



RETURN BIDS TO:

RETOURNER LES SOUMISSIONS À:

Réception des soumissions - TPSGC / Bid
Receiving - PWGSC
1550, Avenue d'Estimauville
1550, D'Estimauville Avenue
Québec
Québec
G1J 0C7

INVITATION TO TENDER

APPEL D'OFFRES

**Tender To: Public Works and Government Services
Canada**

We hereby offer to sell to Her Majesty the Queen in right of Canada, in accordance with the terms and conditions set out herein, referred to herein or attached hereto, the goods, services, and construction listed herein and on any attached sheets at the price(s) set out therefor.

**Soumission aux: Travaux Publics et Services
Gouvernementaux Canada**

Nous offrons par la présente de vendre à Sa Majesté la Reine du chef du Canada, aux conditions énoncées ou incluses par référence dans la présente et aux annexes ci-jointes, les biens, services et construction énumérés ici et sur toute feuille ci-annexée, au(x) prix indiqué(s).

Comments - Commentaires

Vendor/Firm Name and Address

Raison sociale et adresse du
fournisseur/de l'entrepreneur

Issuing Office - Bureau de distribution

TPSGC-PWGSC
601-1550, Avenue d'Estimauville
Québec
Québec
G1J 0C7

Title - Sujet DRAGAGE MONTRÉAL-ST-ANTOINE	
Solicitation No. - N° de l'invitation EE517-171780/A	Date 2017-04-11
Client Reference No. - N° de référence du client EE517-171780	GETS Ref. No. - N° de réf. de SEAG PW-\$QCM-008-17096
File No. - N° de dossier QCM-6-39226 (008)	CCC No./N° CCC - FMS No./N° VME
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2017-04-28	
Time Zone Fuseau horaire Heure Avancée de l'Est HAE	
F.O.B. - F.A.B.	
Plant-Usine: <input type="checkbox"/> Destination: <input type="checkbox"/> Other-Autre: <input type="checkbox"/>	
Address Enquiries to: - Adresser toutes questions à: Rochette, Jean	Buyer Id - Id de l'acheteur qcm008
Telephone No. - N° de téléphone (418) 649-2834 ()	FAX No. - N° de FAX (418) 648-2209
Destination - of Goods, Services, and Construction: Destination - des biens, services et construction: PWGSC/TPSGC ESC 1 - MPO/TRANSPORT CST 1 - DFO/TC 1550 D'ESTIMAUVILLE QUEBEC Québec G1J0C7 Canada	

Instructions: See Herein

Instructions: Voir aux présentes

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

INVITATION TO TENDER

Title: MAINTENANCE DREDGING MONTREAL – ST-ANTOINE

IMPORTANT NOTICE TO BIDDERS

TENDER DOCUMENTS

Firms intending to submit tenders on this project should obtain tender documents through the website.

<https://www.achatsetventes-buyandsell.gc.ca/>

DREDGES AND OTHER FLOATING EQUIPMENT

The Floating Plant Clause (FPC) and the General Instructions to Bidders GI07 Registry and Pre-qualification of Floating Plant are mandatory conditions with which bids for federal government dredging projects must comply. Canada is bound by these obligations.

AJUSTEMENT DU PRIX DU CARBURANT

This Invitation to Tender includes a fuel price adjustment clause. See Supplementary Conditions SC03: "Fuel price adjustment" in the hereby document.

INSURANCE TERMS

The Insurance Terms have been amended. Refer to the Supplementary Conditions.

INTEGRITY PROVISIONS - BID

Changes have been made to the Integrity Provisions - Bid as of 2016-04-04. See GI01, Integrity Provision-Bid of R2710T of the General Instructions for more information.

LISTING of SUBCONTRACTORS

As per GI07 of R2710T you should provide using Appendix D at Bid closing a list of Subcontractors that have 20% or more of the tendered price value.

PWGSC UPDATE ON ASBESTOS USE

Effective April 1, 2016, all Public Works and Government Services Canada (PWGSC) contracts for new construction and major rehabilitation will prohibit the use of asbestos-containing materials. Further information can be found at <http://www.tpsgc-pwgsc.gc.ca/comm/vedette-features/2016-04-19-00-eng.html>

ADDITION OF PERFORMANCE EVALUATION-CONTRACT

Take note of the additional paragraph to be included in clause R2810D identified in SC06.

Solicitation No – N° de l'invitation
EE517-171780/A
Client Ref No. – N° de réf. du client
EE517-17-1780

Amd. No. – N° de la modif.
File No. – N° du dossier
QCM-6-39226

Buyer ID – id de l'acheteur
qcm008

ADDITION OF TERMINOLOGY

Take note of the additional paragraph to be included in clause R2810D identified in SC07.

TABLE OF CONTENTS

SPECIAL INSTRUCTIONS TO BIDDERS (SI)

- SI01 Bid Documents
- SI02 Enquiries during the Solicitation Period
- SI03 Site Visit
- SI04 Revision of Bid
- SI05 Bid Results
- SI06 Insufficient Funding
- SI07 Bid Validity Period
- SI08 Construction Documents
- SI09 Industrial Security Related Requirements
- SI10 Public Works and Government Services Canada, Apprentice Procurement Initiative
- SI11 Web Sites
- SI12 Financial Bid
- SI13 Bid Mandatory Requirements

R2710T GENERAL INSTRUCTIONS - CONSTRUCTION SERVICES - BID SECURITY REQUIREMENTS (GI) (2016-04-04)

The following GI's are included by reference and are available at the following Web Site <https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual/5/R>

- GI01 Integrity Provisions - Bid
- GI02 Completion of Bid
- GI03 Identity or Legal Capacity of the Bidder
- GI04 Applicable Taxes
- GI05 Capital Development and Redevelopment Charges
- GI06 Registry and Pre-qualification of Floating Plant
- GI07 Listing of Subcontractors and Suppliers
- GI08 Bid Security Requirements
- GI09 Submission of Bid
- GI10 Revision of Bid
- GI11 Rejection of Bid
- GI12 Bid Costs
- GI13 Procurement Business Number
- GI14 Compliance with Applicable Laws
- GI15 Approval of Alternative Materials
- GI16 Performance Evaluation
- GI17 Conflict of Interest-Unfair Advantage
- GI18 Code of Conduct for Procurement—bid

SUPPLEMENTARY CONDITIONS (SC)

- SC01 Insurance Terms
- CS02 Fuel price adjustment
- CS03 Changes to contract documents
- CS04 Applicability of options (unfunded options)
- CS05 Price justification
- SC06 Performance evaluation – Contract
- SC07 Interpretation

CONTRACT DOCUMENTS (CD)

BID AND ACCEPTANCE FORM (BA)

Solicitation No – N° de l'invitation
EE517-171780/A
Client Ref No. – N° de réf. du client
EE517-17-1780

Amd. No. – N° de la modif.
File No. – N° du dossier
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Buyer ID – id de l'acheteur
qcm008

BA01 Identification
BA02 Business Name and Address of Bidder
BA03 The Offer
BA04 Bid Validity Period
BA05 Acceptance and Contract
BA06 Construction Time
BA07 Bid Security
BA08 Signature

APPENDIXCES

Appendix 1 - Combined price form
Appendix 2 – Departmental representative's authority
Appendix 3 - Integrity provisions – List of names
Appendix 4 - Listing of subcontractors
Appendix 5 - Floating plant description
Appendix 6 - Experience of the superintendent
Appendix 7 - Positioning system description
Appendix 8 - Certificat of Insurance Form

Annex 1 Request for Certificate of qualification of floating plant

SPECIAL INSTRUCTIONS TO BIDDERS (SI)

SI01 BID DOCUMENTS

1. The following are the bid documents:
 - a. Invitation to Tender - Page 1;
 - b. Special Instructions to Bidders;
 - c. General Instructions - Construction Services - Bid Security Requirements R2710T (2016-04-04)
 - d. Clauses & Conditions identified in "Contract Documents";
 - e. Drawings and Specifications;
 - f. Bid and Acceptance Form and related Appendix(s); and
 - g. Any amendment issued prior to solicitation closing.

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

2. General Instructions - Construction Services - Bid Security Requirements R2710T is incorporated by reference and is set out in the Standard Acquisition Clauses and Conditions (SACC) Manual, issued by Public Works and Government Services Canada (PWGSC). The SACC Manual is available on the PWGSC Web site: <https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual/5/R>

SI02 ENQUIRIES DURING THE SOLICITATION PERIOD

1. Enquiries regarding this bid must be submitted in writing to jean.rochette@tpsgc-pwgsc.gc.ca, the Contracting Officer named on the Invitation to Tender - Page 1 as early as possible within the solicitation period. Except for the approval of alternative materials as described in G115 of R2710T, enquiries should be received no later than five (5) business days prior to the date set for solicitation closing to allow sufficient time to provide a response. Enquiries received after that time may not result in an answer being provided.
2. To ensure consistency and quality of the information provided to Bidders, the Contracting Officer shall examine the content of the enquiry and shall decide whether or not to issue an amendment.
3. All enquiries and other communications related to this bid sent throughout the solicitation period are to be directed ONLY to the Contracting Officer named on the Invitation to Tender - Page 1. Failure to comply with this requirement may result in the bid being declared non-responsive.

SI03 SITE VISIT

Not applicable

SI04 REVISION OF BID

A bid may be revised by letter or facsimile in accordance with G110 of R2710T. The facsimile number for receipt of revisions is (418) 648-2209.

SI05 BID RESULTS

1. A public bid opening will be held in the office designated on the Front Page "Invitation to Tender" for the receipt of bids shortly after the time set for solicitation closing.

2. Following solicitation closing, bid results may be obtained by calling (418) 649-2888.

SI06 INSUFFICIENT FUNDING

In the event that the lowest compliant bid exceeds the amount of funding allocated for the Work, Canada in its sole discretion may

- a. cancel the solicitation; or
- b. obtain additional funding and award the Contract to the Bidder submitting the lowest compliant bid; and/or
- c. negotiate a reduction in the bid price and/or scope of work of not more than 15% with the Bidder submitting the lowest compliant bid. Should an agreement satisfactory to Canada not be reached, Canada shall exercise option (a) or (b).

SI07 BID VALIDITY PERIOD

1. Canada reserves the right to seek an extension to the bid validity period prescribed in BA04 of the Bid and Acceptance Form. Upon notification in writing from Canada, Bidders shall have the option to either accept or reject the proposed extension.
2. If the extension referred to in paragraph 1. of SI07 is accepted, in writing, by all those who submitted bids, then Canada shall continue immediately with the evaluation of the bids and its approvals processes.
3. If the extension referred to in paragraph 1. of SI07 is not accepted in writing by all those who submitted bids then Canada shall, at its sole discretion, either
 - a. continue to evaluate the bids of those who have accepted the proposed extension and seek the necessary approvals; or
 - b. cancel the invitation to tender.
4. The provisions expressed herein do not in any manner limit Canada's rights in law or under GI11 of R2710T.

SI08 CONSTRUCTION DOCUMENTS

Not applicable

SI09 INDUSTRIAL SECURITY RELATED REQUIREMENTS

Not applicable

SI10 PUBLIC WORKS AND GOVERNMENT SERVICES CANADA APPRENTICE PROCUREMENT INITIATIVE

Not applicable

SI11 WEB SITES

The connection to some of the Web sites in the solicitation documents is established by the use of hyperlinks. The following is a list of the addresses of the Web sites:

Treasury Board Appendix L, Acceptable Bonding Companies

<http://www.tbs-sct.gc.ca/pol/doc-eng.aspx?id=14494§ion=text#appl>

Buy and Sell <https://www.achatsetventes-buyandsell.gc.ca>

Canadian economic sanctions <http://www.international.gc.ca/sanctions/index.aspx?lang=eng>

Contractor Performance Evaluation Report (Form PWGSC-TPSGC 2913)

<http://www.tpsgc-pwgsc.gc.ca/app-acq/forms/documents/2913.pdf>

Bid Bond (form PWGSC-TPSGC 504) <http://www.tpsgc-pwgsc.gc.ca/app-acq/forms/documents/504.pdf>

Performance Bond (form PWGSC-TPSGC 505) <http://www.tpsgc-pwgsc.gc.ca/app-acq/forms/documents/505.pdf>

Labour and Material Payment Bond (form PWGSC-TPSGC 506)

<http://www.tpsgc-pwgsc.gc.ca/app-acq/forms/documents/506.pdf>

Standard Acquisition Clauses and Conditions (SACC) Manual

<https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual/5/R>

PWGSC, Industrial Security Services <http://ssi-iss.tpsgc-pwgsc.gc.ca/index-eng.html>

PWGSC, Code of Conduct and Certifications

<http://www.tpsgc-pwgsc.gc.ca/app-acq/cndt-cndct/contexte-context-eng.html>

Construction and Consultant Services Contract Administration Forms Real Property Contracting

<http://www.tpsgc-pwgsc.gc.ca/app-acq/forms/formulaires-forms-eng.html>

Declaration Form

<http://www.tpsgc-pwgsc.gc.ca/ci-if/formulaire-form-eng.html>

SI12 FINANCIAL BID

The total amount of the bid excludes taxes.

SI13 BID MANDATORY REQUIREMENTS

Bids shall comply with all of the mandatory requirements in the invitation to tender documents in order to be declared responsive, including the mandatory requirements set out in other sections of the invitation to tender documents.

If Canada requests that the bidder submit information or documents within a time period specified in this clause or in a written request made to the bidder, failure to provide these documents or this information at Canada's request within the specified time period will result in the bid being deemed non-responsive.

The lowest compliant bid shall be recommended for a contract award.

Mandatory requirements at bid closing Mandatory documents to be supplied with the bid	
	<i>Reference</i>
<i>If any of the following documents relative to criteria 1.1 to 1.5 is missing at bid closing, the bid will be deemed non-responsive.</i>	
1.1 Bidders shall complete the <u>Combined Price Table</u> .	Appendix 1 herein
1.2 Bid security, in accordance with GI08 BID SECURITY REQUIREMENTS of the General Instructions to Bidders (R2710T).	<ul style="list-style-type: none"> • Clause GI09 of General Instructions to Bidders, R2710T • Clauses BA04 and BA07 of the Bid and Acceptance Form • See the bid bond form at the following Internet link: https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual/5/R/R2710T/11
1.3 In order to comply with clause GI06, Registry and Pre-qualification of Floating Plant, of the General Instructions to bidders no R2710T:	
<p>1.3.1 Submit a bid on the basis that the dredges or other floating plant to be used for the work are registered in Canada.</p> <p>Bidders shall identify the dredge(s) and other floating plant, (scows, tug(s) and supply vessel(s) and support equipment), that will be used by filling out Appendix 5 and shall provide it with the bid.</p> <p>If necessary, bidders shall be able to demonstrate, within 48 hours of receipt of Canada's written request, that the dredges or floating plant are registered in Canada.</p>	<ul style="list-style-type: none"> • Clause GI06 of General Instructions to Bidders, R2710T • Appendix 5 herein
<p>1.3.2 <u>Append to its bid a copy of the certificate of qualification issued by Industry Canada if the dredge(s) or other floating plant to be used for the work IS NOT (ARE NOT) MANUFACTURED IN CANADA.</u></p> <p>If at bid closing this certificate is not appended to the bid for any of the dredges or equipment not manufactured in Canada indicated in Appendix 5, the bid will be deemed <u>non-responsive</u>.</p> <p>See Industry Canada certificate application in Annex 1.</p>	<ul style="list-style-type: none"> • Clause GI06 of General Instructions to Bidders, R2710T • Annex 1 herein

<p><u>1.4 Mandatory Specifications of the equipment</u> Bidder shall take note that the dredging shall be executed with equipment stated in Article 2.1 from section 35 20 24 of the specifications.</p> <p>Bidder shall provide a description of the dredge(s) and dump scows to be used to do the work, which will allow Canada to verify if the proposed floating plants are compliant with specifications requirements. Include in Appendix 5 the information on the dredge(s) and dump scows used.</p> <p>Failure to identify the dredge(s) and dump scows or to attach Appendix 5 to the bid shall make the bid <u>non-responsive</u>.</p>	<ul style="list-style-type: none"> • Article 2.1 from section 35 20 24 of the specifications • Appendix 5 herein
<p><u>1.5 Experience of the Superintendent</u></p> <p>The proposed Superintendent shall have accumulated a minimum of twelve (12) months of experience in dredging work as Superintendent performed on floating equipment since January 2007 in commercial waterways and/or commercial ports.</p> <p>In order to demonstrate that this requirement is met, the Bidder shall fill out and submit with its bid Appendix 6. Clients identified as references may be contacted. If the Bidder does not submit the requested information within the prescribed time frame, or does not meet the minimum requirements, the bid will be <u>non-responsive</u>.</p>	<ul style="list-style-type: none"> • Appendix 6 to this Invitation to Tender
<p><u>1.6 Positioning system</u> The bidder shall describe the positioning system that be used to performed the work.</p>	<ul style="list-style-type: none"> • Appendix 7 to this Invitation to Tender

SUPPLEMENTARY CONDITIONS (SC)

SC01 INSURANCE TERMS

SC01.1 Insurance requirements

The Contractor must comply with the insurance requirements specified in SC01 - Insurance terms. The Contractor must maintain the required insurance coverage for the duration of the Contract. Compliance with the insurance requirements does not release the Contractor from or reduce its liability under the Contract.

The Contractor is responsible for deciding if additional insurance coverage is necessary to fulfill its obligation under the Contract and to ensure compliance with any applicable law. Any additional insurance coverage is at the Contractor's expense, and for its own benefit and protection.

The Contractor must forward to the Contracting Authority within ten (10) days after the date of award of the Contract, a Certificate of Insurance evidencing the insurance coverage and confirming that the insurance policy complying with the requirements is in force. Coverage must be placed with an Insurer licensed to carry out business in Canada. The Contractor must, if requested by the Contracting Authority, forward to Canada a certified true copy of all applicable insurance policies.

SC01.2 Marine liability insurance

1. The Contractor must obtain Protection & Indemnity (P&I) insurance that must include excess collision liability and pollution liability. The insurance must be placed with a member of the International Group of Protection & Indemnity Associations or with a fixed market in an amount of \$ 50,000,000.00. Coverage must include crew liability, if it is not covered by Worker's Compensation as detailed in paragraph 2 below.
2. The Contractor must obtain Worker's Compensation insurance covering all employees engaged in the Work in accordance with the statutory requirements of the Territory or Province or state of nationality, domicile, employment, having jurisdiction over such employees. If the Contractor is assessed any additional levy, extra assessment or super-assessment by a Worker's Compensation Board, as a result of an accident causing injury or death to an employee of the Contractor or subcontractor, or due to unsafe working conditions, then such levy or assessment must be paid by the Contractor at its sole cost.
3. The Protection and Indemnity insurance policy must include the following:
 - (a) Additional Insured: Canada is added as an additional insured, but only with respect to liability arising out of the Contractor's performance of the Contract. The interest of Canada as additional insured should read as follows: Canada, represented by Public Works and Government Services Canada.
 - (b) Waiver of Subrogation Rights: Contractor's Insurer to waive all rights of subrogation against Canada as represented by Transport Canada and Public Works and Government Services Canada for any and all loss of or damage to the watercraft however caused.
 - (c) Notice of Cancellation: The Insurer will endeavour to provide the Contracting Authority thirty (30) days written notice of cancellation.
 - (d) Cross Liability/Separation of Insured: Without increasing the limit of liability, the policy must protect all insured parties to the full extent of coverage provided. Further, the policy must apply to each Insured in the same manner and to the same extent as if a separate policy had been issued to each.

