tool). [Accessed June 2025]. Available at: <https://maps.gov.bc.ca/ess/hm/iapp/>.

Meidinger, D., A. McLeod, A. MacKinnon, C. DeLong, and G. Hope. 1988. A Field Guide for Identification and Interpretation of Ecosystems of the Rocky Mountain Trench Prince George Forest Region. Ministry of Forests and Lands. Handbook No. 15.

Village of McBride. 2025. Annual Water System Report – 2024. Available from: <https://mcbride.civicweb.net/filepro/documents/18708/>.

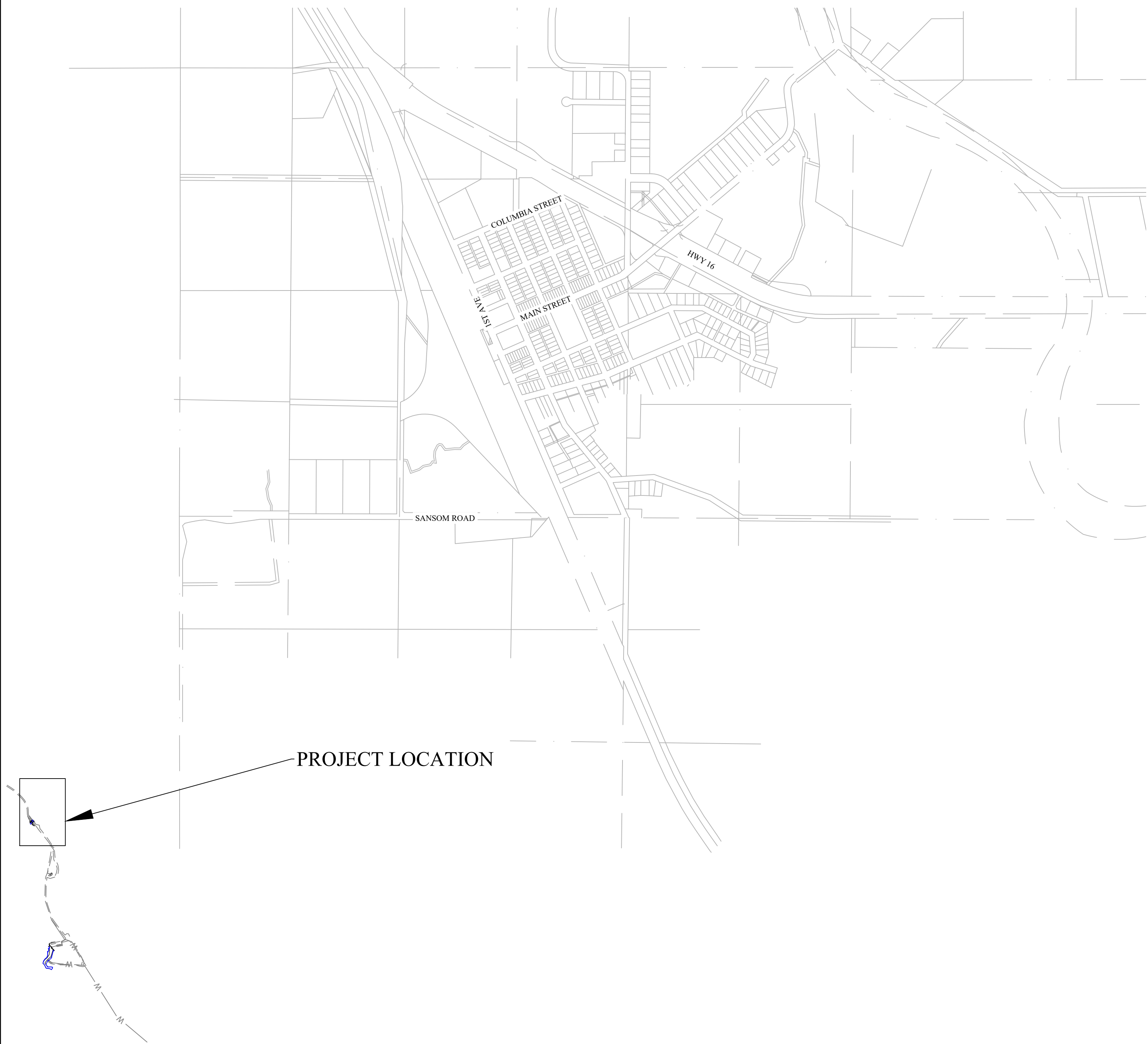
## **APPENDIX 1**

### **BRIDGE AND INTAKE POND DESIGN**



# VILLAGE OF MCBRIDE

## WATER TREATMENT PLANT BRIDGE REPLACEMENT



### DRAWING INDEX

Dwg No.	Rev.	DESCRIPTION
C0	0	COVER PAGE
C1	0	GENERAL NOTES
C2	0	SITE PLAN
C3	0	SECTIONS

### LEGEND

WATERLINE	
SANITARY SEWER	
SAN FORCEMAIN	
STORM SEWER	
DITCHING	
CULVERT	
LEGAL BOUNDARY	
FENCE LINE	
ROAD SHOULDER	
POWERLINE	
TELEPHONE LINE	
GASLINE	
NATURAL WATER	
UTILITY POLE	
VALVE	
CURB STOP	
BLOW-OFF HYDRANT	
FIRE HYDRANT	
WATER WELL	
MANHOLE SANITARY/STORM	
CLEAN OUT	
OLD IRON PIN	
SURVEY HUB	
SURVEY BENCHMARK	
TEST PIT	



