Gertrude Street Bridge Crossing Roger Creek – Embankment Protection Works

Reference No. ITT 007-20
MAY 14, 2020

PREPARED BY:

ONSITE ENGINEERING LTD.

#102 – 307 5th Street
Courtenay, BC V9N 1J9

Phone: 778-647-5643
Fax: 1-866-235-6943

PREPARED FOR:

THE CITY OF PORT ALBERNI

4850 Argyle Street
Port Alberni, BC V9Y 1V8

Phone: 250-723-2146
Fax: 250-723-1003

INVITATION TO TENDER

THE CITY OF PORT ALBERNI

Contract: **GERTRUDE STREET BRIDGE CROSSING ROGER CREEK – EMBANKMENT PROTECTION WORKS**

Reference No: **ITT 007-20**

The Owner (The City of Port Alberni) invites tenders for:

Rehabilitation of the existing bridge, including:

- Erosion protection works at the North and South Pier.
- Embankment erosion protection works at the Southwest embankment

Contract Documents are available by download from **BC Bid**. Addenda will be placed on **BC Bid**. It is the Tenderer's responsibility to ensure they have reviewed and acknowledged any addenda issued prior to Tender closing.

Tender Closing Time:	**3:00 pm local time**
Tender Closing Date:	**June 4, 2020**
Tender Closing Location:	**City Hall, 4850 Argyle Street** **Port Alberni, BC V9Y 1V8**

For more information, please contact:

Onsite Engineering Ltd.
Mike Hanson, P.Eng.
778-647-5643
mhanson@onsite-eng.ca

City of Port Alberni
Brian Mousley, Streets and Construction Supt.
250-720-2849
brian_mousley@portalberni.ca

TENDER DOCUMENTS DEVELOPED FROM:

MASTER MUNICIPAL CONSTRUCTION DOCUMENTS

TENDER CONTENTS

This tender has been developed following the procedures, processes and requirements contained in the Master Municipal Construction Documents, Volume I, Tender Document Production Manual (printed 2000). The Tender has been developed to address specific requirements of the City of Port Alberni.

1. This tender document contains sections and clauses that have been modified to meet the specific requirements of this Project and the City of Port Alberni.

Invitation to Tenderers

Instructions to Tenderers

Form of Tender
- Appendix 1 – Schedule of Approximate Quantities and Unit Prices
- Appendix 2 – Preliminary Construction Schedule
- Appendix 3 – Experience of Superintendent
- Appendix 4 – Comparable Work Experience
- Appendix 5 – Subcontractors
- Appendix 6 – Contractor Declaration of Wages Paid to Employees

Agreement
- Schedule 1 – Schedule of Contract Documents
- Schedule 2 – List of Contract Drawings
- Schedule 3 – List of Attachments

Project Specific Supplementary Specifications

Project Specific Supplementary Conditions

2. This tender references the “Master Municipal Construction Documents: Instruction to Tenderers Part II, General Conditions, Specifications and Standard Detail Drawings (Platinum Book), Edition printed in 2009 and, as such, forms part of this tender document.

3. This tender also references amendments as approved by the MMCDA Board as of February 2018 and, as such, form part of the tender document.

   - Amendments to Instruction to Tenderers: Supplementary Instructions to Tenderers.
   - Amendments to General Conditions: Supplementary General Conditions.
   - Amendments to Specifications: Supplementary Specifications.

   These amendments are available from the MMCD at https://www.mmcd.net/documents/supplementary-updates/

Instructions to Tenderers - Part I

THIS PAGE INTENTIONALLY LEFT BLANK

(FOR USE WHEN UNIT PRICES FORM THE BASIS OF PAYMENT TO BE USED ONLY WITH THE GENERAL CONDITIONS AND OTHER STANDARD DOCUMENTS OF THE UNIT PRICE MASTER MUNICIPAL CONSTRUCTION DOCUMENTS.)

**(TO BE READ WITH "INSTRUCTIONS TO TENDERERS - PART II"
CONTAINED IN THE EDITION OF THE PUBLICATION
"MASTER MUNICIPAL CONSTRUCTION DOCUMENTS" SPECIFIED IN ARTICLE 2.2 BELOW)**

Owner: *The City of Port Alberni*
(NAME OF OWNER)

Contract: Gertrude Street Bridge Crossing Roger Creek – Embankment Protection Works
(TITLE OF CONTRACT)

Reference No. **ITT 007-20**
(OWNER'S CONTRACT REFERENCE NO.)

1.0 Introduction

1.1 These Instructions apply to and govern the preparation of tenders for this *Contract*. The *Contract* is generally for the following work:

Rehabilitation of the existing bridge, including:

- Erosion protection works at the North and South Pier
- Embankment erosion protection works at the Southwest embankment

1.2 Direct all inquiries regarding the *Contract*, to:

Mike Hanson, P.Eng.
Tel: 250-203-6785
Email: mhanson@onsite-eng.ca

And

Brian Mousley, Streets and Construction Supt.
Tel: 250-720-2849
Email: brian_mousley@portalberni.ca

1.3 Deadline for receiving comments is **June 1, 2020**

2.0 Tender Documents

2.1 The tender documents which a tenderer should review to prepare a tender consist of all of the *Contract Documents* listed in Schedule 1 entitled "Schedule of Contract Documents". Schedule 1 is attached to the Agreement which is included as part of the tender package. The *Contract Documents* include the drawings listed in Schedule 2 to the Agreement, entitled "List of *Contract Drawings*".

2.2 A portion of the *Contract Documents* are included by reference. Copies of these documents have not been included with the tender package. These documents are the Instructions to Tenderers - Part II, General Conditions, Specifications and Standard Detail Drawings. They are those contained in the publication entitled "Master Municipal Construction Documents - General Conditions, Specifications and Standard Detail Drawings". Refer to Schedule 1 to the Agreement or, if not specified in Schedule 1, then the applicable edition shall be the most recent edition as of the date of the *Tender Closing Date.* All sections of this publication are by reference included in the *Contract Documents*.

2.3 Any additional information made available to tenderers prior to the *Tender Closing Time* by the *Owner* or representative of the *Owner,* such as geotechnical reports or as-built plans, which is not expressly included in Schedule 1 or Schedule 2 to the Agreement, is not included in the *Contract Documents*. Such additional information is made available only for the assistance of tenderers who must make their own judgment about its reliability, accuracy, completeness and relevance to the *Contract*, and neither the *Owner* nor any representative of the *Owner* gives any guarantee or representation that the additional information is reliable, accurate, complete or relevant.

3.0 Submission of Tenders

3.1 Tenders must be either submitted electrically to Brian Mousley at Brian_mousley@portalberni.ca , with "ITT 007-20" in the subject line or in a sealed envelope, marked on the outside with the above *Contract* Title and Reference No., and must be received by the office of:

Attention: Brian Mousley
Streets and Construction Supt.

Submissions must be received on or before:

Tender Closing Time: **3:00 pm, local time**
Tender Closing Date: **June 4, 2020**

at

Address: 4850 Argyle Street
Port Alberni, BC V9Y 1V8
Fax: 250-723-1003

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

3.3 Tenders will not be opened in public.

4.0 Acceptance or Rejection of Tenders

4.1 The Owner reserves the right to reject any or all tenders, to waive irregularities and informalities at their discretion and to accept the tender which the Owner deems to be in its best interest. The lowest tender will not necessarily be accepted. Without limiting the generality of the foregoing, any tender may be rejected for any of the following reasons:

- Incomplete tender.
- Obscured or irregular erasures or corrections in the Schedule of Prices.
- Prices omitted or unbalanced.
- Insufficient or irregular Tender Guarantees.
- Evidence of inadequate experience, or of inadequate capacity to perform the contract, or failure to qualify under conditions of the Tendering Requirement.
- Evidence of previous failure to perform adequately on similar work.
- The insertion by the Tenderer of conditions which vary the Tendering Requirements or the Tender Forms.
- Sufficient funds for the project are not legally available.

5.0 Additional Instructions to Tenderers

5.1 **Project Schedule**

- Time is of the essence and Substantial Performance of the Work must be completed no later than **September 30, 2020.**
- All in-stream work must be completed between June 15th and September 15th.

5.2 **Master Municipal Construction Documents Volume II**

Copies of the Master Municipal Construction Documents Volume II, (2009) Instructions to Tenderers – Part II, General Conditions, Specifications and Standard Detail Drawings are available separately from:

Support Services Unlimited
102 - 211 Columbia Street
Vancouver, BC V6A 2R5
Tel: 604-681-0295
Fax: 604-681-4545

5.3 **Instructions to Tenderers – Part 2**

The Tenderer's attention is drawn to the Form of Tender, Appendices. The Contractor must complete all appendices in the Form of Tender, initial all pages and properly execute the Form of Tender document. Tenders submitted without all the required

information and execution of the document will be rejected as a non-compliant tender.

5.4 **Construction Water Usage as Follows:**
Supply of water for construction purposes will be the responsibility of the contractor; City water may not be available for use.

5.5 **Hours of Work**
Hours of work are restricted to Monday – Friday between 7:00 AM and 7:00 PM. Any work undertaken outside of these hours must be approved by the *Contract Administrator*.

Supplementary Instructions to Tenderers - Part II

(TO BE READ WITH "INSTRUCTIONS TO TENDERERS - PART II" CONTAINED IN THE EDITION OF THE PUBLICATION "MASTER MUNICIPAL CONSTRUCTION DOCUMENTS" SPECIFIED IN ARTICLE 2.2 BELOW)

These Supplementary Instructions to Tenderers Modify the MMCD Instructions to Tenders Part II in the following sections:

IT	Paragraph	Title	
5	5	Tender Requirements	(Add new paragraph 5.5 as follows): The Tenderer shall submit, as part of the tender, a *Consent of Surety*, issued by a surety licensed to carry on the business of suretyship in British Columbia, in a form satisfactory to *the Owner*. The *Consent of Surety* is to guarantee that a performance bond and a labour and material payment bond, each equal to fifty percent (50%) of the total tender price, plus GST, as per the Form of Tender - Appendix 1, be issued by the bonding company in accordance with paragraph 5.1.1(a) of FT – Page 2.

Form of Tender

FOR USE WHEN UNIT PRICES FORM THE BASIS OF PAYMENT - TO BE USED ONLY WITH THE GENERAL CONDITIONS AND OTHER STANDARD DOCUMENTS OF THE UNIT PRICE MASTER MUNICIPAL CONSTRUCTION DOCUMENTS.

Owner: **The City of Port Alberni**

Contract: **Gertrude Street Bridge Crossing Roger Creek – Embankment Protection Works**

Reference No. **ITT 007-20**

To *Owner*:

WE, THE UNDERSIGNED:

1.1 have received and carefully reviewed all of the *Contract Documents*, including the Instructions to Tenderers, the specified edition of the "Master Municipal Construction Documents - General Conditions, Specifications and Standard Detail Drawings" and the following Addenda:

_____

_____

_____ ;

(ADDENDA, IF ANY)

1.2 have full knowledge of the *Place of the Work*, and the *Work* required; and

1.3 have complied with the Instructions to Tenderers; and

ACCORDINGLY WE HEREBY OFFER

2.1 to perform and complete all of the *Work* and to provide all the labour, equipment and material all as set out in the *Contract Documents*, in strict compliance with the *Contract Documents*; and

2.2 to achieve Substantial Performance of the Work on or before **September 30, 2020** and

2.3 to do the *Work* for the price, which is the sum of the products of the actual quantities incorporated into the *Work* and the appropriate unit prices set out in Appendix 1, the "*Schedule of Quantities and Prices*", plus any lump sums or specific prices and adjustment amounts as provided by the *Contract Documents*. For the purposes of tender comparison, our offer is to complete the *Work* for the "*Tender Price*" as set out on Appendix 1 of this Form of Tender. Our *Tender Price* is based on the estimated quantities listed in the *Schedule of Quantities and Prices*, and excludes *GST*.

Tenderer's Initials _____

3.1 that we understand and agree that the quantities as listed in the *Schedule of Quantities and Prices* are estimated, and that the actual quantities will vary.