SC01.3 Commercial General Liability Insurance

1. The Contractor must obtain Commercial General Liability Insurance, and maintain it in force throughout the duration of the Contract, in an amount usual for a contract of this nature, but for not less than \$2,000,000 per accident or occurrence and in the annual aggregate.
2. The Commercial General Liability policy must include the following:
 - (a) Additional Insured: Canada is added as an additional insured, but only with respect to liability arising out of the Contractor's performance of the Contract. The interest of Canada should read as follows: Canada, as represented by Public Works and Government Services Canada.
 - (b) Bodily Injury and Property Damage to third parties arising out of the operations of the Contractor.
 - (c) Products and Completed Operations: Coverage for bodily injury or property damage arising out of goods or products manufactured, sold, handled, or distributed by the Contractor and/or arising out of operations that have been completed by the Contractor.
 - (d) Personal Injury: While not limited to, the coverage must include Violation of Privacy, Libel and Slander, False Arrest, Detention or Imprisonment and Defamation of Character.
 - (e) Cross Liability/Separation of Insured: Without increasing the limit of liability, the policy must protect all insured parties to the full extent of coverage provided. Further, the policy must apply to each Insured in the same manner and to the same extent as if a separate policy had been issued to each.
 - (f) Blanket Contractual Liability: The policy must, on a blanket basis or by specific reference to the Contract, extend to assumed liabilities with respect to contractual provisions.
 - (g) Employees and, if applicable, Volunteers must be included as Additional Insured.
 - (h) Employers' Liability (or confirmation that all employees are covered by Worker's compensation (WSIB) or similar program)
 - (i) Broad Form Property Damage including Completed Operations: Expands the Property Damage coverage to include certain losses that would otherwise be excluded by the standard care, custody or control exclusion found in a standard policy.
 - (j) Notice of Cancellation: The Insurer will endeavour to provide the Contracting Authority thirty (30) days written notice of policy cancellation.
 - (k) If the policy is written on a claims-made basis, coverage must be in place for a period of at least 12 months after the completion or termination of the Contract.

SC02 FUEL PRICE ADJUSTMENT

1. The Contract will be amended at the end of each dredging year to reflect an increase or a decrease, compared with the benchmark price, in the cost of the fuel used for the work in the Contract.
2. The fuel price adjustment will be on an hourly basis of dredged time for which payment has been made. PWGSC will apply a factor of 14% to the unit cost per hour for the cost of fuel needed to perform the dredging work.
3. There will be no fuel price adjustment for mobilization or demobilization.

4. Price variation will be determined according to the average price for Quebec City posted in the “*Furn No.2*” category under the heading “Canadian Unbranded Rack Price” on the Bloomberg Oil Buyers Guide Web site. For the purposes of this contract, the benchmark price is the one published on April 7, 2017.
5. Price adjustment formula:
- a) Legend:
- PA: price adjustment
 DF: price on the date work starts at the beginning of a given dredging period in compliance with Article 4 of this clause
 BEN: benchmark price in compliance with Article 4 of this clause
 UP: unit price per hour according to the item featured in the unit price table
 PV: paid volume according to the item featured in the unit price table
- b) Calculation of price variation:
- $$PA = (DF - BEN) / BEN \times UP \times PV \times 14\%$$
- Note 1: The fuel price adjustment formula will be calculated separately for each dredging period and for each item for which a unit cost per hour is featured in the unit price table.
 Note 2: PA could be positive or negative. As a result, the annual portion of the contract will be adjusted upwards or downwards as required.
6. Although the price variation is calculated for each dredging period and for items with a unit cost per hour, only one annual adjustment shall be made. It should appear on the final Request for Payment form for the dredging year and will be considered to be an amendment to the contract.

SC03 CHANGES TO CONTRACT DOCUMENTS

Amendments to clause GC6.4.3:

Clause GC6.4.3 of the conditions GC6 - Delays and Changes in the Work (R2860D) shall apply as follows for the items that are subject to a unit price agreement:

Item	GC6.4.3, paragraphs 2) and 3)	GC6.4.3, paragraphs 4) and 5)
X.1	Not applicable	Not applicable
X.2.1	Applicable	Applicable
X.2.2	Applicable	Applicable
X.2.3	Applicable	Applicable
X.3	Not applicable	Applicable
X.4	Applies to the total basic quantity and the optional quantity (e.g. Item X.3 et X.4)	Not applicable

SC04 APPLICABILITY OF OPTIONS (UNFUNDED OPTIONS)

1. The Contractor acknowledges that Canada has an irrevocable option that may be exercised, in whole or in part, to obtain the optional services described in Section 3 of Part 1 – Dredging Base Work 2019 - Optional and in Part 2 of the unit price table (Tender and Amendments subsequently issued), and to ask the Contractor to perform the

said work in accordance with the conditions contained or mentioned in the said document, at the unit price specified in the unit price table (Combined Price Form);

2. Option is applicable at all times over the term of the contract;
3. NOTICE given to the Contractor for the applicability of option:
 - a) For Dredging Optional Base Work 2019:

If Canada decides to exercise the option above indicated, the Departmental Representative shall give the Contractor a verbal notice within 90 days of the start of the optional work, which notice will be followed within two (2) weeks by an amendment to the contract. The work shall be continuous without interruption.

- b) For options 1.4, 2.4 and 3.4:

If Canada decides to exercise the option above indicated, the Departmental Representative shall give the Contractor a verbal notice within 24 hours of the start of the optional work, which notice will be followed within two (2) weeks by an amendment to the contract. The work shall be continuous with the initial work, and this without interruption.

SC05 PRICE JUSTIFICATION

In the event that the Bidder's bid is the sole responsive bid received, the Bidder must provide, on Canada's request, one or more of the following price justification:

- a. a current published price list indicating the percentage discount available to Canada; or
- b. a copy of paid invoices for the like quality and quantity of the goods, services or both sold to other customers; or
- c. a price breakdown showing the cost of direct labour, direct materials, purchased items, engineering and plant overheads, general and administrative overhead, transportation, etc., and profit; or
- d. price or rate certifications; or
- e. any other supporting documentation as requested by Canada.

SC06 PERFORMANCE EVALUATION-CONTRACT

R2810D General Condition is modified to include the following GC1.22.

1. Contractors shall take note that the performance of the Contractor during and upon completion of the services shall be evaluated by Canada. The evaluation includes all or some of the following criteria:
 - a. quality of workmanship
 - b. time
 - c. project management
 - d. contract management
 - e. health and safety
2. A weighting factor of 20 points will be assigned to each of the five criteria as follows:
 - a. unacceptable: 0 to 5 points
 - b. not satisfactory: 6 to 10 points
 - c. satisfactory: 11 to 16 points
 - d. superior: 17 to 20 points

-
3. The consequences resulting from the performance evaluation are as follows:
- a. For an overall rating of 85% or higher, a congratulation letter is sent to the Contractor.
 - b. For an overall rating of between 51% and 84%, a standard, meets expectations letter, is sent to the Contractor.
 - c. For an overall rating of between 30% and 50%, a warning letter is sent to the Contractor indicating that if, within the next two (2) years, they receive 50% or less on another evaluation, the firm may be suspended from any new PWGSC solicitations for construction services, architectural and engineering services or facility maintenance services, of real property projects, for a period of one year.
 - d. For an overall rating of less than 30%, a suspension letter is sent to the Contractor indicating that the firm is suspended from any new PWGSC solicitations for construction services, architectural and engineering services or facility maintenance services, of real property projects, for a period of one year.
 - e. For a rating of 5 points or less on any one criterion, a suspension letter is sent to the Contractor indicating that the firm is suspended from any new PWGSC solicitations for construction services, architectural and engineering services or facility maintenance services, of real property projects, for a period of one year.

The form [PWGSC-TPSGC 2913](#), Select - Contractor Performance Evaluation Report (CPERF), is used to record the performance.

SC07 INTERPRETATION

R2810D General Condition GC1.1.2 Terminology is modified to include the following,

- “Architectural and Engineering Services ”:
means services to provide a range of investigation and recommendation reports, planning, design, preparation, or supervision of the construction, repair, renovation or restoration of a work and includes contract administration services, for real property projects.
- “Construction Services ”:
means construction, repair, renovation or restoration of any work except a vessel and includes; the supply and erection of a prefabricated structure; dredging; demolition; environmental services related to a real property; or, the hire of equipment to be used in or incidentally to the execution of any construction services referred to above.
- “Facility Maintenance Services ”:
means services related to activities normally associated with the maintenance of a facility and keeping spaces, structures and infrastructure in proper operating condition in a routine, scheduled, or anticipated fashion to prevent failure and/or degradation including inspection, testing, servicing, classification as to serviceability, repairs, rebuilding and reclamation, as well as cleaning, waste removal, snow removal, lawn care, replacement of flooring, lighting or plumbing fixtures, painting and other minor works.

CONTRACT DOCUMENTS (CD)

1. The following are the contract documents:
 - a. Contract Page when signed by Canada;
 - b. Duly completed Bid and Acceptance Form and any Appendices attached thereto;
 - c. Drawings and Specifications;
 - d. General Conditions and clauses

GC1	General Provisions – Construction Services	R2810D	(2016-04-04);
GC2	Administration of the Contract-	R2820D	(2016-01-28);
GC3	Execution and Control of the Work	R2830D	(2015-02-25);
GC4	Protective Measures	R2840D	(2008-05-12);
GC5	Terms of Payment	R2850D	(2016-01-28);
GC6	Delays and Changes in the Work	R2860D	(2016-01-28);
GC7	Default, Suspension or Termination of Contract	R2870D	(2008-05-12);
GC8	Dispute Resolution	R2880D	(2016-01-28);
GC9	Contract Security	R2890D	(2014-06-26);
GC10	Insurance	R2900D	(2008-05-12);
	Allowable Costs for Contract Changes Under GC6.4.1	R2950D	(2015-02-25);
	Supplementary Conditions		
 - e. Any amendment issued or any allowable bid revision received before the date and time set for solicitation closing;
 - f. Any amendment incorporated by mutual agreement between Canada and the Contractor before acceptance of the bid; and
 - g. Any amendment or variation of the contract documents that is made in accordance with the General Conditions.
2. The documents identified by title, number and date above are incorporated by reference and are set out in the Standard Acquisition Clauses and Conditions (SACC) Manual, issued by Public Works and Government Services Canada (PWGSC). The SACC Manual is available on the PWGSC Web site: <https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual>
3. The language of the contract documents is the language of the Bid and Acceptance Form submitted.

BID AND ACCEPTANCE FORM (BA)

BA01 IDENTIFICATION

Maintenance dredging of the St.Lawrence waterway between Montréal and St-Antoine, QC
Solicitation no: EE517-171780/A
Project no: R. 172019.001

BA02 BUSINESS NAME AND ADDRESS OF BIDDER

Name: _____

Address: _____

Telephone: _____ Fax: _____ PBN: _____

E-mail address: _____

BA03 THE OFFER

The Bidder offers to Canada to perform and complete the Work for the above named project in accordance with the Bid Documents for the **TOTAL BID AMOUNT INDICATED IN APPENDIX 1**.

BA04 BID VALIDITY PERIOD

The bid shall not be withdrawn for a period of sixty (60) days following the date of solicitation closing.

BA05 ACCEPTANCE AND CONTRACT

Upon acceptance of the Contractor's offer by Canada, a binding Contract shall be formed between Canada and the Contractor. The documents forming the Contract shall be the contract documents identified in Contract Documents (CD).

BA06 CONSTRUCTION TIME

1. Contract term:

The contract shall be valid from the contract award date to July 24 2018.

2. Duration of Work:

The Contractor shall perform and complete the Work as follow:

- Season 2017: Work shall begin between June 13 and 15, 2017 and be completed by July 21, 2017;
- Season 2018: Work shall begin between June 19 and 21, 2018 and be completed by July 24, 2018.

3. Dredging Base Work 2019 – Optional:

- Season 2019: Work shall begin between June 18 and 20, 2019 and be completed by July 22, 2019.

Solicitation No – N° de l'invitation
EE517-171780/A
Client Ref No. – N° de réf. du client
EE517-17-1780

Amd. No. – N° de la modif.
File No. – N° du dossier
QCM-6-39226

Buyer ID – id de l'acheteur
qcm008

BA07 BID SECURITY

The Bidder is enclosing bid security with its bid in accordance with GI08 - Bid Security Requirements of R2710T - General Instructions - Construction Services - Bid Security Requirements.

BA08 SIGNATURE

Name and title of person authorized to sign on behalf of Bidder (Type or print)

Signature

Date

APPENDIX 1 - COMBINED PRICE FORM

- 1) The prices per unit shall govern in establishing the Total Extended Amount. Any arithmetical errors in this Appendix will be corrected by Canada.
- 2) Canada may reject the bid if any of the prices submitted do not reasonably reflect the cost of performing the part of the work to which that price applies.

UNIT PRICE TABLE

The Unit Price Table designates Work to which a Unit Price Arrangement applies.

- (a) Work included in each item is as described in the referenced specification section.
- (b) The Price per Unit shall not include any amounts for Work that is not included in that unit price Item.
- (c) The Price per Unit shall not include any amounts for Work that is not included in the Unit Price Table.
- (d) All the items in the following table for which the unit of measurement is "lot" and the estimated quantity is "1" are lump-sum items and are subject to the terms and conditions that apply to a lump-sum agreement in the general conditions. These items shall not be considered unit-price items.

1. BASE WORK

Item	Specification Reference	Class of Labour, Plant or Material	Unit of Measurement	Estimated Quantity (EQ)	Price per Unit (PU) Excluding GST and QST	Extended amount (EQ x PU) Excluding GST and QST
1	DREDGING BASE WORK 2017					
1.1	35 20 24	Dredging work main mobilization and demobilization for the work period	lot	1	\$ _____	\$ _____
1.2	35 20 24	Dredging of scattered shoals: Beginning: between June 13 and 15, 2017 Period of work: between June 13 and July 21, 2017				
1.2.1	35 20 24	Sections 1, 2 and 3 Montréal (buoy M195) to Batiscan (buoy D56)	Hour	110	\$ _____	\$ _____
1.2.2	35 20 24	Section 4 Batiscan (buoy D56) to Deschaillons (buoy D18)	Hour	15	\$ _____	\$ _____
1.2.3	35 20 24	Section 5 Deschaillons (buoy D18) to St-Antoine (3 km downstream of buoy Q16)	Hour	35	\$ _____	\$ _____
1.3	35 20 24	Cumulative linear distance between dredging site of scattered shoals	km	150	\$ _____	\$ _____

2	DREDGING BASE WORK 2018					
2.1	35 20 24	Dredging work main mobilization and demobilization for the work period	Lot	1	\$ _____	\$ _____
2.2	35 20 24	Dredging of scattered shoals: Beginning : between June 19 and 21, 2018 Period of work : between June 19 and July 27, 2018				
2.2.1	35 20 24	Sections 1, 2 and 3 Montréal (buoy M195) to Batiscan (buoy D56)	Hour	110	\$ _____	\$ _____
2.2.2	35 20 24	Section 4 Batiscan (buoy D56) to Deschaillons (buoy D18)	Hour	15	\$ _____	\$ _____
2.2.3	35 20 24	Section 5 Deschaillons (buoy D18) to St-Antoine (3 km downstream of buoy Q16)	Hour	35	\$ _____	\$ _____
2.3	35 20 24	Cumulative linear distance between dredging site of scattered shoals	km	150	\$ _____	\$ _____
3	DREDGING BASE WORK 2019 - OPTIONAL					
3.1	35 20 24	Dredging work main mobilization and demobilization for the work period	lot	1	\$ _____	\$ _____
3.2	35 20 24	Dredging of scattered shoals: Beginning : between June 18 and 20, 2019 Period of work : between June 18 and July 26, 2019				
3.2.1	35 20 24	Sections 1, 2 and 3 Montréal (buoy M195) to Batiscan (buoy D56)	Hour	110	\$ _____	\$ _____
3.2.2	35 20 24	Section 4 Batiscan (buoy D56) to Deschaillons (buoy D18)	Hour	15	\$ _____	\$ _____
3.2.3	35 20 24	Section 5 Deschaillons (buoy D18) to St-Antoine (3 km downstream of buoy Q16)	Hour	35	\$ _____	\$ _____
3.3	35 20 24	Cumulative linear distance between dredging site of scattered shoals	km	150	\$ _____	\$ _____
TOTAL EXTENDED AMOUNT FOR BASE WORK (TEA) Excluding GST and QST						\$ _____

Solicitation No – N° de l'invitation
 EE517-171780/A
 Client Ref No. – N° de réf. du client
 EE517-17-1780

Amd. No. – N° de la modif.
 File No. – N° du dossier
 QCM-6-39226

Buyer ID – id de l'acheteur
 qcm008

2. OPTIONAL WORK

Item	Specification Reference	Class of Labour, Plant or Material	Unit of Measurement	Estimated Quantity (EQ)	Price per Unit (PU) Excluding GST and QST	Extended amount (EQ x PU) Excluding GST and QST
1	OPTIONAL WORK (UNFUNDED OPTION)					
1.4	35 20 24	For 2014, Additional kilometer between dredging site of scattered shoals (in addition to item 1.3)	Km	50	\$ _____	\$ _____
2.4	35 20 24	For 2015, Additional kilometer between dredging site of scattered shoals (in addition to item 2.3)	Km	50	\$ _____	\$ _____
3.4	35 20 24	For 2016, Additional kilometer between dredging site of scattered shoals (in addition to item 3.3)	km	50	\$ _____	\$ _____
TOTAL OPTIONAL AMOUNT (TOA) Excluding GST and QST						\$ _____

TOTAL BID AMOUNT (TEA + TOA) Excluding GST and QST	\$ _____
--	----------

Solicitation No – N° de l'invitation
EE517-171780/A
Client Ref No. – N° de réf. du client
EE517-17-1780

Amd. No. – N° de la modif.
File No. – N° du dossier
QCM-6-39226

Buyer ID – id de l'acheteur
qcm008

APPENDIX 2 – DEPARTMENTAL REPRESENTATIVE'S AUTHORITY

Contracting Authority is:

Name: Jean Rochette
Title: Supply Specialist
Department: Public works and Government services Canada
Telephone: 418-649-2834
Email: jean.rochette@tpsgc-pwgsc.gc.ca

TO BE PROVIDED AT CONTRACT AWARD.