R. Radloff & Associates Inc.  
Engineering, Planning & Consulting  
1820 3rd Ave  
Prince George, B.C. V2M 1G4  
Ph: (250) 562-6861, Fax: (250) 562-6826

PROJECT #: 403-GEN  
DATE: AUG 2025

GENERAL

- FOR INSTALLATION BY OTHERS NO RESPONSIBILITY CAN BE ACCEPTED FOR WORK BY OTHERS.
- DESIGN AND CONSTRUCTION TO CONFORM TO THE VILLAGE OF MCBRIDE "SUBDIVISION AND DEVELOPMENT SERVICING BYLAW" 2010 AND MINISTRY OF FORESTS "BRIDGE STANDARDS MANUAL" 2025.
- ANY DESIGN CHANGES PROPOSED DURING CONSTRUCTION SHALL REQUIRE PRIOR WRITTEN APPROVAL FROM COORDINATING REGISTERED PROFESSIONAL.
- CONSTRUCTION SHALL CONFORM TO THE REQUIREMENTS OF THE ENVIRONMENTAL PERMITS.

GEOTECHNICAL

- GEOTECHNICAL ENGINEERING IS NOT INCLUDED WITHIN THE SCOPE OF SERVICES PROVIDED BY R. RADLOFF & ASSOCIATES INC. THEREFORE THIS DESIGN HAS BEEN PREPARED WITHOUT THE BENEFIT OF GEOTECHNICAL FIELD INVESTIGATION OR ADVICE. GROUND CONDITIONS MAY VARY, THE FOUNDATION REQUIREMENTS AND CULVERT CONCEPT MAY NEED TO BE MODIFIED TO ACCOMMODATE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRICTION. R. RADLOFF & ASSOCIATES INC. ACCEPTS NO LIABILITY OR RESPONSIBILITY FOR DELAY OR ADDITIONAL COSTS THAT MAY RESULT IF GROUND CONDITIONS VARY FROM THOSE ASSUMED.

HYDROLOGY AND HYDRAULIC ASSESSMENT

HYDRAULIC ANALYSIS BASED ON ASSUMED CHANNEL CONDITIONS.

MATERIALS

- ALL COMPONENTS TO GENERALLY CONFORM TO THE VILLAGE OF MCBRIDE "SUBDIVISION AND DEVELOPMENT SERVICING BYLAW" 2010 AND MINISTRY OF FORESTS "BRIDGE STANDARDS MANUAL" 2025.

GENERAL CONSTRUCTION PROCEDURE

1. LOCATE EXISTING UTILITIES
2. CONSTRUCT TEMPORARY STREAM DIVERSION AND INSTALL EROSION AND SEDIMENT CONTROL MEASURES
3. DIRECT STREAM FLOW THROUGH TEMPORARY DIVERSION
4. REMOVE EXISTING BRIDGE.
5. PLACE GEOTEXTILE AND COMPACT GRANULAR BEDDING IN DRY, UNFROZEN CONDITION
6. REINSTALL LOCK BLOCKS SPACED AT 6.88m c/c AND SET NEW SILL BEAMS TO DESIGN ELEVATION.
7. PLACE RIPRAP ARMORING OF LOCK BLOCKS AND CHANNEL SLOPES PER DESIGN.
7. REPAIR AS NECESSARY AND INSTALL BRIDGE GIRDER
8. INSTALL NEW BALLAST WALL.
9. BACKFILL BRIDGE APPROACHES COMPACTED TO 95% S.P.D.
10. REINSTATE ROAD STRUCTURE WITH 300mm W.G.B. GRAVELS COMPACTED TO 98% S.P.D.
11. CUT NEW BRIDGE DECKS TO LENGTH AND INSTALL.
12. REMOVE TEMPORARY DIVERSION

CLEARING & GRUBBING

- REMOVE TREES, STUMPS, LOGS, BRUSH, VINES, UNDERGROWTH, ROTTEN WOOD, DEAD PLANT MATERIAL, EXPOSED BOULDERS AND DEBRIS WITHIN AREAS DESIGNATED ON DRAWINGS.
- REMOVE ANY STUMPS, TREE ROOTS OR OTHER DELETERIOUS MATERIAL BELOW SUBGRADE OR BEDDING MATERIAL
- DISPOSE OF CLEARED AND GRUBBED MATERIAL OFF SITE DAILY TO DISPOSAL AREAS ACCEPTABLE TO AUTHORITY HAVING JURISDICTION.

GEOTEXTILE

- GEOTEXTILE SHALL BE NON-WOVEN AND MEET OR EXCEED THE SPECIFICATIONS PROVIDED IN TABLE 1.
- TABLE 1: SPECIFICATION FOR NON-WOVEN GEOTEXTILE.