WE CONFIRM:

4.1 that the following appendices are attached to and form a part of this tender:

WE CONFIRM:

4.1.1 the appendices as required by paragraph 5.3 of the Instructions to Tenderers – Part II; and

4.1.2 the *Bid Security* as required by paragraph 5.2 of the Instructions to Tenderers – Part II.

5.1 that this tender will be irrevocable and open for acceptance by the *Owner* for a period of **ninety [90]** calendar days from the day following the *Tender Closing Date and Time*, even if the tender of another tenderer is accepted by the *Owner*. If within this period the *Owner* delivers a written notice ("*Notice of Award*") by which the *Owner* accepts our tender we will:

WE AGREE:

5.1.1 within 15 *Days* of receipt of the written *Notice of Award* deliver to the *Owner*:

a Performance Bond and a Labour and Material Payment Bond, each in the amount of 50% of the Contract Price, covering the performance of the Work including the Contractor's obligations during the Maintenance Period, issued by a surety licensed to carry on the business of suretyship in the province of British Columbia, and in a form acceptable to the Owner.

a Baseline Construction Schedule, as provided by GC 4.6.1;

a "clearance letter" indicating that the tenderer is in Worksafe BC compliance; and

a copy of the insurance policies as specified in GC 24 indicating that all such insurance coverage is in place and;

5.1.2 within 2 *Days* of receipt of written "*Notice to Proceed*", or such longer time as may be otherwise specified in the *Notice to Proceed*, commence the *Work*; and

5.1.3 sign the Contract Documents as required by GC 2.1.2.

Tenderer's Initials _____

WE AGREE:

6.1 that, if we receive written *Notice of Award* of this *Contract* and, contrary to paragraph 5 of this Form of Tender, we:

6.1.1 fail or refuse to deliver the documents as specified by paragraph 5.1.1 of this Form of Tender; or

6.1.2 fail or refuse to commence the *Work* as required by the *Notice to Proceed*,

then such failure or refusal will be deemed to be a refusal by us to enter into the *Contract* and the *Owner* may, on written notice to us, award the *Contract* to another party. We further agree that, as full compensation on account of damages suffered by the *Owner* because of such failure or refusal, the *Bid Security* shall be forfeited to the *Owner*, in an amount equal to the lesser of:

6.1.3 the face value of the *Bid Security*; and

6.1.4 the amount by which our *Tender Price* is less than the amount for which the *Owner* contracts with another party to perform the *Work*.

OUR ADDRESS is as follows:

_____

_____

_____

Phone: _____

Fax: _____

Attention: _____

This Tender is executed this
_____ day of _____, 20 _____.

Contractor:

_____
(FULL LEGAL NAME OF CORPORATION, PARTNERSHIP OR INDIVIDUAL)

_____
(AUTHORIZED SIGNATORY)

_____
(AUTHORIZED SIGNATORY)

_____
(GST No.)

_____
(WorkSafe BC No.)

Appendix 1 - Schedule of Quantities

Section	*Para*	*Specification Title*	*Unit*	*Quantity*	*Unit Price*	*Amount*
01 55 00		**Traffic Control, Vehicle Access and Parking**				
	1.5.1	Traffic Control, Vehicle Access and Parking	LS	1		
31 11 01		**Clearing and Grubbing**				
	1.4.1, 1.4.2	**Clearing and Grubbing**	LS	1		
31 32 19		**Geosynthetics**				
	1.6.1	**Geosynthetics** - Mirafi 180N Woven Geotextile	Roll	2		
31 37 10		**RipRap**				
	1.4.1	**Graded RipRap** - Machine Placed - 1000 kg	Cubic Metres	240		
	1.4.1	**Graded RipRap** - Machine Placed - 500 kg	Cubic Metres	150		
	1.4.1	**Graded RipRap** - Hand Placed - 10 kg	Cubic Metres	45		
35 03 01S		**Timber Sheathing**				
	0.1S	**Timber Sheathing -** Rough Sawn Yellow or Western Red Cedar	Board Foot	1180		
32 92 20		**Seeding**				
	1.8.1	**Seeding**	LS	1		
					Sub-Total	
					GST	
					Total	

Tenderer's Initials _____

Appendix 2 – Preliminary Construction Schedule

Gertrude Street Bridge Crossing Roger Creek – Embankment Protection Works

(TITLE OF CONTRACT)

See paragraph 5.3.2 of the Instructions to Tenderers – Part II.

Indicate Schedule with bar chart with major item descriptions and time.

MILESTONE
DATES:_____

ACTIVITY	CONSTRUCTION SCHEDULE									
	2	4	6	8	10	12	14	16	18	20

Appendix 3 – Experience of Superintendent

Gertrude Street Bridge Crossing Roger Creek – Embankment Protection Works

(TITLE OF CONTRACT)

See paragraph 5.3.3 of the Instructions to Tenderers – Part II.

Name: _____

Experience:

Dates: _____

Project Name: _____

Responsibility: _____

References: _____

Dates: _____

Project Name: _____

Responsibility: _____

References: _____

Dates: _____

Project Name: _____

Responsibility: _____

References: _____

Appendix 4 – Comparable Work Experience

Gertrude Street Bridge Crossing Roger Creek – Embankment Protection Works

(TITLE OF CONTRACT)

See paragraph 5.3.4 of the Instructions to Tenderers – Part II.

PROJECT	OWNER / CONTACT NAME	PHONE NUMBER	WORK DESCRIPTION	VALUE ($)

Appendix 5 – Subcontractors

Gertrude Street Bridge Crossing Roger Creek – Embankment Protection Works

(TITLE OF CONTRACT)

See paragraph 5.3.5 of the Instructions to Tenderers – Part II.

TENDER ITEM	TRADE	SUBCONTRACTOR NAME	PHONE NUMBER

Appendix 6 – Contractor Declaration of Wages Paid to Employees

The City of Port Alberni (the City) has a contractual obligation to CUPE Local 118 (the union representing the City's workers) that requires all contractors to pay their employees who are performing work for the City, a minimum of the same hourly rate as the City's workers are paid for performing similar work.

Prior to being awarded a contract to undertake work on behalf of the City, or being engaged to work for the City on an as and when basis, all contractors are required to sign this declaration certifying that they will pay to their employees hourly wages equal to or greater than those identified in the table below, when those employees perform work similar to the positions noted below.

I, _____ (print name), certify that I am an authorized representative of _____ (the Contractor). As such, I certify that as a condition of being awarded Contract # _____, or providing as and when required work for the City, the hourly wages paid by the Contractor to employees of the Contractor who perform work for the City, will be equal to or greater than those hourly wages identified in the table below, for performing work similar to the noted positions .

POSITIONS & RATES OF PAY		
POSITION	**CITY OF PORT ALBERNI WAGE (2020)**	**CONTRACTOR-PAID WAGE (include where applicable or note as N/A)**
Maintenance Worker	26.89	
Labourer 1 (< 6 mo. exp.)	28.00	
Labourer 2 (> 6 mo. exp.)	29.71	
Truck Driver 1 (single axle)	29.71	
Streets Service 1 (asphalt truck helper)	30.82	
Truck Driver 2 (tandem axle)	30.82	
Equipment Operator (General)	30.82	
Solid Waste Truck Operator	31.40	
Sweeper Operator	31.40	
Loader Operator	31.95	
Truck Driver 3 (req. Class 1 Lic.)	31.95	
Traffic Service (signs, painting)	32.53	
Flail Mower Operator	33.08	
Streets Service 2 (asphalt truck operator)	33.08	
Backhoe Operator	33.65	
Concrete Formsetter / Finisher	33.65	
Grader Operator	33.65	
Excavator Operator	34.24	
Engineering Technologist (Tech Dipl.)	35.89	
Tradesperson (Red Seal)	35.89	
Chargehand/ Foreman	36.47	
Sr. Engineering Technologist (Tech Dipl. & 3 yrs exp.)	38.14	

Tenderer's Initials _____

On behalf of the Contractor I hereby authorize the City to withhold up to 10% of the total value of the contract until such time as the City is satisfied that the Contractor has complied fully with the commitment noted above. If the City requests payroll records pertaining to the contract (or as and when work) the Contractor will provide such records as requested.

Signed for the Contractor: _____x_____
(print name) (signature)

_____
(title)

Date: _____

Signed for the City: _____x_____
(print name) (signature)

_____
(title)

Date: _____

Form of Agreement

(FOR USE WHEN UNIT PRICES FORM THE BASIS OF PAYMENT TO BE USED ONLY WITH THE GENERAL CONDITIONS AND OTHER STANDARD DOCUMENTS OF THE UNIT PRICE MASTER MUNICIPAL CONSTRUCTION DOCUMENTS.)

BETWEEN *OWNER* AND *CONTRACTOR*

This agreement made in duplicate this

_____ day of _____, 20_____.

Contract: **Gertrude Street Bridge Crossing Roger Creek – Embankment Protection Works**

Reference No. **ITT 007-20**

BETWEEN:

The City of Port Alberni

(the "*Owner*")

AND:

_____

_____

_____

(NAME AND OFFICE ADDRESS OF CONTRACTOR)

(the "*Contractor*")

The *Owner* and the *Contractor* agree as follows:

Article 1 The Work Start / Completion Dates

1.1 The *Contractor* will perform all *Work* and provide all labour, equipment and material and do all things strictly as required by the *Contract Documents*.

1.2 The *Contractor* will commence the *Work* in accordance with the *Notice to Proceed*. The *Contractor* will proceed with the *Work* diligently, will perform the *Work* generally in accordance with the construction schedules as required by the *Contract Documents* and will achieve *Substantial Performance* of the *Work* on or before **September 30, 2020** subject to the provisions of the *Contract Documents* for adjustments to the *Contract Time*.

1.3 Time shall be of the essence of the *Contract.*

Article 2 Contract Documents

2.1 The "*Contract Documents*" consist of the documents listed or referred to in Schedule 1, entitled "Schedule of Contract Documents", which is attached and forms a part of this Agreement, and includes any and all additional and amending documents issued in accordance with the provisions of the *Contract Documents*. All of the *Contract Documents* shall constitute the entire *Contract* between the *Owner* and the *Contractor*.

2.2 The *Contract* supersedes all prior negotiations, representations or agreements, whether written or oral, and the *Contract* may be amended only in strict accordance with the provisions of the *Contract Documents*.

Article 3 Contract Price

3.1 The price for the *Work* ("*Contract Price*") shall be the sum in Canadian dollars of the following

3.1.1 the product of the actual quantities of the items of *Work* listed in the *Schedule of Quantities and Prices* which are incorporated into or made necessary by the *Work* and the unit prices listed in the *Schedule of Quantities and Prices*; plus

3.1.2 all lump sums, if any, as listed in the *Schedule of Quantities and Prices*, for items relating to or incorporated into the *Work*; plus

3.1.3 any adjustments, including any payments owing on account of *Changes* and agreed to *Extra Work*, approved in accordance with the provisions of the *Contract Documents*.

3.2 The *Contract Price* shall be the entire compensation owing to the *Contractor* for the *Work* and this compensation shall cover and include all profit and all costs of supervision, labour, material, equipment, overhead, financing, and all other costs and expenses whatsoever incurred in performing the *Work*.

Article 4 Payment

4.1 Subject to applicable legislation and the provisions of the *Contract Documents*, the *Owner* shall make payments to the *Contractor*.

4.2 If the *Owner* fails to make payments to the *Contractor* as they become due in accordance with the terms of the *Contract Documents* then interest calculated at 2% per annum over the prime commercial lending rate of the Royal Bank of Canada on such unpaid amounts shall also become due and payable until payment. Such interest shall be calculated and added to any unpaid amounts monthly.

Article 5 Rights and Remedies

5.1 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.

5.2 Except as specifically set out in the *Contract Documents*, no action or failure to act by the *Owner*, *Contract Administrator* or *Contractor* shall constitute a waiver of any of the parties' rights or duties afforded under the *Contract*, nor shall any such action or failure to act constitute an approval of or acquiescence in any breach under the *Contract*.