Technical Authority is:

Name: _____

Title: _____

Department: _____

Division: _____

Telephone: ____ - ____ - _____

E-mail: _____

APPENDIX 4 - LISTING OF SUBCONTRACTORS

- 1) In accordance with GI07 - Listing of Subcontractors and Suppliers of R2710T- General Instructions - Construction Services - Bid Security Requirements, the Bidder should provide a list of Subcontractors with his Bid.
- 2) The Bidder should submit the list of Subcontractors and for any portion of the Work valued at 20% or greater of the submitted Bid Price.

	Subcontractor	Division	Estimated value of work
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			

APPENDIX 5 - FLOATING PLANT DESCRIPTION

Dredges and Other Floating Equipment

The Bidder declares, by the fact of filling in the following tables, that the named equipment are entirely at his disposal, and that he is able to meet performances and capacities as stated below considering the materials and conditions related to this project. The Bidder must understand that a contract award from Public Works & Government Services Canada does not imply an acceptance of the claimed performances or capacities but only confirms that the equipment meet the requirements of the floating plant clauses.

DREDGE (S)

	<i>Main dredge</i>	<i>Secondary dredge (if required)</i>
<i>Dredge name</i>		
<i>Registration number</i>		
<i>Type of dredge</i>		
<i>If trailing suction hopper dredge: Hopper Capacity (m³)</i>		
<i>Draft (m)</i>		
<i>Dredging depth (m)</i>		
<i>Dredging capacity (m³/h)</i>		
<i>Manufacturing place *</i>		

Appendix 5 (continued)

SCOW (S) / SELF-PROPELLING SCOW (S)

Name	Registration number	Capacity (m ³)	Draft (m)	Manufacturing Place *

TUG (S)

Name	Registration number	Engine (HP)	Draft (m)	Manufacturing Place *

SUPPLY VESSELS AND OTHERS FLOATING EQUIPMENT

Name	Registration number	Purpose	Draft (m)	Manufacturing Place *

* If manufacturing place is not Canada, append to your bid the certificate issued by Industry Canada

Solicitation No – N° de l'invitation
EE517-171780/A
Client Ref No. – N° de réf. du client
EE517-17-1780

Amd. No. – N° de la modif.
File No. – N° du dossier
QCM-6-39226

Buyer ID – id de l'ach
qcm

Appendix 5 (continued)

CERTIFICATE OF QUALIFICATION

Each floating equipment to be used in the course of the works **must be of Canadian manufacture and Canadian registry**. The Bidder must obtain a certificate of qualification from Industry Canada for any floating equipment which is not of Canadian manufacture. **A certified copy of the certificate must accompany the bid.** Requests related to the certification must be sent to :

Defence and Marine Director
Aerospace, Defence and Marine Branch
INDUSTRY CANADA
C.D. Howe Building – room 733C
235 Queen Street
Ottawa, ON
K1A 0H5

Attention : Mr. Phil Mickle
Phone : (613) 617-1860
E-mail : phil.mickle@canada.ca

The Director must have received any request at least fourteen (14) days before the closing bid date. The Industry Canada evaluated and recognized floating equipments may be accepted to work out a dredging project. Requests for certificates of qualification may be submitted by completing the Annex 1 here after.

APPENDIX 6 - EXPERIENCE OF THE SUPERINTENDENT

Reference Item 1.5, Requirements concerning experience of Superintendent of S113, MANDATORY BID REQUIREMENTS, of this document. If there is not enough space, the bidder should use photocopies to include all the information.

Superintendent		
<i>Name of proposed Superintendent:</i>		
	Experience No. 1	Experience No. 2
Dredging contract title and location		
Contract period (month/year to month/year) (See Note 1.)		
Name of client		
Role of Superintendent in the contract		

Note 1: The total length of the period, not counting overlapping of contracts, shall not be less than 12 months

Solicitation No – N° de l'invitation
EE517-150000/A
Client Ref No. – N° de réf. du client
EE517-15-0000

Amd. No. – N° de la modif.
File No. – N° du dossier
QCM-5-38xxx

Buyer ID – id de l'acheteur
qcm008

APPENDIX 7 - POSITIONNING SYSTEM DESCRIPTION

Describe the positioning system that will be used to performed the Work. Specify trade-mark, model, precision, etc.

APPENDIX 8 - CERTIFICATE OF INSURANCE (Not required at solicitation closing)

CERTIFICATE OF INSURANCE



Travaux publics et
 Services gouvernementaux
 Canada

Public Works and
 Government Services
 Canada

Description and Location of Work Maintenance dredging of the St.Lawrence waterway between Montréal and St-Antoine, QC	Contract No. EE517-171780/001/QCM
	Project No. R.172019.001

Name of Insurer, Broker or Agent	Address (No., Street)	City	Province	Postal Code
Name of Insured (Contractor)	Address (No., Street)	City	Province	Postal Code
Additional Insured <i>Her Majesty the Queen in Right of Canada as represented by the Minister of Public Works and Government Services</i>				

Type of Insurance	Insurer Name and Policy Number	Inception Date D / M / Y	Expiry Date D / M / Y	Limits of Liability		
				Per Occurrence	Annual General Aggregate	Completed Operations Aggregate
Commercial General Liability				\$	\$	\$
Umbrella/Excess Liability				\$	\$	\$
Marine Liability				\$		

I certify that the above policies were issued by insurers in the course of their Insurance business in Canada, are currently in force and include the applicable insurance coverage's stated on page 2 of this Certificate of Insurance, including advance notice of cancellation / reduction in coverage.

Name of person authorized to sign on behalf of Insurer(s) (Officer, Agent, Broker)

Telephone number

Signature

Date D / M / Y

CERTIFICATE OF INSURANCE Page 2 of 2

General

The insurance policies required on page 1 of the Certificate of Insurance must be in force and must include the insurance coverage listed under the corresponding type of insurance on this page.

The policies must insure the Contractor and must include Her Majesty the Queen in Right of Canada as represented by the Minister of Public Works and Government Services as an additional Insured.

The insurance policies must be endorsed to provide Canada with not less than thirty (30) days notice in writing in advance of a cancellation of insurance or any reduction in coverage.

Without increasing the limit of liability, the policies must protect all insured parties to the full extent of coverage provided. Further, the policies must apply to each Insured in the same manner and to the same extent as if a separate policy had been issued to each.

Commercial General Liability

The insurance coverage provided must not be substantially less than that provided by the latest edition of IBC Form 2100.

The policy must either include or be endorsed to include coverage for the following exposures or hazards if the Work is subject thereto:

- (a) Blasting.
- (b) Pile driving and caisson work.
- (c) Underpinning.
- (d) Removal or weakening of support of any structure or land whether such support be natural or otherwise if the work is performed by the insured contractor.

The policy must have the following minimum limits:

- (a) **\$5,000,000** Each Occurrence Limit;
- (b) **\$10,000,000** General Aggregate Limit per policy year if the policy contains a General Aggregate; and
- (c) **\$5,000,000** Products/Completed Operations Aggregate Limit.

Umbrella or excess liability insurance may be used to achieve the required limits.

Marine Liability

The insurance coverage must be provided by a Protection & Indemnity (P&I) insurance policy and must include excess collision liability and pollution liability.

The insurance must be placed with a member of the International Group of Protection & Indemnity Associations or with a fixed market in an amount of not less than the limits determined by the *Marine Liability Act*, S.C. 2001, c. 6. Coverage must include crew liability, if it is not covered by the statutory requirements of the Territory or Province having jurisdiction over such employees.

The policy must waive all rights of subrogation against Canada as represented by Public Works and Government Services Canada for any and all loss of or damage to the watercraft however caused.

ANNEX 1 – REQUEST FOR CERTIFICATE OF QUALIFICATION OF FLOATING PLANT

(The Bidder will use a separate sheet for each unit of floating plant.)

1. Name and address of owner:

2. Name and address of operator:

3. Name of unit:

4. Canadian registry no.:

5. Type of unit (dredge, tug, scow, pontoon, etc.):

6. Date of Canadian registry:

7. Date unit originally built:

8. Shipyard where unit originally built:

9. Record of work done to unit in Canada. For each major job, show:
Date:
Shipyard:
Type of work:
Cost:
Country of origin of equipment installed:

10. If unit has changed ownership, show name and current address of previous owner(s) for each modification referred to in item 9 on a separate page.

Signature

Date

Corporate Seal

<u>DIVISIONS</u>	<u>SECTIONS</u>	<u>NUMBER OF PAGES</u>
<u>DIVISION 01</u>	General requirements	
	01 11 01 Work related General information	2
	01 33 00 Submittal Procedures	2
	01 35 29.06 Health and Safety Requirements	11
	01 35 43 Environmental Procedures	2
	01 52 00 Construction Facilities	1
<u>DIVISION 35</u>	Waterway and Marine Construction	
	35 20 24 Dredging	10
<u>APPENDICES</u>		
Appendix 1	Table of distribution and approximate quantities to be dredged.	1
Appendix 2	Graphical representation of the sectors identified for this project.	1
Appendix 3	Locations and descriptions of dumping sites M-02, M-27, S-17, T-02, T-06, T-11, T-16 and X-04.	8
Appendix 4	Description of the ASCII format (x, y, z) that will be used for data transfer.	1
Appendix 5	Environmental Impact Assessment (EIA) (2013-2015), Chapter 7- Mitigation measures, Article 7.1 Preventives Actions..	3
Appendix 6	Information about the various horizontal and vertical reference systems.	8

END OF SECTION

Part 1 General

1.1 SECTION INCLUDES

- .1 Work covered by contract documents.
- .2 Contractor use of premises.

1.2 PRECEDENCE

- .1 Division 01 Sections take precedence over technical specification sections in other Divisions of this Project Manual.

1.3 RELATED SECTIONS

- .1 Section 35 20 24 - Dredging

1.4 WORK COVERED BY CONTRACT DOCUMENTS

- .1 The work involves maintenance dredging of the St. Lawrence Seaway between Montreal and St-Antoine, at various locations and according to the instructions specified herein. The work will be executed in one working period as indicated in the Bid and Acceptance form (BA).
- .2 The work will be paid on an hourly basis. It consists of the dredging of scattered shoals located between Montreal (buoy M195) and St-Antoine (3 km downstream of buoy Q16). Approximately 160 hours of dredging is expected. Of those 160 hours, 15 hours will be required to execute in Deschaillons and 35 hours will be required to execute between Deschaillons and St-Antoine. The locations of dredging activities and the distribution of the hours are listed in Appendix 1.
- .3 The aforementioned work consists of dredging all Class B sediments located above the specified dredging levels, usually from upstream to downstream and to the satisfaction of the CCG Technical Authority who will be onboard during all the operations. The shoals will be located just before the beginning of the work. A map of the dredging sectors can be found in Appendix 2.
- .4 The sediments shall be dumped in one of the 8 dumping sites described in the specifications. However, the Contractor shall use the T-06 dumping site only for the deposit of stones with a diameter of 30 cm or larger. For information only, the disposal areas are shown in Appendix 3.
- .5 Grade depths, dredging hours and location of the scattered shoals to be dredged are listed in Appendix 1.
- .6 The location of the shoals to be dredged will be directly related to the scope of the annual sedimentation and depend on the risks that they pose to users of the waterway.

1.5 CONTRACTOR USE OF PREMISES

- .1 The Contractor shall take all necessary actions and safety precautions to protect persons and property from accidents or damage during the course of the work.
- .2 The Contractor shall carry out the work in such a way as not to interfere with normal use or accessibility of the St. Lawrence Waterway or compromise the safety of those using the Waterway. The Contractor will have to take all possible steps to ensure that every crossing in the Waterway will be safe for commercial vessels. This includes communicating clearly and consistently with the Canadian Coast Guard (CCG), Maritime Traffic Controller (MCTS) and ship captains. The Contractor shall leave at least half the width of the channel available for navigation purposes.

Part 2 Products

2.1 NOT APPLICABLE

Part 3 Execution

3.1 NOT APPLICABLE

END OF SECTION

Part 1 General

1.1 REFERENCES

- .1 Public Works and Government Services Canada (PWGSC)
 - .1 PWGSC Standard Acquisition Clauses and Conditions (SACC) (See submission document).

1.2 ADMINISTRATIVE

- .1 Submit required documents to the Departmental Representative for review. Submit promptly and in the requested sequence so as not to cause work delays. Failure to submit on time is not considered sufficient reason for a contract extension; all requests to that effect will be denied.
- .2 Do not proceed with work affected by submission until all documents have been reviewed.
- .3 Figures in technical drawings and files must be in SI units.
- .4 The Contractor shall be responsible for documents submitted and shall review them prior to submission to the Departmental Representative. In so doing, the Contractor is indicating that necessary requirements have been or will be determined and verified, and that each submission has been checked and co-ordinated with requirements of Work and Contract Documents. Submittals not stamped, signed, dated and associated with a specific project will be returned without examination and will be considered rejected.
- .5 The Contractor must notify the Departmental Representative in writing upon submission, identifying deviations from contract requirements and stating the reasons for the deviations.
- .6 Although the Departmental Representative reviews submissions, the Contractor is responsible for ensuring that documents are complete, precise and in compliance with contract specifications.
- .7 Keep one reviewed copy of each submission on site.
- .8 Submissions must be accompanied by a letter of transmittal, containing:
 - .1 Date
 - .2 Project title and number
 - .3 Contractor's name and address
 - .4 Identification and quantity of each document
 - .5 Other relevant data

1.3 CERTIFICATES AND TRANSCRIPTS

- .1 Immediately after the Contract is awarded the Contractor must submit all documents to the organization responsible for employee safety.

Part 2 Products

2.1 NOT APPLICABLE

Part 3 Execution

3.1 NOT APPLICABLE

END OF SECTION

Partie 1 General

RELATED REQUIREMENTS

- .1 Section 35 20 24 - Dredging.

1.2 REFERENCES

- .1 Province of Québec
 - .1 Loi sur la santé et la sécurité du travail L.R.Q., c. S-2.1 (Act respecting occupational health and safety).
 - .2 Code de sécurité pour les travaux de construction L.R.Q., c. S-2.1, r.4 (Safety code for the construction industry).

1.3 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Make submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Submit to Departmental Representative and the CNESST, if required, the site-specific prevention program, as outlined in the article “GENERAL REQUIREMENTS”, at least 10 days prior to the start of work.
- .3 Departmental Representative will review Contractor’s site-specific prevention program and provide comments to Contractor within 10 days after receipt of the document. Revise plan as appropriate and resubmit to Departmental Representative within 5 days after receipt of comments from Departmental Representative. Departmental Representative reserves the right not to authorize the start of work on the construction site as long as the content of the prevention program is not satisfactory. The Contractor shall then update his prevention program and resubmit it to the Departmental Representative if the scope of work changes or if the working methods of the Contractor differ from his initial plans or for any other applicable new condition.
- .4 Departmental Representative’s review of Contractor’s site-specific prevention program should not be construed as approval of the program and does not reduce the Contractor’s overall responsibility for construction Health and Safety during the work.
- .5 Submit copies of Contractor’s authorized representative’s construction site health and safety inspection reports to Departmental Representative once a week.
- .6 Submit to Departmental Representative within 24 hours a copy of any inspection report, correction notice or recommendation issued by Federal, Provincial and Territorial health and safety inspectors.
- .7 Submit to Departmental Representative within 24 hours an investigation report for any accident involving injury and any incident exposing a potential hazard.
The investigation report shall contain at least the following:
 - .1 Date, time and place of accident;
 - .2 Name of sub-contractor involved in the accident;
 - .3 Number of persons involved and condition of wounded;
 - .4 Witness identification;
 - .5 Detailed description of tasks performed at the time of the accident;

- .6 Equipment being used to accomplish the tasks performed at the time of the accident;
- .7 Corrective measures taken immediately after the accident;
- .8 Causes of the accident;
- .9 Preventive measures that have been put in place to prevent a similar accident.
- .8 Submit to Departmental Representative WHMIS MSDS - Material Safety Data Sheets in accordance with Section 01 33 00 - Submittals. Contractor must also keep one copy of these documents on the construction site.
- .9 Medical Surveillance: where prescribed by legislation, regulation or prevention program, submit certification of medical surveillance for construction site personnel prior to commencement of Work, and submit additional certifications for any new construction site personnel to Departmental Representative.
- .10 Submit to Departmental Representative an on-site Emergency Response Plan at the same time as the prevention program. The Emergency Response plan must contain the elements listed in the article "GENERAL REQUIREMENTS" of this section.
- .11 Submit to Departmental Representative copies of all training certificates required for the application of the prevention program, in particular (if applicable) for the following:
 - .1 First aid in the workplace and cardiopulmonary resuscitation
 - .2 Work likely to release asbestos dust (mandatory for all work where asbestos is present)
 - .3 Work in confined spaces (mandatory for all work in confined spaces)
 - .4 Lockout-tagout procedures (mandatory for all work requiring lockout)
 - .5 Safely operating forklift trucks (mandatory for all forklift usage)
 - .6 Safely operating elevating work platforms (mandatory for the use of all elevating platforms)
 - .7 Any other requirement of Regulations or the safety program
- .12 Engineer's plans and certificates of compliance: Contractor must submit to the Departmental Representative and to the *Commission des normes, de l'équité, de la santé et de la sécurité du travail* (CNESST) a copy signed and sealed by engineer of all plans and certificates of compliance required pursuant to the *Code de sécurité pour les travaux de construction* (S-2.1, r.4) (Safety code for the construction industry) or by any other legislation or regulation or by any other clause in the specifications or in the contract. The Contractor must also submit a certificate of conformity signed by an engineer once the facility for which these plans were prepared has been completed and before a person uses the facility. A copy of these documents must be available on site at all times.

1.4 FILING OF NOTICE OF CONSTRUCTION SITE OPENING

- .1 Notice of construction site opening shall be submitted to the CNESST before work begins. A copy of such notice and acknowledgment of receipt from the CNESST shall be submitted to Departmental Representative.
- .2 At the completion of all the work, a notice of construction site closing shall be submitted to the CNESST, with a copy to Departmental Representative.

- .3 The Contractor shall assume the role of being the Principal Contractor in the limits of the construction site and elsewhere where he must execute work within the framework of this project. The Contractor shall recognize the responsibility of being the Principal Contractor of the project and identify himself as such in the notice of the construction site opening he provides to the CNESST.
- .4 The Contractor shall accept to divide and identify the construction site adequately in order to define time and space at all times throughout the course of the project.

1.5 HAZARD ASSESSMENT

- .1 The contractor must perform construction site specific safety hazard assessment related to project.

1.6 MEETINGS

- .1 Schedule and administer Health and Safety meeting with Departmental Representative prior to commencement of Work.
- .2 Contractor's representative with decision power must attend any meetings at which construction site safety and health issues are to be discussed.
- .3 If it is anticipated that there will be 25 workers or more on the construction site at any given time, the Contractor shall set up a worksite committee and hold meetings as required by the *Code de sécurité pour les travaux de construction* (S-2.1, r. 4) (Safety code for the construction industry). A copy of the minutes of the meetings of the committee shall be provided to the Departmental Representative no later than 5 days after the committee meeting.