PROPERTY	TEST METHOD	REQUIREMENT
GRAB TENSILE STRENGTH (MIN.)	ASTM-D4632	900 N
GRAB ELONGATION	ASTM-D4632	50%
PUNCTURE CBR (MIN)	ASTM-D6241	2200 N
PERMITTIVITY (MIN.)	ASTM-D4491	0.5 sec
APPARENT OPENING SIZE (AOS) (MAX.)	ASTM-D4751	0.25 mm
U.V. STABILITY	ASTM D-4355	50 % @ 500 hrs
FABRIC OVERLAP	-	0.5 m

RIPRAP AND GRANULAR MATERIAL

- RIPRAP SHALL BE SUPPLIED AND PLACED IN ACCORDANCE WITH THE MINISTRY OF TRANSPORTATION AND INFRASTRUCTURE'S "RIPRAP INSTALLATION GUIDE" 2013. SOURCES FOR GRAVEL AND RIPRAP SHALL BE APPROVED BY THE COORDINATING REGISTERED PROFESSIONAL PRIOR TO SOURCE DEVELOPMENT. PERMITS FROM REGULATORY AGENCIES MAY ALSO BE REQUIRED.
- RIPRAP THICKNESS SHOWN ON DRAWINGS. RIPRAP GRADATION AS PER "RIPRAP INSTALLATION GUIDE" 2013.
- THE EXTENT OF THE RIPRAP IS BASED ON AVAILABLE INFORMATION. THE EXTENTS SHOULD BE ADJUSTED IN THE FIELD TO ENSURE ADEQUATE SCOUR PROTECTION IS PROVIDED TO THE CULVERT.

EXCAVATIONS

- EXCAVATIONS TO UNDERSIDE OF FOUNDATION BEDDING SHALL BE KEPT FREE OF WATER DURING CONSTRUCTION. CARE SHALL BE TAKEN NOT TO DISTURB THE BOTTOM OF THE EXCAVATION.
- WHERE FOUNDATION MATERIALS ENCOUNTERED DO NOT MEET THE DESIGN ASSUMPTIONS SHOWN ON THE DRAWINGS OR IN THE CONSTRUCTION SPECIFICATIONS, THE COORDINATING REGISTERED PROFESSIONAL SHALL BE CONSULTED PRIOR TO INSTALLATION OF BEDDING MATERIALS. THE COORDINATING REGISTERED PROFESSIONAL SHALL BE RESPONSIBLE TO STIPULATE MEASURES TO MEET DESIGN REQUIREMENTS AND CONSULT GEOTECHNICAL ENGINEERS AS REQUIRED.

BACKFILLING AND BEDDING

- INSPECTION: DO NOT COMMENCE BACKFILLING UNTIL FILL MATERIAL AND SPACES TO BE FILLED HAVE BEEN INSPECTED AND APPROVED BY COORDINATING REGISTERED PROFESSIONAL.
- REMOVE SNOW, ICE, CONSTRUCTION DEBRIS, ORGANIC SOIL AND STANDING WATER FROM SPACES TO BE BACKFILLED.
- LATERAL SUPPORT: MAINTAIN EVEN LEVELS OF BACKFILL AROUND STRUCTURES AS WORK PROGRESSES TO EQUALIZE EARTH PRESSURES.
- BEDDING MATERIAL: CLEAN SAND AND GRAVELS WITH A MAXIMUM AGGREGATE SIZE OF 100mm AND A MAXIMUM FINE CONTENT (SILTS AND CLAY PARTICLES) OF 10%.
- PLACING: PLACE BACKFILL, FILL MATERIAL IN 150mm LIFTS AND COMPACT EACH LAYER TO 95% STANDARD PROCTOR DENSITY TAKING SPECIAL CARE TO OBTAIN DENSITY UNDER HAUNCHES. ADD WATER AS REQUIRED TO ACHIEVE SPECIFIED DENSITY.
- PLACEMENT OF BEDDING MATERIAL: DE-WATER EXCAVATION, AS NECESSARY, TO ALLOW PLACEMENT OF FOUNDATION BEDDING IN THE DRY. PLACE MINIMUM 300mm OF APPROVED GRANULAR MATERIAL ON BOTTOM OF EXCAVATION AND COMPACT TO 95% STANDARD PROCTOR DENSITY.
- COMPACTION OF SUBGRADE: FILL EXCAVATED AREAS WITH APPROVED SUBGRADE MATERIAL. EACH LAYER TO BE COMPACTED TO 95% ASTM D698.

SITE CLEANUP

- CLEANUP OF THE SITE MUST BE COMPLETED IMMEDIATELY FOLLOWING CONSTRUCTION. THIS SHALL INCLUDE THE PICKUP AND REMOVAL OF ALL EQUIPMENT, MATERIALS, TRASH, EQUIPMENT REFUSE AND CONSTRCTIION DEBRIS TO THE SATISFACTION TO THE COORDINATING REGISTERED PROFESSIONAL.

WATER QUALITY AND INSTREAM WORKS

- CONSTRUCTION SHALL BE CARRIED OUT IN SUCH A MANNER TO ENSURE WATER QUALITY IS MAINTAINED BY KEEPING SOIL EROSION AND RUNOFF TO A MINIMUM DURING INCLEMENT WEATHER AND BY TAKING MEASURES TO SEDIMENTATION AND CONSTRUCTION DEBRIS FROM ENTERING THE WETTED PERIMETER, INCLUDING THE FOLLOWING:
  - EXCAVATIONS SHALL BE ISOLATED FROM RUNNING WATER USING TEMPORARY SEDIMENT CONTAINMENT METHODS; SEDIMENT LADEN WATER SHALL BE PUMPED OUT OF THE CONTAINMENT AREAS TO THE BUSH WHERE SEDIMENT WILL SETTLE AND FILTER PRIOR TO ENTERING ANY WATERCOURSE. PRIOR TO BACKFILLING OR REMOVAL OF CONTAINMENT MEASURES , IF NECESSARY, A SETTLING AREA SHALL BE CONSTRUCTED TO PREVENT SEDIMENT LADEN WATER RETURNING TO THE STREAM;
  - ALL CROSSINGS OR ENCROACHMENT BY EQUIPMENT ON THE WETTED PERIMETER SHALL BE APPROVED BY THE ENVIRONMENTAL CONSULTANT;
  - ANY UNDUE DISTURBANCE TO THE STREAM CHANNEL OR BANKS AS A RESULT OF CONSTRUCTION ACTIVITIES SHALL BE CORRECTED TO THE SATISFACTION OF THE REGULATORY AGENCY AND COORDINATING REGISTERED PROFESSIONAL.