Article 6 Notices

6.1 Communications among the *Owner*, the *Contract Administrator* and the *Contractor*, including all written notices required by the *Contract Documents*, may be delivered by hand, or by fax, or by pre-paid registered mail to the addresses as set out below:

The *Owner*:

The City of Port Alberni
4850 Argyle Street
Port Alberni, BC V9Y 1V8
Fax: 250-723-1003
Email: Brian_Mousley@portalberni.ca
Attention: Brian Mousley, Streets and Construction Supt.

The *Contractor*:

Fax:
Email:
Attention:

The *Contract Administrator*:

Onsite Engineering Ltd.
#102 – 307 5th Street
Courtenay, BC V9N 1J9
Fax: 866-235-6943
Email: mhanson@onsite-eng.ca
Attention: Mike Hanson, P.Eng.

6.2 A communication or notice that is addressed as above shall be considered to have been received

6.1.1 immediately upon delivery, if delivered by hand; or

6.1.2 immediately upon transmission if sent by fax and received in hard copy; or

6.1.3 after 5 *Days* from date of posting if sent by registered mail.

6.3 The *Owner* or the *Contractor* may, at any time, change its address for notice by giving written notice to the other at the address then applicable. Similarly if the *Contract Administrator* changes its address for notice then the *Owner* will give or cause to be given written notice to the *Contractor.*

6.4 The sender of a notice by fax assumes all risk that the fax is received in hard copy.

Article 7 General

7.1 This *Contract* shall be construed according to the laws of British Columbia.

7.2 The *Contractor* shall not, without the express written consent of the *Owner*, assign this *Contract*, or any portion of this *Contract*.

7.3 The headings included in the *Contract Documents* are for convenience only and do not form part of this *Contract* and will not be used to interpret, define or limit the scope or intent of this *Contract* or any of the provisions of the *Contract Documents*.

7.4 A word in the *Contract Documents* in the singular includes the plural and, in each case, vice versa.

7.5 This agreement shall ensure to the benefit of and be binding upon the parties and their successors, executors, administrators and assigns.

IN WITNESS WHEREOF the parties hereto have executed this Agreement the day and year first written above.

Contractor:

(FULL LEGAL NAME OF CORPORATION, PARTNERSHIP OR INDIVIDUAL)

(AUTHORIZED SIGNATORY)

(AUTHORIZED SIGNATORY)

Owner:

THE CITY OF PORT ALBERNI

(AUTHORIZED SIGNATORY)

(AUTHORIZED SIGNATORY)

(INCLUDE IN LIST ALL DOCUMENTS INCLUDING, IF ANY, SUPPLEMENTARY GENERAL CONDITIONS, SUPPLEMENTARY SPECIFICATIONS, SUPPLEMENTARY STANDARD DETAIL DRAWINGS.)

Schedule 1 Schedule of Contract Documents

The following is an exact and complete list of the *Contract Documents*, as referred to in Article 2.1 of the Agreement.

***NOTE*:** The documents noted with "*" are contained in the "Master Municipal Construction Documents - General Conditions, Specifications and Standard Detail Drawings", edition dated 2009. All sections of this publication, including all Supplementary Updates, are included in the *Contract Documents*.

8.2 Agreement, including all Schedules;

8.3 Supplementary General Conditions;

8.4 General Conditions*;

8.5 Project Specific Supplementary Specifications;

8.6 Specifications*;

8.7 Standard Detail Drawings*;

8.8 Executed Form of Tender, including all Appendices;

8.9 *Contract Documents* listed in Schedule 2 to the Agreement –"List of *Contract Documents*";

8.10 Instructions To Tenderers - Part I;

8.11 Instructions to Tenderers - Part II*;

8.12 The following Addenda:

_____

_____

_____

_____

_____

_____

(ADDENDA, IF ANY)

(COMPLETE LISTING OF ALL DRAWINGS, PLANS AND SKETCHES WHICH ARE TO FORM A PART OF THE CONTRACT, OTHER THAN STANDARD DETAIL DRAWINGS AND SUPPLEMENTARY STANDARD DETAIL DRAWINGS.)

Schedule 2 - List of Contract Drawings

Title	Drawing No.	Date	Revision Date	Revision No.
Cover Sheet	1381-2-BANK STABILIZATION-001	Aug 23,19		0
Structure Plan and Profile Views	1381-2-BANK STABILIZATION-002	Aug 23,19		0
Structure Plan and Profile Views	1381-2-BANK STABILIZATION-003	Aug 23,19		0
Details	1381-2-BANK STABILIZATION-004	Aug 23,19		0

Schedule 3 - List of Attachments

Title	Date	Revision Date	Revision No.
Gertrude Bridge Environmental Monitoring Plan, D.R. Clough Consulting	February 7, 2020		0
Change Approval Conditions and Specifications, BC MFLNRORD	March 24, 2020		0

Supplementary General Conditions

General Conditions #	Paragraph #	Title	Action
4.3	.1	Protection of Work, Property and the Public	Within the terms of this clause, the Contractor is responsible for the protection of existing power and telephone poles, fiber optic lines and other facilities of utility companies during the term of the Contract.
6.2	.1	Coordination & Connection	Add: The Contractor shall be responsible for coordinating the Work, where necessary, with third parties, including, but not limited to B.C Hydro, TELUS, telecommunication companies, Fortis BC, Owner forces or other utility corporations, and neither the Owner nor the Contract Administrator shall be liable for any delays caused by such third parties or Owner forces.
13.1	.1	Delay by Owner or Contract Administrator	Add: The Owner or Contract Administrator will not be liable for claims for delay caused by BC Hydro, Telus, Fortis BC, telecommunication companies, Owner forces or other utility corporations arising out of or connected to the Work.
18.2	.1	Supporting Documentation	Add: The Contractor shall not work on the Site or deliver materials for which delivery slips submitted to the Owner are the basis of payment unless the Site Inspector is present. However, if the Contract Administrator deems these requirements inappropriate then this requirement may be waived by him or her in writing.
21.3	.3	Compliance with Workers' Compensation Requirements	Add to Clause: "The Owner shall be entitled to retain a holdback out of the Contract funds in an amount reasonably determined by the Owner as being sufficient to cover the Contractor's outstanding liabilities to WorkSafeBC arising out of the Work performed under this Contract until the Owner receives a statement from WorkSafeBC that the Contractor has satisfied all of its liabilities to WorkSafeBC in relation to such Work."
25.1	.2	Correction of Defects	Add to Clause:

			"Where in the opinion of the Owner, delay in correcting any defect or deficiency may result in significant loss or damage, the Owner may, but shall be under no obligation to, carry out any necessary repairs itself without notice to the Contractor, and all costs and expenses incurred by the Owner in doing so shall be paid by the Contractor. After Substantial Performance, in the event of any defect or deficiency in a watermain or any works associated with a watermain, repairs may only be carried out by the Owner, and all costs and expenses incurred by the Owner in doing so shall be paid by the Contractor."

13 DELAYS

13.9 Liquidated Damages for Late Completion

SGC 13.9.1 Delete GC 13.9.1 and replace with the following:

13.9.1 If the *Contractor* fails to meet the *Milestone Dates for Substantial Performance* **and/or** ***Total Performance*** as set out in the *Form of Tender*, paragraph 2.2, as may be adjusted pursuant to the provision of the *Contract Documents,* then the *Owner* may deduct from the monies owing to the *Contractor* for the *Work*:

a) as a genuine pre-estimate of the *Owner's* increased costs for the *Contract Administrator* and the *Owner's* own staff caused by such delay, an amount of **$1,000.00** per day or pro rata portion for each *Day* that the actual *Substantial Performance* **and/or** ***Total Performance*** is achieved after the *Substantial Performance* **and/or** ***Total Performance*** *Milestone Dates;* plus
b) all direct out-of-pocket costs, such as costs for safety, security, or equipment rental, reasonably incurred by the *Owner* as a direct result of such delay.

If the monies owing to the *Contractor* are less than the total amount owing by the *Contractor* to the *Owner* under (a) and (b), then any shortfall shall immediately, upon written notice from the *Owner,* and upon *Substantial Performance* **and/or** ***Total Performance,*** be due and owing by the *Contractor* to the *Owner.*

Supplementary Specifications

SECTION 01 53 01S – GENERAL REQUIREMENTS

1.0 Environmental Protection

.1S The contractor must ensure that all aspects of the Environmental Management Plan, and Approval Conditions and Specifications are strictly adhered to.

.2S The owner will provide an environmental monitor (EM) for the project. It is the contractors responsibly to coordinate all aspects of the project with the EM throughout the duration of the project and to ensure the EM is on site during all instream construction activities.

SECTION 35 00 01S – TIMBER AND MECHANICAL FASTENERS

1.0 Timber

.1S All timber species and grade shall be as specified in the design drawings.

.2S All timber shall be graded in accordance with the current Standard Grating Rules of the National Lumber Grade Authority. Grading stamps or certificates from an accredited lumber grading agency will not be required however the Contract Administrator may request a sample be independently verified by an accredited lumber grading agency if the grade does not appear to meet the applicable grading standards.

2.0 Mechanical Fasteners

.1S Lag screws shall conform to ASTM Standard A 307.

.2S Galvanizing shall be in accordance with ASTM A153M.

3.0 Payment

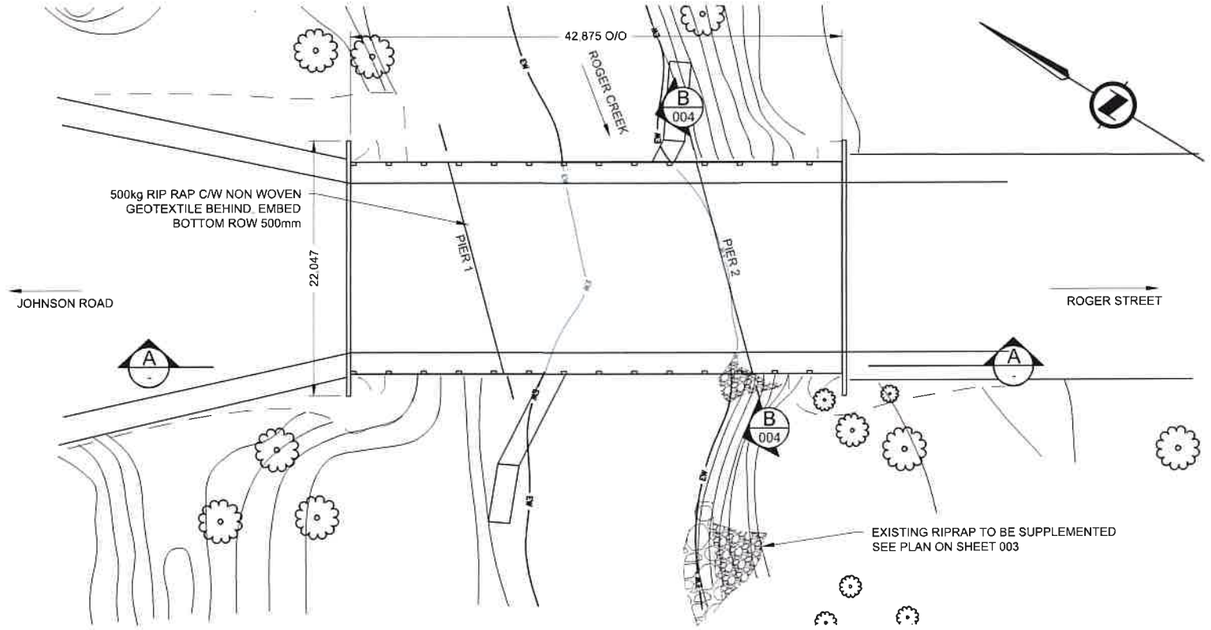
.1S Payment shall include the supply and installation of all timber and mechanical fasteners as per the design drawings. Local hand excavation may be required to facilitate installation of the timber and is considered incidental to this section.