1.7 REGULATORY REQUIREMENTS

- .1 Comply with all legislation, regulations and standards applicable to the construction site and its related activities.
- .2 Comply with specified standards and regulations to ensure safe operations on a site containing hazardous or toxic materials.
- .3 Always use the most recent version of the standards specified in the *Code de sécurité pour les travaux de construction* (S-2.1, r.4) (Safety code for the construction industry), notwithstanding the date indicated in that *Code*.

1.8 COMPLIANCE REQUIREMENTS

- .1 Comply with the *Loi sur la santé et la sécurité du travail* (L.R.Q., c. S-2.1) (Act Respecting Occupational Health and Safety) and the *Code de sécurité pour les travaux de construction* (S-2.1, r. 4.) (Safety code for the construction industry) in addition to respecting all the requirements of this specification manual.

1.9 RESPONSIBILITIES

- .1 The Contractor must acknowledge and assume all the tasks and obligations which customarily devolve upon a principal Contractor under the terms of the *Loi sur la santé et la sécurité du travail* (L.R.Q., ch. S-2.1) (Act Respecting Occupational Health and Safety) and the *Code de sécurité pour les travaux de construction* (S-2.1, r.4) (Safety code for the construction industry).
- .2 The Contractor must be responsible for health and safety of persons on construction site, safety of property on construction site and for the protection of persons adjacent to construction site and the environment to the extent that they may be affected by conduct of the work.
- .3 No matter the size or location of the construction site, the Contractor must clearly define the limits of the construction site by physical means and respect all specific regulation requirements applicable in this regard. The means chosen to define the limits of the construction site must be submitted to the Departmental Representative.
- .4 Comply with and enforce compliance by employees with safety requirements of Contract Documents, applicable federal, provincial, territorial and local statutes, regulations, and ordinances, and with site-specific prevention Plan.

1.10 WORK PERFORMED BY EXTERNAL CONTRACTORS

- .1 The Contractor must take the necessary steps to protect the health and safety of external contractors that have no contractual link with the Contractor but have been mandated by the Departmental Representative to perform certain work. In return, these external contractors are obligated to submit to the authority of the Contractor (Principal Contractor). A subordination agreement must be signed by the Contractor and by each external contractor to this effect and submitted to the Departmental Representative prior to the start of the work of each contractor (see the wording in the article HEALTH AND SAFETY SUBORDINATION AGREEMENT)

1.11 GENERAL REQUIREMENTS

- .1 Before undertaking the work, prepare a site-specific prevention program based on the hazards identified according to the article "HAZARD ASSESSMENT" and the article "RISKS INHERENT TO THE WORKSITE" in this section. Apply this program in its totality from the start of the project until demobilization of all personnel from the construction site. The prevention program shall take into consideration the specific characteristics of the project and cover all the work to be executed on the construction site.

The safety program must include at least the following:

- .1 Company safety and health policy;
- .2 Description of the stages of the work;
- .3 Total costs, schedule and projected workforce curves;
- .4 Flow chart of safety and health responsibilities;
- .5 Physical and material layout of the construction site;
- .6 Risk assessment for each stage of the work, including preventive measures and the procedures for applying them;

- .7 Identification of the preventive measures relative to the specific risks inherent to the worksite indicated in the article “RISKS INHERENT TO THE WORKSITE”;
- .8 Identification of preventive measures for health and safety of employees and / or public works site as indicated in the article “SPECIFIC REQUIREMENTS FOR THE HEALTH AND SAFETY OF OCCUPANTS AND PUBLIC”;
- .9 Training requirements;
- .10 Procedures in case of accident/injury;
- .11 Written commitment from all parties to comply with the safety program;
- .12 Construction site inspection checklist based on the preventive measures;
- .13 Emergency response plan which shall contain at least the following:
 - .1 Construction site evacuation procedures;
 - .2 Identification of resources (police, firefighters, ambulance services, etc.);
 - .3 Identification of persons in charge of the construction site;
 - .4 Identification of the first-aid attendants;
 - .5 Communication organizational chart (including the person responsible for the site and the Departmental Representative);
 - .6 Training required for those responsible for applying the plan;
 - .7 Any other information needed, in the light of the construction site’s characteristics.
- .14 If available the Departmental Representative will provide the evacuation procedures to the Contractor who shall then coordinate the construction site procedure with that of the site and submit it to the Departmental Representative.
- .2 In addition to the prevention program, during the course of the work the Contractor shall elaborate and submit to the Departmental Representative specific written procedures for any work having a high risk factor of accident (for example: demolition procedures, specific installation procedures, hoisting plan, procedures for entering a confined space, procedures for interrupting electric power, etc.) or at the request of the Departmental Representative.
- .3 The Contractor shall plan and organize work so as to eliminate the danger at source or ensure collective protection, thereby minimizing the use of personal protective equipment.
- .4 Equipment, tools and protective gear which cannot be installed, fitted or used without compromising the health or safety of workers or the public shall be deemed inadequate for the work to be executed.
- .5 All mechanical equipment (for example, but not limited to: hoisting devices for persons or materials, excavators, concrete pumps, concrete saws) shall be inspected before delivery to the construction site.
- .6 Before using any mechanical equipment, the Contractor shall obtain a certificate of compliance signed by a qualified mechanic dated less than a week prior to the arrival of each piece of equipment on the construction site; the certificate shall remain on the construction site and transmitted to the Departmental Representative on demand.

- .7 Ensure all inspections (daily, periodic, annual, etc.) for the hoisting devices for persons or materials required by the current standards are carried out and be able to provide a copy of the inspection certificates to the Departmental Representative on demand.
- .8 The Departmental Representative can at all times, if he suspects a malfunction or the risk of an accident, order the immediate stop of any piece of equipment and require an inspection by a specialist of his choice.
- .9 The Departmental Representative must be consulted for the location of storing gas cylinders and tanks on the construction site.

1.12 RISKS INHERENT TO THE WORKSITE

- .1 In addition to the risks related to the tasks to be carried out, personnel responsible for the execution of the work on the construction site will be exposed to the following risks, inherent to the area where the work will be executed.

At the worksite there is in particular the presence of the following:

- .1 Confined spaces
- .2 Body of water close by
- .2 The Contractor shall process to a risk assessment of the site to validate this information and see if other risks are present on the site. He must include in its prevention program all risks that have been identified.

1.13 UNFORESEEN HAZARDS

- .1 Whenever a source of danger not defined in the specifications or identified in the preliminary construction site inspection arises as a result of or in the course of the work, the Contractor must immediately suspend work, notify the person responsible for health and safety on the construction site, take appropriate temporary measures to protect the workers and the public and notify Departmental Representative, both verbally and in writing. Then the Contractor must do the necessary modifications to the prevention program or apply the security measures required in order to resume work.

1.14 PERSON IN CHARGE OF HEALTH AND SAFETY

- .1 If the construction site meets the requirements of article 2.5.3 of the *Code de sécurité pour les travaux de construction* (S-2.1, r.4) (Safety code for the construction industry), the Contractor needs to hire a competent person authorized as a safety officer and appoint this person full time from the beginning of the work. This person's tasks shall solely be dedicated to the management of health and safety on the construction site. This safety officer must have the following qualifications:
 - .1 Have a safety officer certificate issued by the CNESST;
 - .2 Have site-related working experience specific to the activities associated with the present project;
 - .3 Have working knowledge of occupational health and safety regulations in the workplace;
 - .4 Be responsible for completing Contractor's Health and Safety Training Sessions and ensuring that personnel not successfully completing required training are not permitted to enter the construction site to perform work;

- .5 Be responsible for implementing, enforcing in detail and monitoring site-specific Contractor's Health and prevention program;
 - .6 Be on construction site at all times during execution of work;
 - .7 Inspect the work and ensure compliance with all regulatory requirements and those indicated in the contract documents or the site-specific prevention program.
 - .8 Keep a daily log of actions taken and submitting a copy to Departmental Representative each week.
- .2 The safety officer's certificate shall be submitted to the Departmental Representative before the start of the work.
 - .3 When the hiring of a safety officer is not required or if this person is hired by the Departmental Representative, the Contractor shall designate a competent person to supervise and take responsibility for health and safety, no matter the size of the construction site or how many workers are present at the workplace. This person shall be on construction site at all times and be able to take all necessary measures to ensure the health and safety of persons and property at or in the immediate vicinity of the construction site and likely to be affected by any of the work. The Contractor shall submit the name of this person to the Departmental Representative before the start of work.

1.15 POSTING OF DOCUMENTS

- .1 Ensure applicable items, articles, notices and orders are posted in conspicuous location on construction site in accordance with Acts and Regulations of the Province, and in consultation with Departmental Representative.
- .2 At a minimum, the following information and documents must be posted in a location readily accessible to all workers:
 - .1 Notice of construction site opening;
 - .2 Identification of Principal Contractor;
 - .3 Company OSH policy;
 - .4 Site-specific prevention program;
 - .5 Emergency plan;
 - .6 Minutes of worksite committee meetings;
 - .7 Names of worksite committee representatives;
 - .8 Names of the first-aid attendants;
 - .9 Action reports and correction notices issued by the CNESST.

1.16 INSPECTION OF THE CONSTRUCTION SITE AND CORRECTION OF NON-COMPLIANCES

- .1 Inspect the construction site and complete the construction site inspection checklist and submit it to the Departmental Representative in accordance with the article "ACTION AND INFORMATIONAL SUBMITTALS" in this section.
- .2 Immediately take all necessary measures to correct any situations deemed non-compliant during the inspections mentioned in the previous paragraph or noticed by the authorities having jurisdiction or the Departmental Representative or his agent.

- .3 Submit to Departmental Representative written confirmation of all measures taken to correct the situation in case of non-compliance in matters pertaining to health and safety.
- .4 The Contractor shall give the safety officer or, where there is no safety officer, the person assigned to safety and health responsibilities, full authority to order cessation and resuming of work as and when deemed necessary or desirable in the interests of safety and health. This person should always act so that the safety and health of the public and construction site workers and environmental protection take precedence over cost and scheduling considerations.
- .5 The Departmental Representative or his agent may order cessation of work if the Contractor does not make the corrections needed to conditions deemed non-compliant in matters pertaining to health and safety. Without limiting the scope of the preceding articles, the Departmental Representative may order cessation of work if, in his view, there is any hazard or threat to the safety or health of construction site personnel or the public or to the environment.

1.17 PREVENTION OF VIOLENCE

- .1 Health and safety management of Public Works and Government Services Canada construction sites includes the implementation of measures designed to protect the psychological health of all persons who access the construction site where the work is taking place. Consequently, in addition to physical violence, verbal abuse, intimidation and harassment are not tolerated on the construction site. Any person who demonstrates such actions or behaviors will receive a warning and/or could be definitely expelled from the construction site by the Departmental Representative.

1.18 USE OF PUBLIC ROADS

- .1 Where it is necessary to encroach on a public road for operational reasons or to ensure the security of the workers, the occupants or the public (for example: the use of scaffolding, cranes, excavation work, etc.), the Contractor shall obtain at his own expense any authorizations and permits required by the competent authority.
- .2 The Contractor shall install at his own expense any signage, barricades or other devices needed to ensure the safety and security of the public and the Contractor's own facilities.

1.19 FALL PROTECTION

- .1 Plan and organize work so as to eliminate the risk of fall at the source or ensure collective protection, thereby minimizing the use of personal protective equipment. When personal fall protection is required, workers must use a safety harness that complies with CSA standard CAN/CSA Z-259.10-M90. A safety belt must not be used as fall protection.
- .2 Every person using an elevating platform (scissors, telescopic mast, articulated mast, rotative mast, etc.) must have a training regarding this equipment.
- .3 The use of a safety harness is mandatory for all elevating platforms with telescopic, articulate or rotative mast.
- .4 Define the limits of the danger zone around each elevating platform.
- .5 All openings in a floor or roof must be surrounded by a guardrail or provided with a cover fixed to the floor able to withstand the loads to which it could be exposed, regardless of the size of the opening and the height of the fall it represents.

- .6 Everyone who works within two metres from a fall hazard of three metres or more must use a safety harness in accordance with the requirements of the regulation, unless there is a guardrail or another device offering an equivalent safety.
- .7 Despite the requirements of the regulation, the Departmental Representative may require the installation of a guardrail or the use of a safety harness for specific situations presenting a risk of fall less than three metres.

1.20 WORK NEAR BODIES OF WATER

- .1 For all work done near a body of water (such as work above water, work on a wharf, work on the edge of a watercourse, etc.), the Contractor must respect the requirement of the following paragraphs in addition to those in article 2.10.13 du *Code de sécurité pour les travaux de construction* (Safety code for the Construction Industry).
- .2 The Contractor must plan his work in a way to implement safety measures to prevent any worker from falling in the water. The use of these measures should be favoured over the wearing of a life jacket.
- .3 Submit the following documents to the Departmental Representative before the beginning of the work. Each of the document must contain at a minimum the information required in section 11 of the *Code de sécurité pour les travaux de construction* (S-2.1, r.4) (Safety code for the Construction Industry).
 - a. Description of the body of water;
 - b. Description of the work done next to this body of water;
 - c. Plan of transportation on water adapted to the work and to the characteristics of the body of water;
 - d. Rescue plan adapted to the work and to the characteristics of the body of water.
- .4 If there is the possibility that all or part of the work can be done during the winter, the safety measures included in the documents required above must be adapted accordingly.
- .5 The Contractor must submit to the Departmental Representative the certificate of training required in article 11.2 du *Code de sécurité pour les travaux de construction* (S-2.1, r.4) (Safety code for the Construction Industry) for the following individuals:
 - a. The person assigned to prepare the documents required in the preceding paragraph; and
 - b. Each person responsible for the transport or rescue operations
- .6 If the rescue plan stipulates the use of a vessel, the Contractor must submit to Departmental Representative the competency card or certificate for the individuals in the rescue team for his work, issued by Transport Canada.
- .7 The Contractor must include in his weekly inspection checklist the devices required in the articles 11.4 and 11.5 du *Code de sécurité pour les travaux de construction* (S-2.1, r.4) (Safety code for the Construction Industry).
- .8 Ensure that a rescue vessel moored and in the water is available at each place where a worker may fall in the water. However, a vessel may serve more than one workplace on the same construction site provided the distance between any of these workplaces and the vessel is less than 30 m.

- .9 Where the construction site is a wharf, a pier, a quay or any similar structure, a ladder with at least two (2) rungs below the surface of the water shall be installed on the front of the structure every 60 m.

1.21 HEALTH AND SAFETY SUBORDINATION AGREEMENT

See next page for the Health and Safety Subordination Agreement; a completed and signed copy shall be submitted to Departmental Representative.

HEALTH AND SAFETY SUBORDINATION AGREEMENT	
<p>Project: _____ Address: _____</p>	
<p>EXTERNAL CONTRACTOR I hereby agree to submit to the authority of (name of the Principal Contractor's business) _____, which is the Principal Contractor for the project indicated above during the entire duration of our work on the construction site. Accordingly, I confirm that I have reviewed the Principal Contractor's prevention program, and I agree to:</p> <ul style="list-style-type: none"> • Inform my employees of the content of the Principal Contractor's prevention program and ensure that its content are complied with at all times; • Apply the prevention program that is specific to the activities that we carry out under this project; • Inform the Principal Contractor of my actions or dealings on the construction site and obtain the Principal Contractor's agreement before the start of work; and • Follow the health and safety directives provided by the representative of the Principal Contractor on the construction site and, depending on requirements, attend training sessions and health and safety meetings organized by the representative of the Principal Contractor. 	
Name of Representative:	Name of business:
Description of work to be done on the construction site:	
Approximate dates of work (start-end) Start:	End:
_____ Signature	_____ Date
<p>PRINCIPAL CONTRACTOR I hereby agree to allow the business (name of external contractor) _____ to perform the work under this project indicated above and, as Principal Contractor, to take the necessary steps to protect the health and safety of workers on the construction site. Should the Contractor repeatedly refuse or fail to comply with my directives, I agree to inform PWGSC's Departmental Representative of this and to provide documentary evidence of my actions or dealings with the Contractor.</p>	
Name of Representative:	Name of the Principal Contractor's business:
_____ Signature	_____ Date
Submit a completed and signed copy to Departmental Representative.	

Part 1 General

1.1 PRECEDENCE

- .1 Division 01 Sections take precedence over technical specification sections in other Divisions of this Project Manual.

1.2 REFERENCES

- .1 The Contractor shall comply with the requirements of the most recent Environmental Impact Assessment report (EIA), included in Appendix 5, regarding the use of dredging equipment and related floating equipment, as used. The Contractor shall ensure that equipment and work methods comply with the requirements and mitigation measures specified in clause 7.1 of this report.
- .2 The Contractor shall comply with the acts and regulations governing environmental protection, fisheries management and fish habitat protection.

1.3 FIRES

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

1.4 WASTE DISPOSAL

- .1 Disposal of waste or volatile materials, such as mineral spirits, oil or paint thinner into waterways, storm or sanitary sewers is prohibited. These materials shall be disposed of in accordance with local laws and regulations.

1.5 POLLUTION CONTROL

- .1 Control emissions from equipment and machinery in accordance with applicable laws and regulations.
- .2 Prevent fine material and other foreign materials from contaminating the air in and around the work site.
- .3 Keep absorbent materials on site at all times so that spills of hazardous materials can be contained and managed quickly.
- .4 In the case of an accidental oil spill, the Contractor shall report the spill immediately to the Canadian Coast Guard emergency office at 1-800-363-4735 and take all necessary actions to correct the situation and limit the impact on the environment.

- .5 In addition, the Contractor shall have a spill control kit available on the dredge. The Contractor shall make use of the kit in the event of an oil spill and comply with paragraph 1.5.4 of this section. This kit should include at least the following components:
- .1 One (1) salvage drum with a minimum storage capacity of 285 litres (75 US gallons)
 - .2 One hundred (100) 340 g (12 oz. CAN) absorbent pads
 - .3 Fifteen (15) flotation collars 0.07 m wide and 1.2 m long
 - .4 Four (4) flotation collars 0.1 m wide and 3 m long
 - .5 Nine (9) kg of granular absorbent
 - .6 One (1) drain cover
 - .7 One (1) shovel
 - .8 Disposal bags
 - .9 Sealing or patching (capping) compound
- .6 With respect to the transportation, handling and storage of dangerous goods on vessels, the Contractor shall comply with the *Canada Shipping Act (CSA)* and all regulations made under the CSA.

1.6 NOISE POLLUTION

- .1 Given the proximity of the channel in the Champlain region, the Contractor shall limit and reduce as much as possible the noise and disturbance caused by equipment, such as: tugboat movements, presence of floating employee lodgings, light emissions towards the shore, and use of generators on the shore side.