NOT FOR CONSTRUCTION

**Radloff** R. Radloff & Associates Inc.  
Engineering, Planning & Consulting  
1620 3rd Avenue  
Prince George, B.C. V2M 1G4  
Ph: (250) 562-6861, Fax: (250) 562-6826

STAMP

NO.	(YY/MM/DD)	BY	REVISIONS		ENG.

DESIGN BY	DATE
DJF	
DRAWN BY	DATE
DJF	25/08/02
CHECKED BY	DATE
SAR	
APPROVED BY	DATE
RPR	

1	25/08/02	DJF	FOR DISCUSSION	RPR	
NO.	(YY/MM/DD)	BY	DRAWING ISSUE	ENG.	

CLIENT

VILLAGE OF MCBRIDE

SCALE	1:50	SCALE
HORIZ.		VERT.
SHEET	C01	OF C03
ENG PROJECT		
NUMBER	403-GEN	

PROJECT

WATER TREATMENT PLANT  
BRIDGE REPLACEMENT

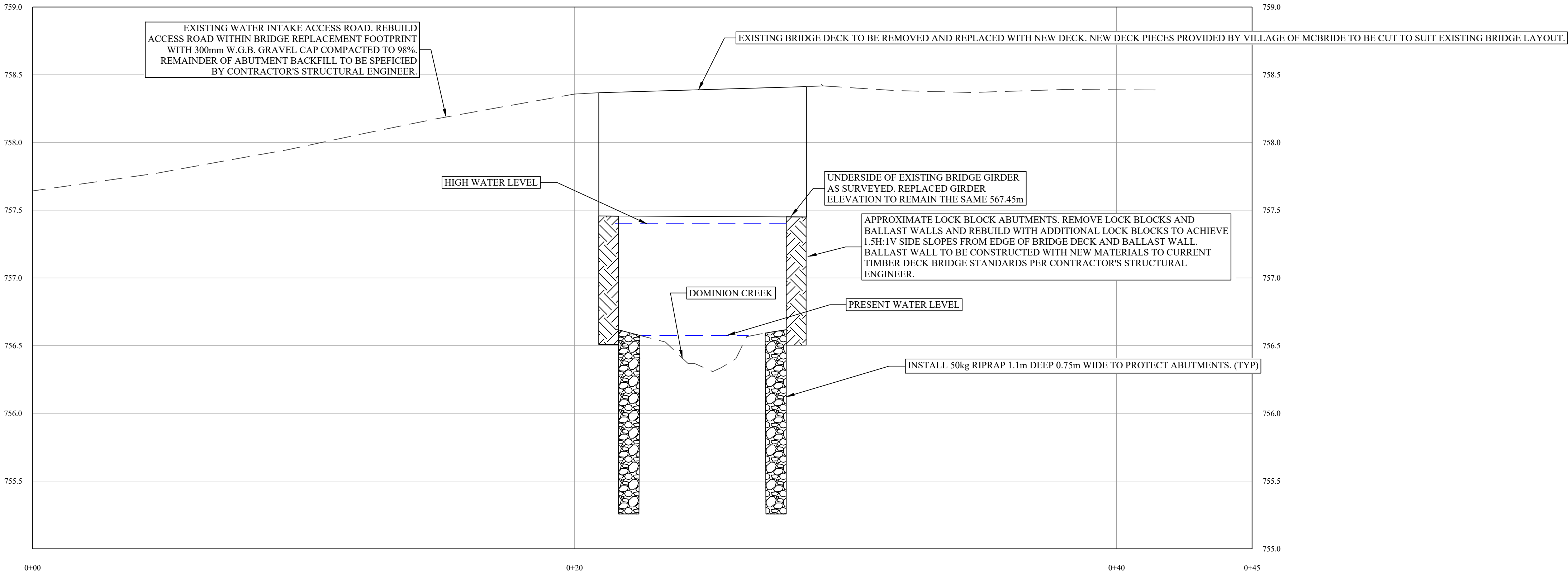
SHEET TITLE

GENERAL NOTES

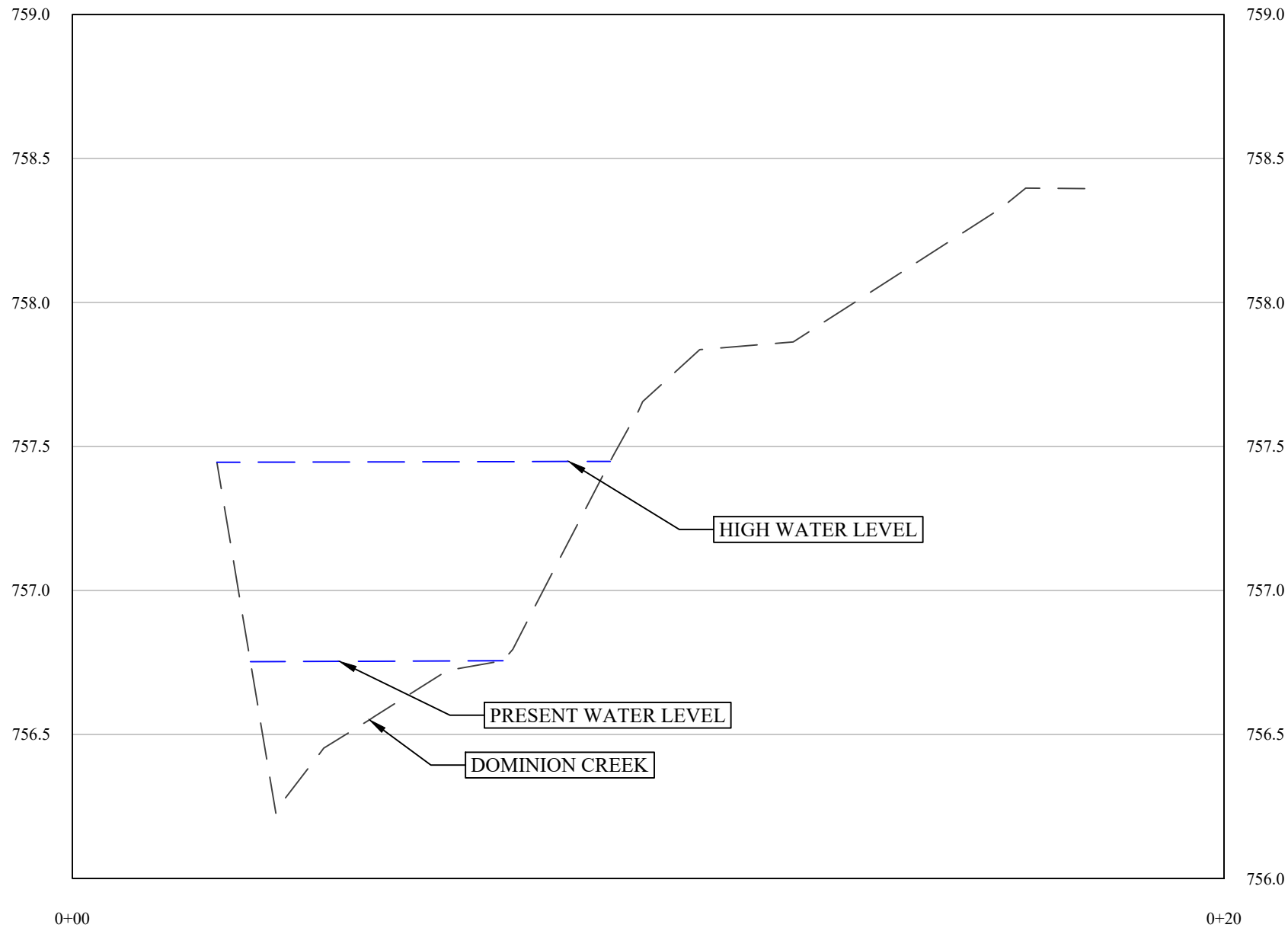




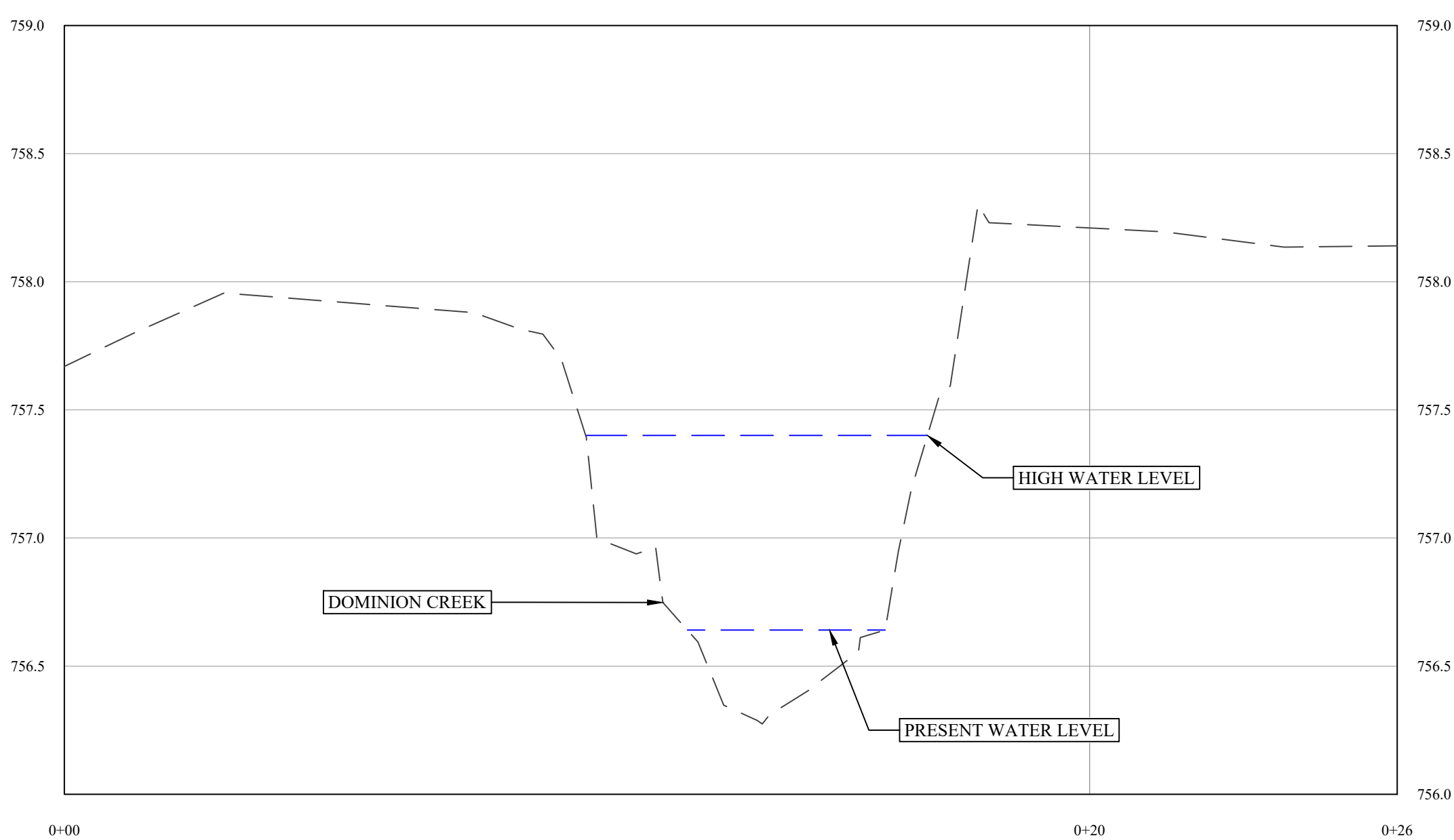