GERTRUDE STREET BRIDGE CROSSING
ROGER CREEK PIER EROSION PROTECTION
AND BANK STABILIZATION

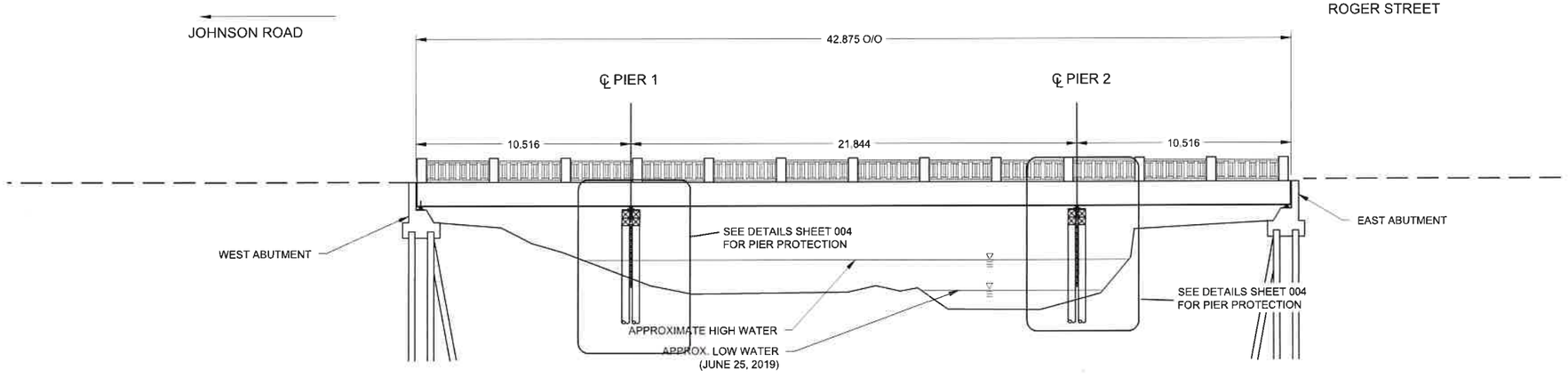
(UTM ZONE 10, 5457385 N , 368446 E)

NOT TO SCALE

DWG No:1381-2-BANK STABILIZATION-001	SHEET: 1 OF 4	DESIGN BY: MIKE HANSON, P.ENG DESIGN DATE: AUGUST 23, 2019 REVIEWED BY: MICHAEL FOSTER, P.ENG DRAWN BY: JESSICA CURRIE, GRADTECH SITE VISIT: ONSITE ENGINEERING LTD. SITE VISIT DATES: JULY 10, 2019 FILE NAME: EROSION.DWG SCALE: AS NOTED REVISION NUMBER:1 REVISION DATE: AUGUST 23, 2019 ALL MEASUREMENTS IN mm UNLESS OTHERWISE NOTED.
PREPARED FOR: THE CITY OF Port Alberni	PREPARED BY: ONSITE ENGINEERING LTD. **COASTAL OPERATIONS** 1040 CEDAR STREET CAMPBELL RIVER, BC, V9W 7E2 PH.: 250-287-9174 FAX: 866-235-6943	DRAWING INDEX: SHEET 2 OF 4 - EXISTING SITE PLAN AND PROFILE VIEW SHEET 3 OF 4 - PROPOSED BANK PROTECTION PLAN AND PROFILE VIEWS SHEET 4 OF 4 - PIER PROTECTION DETAILS



EXISTING BRIDGE PLAN
SCALE 1:500



EXISTING BRIDGE PROFILE
SCALE 1:250 (A -)

DWG No:1381-2-BANK STABILIZATION-002	SHEET: 2 OF 4	DESIGN BY: MIKE HANSON, P.ENG DESIGN DATE: AUGUST 23, 2019 REVIEWED BY: MICHAEL FOSTER, P.ENG DRAWN BY: JESSICA CURRIE, GRADTECH SITE VISIT: ONSITE ENGINEERING LTD. SITE VISIT DATES: JULY 10, 2019 FILE NAME: EROSION.DWG SCALE: AS NOTED REVISION NUMBER:1 REVISION DATE: AUGUST 23, 2019 ALL MEASUREMENTS IN mm UNLESS OTHERWISE NOTED.
PREPARED FOR: THE CITY OF Port Alberni	PREPARED BY: ONSITE ENGINEERING LTD. **COASTAL OPERATIONS** 1040 CEDAR STREET CAMPBELL RIVER, BC, V9W 7E2 PH.: 250-287-9174 FAX: 866-235-6943	GERTRUDE STREET BRIDGE CROSSING ROGER CREEK PIER EROSION PROTECTION AND BANK STABILIZATION (UTM ZONE 10, 5457385 N , 368446 E)

SEAL OF B.C. P.ENG.

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
M. J. HANSON
45145
OCT 04 2019

ENVIRONMENTAL NOTES:

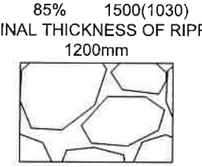
1. WORK TO PROCEED IN ACCORDANCE WITH DFO AND BCMOECCS CONDITIONS NOTED AT THE WEB SITE: http://www.dfo-mpo.gc.ca/pnw-ppe/measures-mesures/measures-mesures-eng.html THE BCMOECCS REGIONAL TERMS AND REGIONAL PERIODS OF LEAST RISK TO RESIDENT FISH SPECIES AND FISH REMOVAL/RELOCATION FOR IN-STREAM WORK ALSO APPLY IF THE STREAM HAS FISH PRESENT OR IS CLASSIFIED AS S1 THROUGH S4.
2. A SEDIMENT MANAGEMENT PLAN WITH SPECIFIC MITIGATION MEASURES TO MINIMIZE SILTATION MUST BE ON SITE. MACHINE CROSSINGS MUST BE LIMITED TO 2 UNLESS OTHERWISE INCREASED OR DECREASED BY A QUALIFIED ENVIRONMENTAL PROFESSIONAL (QEP).
3. ALTERATION TO STREAM BANKS AND IN-STREAM WORK (EXPECTED) SHOULD BE SUPERVISED BY AN ENVIRONMENTAL MONITOR.
4. REMOVE THE MINIMUM AMOUNT OF RIPARIAN VEGETATION NECESSARY TO INSTALL A SAFE STRUCTURE. VEGETATE DISTURBED SLOPES AS SOON AS PRACTICABLE.
5. MACHINERY IS TO BE CLEAN AND LEAK FREE WHILE ON SITE. PETROLEUM PRODUCTS MUST BE CAREFULLY MONITORED WITH NO FUELING WITHIN THE RIPARIAN MANAGEMENT AREA.
6. DIRECT SURFACE WATER AWAY FROM WORK SITE DURING CONSTRUCTION. ENSURE DITCH WATER AND SURFACE RUNOFF FROM THE ROAD DOES NOT FLOW DIRECTLY INTO THE STREAM. INSTALL CROSS DRAIN CULVERTS ON THE APPROACHES AND CONSTRUCT SUMPS AS REQUIRED.
7. CHANGE APPROVAL FOR WORK IS REQUIRED BY MFLRNORD AND MUST BE RECEIVED BEFORE STARTING WORK

GENERAL NOTES:

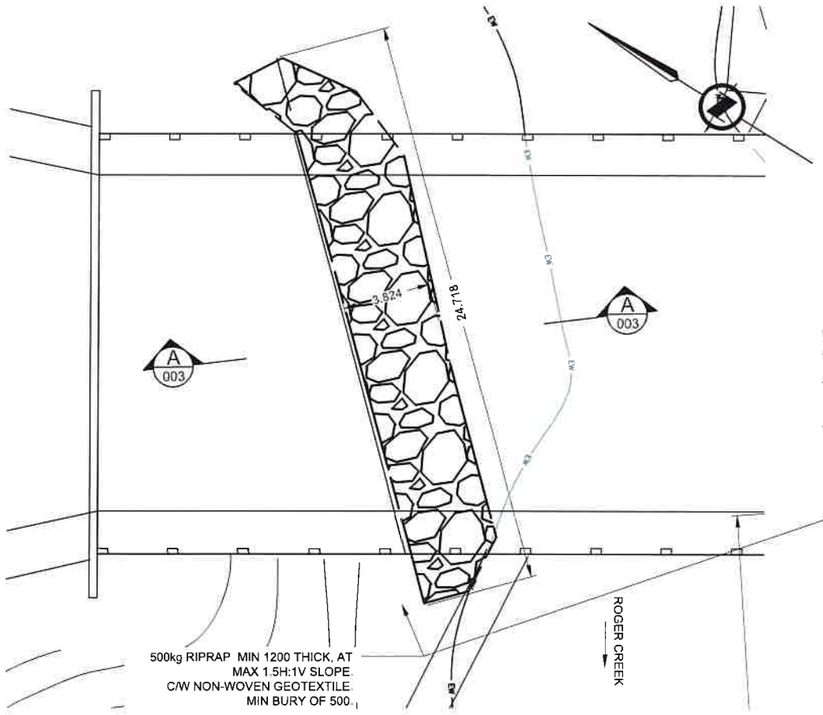
1. CEDAR PLANKS TO BE AFFIXED TO SLOPE SIDE OF PIER 2 COLUMNS WITH A MINIMUM OF TWO 16Ø BY 200 LONG LAG SCREWS PRIOR TO PLACING RIPRAP AND SLOUGHING BANK MATERIAL.
2. HAND EXCAVATE GROUND TO EMBED NEW TREATED CEDAR PLANKS BELOW CURRENT GROUND LEVEL WITH A MINIMUM OF 75mm BURY IN ALL CASES.
3. RIPRAP BEHIND PIER SHALL BE 10kg; AND SHALL BE ENCLOSED IN ARMTEC 350 NON-WOVEN GEOTEXTILE.
4. SLOPE ON SOUTHEAST BANK TO BE ARMORED WITH 1000kg RIPRAP AND UNDERLAIN WITH ARMTEC 350 NON-WOVEN GEOTEXTILE AS SHOWN.

*RIPRAP: CLEAN ANGULAR ROCK

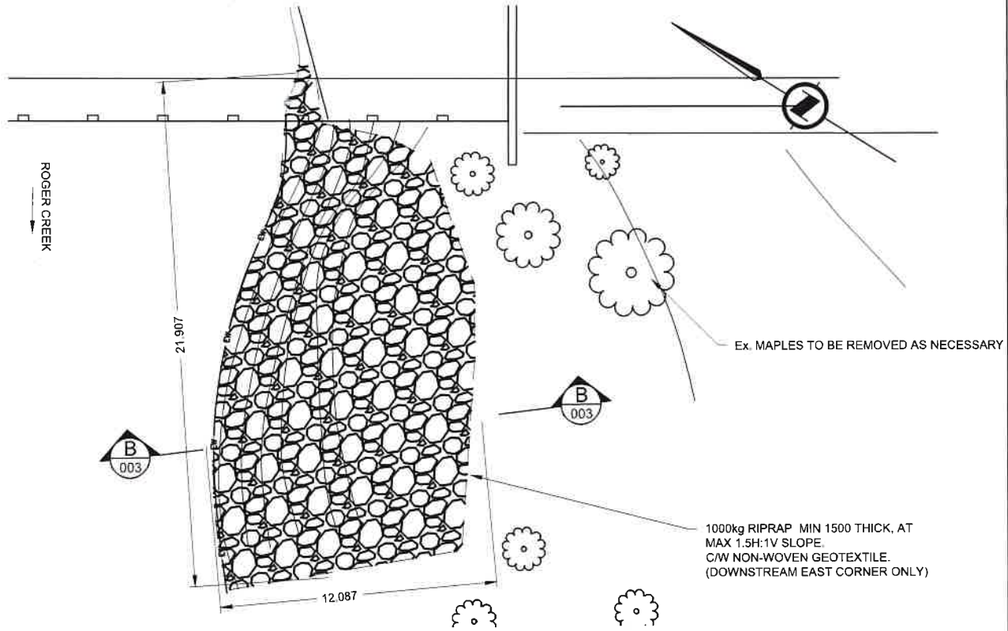
CLASS 500kg RIPRAP
ROCK GRADATION
PERCENT SMALLER THAN GIVEN
ROCK MASS kg(mm)
15% 50(330)
50% 500(715)
85% 1500(1030)
NOMINAL THICKNESS OF RIPRAP
1200mm



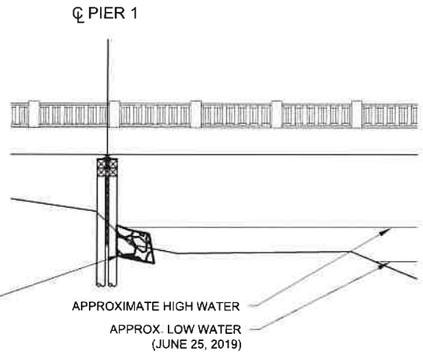
ALL ROCK TO BE PLACED TO MAXIMIZE INTERLOCKING BETWEEN PIECES. ALL ROCK TO BE UNDERLAIN WITH MIRAFI 180N OR APPROVED EQUIVALENT NON-WOVEN GEOTEXTILE. APPROXIMATELY 150m³ OF RIPRAP REQUIRED.