Part 2 Products

2.1 NOT APPLICABLE

Part 3 Execution

3.1 BIODEGRADABLE OIL

- .1 Floating equipment that runs on specially-designed biodegradable oil is preferred.

END OF SECTION

Part 1 General

1.1 SECTION INCLUDES

- .1 Offices.

1.2 PRECEDENCE

- .1 Division 01 Sections take precedence over technical specification sections in other Divisions of this Project Manual.

1.3 OFFICES

- .1 The Contractor shall provide Departmental Representative with a reasonable working space on the dredge with all pertinent facilities (electricity and an Internet connection to download MS Office and image files up to 100 MB in size).

1.4 SANITARY FACILITIES

- .1 Provide sanitary facilities for workforce/employees in accordance with applicable regulations and ordinances.
- .2 Post notices and take such precautions as required by local health authorities. Keep area and premises in sanitary condition.

Part 2 Products

2.1 NOT APPLICABLE

Part 3 Execution

3.1 NOT APPLICABLE

END OF SECTION

Part 1 General

1.1 RELATED SECTIONS

- .1 Section 01 11 01 – Work Description Summary
- .2 Section 01 35 43 – Environmental Procedures

1.2 MEASUREMENT PROCEDURES

- .1 Dredging at hourly unit rate (h):
 - .1 The payable hours will be determined in accordance with a daily log book compiled by the Contractor and the CCG Technical Authority that will be on board during the operations.
 - .2 Payable dredging hours consist of dredging hours used to dredge scattered shoals at each dredging site, which will be more specifically defined once the work starts. Reasonable time used to set up the dredge on a shoal will be considered dredging hours.
 - .3 Payable hours of dredging will include up to three (3) work stoppages of under thirty (30) minutes each per 24 hours for unexpected or isolated minor repairs to enable the actual dredging work to continue. However, the Contractor must provide full descriptions and justifications of these work stoppages to the Departmental Representative.
 - .4 Dredge displacement between two shoals located on the same dredging site will be considered payable hours.
 - .5 Non-payable hours include the time taken by the Contractor to:
 - .1 Prepare the dredge to exit a dredging site during a workday or at the end of each workday.
 - .2 Move the dredge between the dredging sites and the location where the dredge will be parked overnight.
 - .3 Allow a secure crossing with a commercial ship. However, periods of thirty (30) minutes or less for this reason will be paid.
 - .4 Additionally, all stoppage greater than fifteen (15) minutes caused by any other event (including anchor movement and slippage of the spuds) will not be payable.
- .2 Movement at a per kilometre (km) unit rate:
 - .1 Dredging equipment moves of over 10 kilometres shall be considered and paid per kilometre instead of per hour; approximately 150 kilometres should be payable in this manner. Optionally, an additional distance of between 0 and 50 km may be added to the 150 km depending on the site of the scattered shoals to be dredged.
- .3 Depths (soundings) will be adjusted to chart datum using GPS-OTF technology. The Contractor will be responsible for obtaining, by their own means and at their own expense, all relevant water level data required to perform the work, as well as the horizontal and vertical positions of their own dredging equipment (ref.: Appendix 6).

- .4 Primary mobilization and demobilization costs will be paid on a fixed price basis as follows:
 - .1 When the Contractor's equipment has been fully mobilized and five (5) days of dredging have been completed at the work site, the Departmental Representative will remit to the Contractor sixty percent (60%) of the primary mobilization and demobilization costs submitted according to the related items in the unit price table.
 - .2 The aforementioned payment should not exceed ten percent (10%) of the total amount of the contract. The remaining amount will be included in the final payment.
- .5 Payments will be issued on a monthly basis according to the quantities produced during the month and with the assessment of the CCG Technical Authority.
- .6 Obstructions
 - .1 If the Contractor is required to dredge or recover material constituting a non-natural obstruction like debris, they shall recover and dispose of said material as directed by the CCG Technical Authority and, if applicable, in accordance with Transport Canada's *Navigation Protection Act* (NPA), at an hourly rate agreed to in advance by the Departmental Representative and the Contractor as indicated below:
 - .1 The hourly rate submitted according to the related item in the price table will be used to pay for the hours taken to remove and dispose of the obstructions.
- .7 Unexpected dredging work
 - .1 In the event that dredging works not already included in the Specifications need to be performed, the Contractor shall first obtain written permission from the Departmental Representative to do so; the Contractor and the Departmental Representative shall agree on the additional cost before doing any work.
- .8 All operations in connection with the disposal of spoil in the dumping areas are included in the hourly rate. No separate payment will be made for spoil disposal.
- .9 All stoppage and downtime will be the sole responsibility of the Contractor, unless requested by the CCG Technical Authority.
- .10 The Contractor, and/or their subcontractors, will be completely responsible for losses of time and incurred spending related to 1) the towing of dredging equipment, or 2) any loss or damage caused by storms, fire, collisions or otherwise, either in transit to or from locations where dredging is to be performed or to or from disposal areas, or during the period that equipment is used as part of this contract, or 3) for any delays, damages or accidents which may caused debris of any kind or other works being carried out at the same time and in the same area, either through the SSG Technical Authority, or through other Departments, corporations, individuals or the Navy.

1.3 DEFINITIONS

- .1 Partial dumping area: small area located inside a large dumping area.
- .2 Debris: pieces of wood, wire rope, scrap steel, pieces of concrete and other waste materials.

- .3 Dredging: the removal of sediment (or material) from the bottom of a body of water, including transport and disposal at the prescribed locations. In these specifications, one only type of dredging is considered: dredging payable per hour (h) that applies to low-volume scattered shoals.
- .4 Maintenance dredging: dredging of unstable material, isolated obstructions or those that have recently appeared in a given area. Maintenance dredging differs from major dredging, which concerns the dredging of materials that have never been dredged or reshaped.
- .5 Undesirable or problematic shoal: any shoal located that, in the CCG Technical Authority's opinion, obstructs or could possibly obstruct the waterway, or that could impede commercial navigation.
- .6 Mobilization and demobilization of dredging equipment: all actions and works carried out by the Contractor, related primarily to dredging equipment, that are needed to bring equipment to the work site and keep it operational until the dredging work is completed to the satisfaction of the CCG Technical Authority, then ensure their safe return (to the next destination) upon work completion.
- .7 Grade: plane above which all sediments are to be dredged.
- .8 Dredging (or working) period: number of days/weeks included between two dates that are scheduled by the CCG Technical Authority for dredging operations.
- .9 Estimated volume: Number of required dredging hours (reference: Appendix 1).
- .10 Maintained sections: sections of seaway shown on nautical charts by different dashed straight lines (mostly parallel) between which appear no depth but the maintained depth.
- .11 Class A sediments: solid rock requiring drilling and blasting to loosen, and boulders or rock fragments with individual volumes of 4.0 m³ or more.
- .12 Class B sediments: relatively unstable sediments, loose or shale rock, silt, sand, quicksand, mud, shingle, gravel, clay, sand, gumbo, boulders, hardpan, debris, and all other rocks or fragments with an individual volume of less than 4.0 m³.
- .13 Dredging site: a surface grouping of shoals to be dredged where the distance between two consecutive shoals is ten (10) kilometres or less. An isolated shoal whose distance from another shoal is greater than ten (10) kilometres would be considered as a separate dredging site.
- .14 GPS-OTF technology: leading-edge, real-time kinetic positioning techniques that provide centimetric precision for real-time compensation of water level variations (reference Appendix 6).
- .15 Company volume (V Cie): volume of spoil dredged as estimated and reported by the Contractor during the dredging work (see item 3.1.16 of this section).
- .16 Chart datum (CD): reference level set by the Canadian Hydrographic Service that is low enough that the tide level (or water level in non-tidal areas) rarely falls below it.
- .17 CCG Technical Authority: The monitoring and maintenance services of the seaway are provided by the Canadian Coast Guard (CCG) as part of the Waterways Management program. The Waterways Management Program Service (WMPS) is part of the Canadian Coast Guard Programs and acts as the Technical Authority for the purposes of this contract.

- .18 Contracting Authority: Public Services and Procurement Canada (formerly known as Public Works and Government Services Canada), a federal department, is the Contracting Authority in this project and is responsible for contract management.
- .19 Departmental Representative: the Departmental Representative acts as the Technical authority. He is appointed at the time of the contract award. He performs the following tasks: he is responsible for any matter concerning the technical aspects of the work under contract. He is authorized to issue notices, instructions and changes within the scope of work relevant to the contract. He accepts on behalf of Canada any notice, order or other communication from the Contractor related to the work within a reasonable time. He reviews and responds to Contractor's submissions in accordance with the contract requirements. He has no authority to authorize changes to the Contract terms and conditions.

1.4 REGULATORY REQUIREMENTS

- .1 The Contractor shall honour all third-party rights and privileges and comply with all federal, provincial and municipal laws, regulations and orders. They shall also ensure that all employees, actual or de facto (including subcontractors) do the same.
- .2 The Contractor shall mark floating equipment with lights in accordance with Collision Regulations.

1.5 SCHEDULING

- .1 Within two (2) weeks of the beginning of each year's operations, the Contractor shall submit a detailed work schedule to the CCG Technical Authority for approval.
- .2 The work schedule shall include the average daily hours required, according to the sectors and quantities indicated in Appendix 1. Said work schedule must absolutely align with the requirements indicated in the Bid and Acceptance form (BA), and must be realistic.
- .3 In the schedule, the Contractor shall indicate the date of arrival of their equipment at the work site and the starting date of dredging operations.
- .4 To ensure smooth progress, any requested change following to the approval of the said schedules of work must be submitted in writing to the CCG Technical Authority.
- .5 The work shall be executed upstream to downstream or as directed by the CCG Technical Authority.
- .6 The Contractor must adhere to the schedule and take immediate action to correct any delays. If equipment is deemed ineffective or inadequate during the course of the work, the Contractor may be asked by the Departmental Representative to replace it with more appropriate equipment.
- .7 The work will be executed from Monday to Friday inclusively, or all week, and the working hours will be 10 to 12 hours per day. Longer hours must be authorized by the CCG Technical Authority. The number of working hours per day may change depending on weather or other conditions.

1.6 LOCATION

- .1 The scattered shoals to be dredged are located between Montreal (buoy M195) and St-Antoine (3 km downstream of the buoy Q16) (see marine charts 1310 to 1315 and Appendix 2).
- .2 Sectors
 - .1 Sector 1: Section of the seaway between Montreal (buoy M195) and Sorel (buoy TRACY). Marine chart Nos. 1310 and 1311.
 - .2 Sector 2: Section of the seaway between Sorel (buoy TRACY) and Trois-Rivières (buoy C63). Marine chart No. 1312.
 - .3 Sector 3: Section of the seaway between Trois-Rivières (buoy C63) and Batiscan (buoy D56). Marine chart Nos. 1313 and 1314.
 - .4 Sector 4: Section of the seaway between Batiscan (buoy D56) and Deschaillons (buoy D18). Marine chart Nos. 1313 and 1314.
 - .5 Sector 5: Section of the seaway between Deschaillons (buoy D18) and St-Antoine (3 km downstream of buoy Q16). Marine chart Nos. 1314 and 1315.
- .3 Dumping areas M-02, M-27, S-17, T-02, T-06, T-11, T-16 and X-04 are located and described in Appendix 3.

1.7 INTERFERENCE WITH NAVIGATION

- .1 The Contractor must be familiar with vessel movements and seasonal activities in the area affected by dredging operations. They must plan and execute work in a manner that will not interfere with seaway users.
- .2 The Contractor will be solely responsible for loss of time, equipment, material or any other cost related to interference with moored vessels in the dredging site or due to their own operations.
- .3 As soon as possible, the Contractor shall advise the CCG Technical Authority of any special relocation of dredging equipment (for refuelling, repair, etc.) that could affect the approved schedule.
- .4 The Contractor shall regularly and accurately report all dredging equipment movements to the CCG's Marine Communications and Traffic Services (MCTS).
- .5 Should any equipment belonging to the Contractor cause interference with navigation for any reason, the Contractor must:
 - .1 Immediately advise the Canadian Coast Guard's (CCG) Marine Communications and Traffic Services (MCTS) and the CCG Technical Authority.
 - .2 Comply with articles 3.1.11 and 3.1.12 of the present section.
 - .3 Remove the equipment immediately at their own expense.
- .6 Should the Contractor fail to comply with the above requirement, the CCG Technical Authority shall remove the obstacle and all related costs shall be charged to the Contractor.

1.8 DEPTHS AND GRADES

- .1 Depths and grades used in this specification and contract drawings are in metres (SI units) and use chart datum.

1.9 FLOATING PLANT

- .1 The Contractor shall supply and maintain all dredging equipment with sufficient capacity (Ref.: Article 2.1.1) to excavate, load, transport and dispose of all materials mentioned in the specification.
- .2 All equipment required to perform the dredging contract must be in good working order at all times and be used in accordance with the requirements of the most recent Environmental Impact Assessment (EIA) (Ref.: Appendix 5), and to the CCG Technical Authority's satisfaction.

1.10 INSPECTION OF SITE

- .1 Before submitting their tender, the Contractor shall obtain all necessary information regarding the extent and nature of work and conditions affecting work before tendering, including knowledge of the St. Lawrence Seaway and its particularities.
- .2 By submitting a tender, the Contractor acknowledges that they are aware of the following: the nature and location of the project; weather and climate conditions; currents; water levels; physical conditions associated with the location of the project; the nature of the seabed and riverbed; the nature of the materials to be dredged.

1.11 SITE INFORMATION

- .1 The Contractor must take the necessary steps to become fully familiar with constraints caused by some weather and sea conditions in the area.
- .2 Based on past experiences, the materials to be dredged should consist mainly of coarse sand; small volumes of gravel, hard and soft clay and rocks (Class B materials) may also be found. This information is intended for guidance only.
- .3 Between Montreal and Lac St-Pierre there is no tide. The water level may, however, vary slightly between -0.5 m and +2.5 m above chart datum during the working period. Between Trois-Rivières and Cap-Santé the semidiurnal tide range is 5.4 m and the water level can be between -0.6 and 5.4 m (CD). In the Cap-Santé Traverse the tide range is 4.9 m and the water level can be between 0.6 m and 5.4 m. In the St-Antoine area, the tide range is 4.6 m and the water level can be between -0.6 m and 5.4 m.
- .4 Currents may reach 4 knots in the Montreal area, 3 knots at Trois-Rivières, 4 knots in the Deschaillons to Portneuf area, 3 knots in the Cap-Santé Traverse and 4 knots in St-Antoine area.

1.12 SURVEYS AND ACCEPTANCE OF WORK

- .1 For this project, bathymetric surveys will be performed by the Canadian Hydrographic Services on behalf of the CCG Technical Authority, using multibeam sonar technology.
- .2 These surveys will be carried out based on the availability of Canadian Coast Guard (Department of Fisheries and Oceans Canada/DFO) survey units and on weather conditions.
- .3 Dredging locations will be determined using these bathymetric surveys, which will be carried out a few days before dredging work is to begin. The CCG Technical Authority reserves the right to modify at any time the grade and the dredging limits described in this specification.

- .4 The CCG Technical Authority will provide the Contractor with the basic data required by the work, in ASCII digital format (see Appendix 4); these digital files will be available to the Contractor at the FTP site of the Department of Fisheries and Oceans Canada. The FTP address (and password) will be provided to the Contractor at the start of the work. The Contractor must have the means of communication required to connect to this FTP site and to retrieve the necessary files from the site. Such data retrieval shall be made at the Contractor's expense, by their own means and during the working hours (8:00 AM to 4:00 PM) of the CCG Waterways Management unit.
- .5 The CCG Technical Authority will accept the work on site upon completion of the dredging of one or more scattered shoals.

1.13 UNITS OF MEASUREMENT

- .1 Relevant data such as bathymetric surveys, water levels, distances, areas and volumes, etc. mentioned in this specification and during the execution of work are and will be in the International System of Units (SI).

1.14 EMPLOYEES

- .1 See the call for tender documents

Part 2 Equipment

2.1 DREDGING EQUIPMENT

- .1 Dredging must be performed with a clamshell dredge. All scattered shoals to be dredged in sectors 4 and 5 must be dredged with a clamshell dredge held in place by spuds and not by cables and anchors.
- .2 All equipment used to dump spoils must be equipped with doors in the hull or have a split hull to unload spoils.
- .3 All dredging equipment must be suitable for the work in terms of size, characteristics and draught.
- .4 The CCG Technical Authority will have available a current list of the positioning systems the Contractor will be using to position the dredge (see tender call documents).

Part 3 Execution

3.1 GENERAL

- .1 Before commencing work, the Contractor must obtain written approval from the CCG Technical Authority for the work schedule.
- .2 The work shall be executed from upstream to downstream as directed by the CCG Technical Authority.
- .3 The Contractor will have to dredge scattered shoals in the sectors described in this specifications document down to a grade depth between 11.0 m and 11.6 m.
- .4 When dredging, the Contractor must use an integrated geographic information system (GIS) that provides accurate real-time information about the dredge's position and relevant bathymetric data (location and depth of the shoals to be dredged).

- .5 The Contractor is responsible for providing the horizontal and vertical positioning of the dredge, by their own means and at their own expense.
- .6 At their discretion, the CCG Technical Authority may check the accuracy of any positioning systems used by the Contractor.
- .7 The dredge must be equipped with an Automatic Identification System (AIS).
- .8 The Contractor shall be solely responsible for all primary, intermediate or secondary points (X, Y), (X, Y, Z) and (Lat, Long) used by them, whether determined by them or provided by the CCG Technical Authority or any other party.
- .9 The dredge and the additional equipment shall be kept in good repair and maintained in proper working order while in use for the contract.
- .10 Annual demobilization: The CCG Technical Authority will authorize the Contractor to demobilize the dredging equipment following final acceptance of all of the work.
- .11 Buoys necessary for the contract: The Contractor shall supply, position, moor, and maintain, at their own expense, all buoys/markers required to properly execute the work. In the event that any of these buoys/markers sinks or goes adrift, whether by chance or by accident, they shall be re-floated and/or recovered by the Contractor at their own expense to the satisfaction of the CCG Technical Authority. The Contractor shall assume responsibility for all accidents of any kind whatsoever due to the buoys/markers being improperly placed or insufficiently visible during the day, improperly lit during the night, or for any other reason.
- .12 Navigation buoys: The Contractor shall not, at any time, remove or relocate any main navigation buoys. Relocation of said buoys, where warranted, will be done by the Canadian Coast Guard (CCG); requests for such service must be made to the Departmental Representative at least ten (10) business days in advance. The CCG Technical Authority reserves the right to determine whether such requests by the Contractor are warranted.
- .13 The Contractor must provide and maintain all signals and lights required by the Regulations for the Prevention of Collisions. All equipment required for the work shall be properly identified and/or visible at all times.
- .14 The Contractor must mark floating equipment with lights in accordance with the International Regulations for Preventing Collisions at Sea and keep a communications radio on board.
- .15 Overboard dumping of sediments will not be permitted other than within the designated disposal areas.
- .16 The Contractor must perform the hours of dredging according to the approximate distribution indicated in Appendix 1.
- .17 The Contractor shall report to the CCG Technical Authority in a file provided to the Contractor for that purpose: 1) start and end times of all dredging periods; 2) start and end times of all periods when sediment is transported to spoil disposal areas; 3) volumes (company volume [V Cie]) of transported and deposited sediment; 4) number of hours spent depositing sediment in spoil disposal areas; 5) number of hours of and reasons for all dredging equipment stoppage periods; and 6) number of hours occupied by any other event, activity, etc. Each day will have to be identified from 0:00 to 24:00.
- .18 Work must be performed using only one dredge in operation.