WATER TREATMENT PLANT ACCESS ROAD BRIDGE ALIGNMENT



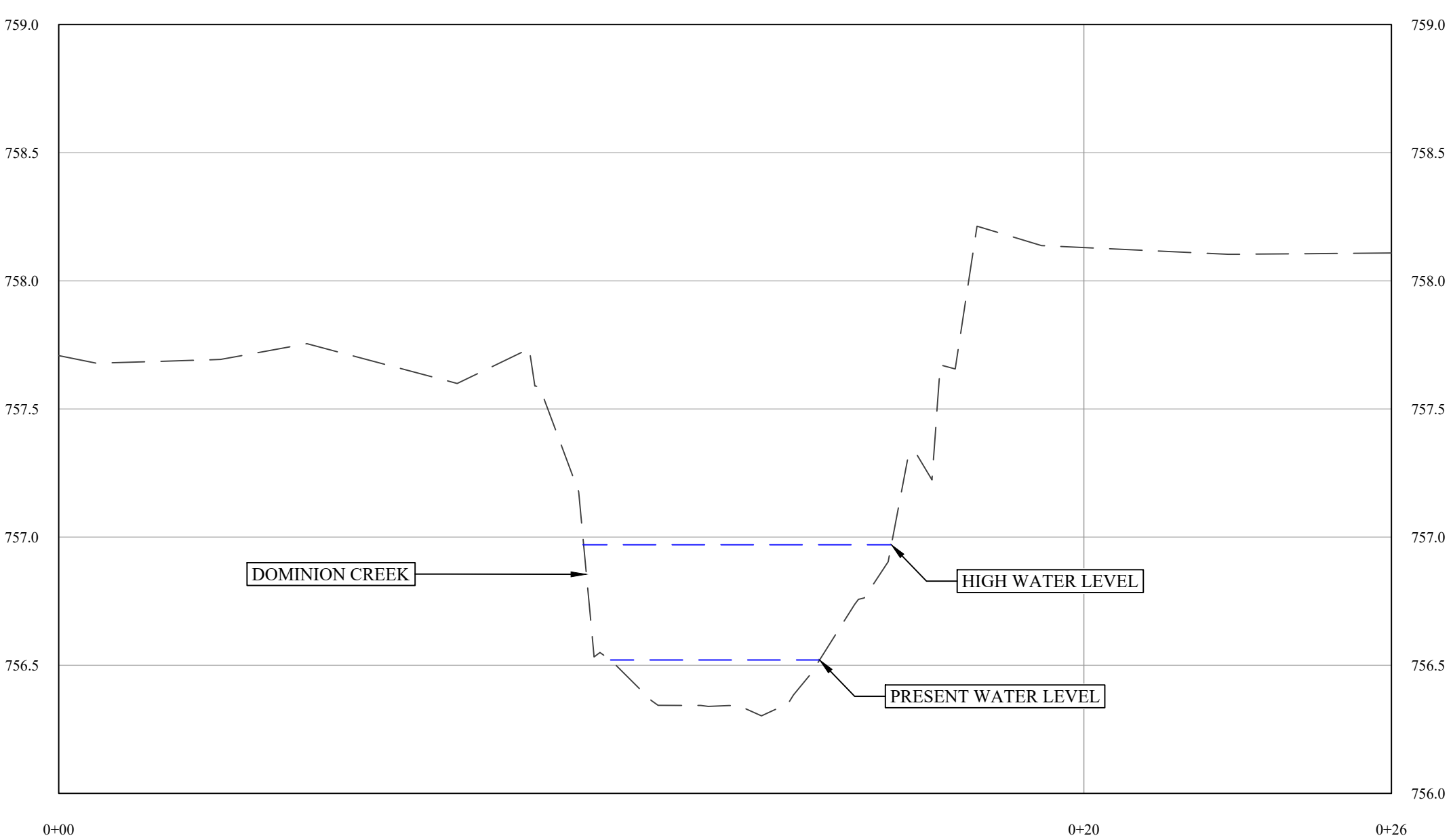
A-A



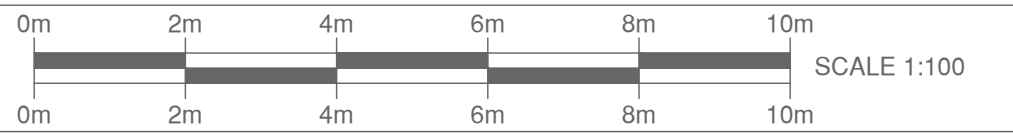
B-B



C-C



NOT FOR CONSTRUCTION



**Radloff** R. Radloff & Associates Inc.  
Engineering, Planning & Consulting  
1620 3rd Avenue  
Prince George, B.C. V2M 1G4  
Ph: (250) 562-6861, Fax: (250) 562-6826

STAMP

NO.	(YY/MM/DD)	BY	REVISIONS		ENG.