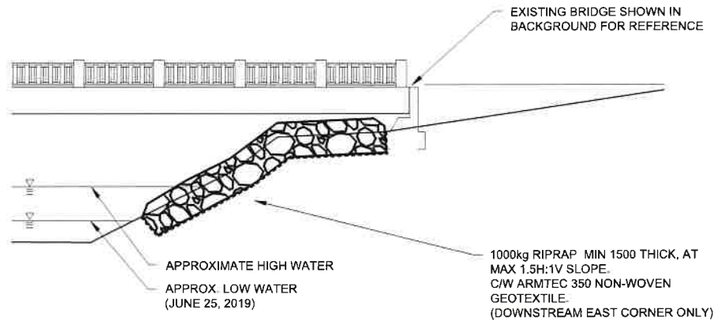
PIER 1 RIP RAP PROTECTION PLAN
SCALE 1:250



SOUTHEAST BANK PROTECTION PLAN
SCALE 1:250



PIER 1 PROTECTION PROFILE (A)
SCALE 1:250



SOUTHEAST BANK PROTECTION PROFILE (B)
SCALE 1:250

DWG No:1381-2-BANK STABILIZATION-003

SHEET: 3 OF 4

PREPARED FOR:

THE CITY OF Port Alberni

PREPARED BY:

ONSITE ENGINEERING LTD.

COASTAL OPERATIONS
1040 CEDAR STREET
CAMPBELL RIVER, BC, V9W 7E2
PH.: 250-287-9174 FAX: 866-235-6943

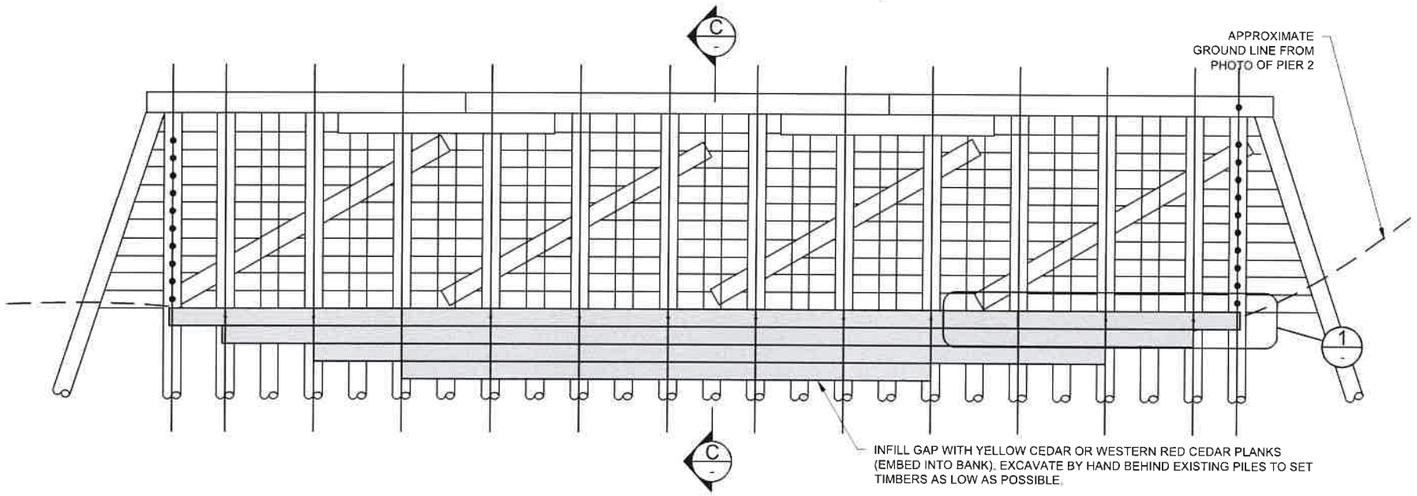
DESIGN BY: MIKE HANSON, P.ENG
DESIGN DATE: AUGUST 23, 2019
REVIEWED BY: MICHAEL FOSTER, P.ENG
DRAWN BY: JESSICA CURRIE, GRADTECH
SITE VISIT: ONSITE ENGINEERING LTD.
SITE VISIT DATES: JULY 10, 2019
FILE NAME: EROSION.DWG
SCALE: AS NOTED
REVISION NUMBER:1
REVISION DATE: AUGUST 23, 2019
ALL MEASUREMENTS IN mm UNLESS OTHERWISE NOTED.

GERTRUDE STREET BRIDGE CROSSING
ROGER CREEK PIER EROSION PROTECTION
AND BANK STABILIZATION
(UTM ZONE 10, 5457385 N , 368446 E)

SEAL OF B.C. P.ENG.

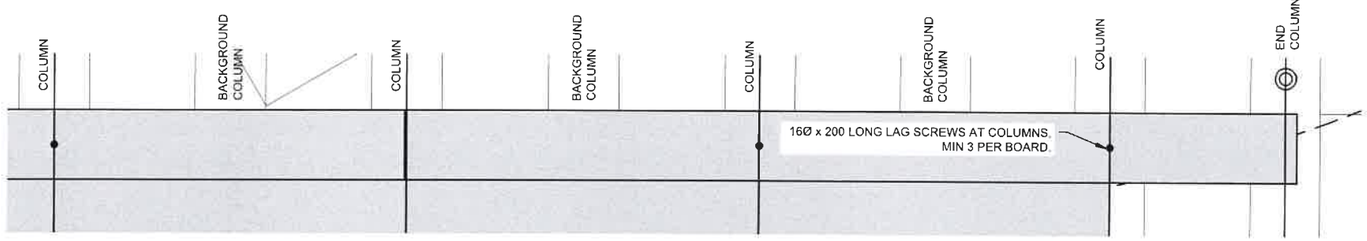
PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
M. J. HANSON
45145

OCT 04 2019



PIER 2 ELEVATION
SCALE 1:100

B
002



TYPICAL CEDAR PLANK CONNECTION - PIER 2
SCALE 1:25

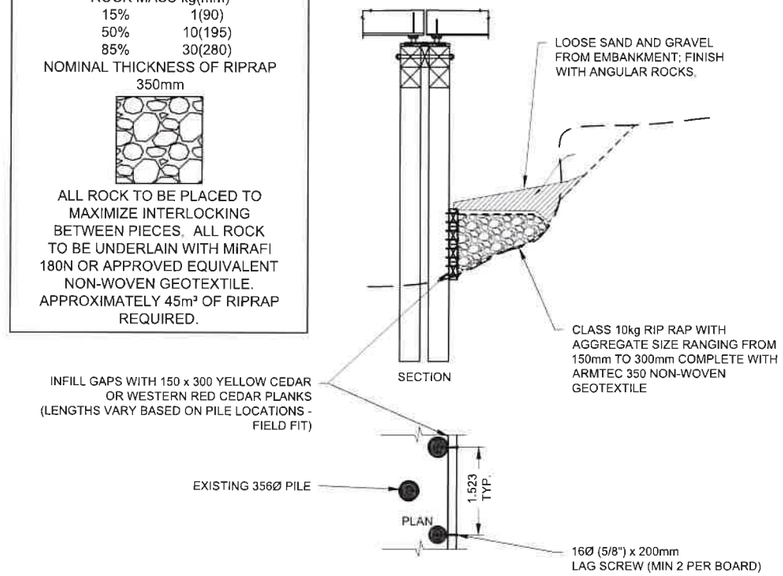
1
-

PARTIAL MATERIALS LIST	
QUANTITY	MATERIAL
2	ROLL WOVEN GEOTEXTILE: MIRAFI 180N OR APPROVED EQUIVALENT
240m²	1000kg RIPRAP
100m²	500kg RIPRAP
45m²	10kg RIPRAP
1180 BF	YELLOW CEDAR OR WESTERN RED CEDAR
40	16Ø X 200 LONG LAG SCREWS
1	BAG ROADSIDE GRASS SEED MIX

*RIPRAP: CLEAN ANGULAR ROCK

CLASS 10kg RIPRAP
ROCK GRADATION
PERCENT SMALLER THAN GIVEN
ROCK MASS kg(mm)
15% 1(90)
50% 10(195)
85% 30(280)
NOMINAL THICKNESS OF RIPRAP
350mm

ALL ROCK TO BE PLACED TO MAXIMIZE INTERLOCKING BETWEEN PIECES. ALL ROCK TO BE UNDERLAIN WITH MIRAFI 180N OR APPROVED EQUIVALENT NON-WOVEN GEOTEXTILE. APPROXIMATELY 45m³ OF RIPRAP REQUIRED.

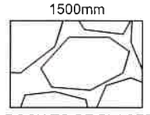


TYPICAL PIER 2 PROTECTION DETAIL
SCALE 1:100

C
-

*RIPRAP: CLEAN ANGULAR ROCK

CLASS 1000kg RIPRAP
ROCK GRADATION
PERCENT SMALLER THAN GIVEN
ROCK MASS kg(mm)
15% 100(415)
50% 1000(900)
85% 3000(1295)
NOMINAL THICKNESS OF RIPRAP
1500mm



ALL ROCK TO BE PLACED TO MAXIMIZE INTERLOCKING BETWEEN PIECES. ALL ROCK TO BE UNDERLAIN WITH MIRAFI 180N OR APPROVED EQUIVALENT NON-WOVEN GEOTEXTILE. APPROXIMATELY 240m³ OF RIPRAP REQUIRED.

DWG No:1381-2-BANK STABILIZATION-004

SHEET: 4 OF 4

PREPARED FOR:

THE CITY OF Port Alberni

PREPARED BY:

ONSITE ENGINEERING LTD.
COASTAL OPERATIONS
1040 CEDAR STREET
CAMPBELL RIVER, BC, V9W 7E2
PH.: 250-287-9174 FAX: 866-235-6943

DESIGN BY: MIKE HANSON, P.ENG
DESIGN DATE: AUGUST 23, 2019
REVIEWED BY: MICHAEL FOSTER, P.ENG
DRAWN BY: JESSICA CURRIE, GRADTECH
SITE VISIT: ONSITE ENGINEERING LTD.
SITE VISIT DATES: JULY 10, 2019
FILE NAME: EROSION.DWG
SCALE: AS NOTED
REVISION NUMBER:1
REVISION DATE: AUGUST 23, 2019
ALL MEASUREMENTS IN mm UNLESS OTHERWISE NOTED.

GERTRUDE STREET BRIDGE CROSSING
ROGER CREEK PIER EROSION PROTECTION AND BANK STABILIZATION
(UTM ZONE 10, 5457385 N , 368446 E)

SEAL OF B.C. P.ENG.

PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA M. J. HANSON # 45145

OCT 04 2019

Environmental Management Plan:

For

Protection of Existing Gertrude Street Bridge Crossing Roger Creek Bank Stabilization

Prepared by:

D.R. Clough Consulting

6966 Leland Road, Lantzville B.C. V0R 2H0, BC

Contents

1. Introduction

This Environmental Management Plan (EMP) is intended to address potential environmental issues associated with bank protection measures at Gertrude Street Bridge crossing over Roger Creek. This project is situated within the City of Port Alberni (Figure 1) BC. The bridge site is a vital link connecting both north and south Port Alberni. There are high fish values in the stream with many species of salmon spawning and rearing in the area[1]. The bank protection works were designed by Onsite Engineering Ltd on behalf of the City of Port Alberni. D.R. Clough Consulting assessed the proposed project for impacts to fish, fish habitat, and vegetation. The survey also identified any potential, cultural heritage sites and valued ecosystems components (VEC's) it encountered. Mitigation measures and management strategies have been developed by D.R. Clough Consulting in an effort to minimize project-related environmental effects for the duration of the project. Environmental protection for the project will be in accordance with Department of Fisheries and Oceans Acts and Regulations, B.C. Ministry of Forests, Lands and Natural Resource Operations, B.C. Ministry of Environment, and Fisheries and Oceans Canada. 2012. Fish-stream crossing guidebook,

B.C. Environment Develop With Care Guidelines as well as Ministry of Highways Standard Specifications for Highway Construction, Section 165; Protection of the Environment (2016).

This EMP includes the identified VEC's and recommendations associated with the effects to the fish and fish habitat[2]. It includes identification of criteria to be incorporated into the project-specific requirements. These plans will be detailed by the successful prime Contractor's Environmental Monitor and the project Manager, and will incorporate, at a minimum, the mitigation measures identified in this EMP.

1.1 Intention of this Environmental Management Plan

This EMP is intended to mitigate environmental impacts and reduce the risk of unforeseen environmental incidents from project. All contractor(s) working on the project must comply with the EMP and/or provide suitable alternative approaches, which will be required to be preapproved by the project Manager and the prime contractor(s) Environmental Monitor, while still be in compliance with applicable legislation. This EMP outlines the following:

- Roles and responsibilities for the Project Manager, the Contractor(s), and the Environmental Monitor (EM)
- Regulatory requirements and permitting for the project.
- Key construction activities and schedule
- Existing environmental conditions and resources
- Potential project effects and mitigative measures
- Management measures to mitigate potential project effects
- Environmental monitoring, reporting and compliance requirements

[1] *D.R. Clough Consulting Roger Creek fish records 1992-2018.*
[2] *D.R. Clough Consulting. 2007, Roger Creek Urban Salmon Habitat Assessment*

This EMP is considered an adaptable document that will be reviewed and updated prior to and during construction activities. The management plans and monitoring protocols outlined in this EMP may be re-evaluated to identify and update deficiencies to improve overall environmental protection.

1.2 Roles and Responsibilities

Table 1: Roles and Responsibilities

Project Manager	• Project Owner responsible for delivering works associated with these works. • Responsible for overall environmental management and performance of the works. • Administers contracts and assesses the Contractor(s) ability to comply with the EMP as part of the tender evaluation process. • Provides the Contractor and EM with Project-Specific details including permits and this EMP. • Authorizes stop work authority to Project personnel for non-compliance with this EMP and contravention of the regulatory permits and allow them to suspend project activities that are at risk of causing or potentially causing serious harm to flora fauna or the adjacent environment. • Notifies regulatory agencies or authorizes notification of environmental non-compliance or environmental incidences, where applicable.
Prime Contractor	• Understands details of the project by reviewing background information supplied in the tender package. • Construct works according to approved designs and standards as laid out in the contract and this EMP • Verifies that all personnel are appropriately trained and competent in the use of mitigative measures laid out in this EMP such as sediment control and spill response. • Notifies site management and EM when any non-compliances are observed • Immediately reports environmental incidents to the manager and EM and initiates appropriate response action. • Corrects deficiencies and non-compliance under the PM and EM and regulators.
Environmental Monitor	• Will be a Qualified Environmental Professional • Attends and records environmental tailgate meetings with contractor(s) • Maintains an updated version of the EMP and is familiar with all aspect of the document. • Communicates requirements of this EMP to the site manager and contractor(s) • Evaluates and reports on the effectiveness of the environmental mitigation measures and contractor(s) work procedures through regular site visits. No set schedule for monitoring is prescribed however; the EM will be required to be onsite for all Instream Works (rip rap). The frequency of site visits will be determined prior to construction start up and will be based on regulatory requirements • Advises the contractor of non-compliance and of any emerging environmental issues and assists in providing solutions to address them • Provides a corrective log to the contractor where appropriate • Has the authority to issue a stop work order where activities are impacting or will impact the adjacent environment • Measures and monitors water quality as per this EMP,and regulatory requirements

	• Maintains records of site visits and regularly updates the Project Manager. • Writes EM reports which are to be submitted to the PM • Monitors construction activity to verify that works are in compliance with this EMP as well as permits and regularity requirements. • Addresses non-compliance issues immediately • Provides guidance and direction during and after any contaminant spill in accordance with this EMP. • Has authority to stop works where activities are impacting, or will impact the adjacent environment.

2. Regulatory and Legislative Requirements

Below in Table 2 is a list of regulatory requirements.

Table 2: Applicable Legislation and Permitting

Permit	Regulatory Agency	Permit Requirement	Status
Fisheries and Oceans Canada Request for Review	DFO	A self-assessment was conducted in January 2020 and it was deemed that this project could follow the approved BMP's and would not result in serious harm.	A DFO Request for Review has yet to be applied for.
Section 11 Water Act Approval	BC GOV -MFLNRO	Submitted tracking number **100295933**	Pending
Scientific Fish Collection Permit	MFNRO	A Scientific Fish Collection Permit is required to salvage and relocate fish impacted during dewatering	A fish collection permit will be provided by the owner.
Wildlife Act (Section 34)	MFNRO	Protects nesting birds and their nests	a bird breeding season pre-clearing nest survey is required if vegetation removal occurs within nesting season (March 15-August 15)

Notes: MFNRO- Ministry of Forests, Lands and Natural Recourse Operations; DFO- Fisheries and Oceans Canada.

3. Work Description Overview

The proposed project will include installation of an approximately 120m^2 of bank protection on the Southwest (left) bank of Roger Creek. The work is scheduled for the instream work is scheduled for the general period of least risk for Vancouver Island (July 15-September 15) and is expected to take approximately 2 weeks or less. The contractors should understand the environmental limitations and risks associated with this location. Work must assume rain events will occur and be working within their capabilities to protect the site environment. They must be prepared for conditions which indicate a weather shutdown is required for the site.

The planned works are outlined below including the main environmental aspects to consider:

- Environmental pre-work meeting
- Clear and grub of project area. Set up of site sediment and spill controls and may require a pre clearing bird sweep depending on start date as per Onsite drawing.
- Installation of remainder of Erosion and Sediment Control (ESC) measures and site isolation (including fish removal).
- Instream Works. This will include a rip rap placement as per design, a low flow isolation channel installed around the pier to bypass expected stream flows around the jobsite to preserve downstream aquatic life (expected to be <0.5 m^3/s but will rise quickly during periods of rain. Fish removal and dewatering may need dewatering depending on flows.

Construction timing for the project is anticipated over a 2-week period. The project includes activities that have the potential to affect the valued ecosystem components including; fish and wildlife habitat.

Table 3: Project Components and Environmental Activity

Components	Timing and Length	Activity
Installation Environmental and Erosion Protection Measures Nesting Sweep	Prior to start up	Installation of environmental protection measures. Bird nest sweep 5 days prior to vegetation removal (if required).
Vegetation Removal Access Road Preparation	TBD	Remove shrubs and trees within clearing limits. Installation of access road to stream crossing to provide equipment access.
Instream Works	Mid to Late summer (5-7 days)	Rip Rap installation and flow reestablishment.

Figure 1: Project Location

4. Environment

This project is situated within the lowest reach of Roger Creek is high value fish habitat (spawning and rearing) for Coho, Chum and Chinook Salmon as well as Cutthroat and Rainbow Trout. The river has perennial flows and year-round fish populations. It is a regionally significant sport fish river primarily for Steelhead.

5. Environmental Concerns

Potential environmental concerns specially Fish and Fish Habitat were identified. Table 4 summarizes potential project impacts.

Table 4: Project Valued Ecological Environmental Components

Components	Pathway of Effect	Timing and Length	Potential Effects
Vegetation Removal Access Road Improvements	Vegetation clearing. Destruction of sensitive habitats during clearing and access road improvements	2-3 days (TBD)	Reduction of nesting habitat. Pre clearing nesting sweep required.
Rip Rap Installation	Sedimentation	1 Week (late summer)	Decrease in wetted area and volume in stream which may increase water temperature and effect water quality. Increased fish mortality through higher water temperatures

6. Best Management Practices

The EMP considers the following BMP's for consideration of this project. These include but are not limited to:

- Ministry of Environment Regional Timing Windows (MOE 2007)
- A Field Guide to Fuel Handling Transportation & Storage (MWLAP 3rd Edition 2002)
- B.C. Ministry of Forests, Lands and Natural Resource Operations, B.C. Ministry of Environment, and Fisheries and Oceans Canada. 2012. Fish-stream crossing guidebook. Rev. ed. For. Prac. Invest. Br. Victoria, B.C
- Land Development Guidelines for the Protection of Aquatic Habitats (DFO 1993)
- Develop with Care: Environmental Guidelines for Urban and Rural Land Development in BC (MOE 2014)
- Guidelines for Raptor Conservation During Urban and Rural Land Development
- Environment Canada General Nesting Periods of Migratory Birds in Canada (EC 2014)
- Standards and Best Practices for Instream Works (MWLAP 2004)

Table 5: Project Components and Environmental Mitigations

Components	Mitigation Measures
Plans and Permits	A copy of EMP and other permits must be kept onsite after review by prime contractor.
Timing	Sensitive works shall be in compliance with timing windows as laid out in the EMP
Pre Work	Work must be planned around the "work in stream window of least risk" (June 15-September for freshwater) and the bird nesting window (March 15 – Aug 15) where a pre-clearing sweep would be required prior to vegetation removal along the entire stream bank. Environmentally sensitive areas must be identified, flagged, or noted to construction crew All equipment shall be cleaned of mud, grease and oils and in good repair before arriving at the site and checked at least daily for leaks. Each machine must contain a spill kit. Refueling of equipment must be a minimum of 30m from the ESA areas. All environmental safety material (i.e. spill kits) must be readily available on site. Erosion control coverings such as plastic, pumps, tarps and straw bales are to be on the job site (specifications below). Erosion and sediment control materials must be installed prior to work. There must be no trespass into wetted areas or other identified ESA's. No vegetation disturbed other than those specified in work area. An arborist will be retained if significant tree roots are located which are located outside of the clearing limits. Wet weather shutdown applies, rainfall will not be recorded but in any circumstance (whether raining or not) where a potential exists for release of sediment to offsite, the activity must be stopped.
Planning	Prior to construction erosion and sediment control measures must be installed and functional. The boundaries of on-site environmentally sensitive areas (ESA) around streams or other features will be clearly defined. Construction activities may only take place within the defined boundaries away from ESA's. Restrict vehicle and equipment access or mitigate for sensitive soil areas. Construct ditches or water diversions so they do not directly discharge sediment-laden surface flows into a stream Refuelling and/or lubricating of vehicles and equipment will be conducted in a designated area at least 30m away from watercourses and water bodies. Drainage planning for direction of surface water flow on the site, including locations of ditches and watercourses. Expected rainfall during construction should be considered in plans. Location(s) of environmentally sensitive areas adjacent to the Project.
Weather	Where possible, plan construction activities during dry weather to avoid erosion and sediment events. Stop work during heavy precipitation or at the discretion of Environmental Monitor. Disturbed areas should be covered/re-vegetated as soon as possible.
Construction	Construction equipment will only operate within the designated boundaries of the Project. Vegetation removal should take place immediately prior to construction activities to minimize soil exposure. During clearing, stockpiling native shrubbery (i.e. Salmonberry) for later replanting may be considered by the contractor as a component of the final

	landscaping. Soils and surface disturbance to be minimized with no ruts and a smooth surface. Spoil must be stored in delineated boundaries/stock pile areas or trucked out. All exposed surfaces including the ditch lines, fill material, spoil piles or construction materials and equipment must not release deleterious materials into the ESA's. Maintain erosion control measures (i.e. sediment fence) around exposed soil piles and access routes.
Instream Works - excavation	Instream work will be scheduled for the least risk period of the work schedule. The contractor should use weather forecasts to fit the best weather window for the entire instream period to avoid weather shutdowns. The isolation of the work site may require a coffer dam or diversion channel. The amount of pumping and wetted area will depend on the season of work and stream levels. Work in stream requires the work area to be isolated to prevent escape of sediment and entry of fish. Fish removal is expected and will be provided by the owner.

7.0 . Fish and Wildlife Management

Efforts will be made to minimize potential impacts of the project on fish and wildlife. In regards to fisheries resource: works are planned that will require fish removal and temporary water bypass. A pre-clearing nesting sweep is scheduled prior to any vegetation removal.

7.1. Potential Impacts of Construction

- Harmful alteration, damage or destruction of fish habitat (e.g. sedimentation, encroachment).
- Loss or alteration of wildlife habitat due to ditching excavation and direct destruction of nests, burrows, and/or den sites not previously identified.
- Mortality and injury (e.g., as a result of: vehicle-wildlife collisions; possible ingestion of hazardous materials associated with construction).
- Adverse physiological or behavioural effects (e.g., adverse effect of noise and/or light from construction on nesting or mating function).

7.2. Construction Environmental Management

The following practices will be undertaken to minimize the potential impacts to fish and wildlife:

7.2.1. General

- Drainages leading to fish habitat are to be identified and protected through EMP management plan.
- Ideally, construction should be scheduled outside of the breeding/nesting/denning period for key wildlife such as cavity nesters, raptors, ducks, herons, songbirds and furbearers (March 15-August 15)
- Wildlife dens and other areas of significant wildlife activity observed during construction will be reported to the environmental monitor.
- Avoid excessively loud construction noise, especially during the bird-nesting window.
- Dispose of waste generated from the Project in wildlife proof containers.
- Minimize potential vehicle-wildlife collisions by adhering to speed limits posted on clear signage, using radio communication along access roads to warn vehicles of wildlife occurrences in the area and by using caution during mobilization and demobilization.

7.2.2. Noise Management

Noise should be managed to minimize noise issues that could potentially arise during the construction of the Project. Typically, noise is caused by on-site construction equipment, such as construction vehicles or trucks. The following are measures and techniques used to mitigate noise issues:

- Restrict construction activities to daylight hours.
- Use the quietest equipment and construction methods reasonably available.
- Avoid unnecessary idling, revving of engines, and or engine brakes.
- Maintain equipment in good working order, particularly exhaust systems.
- General construction operations should be performed to minimize noise through timing and duration of activities.

7.2.3. Human/Wildlife Conflict Management

Depending on the project commencement date, there is potential for human and wildlife conflicts to occur during the construction of the Project. Eagles, ravens, mink, racoon, otter, deer and bear are locally common. Human/Wildlife interaction should be managed to minimize the potential of human harm. The following measures and practices can be utilized to avoid potential conflicts:

- In order to avoid creating an attraction to wildlife food and food waste material must be kept out of access from wildlife.
- Grass seed, hay, straw and other edible materials must be stored in protection from wildlife. Avoid spillage and over-application that could attract roadside wildlife.
- Do not allow garbage receptacles to overflow and no littering.
- Workers will not feed any wildlife.
- Garbage receptacles should be kept clean and emptied regularly.
- Encounters with wildlife and observation of signs (e.g., tracks, scat) will be reported. The workers will inform the site superintendent of any encounter or observation took place and monitor for reoccurrence.

8.0 Spill Prevention and Response

This Spill Prevention and Response Plan (SPRP) will address regulatory and institutional requirements relating to spill emergency management requirements and spill reporting. The purpose of the SPRP is to:

- Identify planning processes and preventive measures that will be implemented to mitigate the risk of spills or other environmental incidents.
- Facilitate effective response to environmental emergencies such as spills of hazardous materials to water, land and air.
- Outline the responsibilities of various environmental personnel that may be involved in a spill emergency.

8.1. Potential Construction Impacts

- Release of hazardous substances to the environment through leaks or spills in/on soil, surface water or groundwater as a result of the improper storage, handling, or transportation of hazardous materials (e.g., hydrocarbons products, concrete, etc).

8.2. Spill Management

8.2.1. General

- Hazardous materials including Dangerous Goods, as defined under the *Transportation and Dangerous Goods Ac*t, used during the construction of the Project will be stored and handled to avoid spills and to allow for containment and recovery of spills in accordance with all applicable legislation and regulation.
- There will be at least one site-specific spill kit that is capable of handling the largest potential spill on-site at all times. Additionally, smaller equipment mounted kits will be available for initial response or minor incidents.

- The PC will be responsible for providing personnel that are knowledgeable in the procedures of the SPRP and are adequately trained to respond to hazardous material spills and emergencies on-site at all times.
- The PC is responsible for maintaining the contents of the spill kits at the specified level.

8.2.2. Hazardous Materials Transportation

- Hazardous materials will be transported in accordance with regulations of the federal *Transportation of Dangerous Goods Act* (TDG) and *Environmental Management Act.*
- Vehicles transporting hazardous products will carry spill control measures adequate to deal with emergencies during transportation.
- All hazardous materials transported to and from the Project will be accompanied by the applicable TDG shipping description, labeling and documentation.

8.2.3. Storage

- Containers shall be labeled in accordance to the regulations of the TDG.
- On-site fuel storage, if necessary, will be installed and operated in compliance with CCME (2003) code of practice, and should be located a minimum of 50 m from environmentally sensitive areas.
- Fuel and hazardous material storage tanks, barrels, or containers (e.g., jerry cans) must be well maintained (e.g., no visible cracks) and meet all applicable provincial and federal standards and requirements.
- Fuel and hazardous material storage facilities will be clearly marked and spill-reporting procedures will be posted.

8.2.4. Handling Fuels & Oils

- The PC will ensure that personnel operating any fuel dispensing equipment will be trained in emergency procedures in the event of a potential fire or spill. Personnel must be present and fully alert at all times during any transfers.
- All equipment and vehicles will be checked daily to determine that systems, including fittings and hoses, are free of leaks and in good mechanical condition prior to completing a transfer.
- Smoking is not permitted during fuel transfers.
- Fueling of heavy equipment will be facilitated by support vehicles equipped with tidy tanks. In the event of an accidental spill, absorbing pads will be deployed to ground surfaces and cleaned up appropriately.
- In the event of an accidental release of fuel or hydraulic oil, an oil spill response kit consisting of absorbing pads and other spill containment materials will be deployed immediately.
- Wrap hose connections with sorbent material to catch any leaks and drips during transfers.
- Do not fill tanks to the top. Leave adequate headspace to ensure that overfilling does not occur.
- If a leak is observed from any equipment, place appropriate spill response materials (e.g., drip trays, sorbent pads) under the leak immediately, as per the Spill Prevention and Emergency Response. Repair the leak immediately.
- Contaminated materials including absorbing pads and/or soil will be placed in sealed plastic containers for removal offsite to an approved disposal site.
- Containment materials and equipment will be stored in a readily available area for immediate use and be of sufficient quantity to receive contaminants for later disposal at an acceptable location.

8.3. Emergency Spill Response Plan

Fuelling of heavy equipment will be conducted from vehicles equipped with tidy tanks in designated areas outside of environmentally sensitive areas and unnamed tributary channels (>30m from channel). In the event of an accidental spill, sorbent pads will be deployed to ground surfaces. In the event of accidental release of fuel or hydraulic oil to the stream, an oil spill response kit consisting of a coiled boom will be deployed immediately downstream of the spill area. Contaminated materials including sorbent pads, oil boom or soils will be placed in a sealed plastic drum following removal. Containment materials and equipment will be stored in a readily available area for immediate use and be of sufficient quantity to receive contaminants for later disposal at an acceptable location.

Heavy equipment will be inspected daily as a preventative measure to avoid unnecessary spills or leaks due to poor equipment maintenance. Equipment operators and labourers will be instructed as to emergency response procedures and assume full responsibility for containment in the event of an accidental spill.

The site superintendent, or equivalent, will provide direction and participate in the clean-up of contaminants, particularly where a spill to the aquatic environment occurs. The following spill response measures will be followed in the event of an accident:

- Ensure worker and public safety.
- Control the spill source.
- Secure the spill site and eliminate potential ignition sources.
- Contain the spill and prevent contaminant entry into water.
- Report the incident.
- Clean-up, store and dispose of contaminants.
- Monitor downstream impacts to aquatic resources.

8.4. Notification and Reporting

All spills are be reported to the owners representative, however depending upon the severity of the spill (i.e. >100 L of flammable liquids or oils), the Project Superintendent or other person designated by the Project Superintendent will also report the details of the incident (location, substance, time and duration of spill, estimated volume, containment action) to the Provincial Emergency Program of MWLAP in the interest of public safety. Following successful containment of the spill, all contaminants and contaminated materials will be disposed of in a manner consistent with MWLAP policy.

8.5. Spill Response Material Requirements

The following material shall be on site at all times during construction works to deal with potential spills immediately;

Job Site Spill Kit – 2 Required containing: (Large Drum Kit)

- 20 Absorbent Pads (Oil, Gas & Diesel)
- 20 Universal Pads (Antifreeze & Most other liquids)
- 6 -3”x48” Absorbent Socks (Oil, Gas & Diesel)
- 4-2lb bags of Oil Absorbent
- 5 HD Disposal Bags
- 4 pairs Nitrile Gloves

Equipment Mounted Kits – Per Machine: (5 Gallon Bucket Kit)

- 15 Absorbent Pads (Oil, Gas & Diesel)
- 15 Universal Pads (Antifreeze & Most other liquids)
- 2 -3”x48” Absorbent Socks (Oil, Gas & Diesel)
- 2 HD Disposal Bags
- 1 pair Nitrile Gloves

Pickup Trucks (w/fuel tanks): (Standard Bag Kit)

- 15 Absorbent Pads (Oil, Gas & Diesel)
- 5 Universal Pads (Antifreeze & Most other liquids)
- 2 -3”x48” Absorbent Socks (Oil, Gas & Diesel)
- 2 HD Disposal Bags
- 1 pair Nitrile Gloves

Additional materials to the standard equipment above will also include:

- Additional sorbent pads to handle any potential spills.
- Roll of 6mil poly sheeting.

8.6 Emergency Erosion and Sediment Control (ESC) Contingency Plan

In the event of slope failure or significant release of sediment to Roger Creek or connected drainage features, the PC will respond immediately with the following actions (at a minimum):

1. Stop work and assess the incident.
2. Once the root cause and level of risk has been identified the following ESC response measure may be used:
    a. Redirection of any runoff away from a watercourse.
    b. Once the root cause and level of risk has been identified the following ESC response measure may be used:
        i. Redirect or contain runoff locally to avoid further issues.
        ii. Redirect turbid water to local vegetated area of infiltration or localized collection area.
        iii. Dewater the isolated work area and direct the turbid water to a localized collection area.
        iv. In the event of a potential high-risk impact to the aquatic environment, turbid water will be pumped into sediment traps lined with filter cloth, or other mechanical water treatment system, to remove sediments prior to discharge.
    c. Turbid runoff will not be diverted to other watercourse or sensitive areas.
    d. Clear run off will be redirected to the closest unaffected storm water collector, impacted areas will be temporarily covered with poly to avoid further concerns.
    e. The area will be contained through deployment of available ESC measures. Application of ESC measures may include but are not limited to:
        i. Clear gravel and filter fabric check-dams.
        ii. Straw.
        iii. Silt fence.
        iv. Spill kits.
        v. Submersible pumps and discharge hoses.
3. If runoff has not been controlled/redirected/contained completely, damming, ditching or berming areas of active flow will be done in order to avoid additional soil erosion issues or slop failures.
4. Contact the PM and EM to inform them of the ESC incident.