- .19 The shoals will be progressively located by the CCG Technical Authority, according to the Contractor's work progression.

3.2 CLASS 'A' REMOVAL

- .1 No Class A material is expected to be found in the areas to be dredged. Should any be encountered, the Contractor may be required to remove the overlying material (Class B material).
- .2 Class A material
- .1 With the exception of boulders or rock fragments (>4.0 m³)
- .1 When Class A materials, excluding boulders or rock fragments (>4.0 m³), are to be dredged, the CCG Technical Authority will evaluate such additional work; and at CCG Technical Authority's request, the Contractor may need to provide the necessary and appropriate equipment for dredging, loading, transporting and disposing of such Class A material to the CCG Technical Authority's satisfaction. The cost of such additional work (dredging of Class A material) will be discussed in advance between the Contractor and the Departmental Representative, and if necessary, will be included in an amendment to the contract.
- .2 Boulders or rock fragments (>4.0 m³)
- .1 If a boulder or rock fragment (>4.0 m³) is encountered, the Contractor should make every effort to move and dispose of this material according to the CCG Technical Authority's instruction.
- .2 In addition to the number of payable hours of dredging (see article 1.2.1 of the present section) to accomplish this work, a flat-rate, per-rock allowance will be given to the Contractor.
- .3 This allowance is given to the Contractor in order to compensate them for any breakage, wear, loss, or damage that may occur during the moving and disposal.
- .4 This allowance will be established by averaging all of the hour unit rates submitted to the unit price table, multiplied by 50%. This amount will be paid at the last annual payment.

3.3 DISPOSAL OF DREDGED MATERIAL

- .1 All spoils (with the exception of some forms of debris) must be systematically dumped in the dumping sites indicated and described in Appendix 3 and in accordance with the CCG Technical Authority's instructions.
- .2 Any material dumped outside the limits of the designated disposal areas shall be re-dredged by the Contractor and/or their subcontractors at their own expense and dumped in the designated disposal areas.
- .3 The minimum water depths (Chart datum) to be maintained over some disposal areas shall be as follows:

<u>Location</u>	<u>C.D.</u>
North Yamachiche (S-17)	2.4 m
St-Pierre-les-Becquets (T-11)	3.5 m
Donnacona (X-04)	7.5 m

- .4 The CCG Technical Authority will indicate to the Contractor the location of partial dumping areas to be used before the beginning of the work.

3.4 CO-OPERATION AND ASSISTANCE

- .1 The Contractor must cooperate with the Departmental Representative regarding work inspection and provide any requested assistance.
- .2 The Contractor shall supply necessary and satisfactory marine transportation to the CCG Technical Authority, from a local wharf to the dredge, for site inspections or for any other reasons deemed appropriate by the CCG Technical Authority.
- .3 The Contractor shall also commit to supply wharf facilities and to obtain at their own expense the required safe places (on land and water, as applicable) for their equipment during the work period.

END OF SECTION

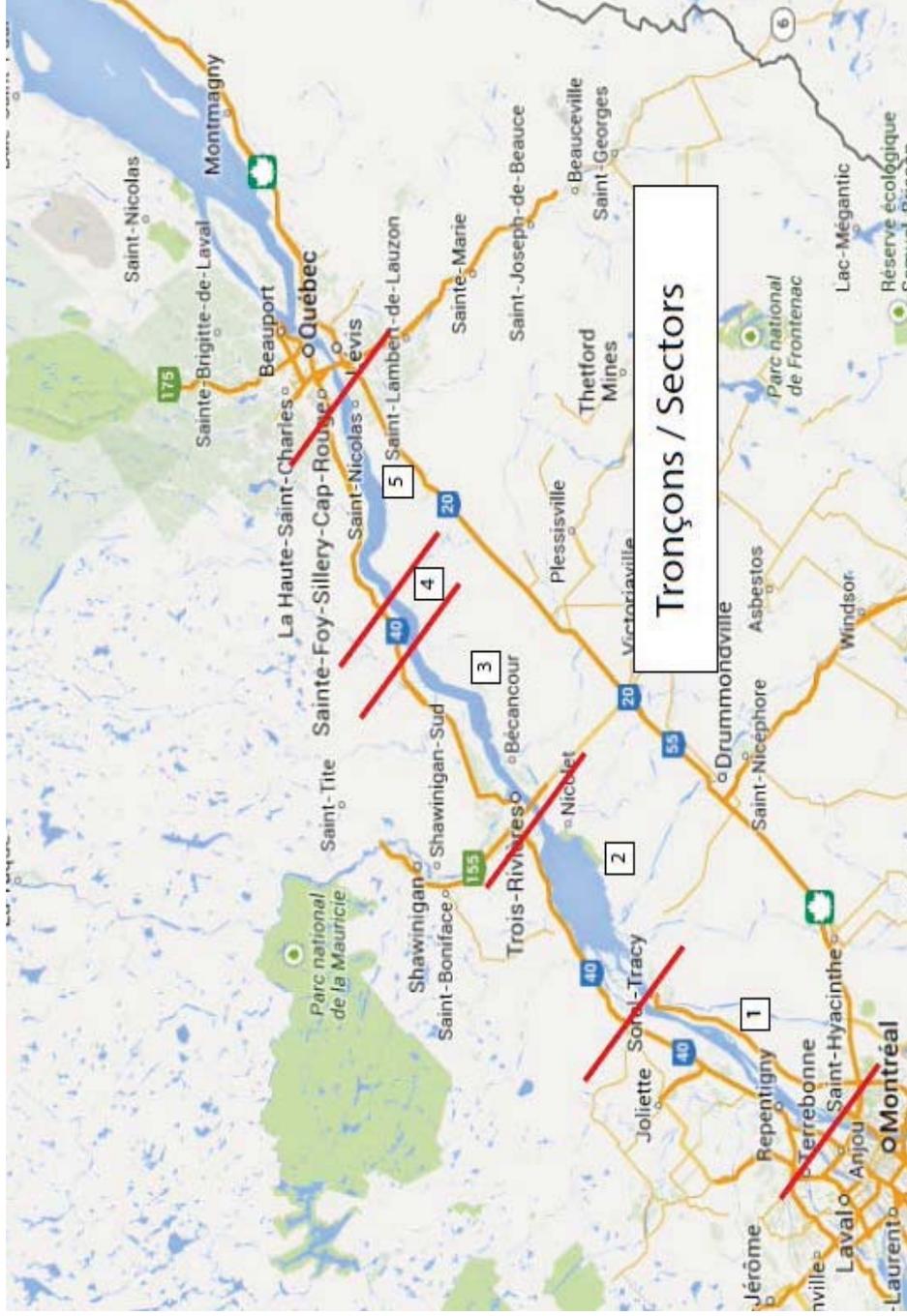
Voie navigable du St-Laurent / St-Laurent Waterway
Programme d'entretien annuel / Annual Maintenance Program

Années / Years 2016-17-18 Montréal à/to St-Antoine			
Quantités estimatives et répartition approximative des heures de dragage à réaliser / Estimated quantities and approximate distribution of dredging hours to be done			
Tronçons / Sectors	Hauts-fonds épars / Scattered Shoals (quantité approximative / approximate amount)	Niveaux de dragage / Dredging (m)	# Poste / Item
1-Montréal (bouée / buoy M195) à/to Sorel (bouée / buoy TRACY)	110 h (60)	Entre / Between 11,00 et / and 11,60 (Zéro des cartes / Chart Datum)	2 & 3
2-Sorel (bouée / buoy TRACY) à/to Trois-Rivières (bouée / buoy C63)			
3-Trois-Rivières (bouée / buoy C63) à/to Batiscan (bouée / buoy D56)			
4-Batiscan (bouée / buoy D56) à/to Deschailions (bouée / buoy D18)	15 h (15) note 1		
5-Deschailions (bouée / buoy D18) à/to St-Antoine (Q16+3km aval/downstream)	35 h (30) note 1		
Total	160 h (105)		

note 1: Ces heures de dragage devront obligatoirement être réalisées à l'endroit indiqué avec une drague à benne preneuse qui est retenue en place avec des poteaux / These hours of dredging must necessarily be made where indicated with a clamshell dredge, which is held in place with poles;

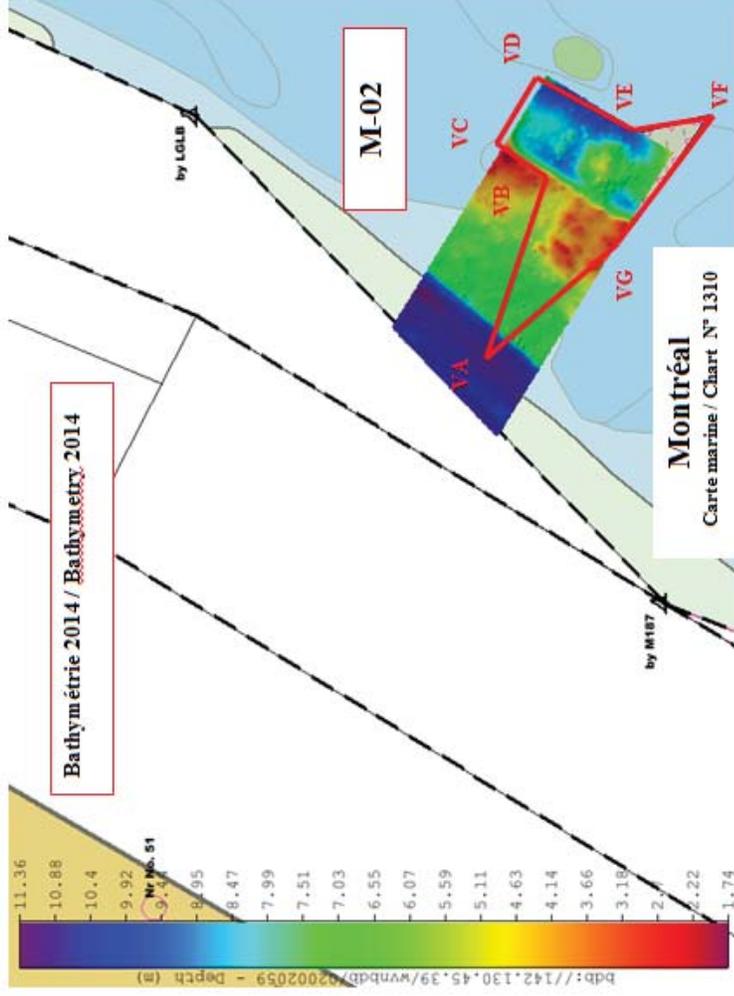
Voie navigable du St-Laurent / St-Laurent Waterway
Programme d'entretien annuel / Annual Maintenance Program

Montréal à/to St-Antoine



Voie navigable du St-Laurent / St-Laurent Waterway
 Programme d'entretien annuel / Annual Maintenance Program
 Aires de mise en dépôt / Dumping sites

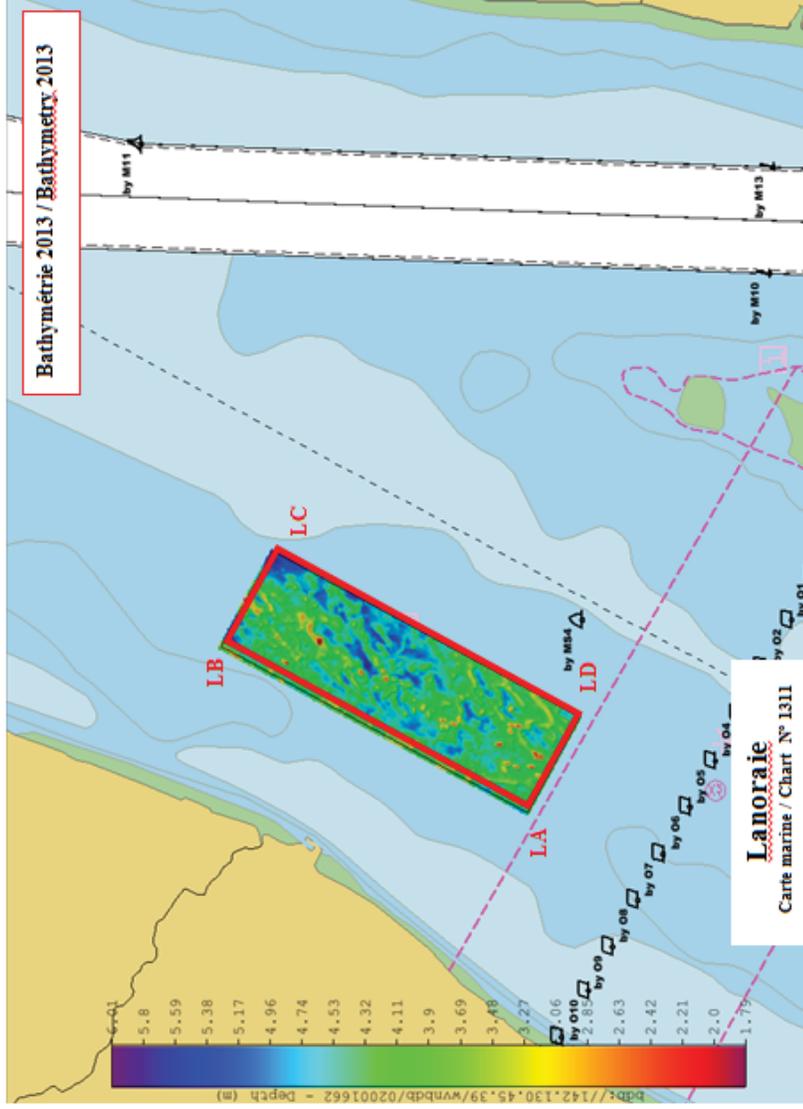
M-02 (VICKERS)



POINTS	COORDONNÉES / COORDINATES (NAD 83; MIM; ZONE 8)	REMARKS / REMARKS
N°	X Y	
VA	303 423 5 045 482	70m x 135m Dim ension approximative Approximate overall dim ension
VB	303 387 5 045 425	
VC	303 618 5 045 474	
VD	303 677 5 045 438	
VE	303 626 5 045 334	
VF	303 645 5 045 280	
VG	303 337 5 045 335	

Voie navigable du St-Laurent / St-Laurent Waterway
 Programme d'entretien annuel / Annual Maintenance Program
 Aires de mise en dépôt / Dumping sites

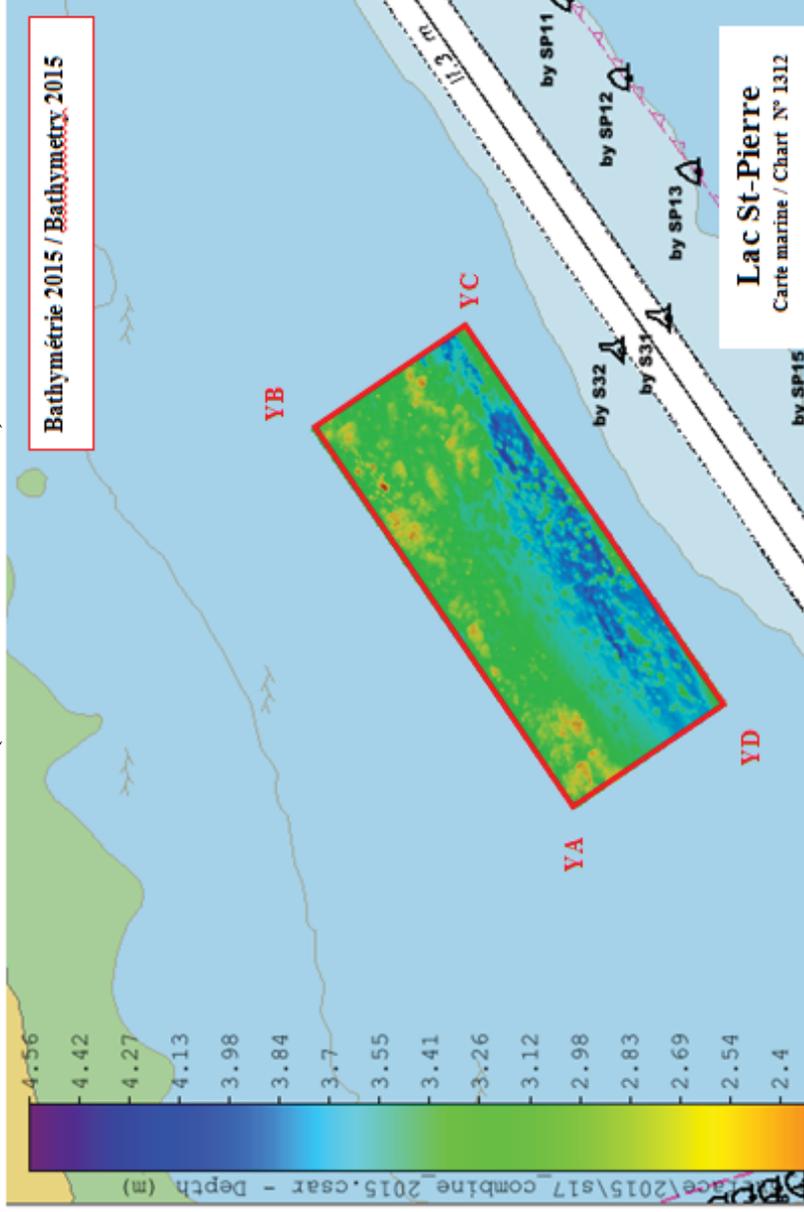
M-27 (LANORAIE)



POINTS	COORDONNES / COORDINATES (NAD 83 ; MTM ; ZONE 8)		REMARQUES / REMARKS
	N°	X	
LA	325 659	5 088 335	250m x 800m
LB	326 040	5 089 039	Dimension globale
LC	326 260	5 088 920	Overall dimension
LD	325 879	5 088 216	

**Voie navigable du St-Laurent / St-Laurent Waterway
 Programme d'entretien annuel / Annual Maintenance Program
 Aires de mise en dépôt / Dumping sites**