DESIGN BY	DATE
DJF	
DRAWN BY	DATE
DJF	25/08/02
CHECKED BY	DATE
SAR	
APPROVED BY	DATE
RPR	

1	25/08/02	DJF	FOR DISCUSSION	RPR	
NO.	(YY/MM/DD)	BY	DRAWING ISSUE	ENG.	

CLIENT

VILLAGE OF MCBRIDE

SCALE HORIZ. 1:100 SCALE VERT. 1:20  
SHEET C03 OF C03  
ENG PROJECT NUMBER 403-GEN

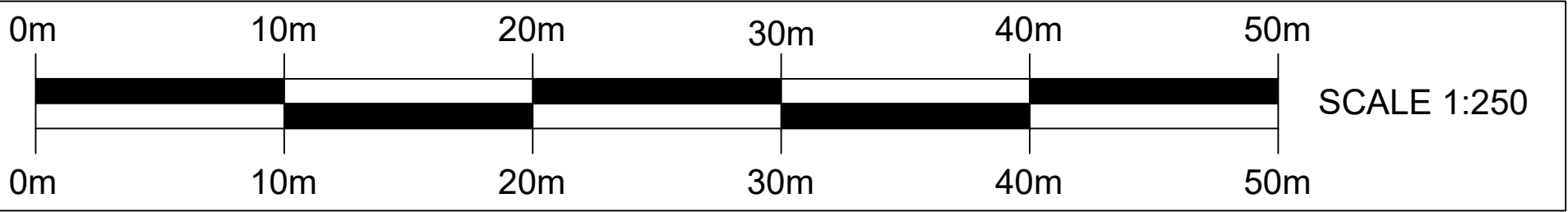
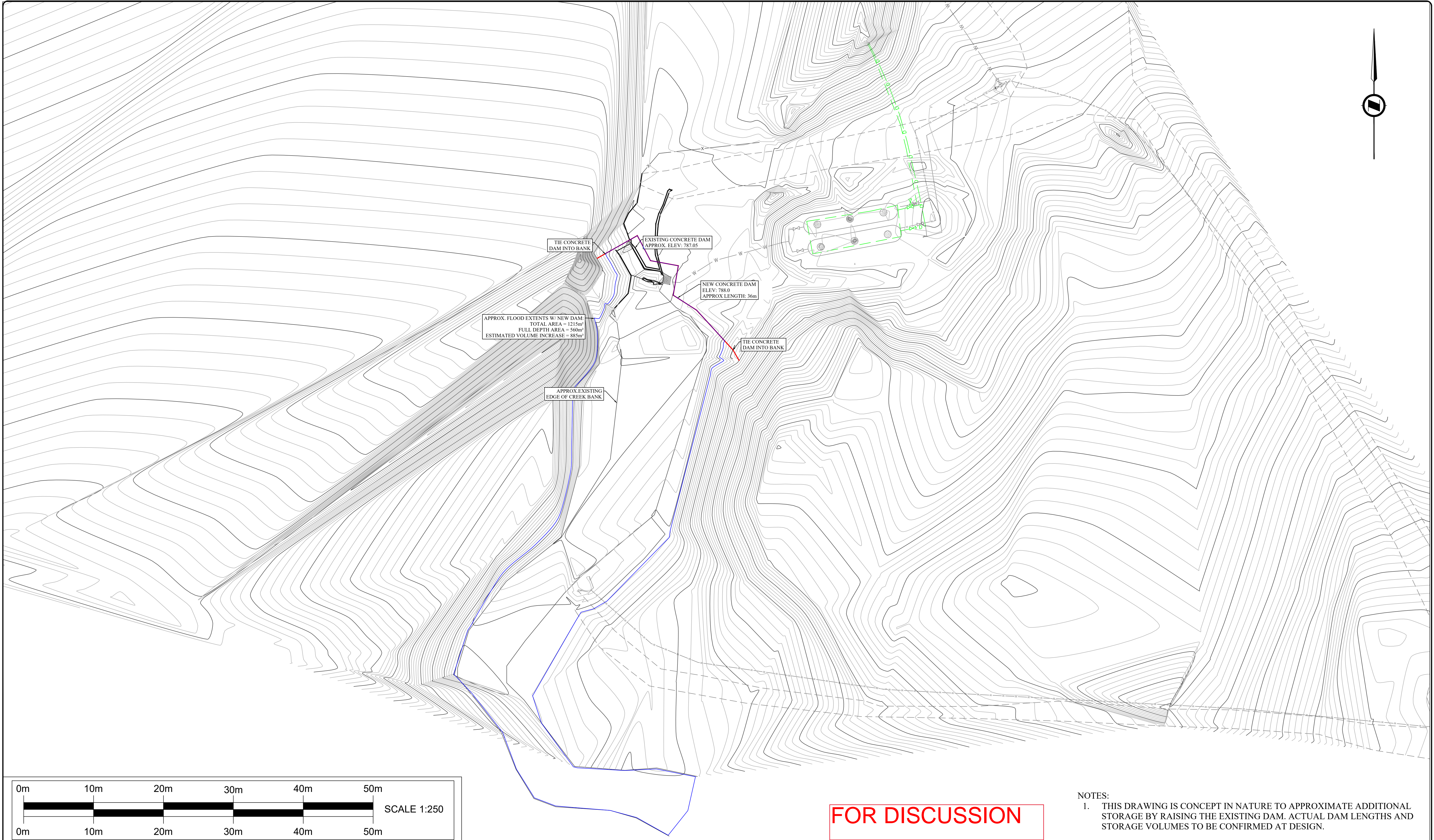
PROJECT