9. Air Quality Management

Construction of the Project may result in short-term air quality impacts limited to the immediate vicinity of the Project site. In order to minimize potential impacts to air quality an air quality management plan has been developed. The major potential sources of air pollution during construction are:

- Greenhouse gases (e.g., diesel and gasoline) from construction vehicles and stationary combustion sources (e.g., open burning).
- Particulate matter from non-combustion sources (e.g., soil disturbance, land clearing) and use of unpaved access roads.

9.1. Potential Impacts of Construction

- Adverse impacts from equipment emissions.
- Dust and debris during construction and clearing activities.
- Emissions of greenhouse gases during construction and operation.

9.2. Environmental Management

9.2.1. Greenhouse Gases

- Undertake maintenance of construction equipment and vehicles in accordance with the manufacturer's specifications.
- Equipment will be fitted with standard emission control devices appropriate to the equipment and in compliance with Federal and Provincial regulation and standards.

- Vehicles or equipment that is found to be producing elevated levels of air pollution will be removed from service and replaced with appropriate equipment.
- Consider car-pooling for the daily commute to the site.
- Operate equipment at optimum rated loads.
- Do not allow vehicles or equipment to idle for extended periods of time.
- Turn off vehicles or equipment when not in use.
- If possible, use low sulphur diesel fuel.
- Use electrically powered, rather than gas or diesel powered, equipment wherever practical.

9.2.2. Particulate Matter

- If possible, wet surfaces of exposed soils to minimize the potential for the development of dust.
- Cover or wet down surfaces that are exposed for extended periods of time, dry soil storage piles, and dry materials to minimize the potential of wind erosion.
- Use environmentally acceptable dust suppressants or water, as necessary, to control dust on access roads, work areas, and disposal areas.
- Do not use oil or chemical dust suppressants.
- Adhere to speed limits on roads.
- Cover fine grained materials when transporting them (to prevent or mitigate loss of material through wind exposure).
- Monitor the need for, and the effectiveness of, dust suppression measures.

9.3. Monitoring

To monitor compliance with the above bulleted requirements:

- Regular visual inspections should be conducted on surrounding vegetation and if excessive amounts of fugitive dust are observed settling on surfaces, the EM should discuss with the on-site contactor mitigation techniques that are directed at stabilizing the source(s) of the fugitive dust.

10. Sensitive Ecosystems Management

In order to minimize potential impacts of the Project on Sensitive Ecosystems during construction, including species at risk, a Sensitive Ecosystem Management Plan has been developed.

10.1. Potential Impacts of Construction

Potential adverse effects of construction include:

- Destruction or alteration of habitat.
- Removal or modification of riparian habitat/changes to watercourse morphology.
- Sediment deposition (e.g., erosion and deleterious substances deposition).
- Changes in water quality and turbidity.
- Introduction of hazardous spills to aquatic habitat.
- Blockage of fish and aquatic wildlife passage.
- Destruction of nests

10.2. Environmental Management

- The boundary of the project site and access routes will be known to all site personnel.
- Vehicles and equipment are prohibited from working outside of the defined construction area.
- Use appropriate erosion and sediment control techniques.

11. Vegetation Management

To minimize impacts to vegetation adjacent to and on the project site the following procedures will be followed:

11.1. Potential Impacts of Construction

- Destruction or disturbance of rare plant species and listed ecological communities on and adjacent to the project site.
- Destruction or disturbance of vegetation on and adjacent to the project site. This project features minimal clearing (mostly alder trees below the power lines).
- Increased opportunity for establishment or spread of invasive plant species on newly disturbed lands.

11.2. Tree Protection Plan Management

Vehicles and equipment are prohibited from working outside of the defined construction area. Where possible, vegetation will be left intact with root systems undisturbed. Retain wildlife trees and shrub and understory vegetation that matches that of the surrounding area. This will help reduce the introduction of invasive species into the surrounding area, encourage wildlife use, and retain wildlife forage species.

11.3 Invasive Species Management

An inspection along the work areas indicated the road shoulder of limited native shrubbery dominated by invasive plant species; Himalayan Blackberry and Scotch Broom are the prevailing plants on the site.

General practices to control spread of invasives include:

- Avoid disturbance of plant community - do not remove plants beyond immediate work area, pull back or prune on site for clearance/visibility.
- Avoid removal of plants from local area - move no organic material beyond the work areas.
- Avoid transportation of invasives into the area - avoid seed bearing hay as erosion control, use straw or inorganic products.
- Report any new incidences of invasives to the EM.

12. Waste Management

Waste Management Plan will be based on the “Reduce, Reuse and Recycle” principle. Where possible, the contractor will apply this principle during construction activities to minimize the amount of waste generated.

12.1. Potential Impacts

- Waste generated on the project site could potentially attract wildlife, creating nuisance wildlife.
- Release of hazardous waste could potentially contaminate soil or a watercourse.

12.2. Environmental Management

The following outlines the practices PC will undertake to minimize the potential impacts associated with general construction waste and hazardous waste:

12.2.1. General Waste

- PC shall not dump, burn, and/or allow sub-contractors to dump and/or burn garbage or any other construction waste associated with construction of the Project.
- Should construction waste be dumped, the contractor shall immediately act to clean up and remove the waste material.
- PC shall arrange for disposal of construction-related waste in a manner acceptable to the applicable government agency.
- PC shall establish regular clean up and disposal programs so as to prevent the unnecessary accumulation of construction waste.
- On site sanitary facilities will be used.

- All food waste and domestic garbage will be collected daily from the project site, and be disposed of in an appropriate and safe manner that does not attract wildlife.
- Upon completion of construction activity the project site will be cleaned of all resulting construction waste.

12.2.2. Hazardous Waste

The disposal of hazardous waste generated during the construction of the Project will be disposed of in compliance with the *Hazardous Waste Regulation* under the *Environmental Management Act.*

- Dispose of used oil, filters, and grease cartridge lubrication containers and other products used for equipment maintenance in a designated hazardous waste receptacle. Disposed of waste oil, solvents, and other petroleum products at an appropriately licensed disposal facility.
- PC will dispose of recovered spilled material, contaminated soil and absorbent materials.
- The handling and disposal of hazardous waste will comply with the *Environmental Management Act* and its Regulations and the federal *Transportation of Dangerous Goods Act*.

13. Archaeological and Heritage Impact

No archeological impacts are expected given the minimal excavation and previous disturbance. Works will proceed under chance find procedures. Below are expected practices of contractors.

13.1. Potential Construction Impacts

Construction of the project will involve the removal of soil from the project site, excavations which could potentially unearth, damage or destroy archaeological and/or other heritage resources.

13.2. Archaeological Management

The following outlines the course of action to be taken should possible encounters with previously unknown or undisclosed archaeological materials during construction be found. Chance and Find Procedure: if potential archeological items are discovered stop and contact the PM and EM.

- Encounters of actual or suspected archaeological or historical materials such as, human bones, pithouses, stone tools, rock paintings, shell deposits (middens) and culturally modified trees, they will, subject to safety considerations, immediately cease work in the location and notify the project team.
- All employees and subcontractors shall be instructed to not collect archaeological or historical materials.
- If instructed to do so, locations of actual or suspected archaeological finds shall be secured against theft and trespass by unauthorized individuals, until such time as they have been inspected.
- Construction personnel shall ensure that other workers in the vicinity are aware that the affected location is to be avoided until assessed.
- If the affected location is busy or high traffic area, if instructed to do so by the Client/Clients representative, assign an employee to stake or flag off the affected location to prevent additional disturbances. The employee should mark an exclusion zone (typically 30 m) around the discovery.
- In the case of discovery of an isolated artifact, whenever possible leave the artifact on the ground where it was found. However, if the artifact is in imminent danger of being destroyed or damaged, collect it and mark its location with a stake or flag.

14. Site Restoration and Landscaping

This seeks to identify measures needed to reinstate areas affected by construction activity. These activities will as a minimum meet the requirements of the contract and/or engineer specifications.

14.1. Environmental Management

The following mitigation measures are recommended:

- Disturbed areas will be contoured as per design. Including stream restoration.

- The PC will remove all sediment and erosion control measures, once new vegetation has been established.
- All equipment and non-biodegradable materials will be removed from the project site.
- Native re-vegetation seed shall be applied as specified in the Contract.
- Seeding should closely follow the final landscaping, weather permitting.
- Timing of seeding is weather related and must be done in a period that allows seed germination and adequate water in spring and fall, or summer if maintenance watering is assured.

15. Conclusion

This document outlines the existing environmental status and value of the Roger Creek Bridge bank protection project. We can conclude there is a low probability for serious environmental harm to the environment as a result of this project. If construction activities follow best management practice and protocols this project should not experience any environmental issues.

Sincerely,

Brad Remillard, RPBio

APPROVAL
CHANGES IN AND ABOUT A STREAM
Section 11 (2), Clause (a)

This approval grants authority under Section 11 of the *Water Sustainability Ac*t only, and does not constitute permission or consent under any other act or authority.

City of Port Alberni is hereby authorized to make the following changes in and about Roger Creek at a location best described as District Lot 1, Plan number 7TR1 Alberni, Gertrude Street Bridge:

Changes proposed:
The approval is for erosion control measures on Roger Creek by the Gertrude Street bridge. The project will add additional timbers to the fill side of the bridge pilings, and clean shot rock to protect the bank. Riprap will be placed along the north pier to protect it against erosion.

APPROVAL CONDITIONS AND SPECIFICATIONS

1. The work authorized under this approval shall be completed on or before September 30, 2021.

2. In-stream work shall be undertaken only during the period of June 15 to September 15. Any work in the stream outside this period is to be confirmed with the Regional Ecosystems Biologist, Ministry of Forests, Lands and Natural Resource Operations and Fisheries and Oceans Canada office.

3. All works are to be constructed in accordance with 'Gertrude Street Bridge Crossing Roger Creek Pier Erosion Protection and Bank Stabilization' prepared by Onsite Engineering, signed and dated October 4, 2019 (DWG No. 1381-2-Bank Stabilization) and Gertrude Street Bridge Embankment Protection Project – Work Procedures dated January 6, 2020.

4. The applicant must ensure that a suitably qualified environmental monitor (EM) is on site during all instream construction activities and the EM has prepared a site-specific plan prior to construction.

5. All in-stream work is to be conducted in isolation of flowing water through the use of pumps and check dams or in the dry.

6. A fish collection permit will be required for fish salvage.

7. Use clean shot rock and riprap.

8. Any use of treated wood should adhere to 'Guideline for the Use of Treated Wood in and around Aquatic Environments and Disposal of Treated Wood' https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/natural-resource-use/resource-roads/bridge-design-construction/guidelines-treated_wood.pdf

9. Machinery shall be in good mechanical condition such that there is no leakage of substances, deleterious to fish, into the stream. Machinery must be operated in the dry and spill kits must be onsite.

10. This approval does not relieve the approval holder of the requirement to comply with any other applicable federal, provincial, regional, district or municipal enactment.

11. The applicant must inform Fisheries and Oceans Canada, in writing, of the location and nature of the works to be constructed.

12. Permission for access through private or public lands must be obtained by the approval holder prior to commencement of the work. No right of expropriation exists under an approval.

13. Every holder of an approval, or person who makes a change in and about a stream in accordance with the regulations, shall exercise reasonable care to avoid damaging land, works, trees, or other property; and shall make full compensation to the owners for damage or loss resulting from construction, maintenance, use, operation, or failure of the works.

14. A change in and about a stream must be designed, constructed, and maintained in such a manner that the change does not pose a significant danger to life, property, or the environment.

15. The applicant must, while making the change in and about the stream:

    (a) maintain water quality;
    (b) maintain stream channel integrity;
    (c) maintain surface and sub-surface drainage systems and flows;
    (d) conserve wildlife habitat, including riparian vegetation;
    (e) protect fish habitat and fish passage;
    (f) prevent erosion, mass wasting, siltation; and
    (g) prevent degradation to water quality at the intake of existing water supplies authorized under the *Water Sustainability Act*.

Rhonda Morris
Water Manager

Issued Date:	March 24, 2020	Approval No.:	1004718
District:	Nanaimo	Precinct:	Port Alberni