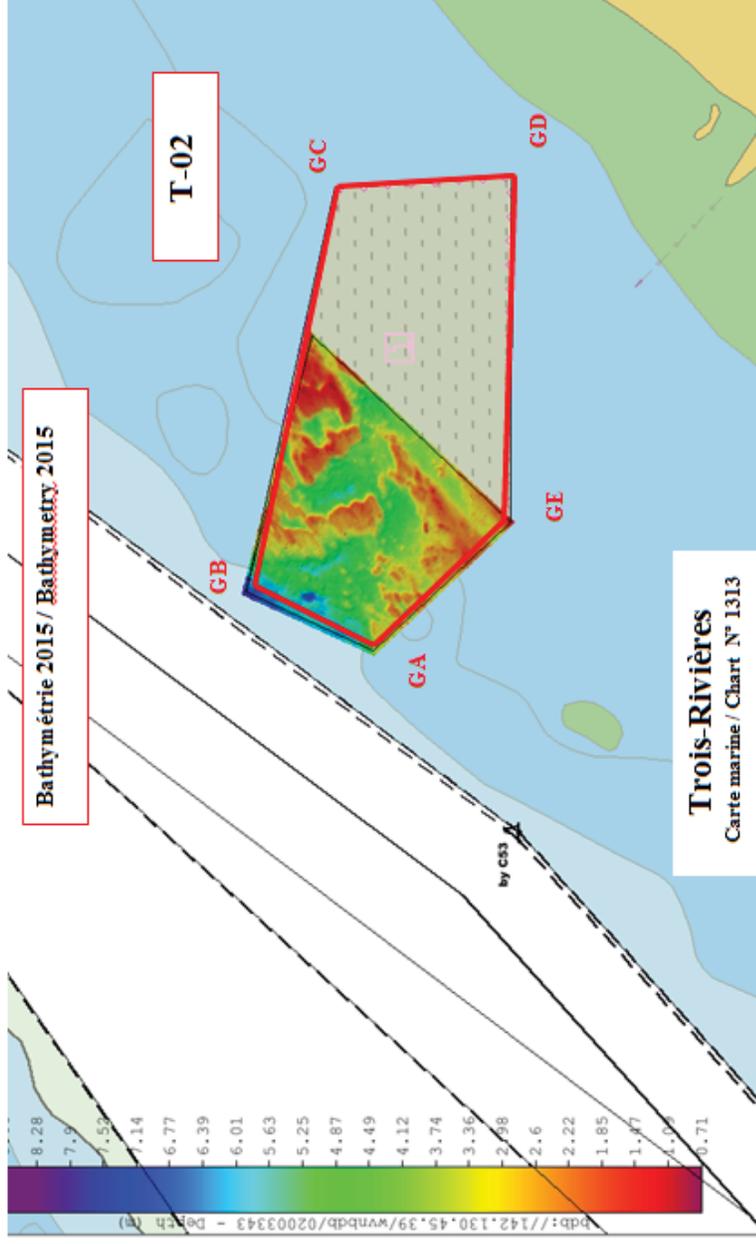
S-17 (YAMACHICHE NORD)



POINTS / COORDONNEES / COORDINATES (NAD 83 ; MTM ; ZONE 8)		REMARQUES / REMARKS
N°	X Y	
YA	360 867 5 123 336	800m x 2000m Dimension globale Overall dimension
YB	362 316 5 124 467	
YC	362 968 5 123 808	
YD	361 319 5 122 676	

**Voie navigable du St-Laurent / St-Laurent Waterway
Programme d'entretien annuel / Annual Maintenance Program
Aires de mise en dépôt / Dumping sites**

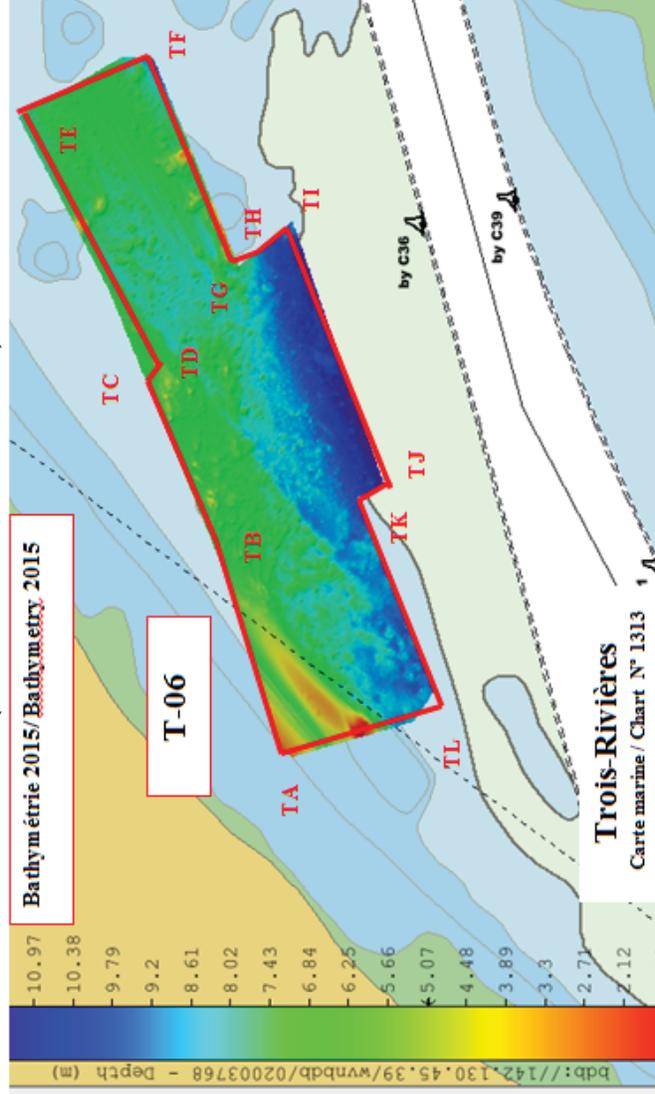
T-02 (STE-ANGÈLE)



POINTS		COORDONNÉES / COORDINATES (NAD83; MTM; ZONE 8)		REMARQUES / REMARKS
N°	X	Y		
GA	380 661	5 134 210	250m x 600m	Dim ension globale Overall dim ension
GB	380 746	5 134 394		
GC	381 332	5 134 265		
GD	381 348	5 134 010		
GE	380 847	5 134 012		

Voie navigable du St-Laurent / St-Laurent Waterway
 Programme d'entretien annuel / Annual Maintenance Program
 Aires de mise en dépôt / Dumping sites

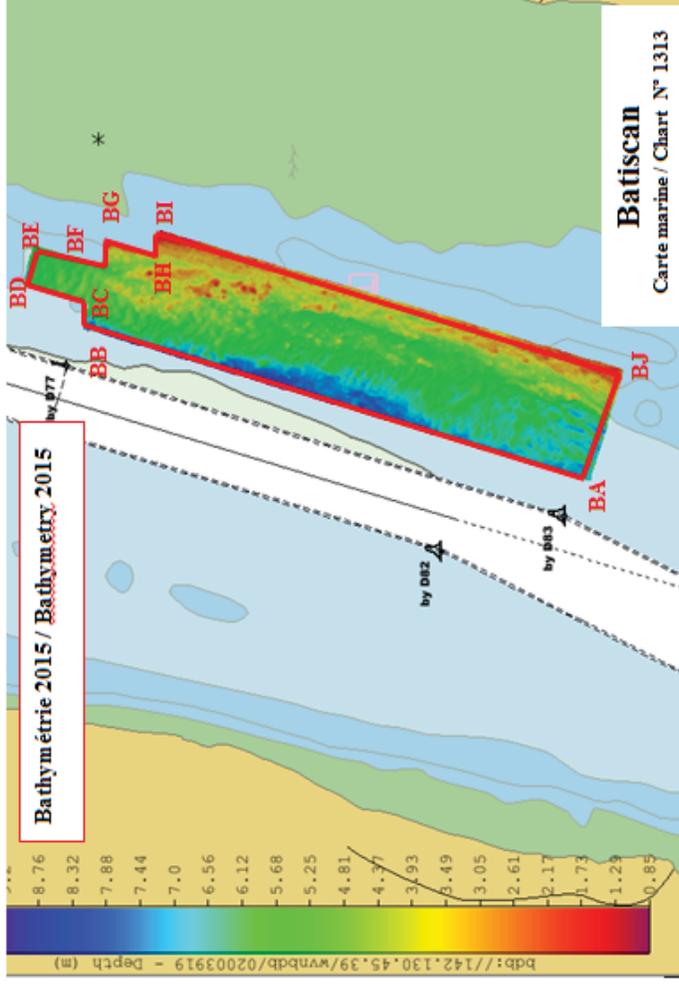
T-06 (CAP-DE-LA-MADELEINE)



POINTS	COORDONNÉES / COORDINATES (NAD 83; MTM; ZONE 8)		REMARQUES / REMARKS
N°	X	Y	
TA	383 376	5 138 528	350m x 1750m Dum ension globale Overall dim ension NOTE : Site utilisé pour dépôt de roches de plus de 30 cm de diamètre / Site used to deposit rocks of more than 30 cm diam eter
TB	383 958	5 138 696	
TC	384 315	5 138 873	
TD	384 354	5 138 850	
TE	384 982	5 139 182	
TF	385 112	5 138 935	
TG	384 577	5 138 654	
TH	384 587	5 138 614	
TI	384 692	5 138 513	
TJ	384 077	5 138 314	
TK	384 041	5 138 369	
TL	383 460	5 138 223	

Voie navigable du St-Laurent / St-Laurent Waterway
 Programme d'entretien annuel / Annual Maintenance Program
 Aires de mise en dépôt / Dumping sites

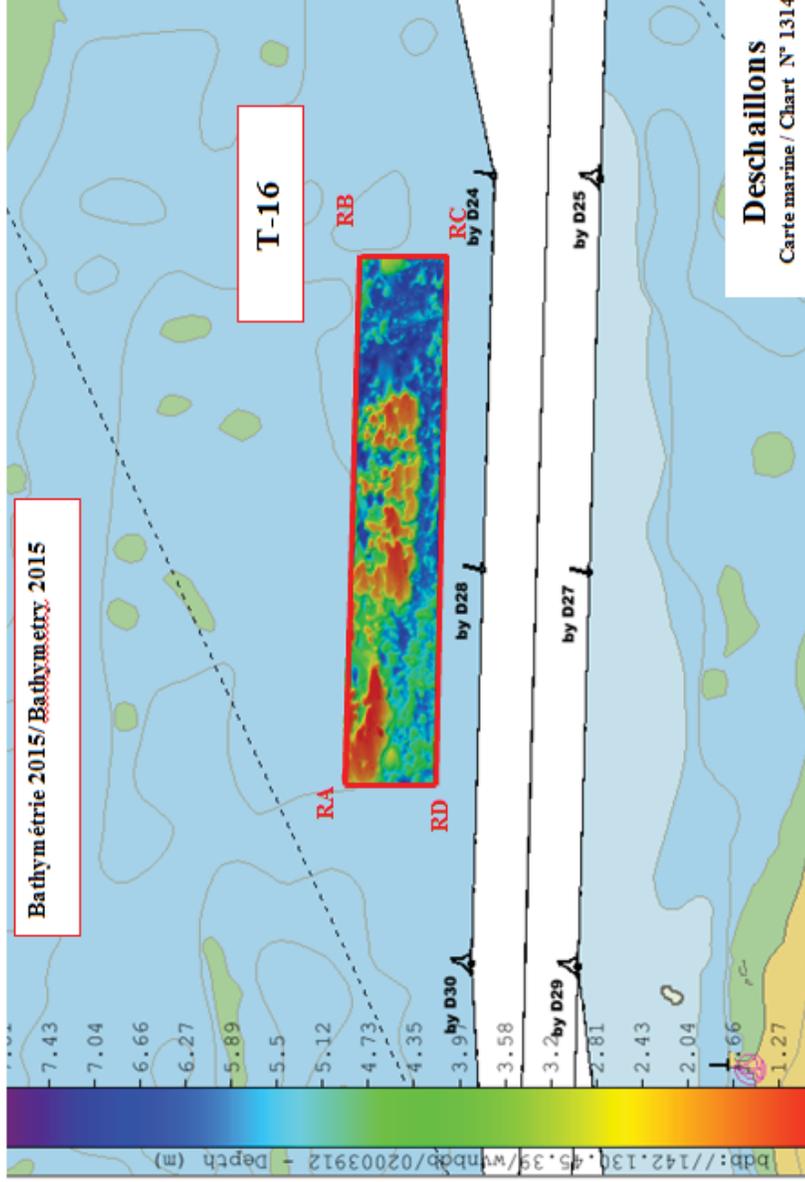
T-11 (ST-PIERRE LES BECQUETS)



POINTS N°	COORDONNÉES / COORDINATES (NAD 83; MIM; ZONE 8)		REMARQUES / REMARKS
	X	Y	
BA	401 431	5 148 345	400m x 1860m Dim ension globale approximative Approximate overall dimension
BB	401 970	5 150 125	
BC	402 054	5 150 101	
BD	402 124	5 150 335	
BE	402 250	5 150 299	
BF	402 182	5 150 061	
BG	402 237	5 150 038	
BH	402 211	5 149 885	
BI	402 306	5 149 856	
BJ	401 814	5 148 229	

Voie navigable du St-Laurent / St-Laurent Waterway
 Programme d'entretien annuel / Annual Maintenance Program
 Aires de mise en dépôt / Dumping sites

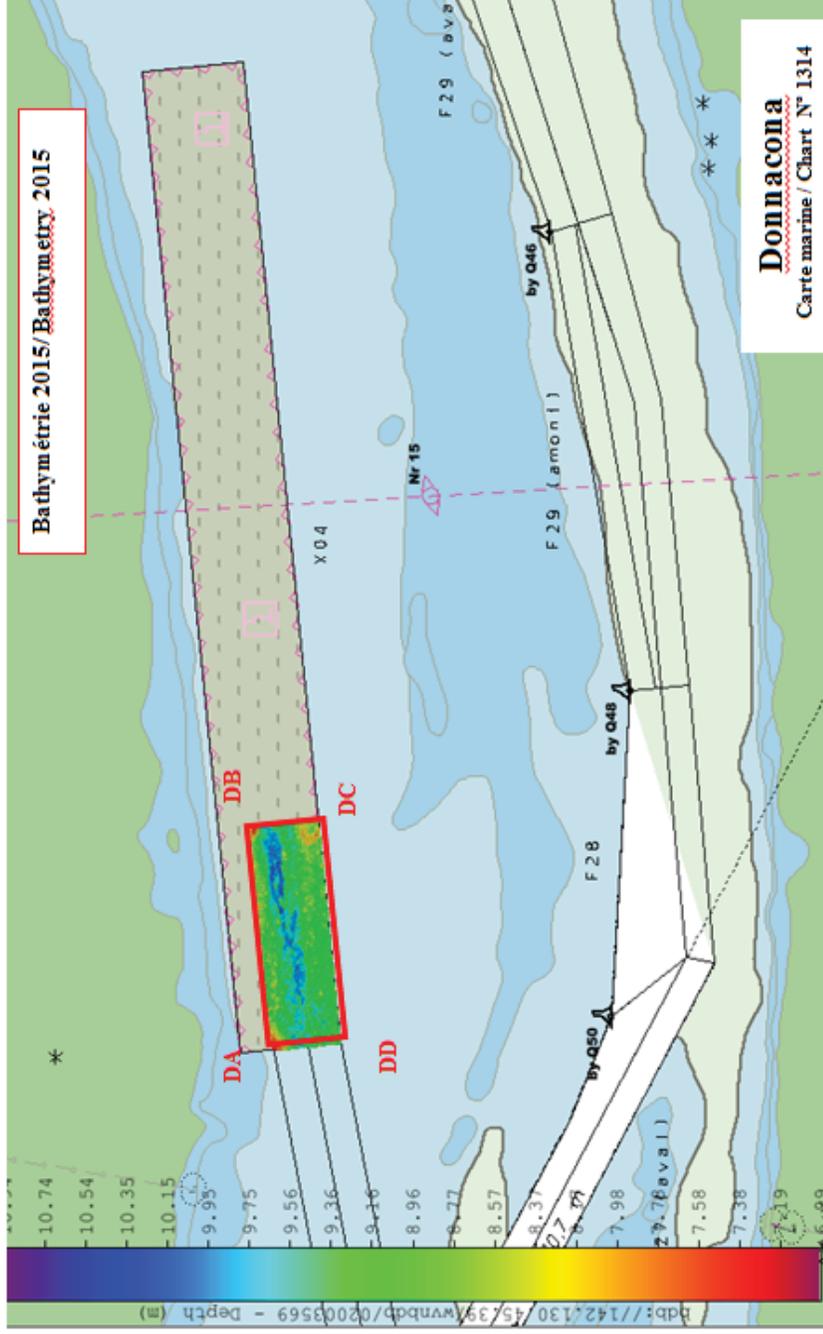
T-16 (DESCHAILLONS)



POINTS		COORDONNÉES / COORDINATES (NAD 83; MTM; ZONE 8)		REMARQUES / REMARKS
N°	X	Y		
RA	412 321	5 159 760	200m x 1200m	Dim ension globale Overall dim ension
RB	413 521	5 159 726		
RC	413 515	5 159 526		
RD	412 316	5 159 560		

**Voie navigable du St-Laurent / St-Laurent Waterway
Programme d'entretien annuel / Annual Maintenance Program
Aires de mise en dépôt / Dumping sites**

X-04 (DONNACONA)



POINTS		COORDONNÉES / COORDINATES (NAD 83; MTM; ZONE 7)		REMARQUES / REMARKS
N°	X	Y		
DA	210 301	5 169 093		300m x 1000m Dimension globale Overall dimension
DB	211 296	5 169 191		
DC	211 326	5 168 893		
DD	210 330	5 168 794		

**Voie navigable du St-Laurent / St-Laurent Waterway
Programme d'entretien annuel / Annual Maintenance Program**

Montréal à/to St-Antoine

Shéma des données numériques / Digital data schema

Format ASCII / ASCII Format

301658.00,5043136.25,11.52
301659.07,5043243.25,11.55
301664.56,5043245.27,11.56

Profondeurs (m) / Depths (m)

Coordonnées (m) / Coordinates (m)
(NAD 83; MTM; zone 7 ou/or zone 8)

Voie navigable du St-Laurent / St-Laurent Waterway Programme d'entretien annuel / Annual Maintenance Program

Montréal à/to St-Antoine

(English version follows: page 3)

Référence : Chapitre 7 Mesures d'atténuation; Article 7.1 Actions préventives **Évaluation des effets environnementaux (EEE) (2016 à 2018):**

NB : L'extrait de l'article 7.1 ci-dessous n'exempt pas l'Entrepreneur, avant de soumissionner, de prendre connaissance au complet du rapport sur l'Évaluation des effets environnementaux (2016 à 2018) qui est annexé au devis.

7.1 Actions préventives

Les actions préventives suivantes seront toutefois mises en œuvre pour éviter tout impact potentiel.

- Les travaux seront réalisés en dehors des périodes jugées sensibles pour la faune.
- Un système de positionnement précis de type DGPS ou DGPS-OTF sera exigé à l'entrepreneur de façon à s'assurer que les surfaces draguées se limiteront à celles prévues au devis et que les sédiments seront déposés dans les sites prévus à cet effet.
- Des avis à la navigation seront émis pour informer les navigateurs de la présence de dragues dans la voie navigable.
- Les services de communications et de trafic maritime de la GCC assureront la coordination et la gestion du trafic maritime relativement aux périodes de dragage.
- Les entrepreneurs veilleront à ce que les équipements de dragage utilisés soient en bon état de fonctionnement afin de minimiser les fuites et risques potentiels de bris pouvant occasionner des déversements. Il est également recommandé aux entrepreneurs de s'assurer que leur équipement soit propre et exempt d'espèces envahissantes par exemple.
- Le nettoyage, l'entretien et le ravitaillement de la machinerie devront être faits de manière à prévenir l'introduction de substances nocives dans l'eau.
- Les substances toxiques seront manipulées avec soin, entreposées avec précaution et éliminées de façon convenable afin de prévenir les déversements accidentels dans l'eau.
- L'entrepreneur devra identifier les risques de déversement des substances toxiques qui seront utilisées ou entreposées pendant la durée des travaux. Il devra prévoir les mesures de prévention et de sécurité qui seront prises, de même que le plan d'urgence qui serait adopté en cas de déversement. Une trousse d'urgence devra être présente à bord tout au long des travaux.
- Concernant les préoccupations de certains propriétaires riverains de Champlain au sujet du dérangement associé au mouillage temporaire possible, à proximité de la rive, d'équipements connexes servant entre autres au logement du personnel (cette problématique peut s'appliquer parfois quand les travaux sont réalisés avec une drague à benne preneuse), la GCC poursuivra ses efforts de sensibilisation auprès des entrepreneurs à cette problématique lors d'une rencontre précédant le début des travaux. S'il y a lieu, ces derniers devront limiter et diminuer le plus possible les bruits et les dérangements occasionnés par les équipements connexes (déplacements des

Voie navigable du St-Laurent / St-Laurent Waterway Programme d'entretien annuel / Annual Maintenance Program

Montréal à/to St-Antoine

remorqueurs, présence des bâtiments flottants servant au séjour des employés, émissions de lumière en direction de la rive, utilisation de génératrices du côté rive des bâtiments) tel que recommandé dans l'étude commandée par la GCC et dont le rapport final a été déposé par la firme CJB Environnement en 2007. De plus, sur demande, la GCC informera les citoyens de l'évolution des travaux et des moyens qui auront été mis en place pour améliorer les conditions.

- Considérant le début de la pêche commerciale à l'esturgeon à Saint-Pierre-les-Becquets, vers le 14 juin de chaque année, la partie des travaux dans le secteur entre Bécancour et Batiscan devrait être complétée idéalement avant cette date ou au besoin, être interrompue pour les premiers jours de pêche. Au niveau du lac Saint-Pierre, les travaux de dragage ne devraient pas interférer avec la pêche automnale à l'esturgeon qui débute vers le 14 septembre, car le dragage s'y effectue normalement après cette période.
- Les données du Registre de planification des activités de dragage sur le Saint-Laurent (http://planstlaurent.qc.ca/fr/usages/registre_de_dragage.html) seront mises à jour régulièrement, ceci dans le but de permettre au public de prendre connaissance à l'avance des projets à venir et de faire connaître les préoccupations directement aux promoteurs et aux organismes réglementaires tôt dans le processus de planification. Ce registre constitue une source d'information de premier plan pour les groupes d'intérêt et pour le public en général.

Voie navigable du St-Laurent / St-Laurent Waterway Programme d'entretien annuel / Annual Maintenance Program

Montréal à/to St-Antoine

Reference : Chapter 7 Mitigation measures; Article 7.1 Preventive Actions Environmental impact assessment (EIA) (2016-2018)

Note: This article 7.1 part below does not exempt the Contractor, before bidding, to read and understand all report Environmental impact assessment (2016-2018), see attachment.

7.1 PREVENTIVES ACTIONS

However, the following preventive action nevertheless be taken to avoid any potential risk.

- The work will be executed outside periods deemed sensitive for wildlife.
- The Contractor will be required to use a specific positioning system (DGPS-OTF type) to ensure that dredged areas are limited to those set out in the specifications and that dredged sediment are discharged at the location indicated in the specifications.
- Notices to shipping will be issued to inform navigators of the presence of the dredger in the seaway.
- The CCG Marine Communications and Traffic Services will coordinate and manage marine traffic throughout the period of the work.
- Ensure that machinery arrives on site in a clean condition and is maintained free of fluid leaks, invasive species and noxious weeds.
- Wash, refuel and service machinery and store fuel and other materials for the machinery in such a way as to prevent any deleterious substances from entering the water.
- Toxic substances will be handled with care, carefully stored and disposed of appropriately to prevent spills in water.
- The contractor will identify all risks of spills of toxic substances that are used or stored for the duration of the work. It will provide preventive and safety measures to be taken, as well as the emergency plan to be adopted in case of spill. An emergency kit must be present on board throughout the work.
- Regarding the concerns of some owners of Champlain residents about the inconvenience associated with temporary anchorage near the shore or equipment used for housing staff (this problem only applies when the work is done with a dredge Type "clamshell"), the GCC will continue its efforts to sensitize Contractors to this issue at a meeting preceding the start of work. These will limit and reduce the possible noise and disturbance caused by the related equipment (tugs displacement, presence of floating vessel used to stay employed, light emissions toward shore, using generators on resident shore side) as recommended in the study commissioned by the GCC, whose final report was filed by the firm CJB Environnement Inc. in January 2007. In addition, upon request, the GCC will inform citizens of the evolution of work and means that have been established to improve conditions.
- Considering the commencement of commercial sturgeon fishing in Saint-Pierre-les-Becquets, about June 14 of each year, the portion of the work in the area between Bécancour and Batiscan should ideally be completed before that date or be interrupted for the first days of fishing. At the Lake St. Pierre, dredging should not interfere with the fall fishing for sturgeon, which begins about September 14 because dredging is normally after this period.

**Voie navigable du St-Laurent / St-Laurent Waterway
Programme d'entretien annuel / Annual Maintenance Program**

Montréal à/to St-Antoine

- St-Laurence Dredging Activities Planning Registry (http://planstlaurent.qc.ca/en/uses/dredging_activities.html) will be updated regularly in order to allow the public to advance knowledge of upcoming projects and to express concerns directly to developers and regulatory agencies early in the planning process. This register is leading source information to interest groups and general public.

Voie navigable du St-Laurent / St-Laurent Waterway
Programme d'entretien annuel / Annual Maintenance Program
Montréal à/to St-Antoine

Information relative to the different horizontal or vertical spatial reference systems that will allow the contractor to get access, at his own expense and risk, to a geospatial positioning and water levels for dredging operations

Objectives

Teach on the available tools to determine the vertical positioning with regard to chart datum (ZC) used for bathymetric surveys or dredging activities in the St. Lawrence Waterway, between Bécancour and l'Isle-aux-Coudres. Other information is also available to specify geospatial data format.

Note

In Canada, the level of reference to which the charted depths are reduced, normally known as the chart datum, usually matches the Lower Low Water, Large Tide (LLWLT).

1 To get access to the water level data from GPS

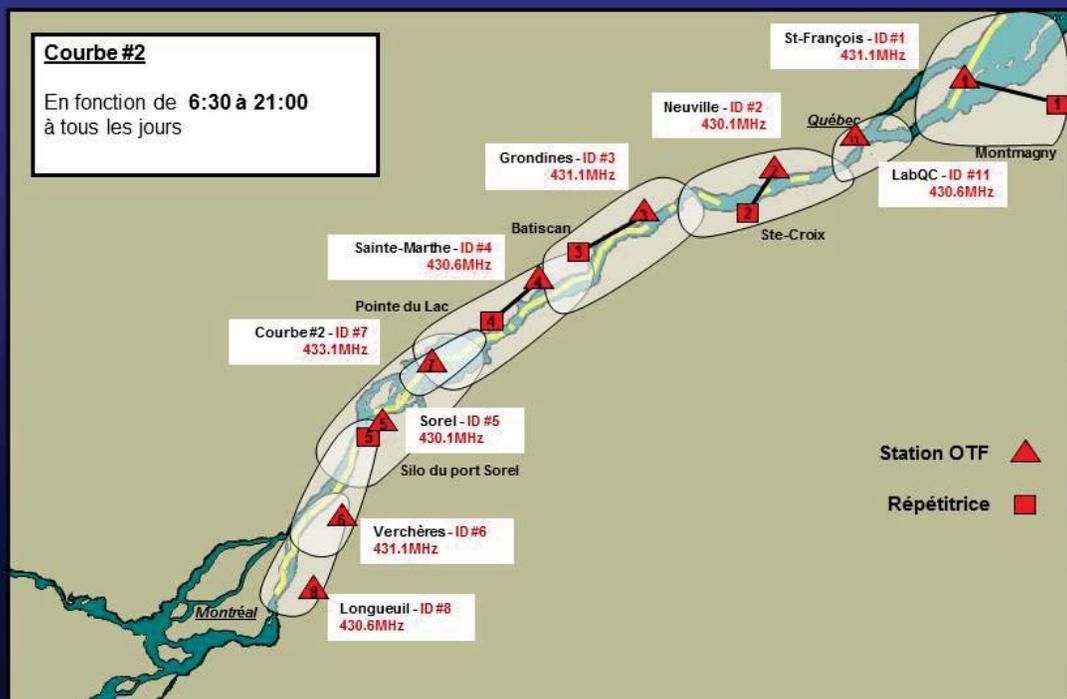
1.1 Canadian Coast Guard (CCG) GPS-OTF Network

In the St. Lawrence waterway, a OTF positioning system was set up to obtain precisely water level interpolated to ship position from GPS observations combined with other data relative to the movement of the ship and to undulation established table (supplied by CHS), to give a real depth.

The CCG GPS-OTF network consists of eight (8) fixed GPS reference stations, distributed as shown in the figure just below.

Voie navigable du St-Laurent / St-Laurent Waterway
Programme d'entretien annuel / Annual Maintenance Program
Montréal à/to St-Antoine

Réseau OTF – Saison 2013.0



In the Traverse du Nord area, the GPS reference station is the one located at:

Saint-François de l'Île-d'Orléans ▲ (46°59'47.5854"N 70°48'29.4599"W).

Between Bécancour and Cap-Santé, reference stations are listed below:

- Neuville ▲ (46°41'47.4179"N 71°34'22.4817"W);
- Grondines ▲ (46°35'14.7542"N 72°02'26.5826"W);
- Ste-Marthe ▲ (46°23'48.9683"N 72°27'11.3858"W).

Voie navigable du St-Laurent / St-Laurent Waterway
Programme d'entretien annuel / Annual Maintenance Program
Montréal à/to St-Antoine

1.2 GPS-OTF receivers

The official OTF positioning system adopted by the Canadian Coast Guard – Quebec Region is the Long Range Kinematic (LRK) approach (<http://en.wikipedia.org/wiki/LRK>) today integrated into algorithms RTK. This approach allows to obtain very precise fixed solutions on vectors of more than 40 kilometers.

Rough data is transmitted through a UHF link, in a proprietary format called *ATOM*.

In order to use the CCG LRK network, the required GPS receiver is an Ashtech GPS Proflex receiver (PF500, PF800, etc.), equipped with the LRK option and a UHF receiver, and U-Link model (transparent mode) or ADL (U-Link mode).

The Ashtech GPS receiver actually used by our surveying vessels is ProFlex 800.

1.3 Table of geoid heights from CHS

Heights obtained from a GPS receiver are in fact geodetic heights or *Ellipsoidal Height*, which means that the GPS receiver measure is relative to the reference ellipsoid. To reduce these ellipsoidal heights to the chart datum, a table of geoid heights is required. For your information, this table is maintained and distributed by the Canadian Hydrographic Service (CHS) — Quebec Region (see coordinates at the end of this document).

2 Other ways to get access to the water level data

2.1 CHS SINECO tidal gauges network

The SINECO network is an observation and forecast operating system of water levels covering the whole St. Lawrence Waterway from Montreal. The network is operated and maintained by CHS — Quebec Region. It consists of approximately twenty measurement systems (tidal gauges) distributed at strategic locations along the St. Lawrence River where water levels are measured. All stations are also equipped with sensors for measuring water depth, atmospheric pressure, water temperature, and - only downstream of l'île d'Orléans - water salinity. Notice that the latter two are used in order to validate the water level.

For a reduction in Datum GNSS positioning (Global Navigation Satellite System), a partition table NAD83CSRS (1997) - Datum is available under license, by an email request to SINECO.XLAU@dfo-mpo.gc.ca. Allow several weeks of delay. Advocate this method because it is the one used by CHS to the survey of the channel.

SINECO network of water level observations are available for the last 24 hours on the website <http://marees.gc.ca/fra/trouver/region/4>

**Voie navigable du St-Laurent / St-Laurent Waterway
Programme d'entretien annuel / Annual Maintenance Program
Montréal à/to St-Antoine**

Station name	Station No	Latitude	Longitude
Saint-Joseph-de-la-Rive	3057	47° 26' 55.6"	70° 21' 56.0"
Rocher Neptune	3071	47° 09' 42.3"	70° 36' 27.7"
Cap du Banc Brûlé	3075	47° 05' 22.4"	70° 42' 39.0"
Saint-François I.O.	3100	46° 59' 47.5"	70° 48' 29.3"
Saint-Laurent I.O.	3110	46° 51' 29"	71° 00' 61"
Vieux-Québec	3248	46° 48' 40.2"	71° 12' 06.7"
Neuville	3280	46° 41' 47.4"	71° 34' 22.3"
Portneuf	3300	46° 40' 52.2"	71° 52' 37.9"
Deschaillons	3335	46° 33' 39.4"	72° 06' 21.0"
Batiscan	3345	46° 30' 01.3"	72° 14' 45.1"
Bécancour	3353	46° 24' 00.9"	72° 22' 46.2"
Trois-Rivières	3360	46° 20' 25.7"	72° 32' 21.2"
Port-St-François	3365	46° 16' 21.2"	72° 37' 09.5"
Lac Saint-Pierre	15975	46° 11' 41.5"	72° 53' 43.9"
Sorel	15930	46° 02' 49.7"	73° 06' 56.5"
Contrecoeur IOC	15780	45° 49' 57.7"	73° 16' 59.5"
Varennes	15660	45° 41' 03.6"	73° 26' 37.3"
Montréal, rue Frontenac	15540	45° 31' 43.2"	73° 32' 32.8"
Montréal, Jetée no 1	15520	45° 30' 12.6"	73° 33' 09.0"

2.2 Web Data Service (WDS)

This web service provides access to observations of water levels from tidal stations from the Internet on the ship. For WDS, the specifications are at <http://marees.gc.ca/fra/info/Terms#s3>. Contrary to what is written on the website, you don't need to get a user or account password to access the data.

Notice that this same data is freely available throughout the Automatic Identification System (AIS) network developed and maintained by the Canadian Coast Guard – Quebec Region. However, once again, the development of an application capable of parsing AIS messages specific to water levels is also required.

Voie navigable du St-Laurent / St-Laurent Waterway
Programme d'entretien annuel / Annual Maintenance Program
Montréal à/to St-Antoine

3 – Planimetric coordinate system for numeric data transfers

3.1 S.Co.P.Q. NAD83 (SCRS) MTM Zones 7 and 8 Coordinate Systems

All bathymetric surveys are processed and delivered planimetrically in the “Système de coordonnées planes du Québec” (S.Co.P.Q.) NAD83 (SCRS). The system zone (MTM 7 or 8) is determined depending on the 72°W meridian. Therefore, the zone 8 corresponds to the downstream part of Grondines, while the zone 7 corresponds to the upstream part of Grondines, including the Traverse du Nord and l'Isle-aux-Coudres.

However, all numeric vector data (surfaces to be dredged, dredging templates, etc.) are produced, either in XYZ or DXF format, in geographic coordinates (NAD83 CSRS).

All parameters relative to the S.Co.P.Q. coordinate system, based on the Modified Transverse (M.T.M.) projection, including those relative to its corresponding datum (NAD83 (SCRS)), are listed in the following tables :

NAD83 (CSRS) / MTM Zone 7	
Parameter	Value
Spatial Coverage	Canada - Québec - 72°W à 69°W
Datum	NAD83 (SCRS)
Reference ellipsoid	GRS80
Projection	Transverse Mercator
False Northing	0 m
False Easting	304800 m
Scale factor	0.9999
Latitude of origine	0°
Central meridian	70.5°W
Source	http://spatialreference.org/ref/epsg/2949/

NAD83 (CSRS) / MTM Zone 8	
Parameter	Value
Spatial Coverage	Canada - Québec - 75°W à 72°W
Datum	NAD83 (CSRS)
Reference ellipsoid	GRS80
Projection	Transverse Mercator
False Northing	0 m
False Easting	304800 m
Scale factor	0.9999
Latitude of origine	0°
Central meridian	73.5°W
Source	http://spatialreference.org/ref/epsg/2950/

3.2 NAD83 (CSRS) Reference System

The North American Datum of 1983 (NAD83), version CSRS (Canadian Spatial Reference System), is the adopted reference coordinate system in Canada (<http://www.geod.nrcan.gc.ca/>). It is a 3-dimensional representation of the NAD83 horizontal datum adopted in 1986. The NAD83 (CSRS) version do not stand as a brand new geodetic reference system, but more as an update of the coordinates for all geodetic points that the official NAD83 reference system, adopted in 1990, is based on. That said, this new version does not affect the cartographic grid, since the NAD83 reference ellipsoid is kept unchanged physically (<http://www.mrnf.gouv.qc.ca/territoire/outils/outils-nad.jsp>).

**Voie navigable du St-Laurent / St-Laurent Waterway
Programme d'entretien annuel / Annual Maintenance Program
Montréal à/to St-Antoine**

NAD83 (CSRS)	
Parameter	Value
Reference ellipsoid	<i>GRS80</i>
Semi-major axis (a)	<i>378137.000 m</i>
Semi-minor axis (b)	<i>6356752.314 m</i>
x0	<i>00.00 m</i>
y0	<i>00.00 m</i>
z0	<i>00.00 m</i>
rx	<i>0.00 sec</i>
ry	<i>0.00 sec</i>
rz	<i>0.00 sec</i>
scale factor	<i>1.0000</i>

Contact information for the Canadian Hydrographic Service (CHS), Quebec Region

For all questions regarding the network access to the water level:

Canadian Hydrographic Service
Maurice-Lamontagne Institute
Fisheries and Oceans Canada
850, route de la Mer
C.P. 1000
Mont-Joli, Québec
G5H 3Z4
Telephone: (418) 775-0502 Fax: (418) 775-0654
email: shcinfo@dfo-mpo.gc.ca

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