WATER TREATMENT PLANT  
BRIDGE REPLACEMENT

SHEET TITLE


SECTIONS





**FOR DISCUSSION**

NOTES:  
1. THIS DRAWING IS CONCEPT IN NATURE TO APPROXIMATE ADDITIONAL STORAGE BY RAISING THE EXISTING DAM. ACTUAL DAM LENGTHS AND STORAGE VOLUMES TO BE CONFIRMED AT DESIGN.



R. Radloff & Associates Inc.  
Engineering, Planning & Consulting  
1820 3rd Avenue  
Prince George, B.C. V2M 1G4  
Ph: (250) 562-6861, Fax: (250) 562-6826

STAMP

NO.	(YY/MM/DD)	BY	REVISIONS		ENG.

DESIGN BY	DATE
DJF	24/08/07
DRAWN BY	DATE
DJF	24/08/07
CHECKED BY	DATE
	24/08/07
APPROVED BY	DATE

1	24/08/07	DJF	FOR DISCUSSION		
NO.	(YY/MM/DD)	BY	DRAWING ISSUE		ENG.

CLIENT

**VILLAGE OF MCBRIDE**

SCALE	1:250	SCALE	
HORIZ.		VERT.	
SHEET	C1	OF	C1
ENG PROJECT			
NUMBER	403-GEN		

PROJECT

**WATER INTAKE POND**


SHEET TITLE

**NEW DAM 1m HIGHER**



## **APPENDIX 2**

### **EXAMPLE ENVIRONMENTAL MONITORING FORM**

Daily Environmental Monitoring Report	
	Triton Project #:
	Date:
Environmental Monitor (EM) Onsite	
Client Supervisor(s)	
Weather	
Site Conditions	

Environmental Compliance Overview
Positive Observations
Opportunities for Improvement
Non-Conformances
Activities

Environmental Observations and Communications
Communications
Environmental Concerns
Ongoing General Concerns
Comments

Action Plan			
Measure	Date Discussed (yyyy-mm-dd)	Responsibility	Progress Tracking
-	-	-	-

Equipment/Machinery Inspected							
Make & Model	Unit #	Enbridge Sticker #	Company	New Arrival Onsite? (Y/N)	Inspected By	Pass/Fail	Comments/Deficiencies (if any)
-	-	-	-	-	-	-	-

Weekly Wildlife Observations				
Date (yyyy-mm-dd)	Time	Location	Species and Number Observed	Activities
-	-	-	-	-

Report Contributors and Distribution		
Prepared By	Reviewed By	Submission Date (yyyy-mm-dd)
Distribution List		



## Site Photographs

**APPENDIX 3**  
**EXAMPLE SPILL RESPONSE FORM**

## Spill Report Form

Date/Time of Report:	Date/Time of Release:
Name:	Contact Number:
Supervisor:	Contact Number:
Site Name/Job Number:	Location:
<b>Incident Description</b>	
Location of Incident:	
Identity of Material Released or its Components:	
Medium or Media Where Release Occurred <input type="checkbox"/> Air <input type="checkbox"/> Land <input type="checkbox"/> Waterway <input type="checkbox"/> Sewer <input type="checkbox"/> Building/Room <input type="checkbox"/> Other:	
Duration of Event or Release:	Quantity of Material Released:
Description of Incident (what happened-cause of spill; where; what were the area conditions; how much area was impacted):	
Actions Taken as a Result of the Release (spill response measures; who was contacted; how much material was cleaned up; Where did the material go):	
<b>Follow-Up (Office)</b>	
Causes of Spill (e.g. mechanical failure; human error; accidental release):	
Follow-up Actions Taken (e.g. corrective actions implemented; suggested additional mitigation measures):	
Date:	Signature: