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### **APPENDICES**

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### **DRAWINGS**

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**END OF SECTION**

**Part 1            General**

**1.1            WORK COVERED BY CONTRACT DOCUMENTS**

- .1 For each of the years of the contract, the work will consist of maintaining, by dredging at a unit rate per m<sup>3</sup> and according to the directives of the Departmental Representative, different places in the harbor of Cap-aux-Meules according to the pre-dredging surveys and the maritime operations.
- .2 The dredged material may, depending on the dredging method chosen by the contractor, be deposited at a land disposal site and / or at the dumping site indicated in Appendix A.
- .3 The method and location for land management must be submitted to the Departmental Representative for approval.
- .4 The Contractor shall perform the work according to the periods and dates set out in the contract documents.
  - .1 Saison 2022:
    - .1 period: from October 18, 2022 to March 31, 2023.
  - .2 Saison 2023:
    - .1 April 1, 2023 to May 31, 2023 (only for land disposal and disposal in the harbour. See specific mitigation measures);
    - .2 June 1, 2023 to July 15, 2023;
    - .3 August 11, 2023 to March 31, 2024;
- .5 For each period, mitigation measures must be put in place, refer to specification section 01 35 43 and Appendix C.

**1.2            WORK BY OTHERS**

- .1 Cooperate with other Contractors in carrying out their respective operations and follow instructions from the Departmental Representative.
- .2 Coordinate work with that of other Contractors. If any part of the work under this Contract, or the results thereof, depends upon the work of another Contractor, report promptly to the Departmental Representative, in writing, any issues that may interfere with operations.

**1.3            CONTRACTOR USE OF PREMISES**

- .1 Use of the premises is restricted to the areas necessary for the work to allow:
  - .1 Occupancy by the Departmental Representative;
  - .2 Partial occupancy by the Departmental Representative;
  - .3 Use of premises by navigators.

- .2 Coordinate use of premises with port authorities, following the instructions of the Departmental Representative.
- .3 Obtain and pay for use of additional storage or work areas needed for operations under this Contract.
- .4 Carry out the work in a way that it does not interfere with normal use or activities or compromise the safety of users.
- .5 The Contractor must take all necessary precautions to ensure that all encounters with ships are as safe as possible. The Contractor must communicate properly with Marine Communications and Traffic Services (MCTS) at all times.
- .6 Take all necessary steps to ensure the continuity of existing services and allow authorized persons and vehicles to access the property.
- .7 The use of marine installations should be coordinated with the port authorities.

#### **1.4 OCCUPANCY BY THE DEPARTMENTAL REPRESENTATIVE**

- .1 The Departmental Representative will occupy the premises during the entire period of operations and will continue normal activities during that time.
- .2 Cooperate with the Departmental Representative in scheduling operations to minimize conflict and facilitate the Departmental Representative's usage of the premises.

#### **1.5 REQUIRED DOCUMENTS**

- .1 Keep one copy of each of the following documents on the premises:
  - .1 Contract Drawings
  - .2 Specifications
  - .3 Addenda
  - .4 Reviewed Shop Drawings
  - .5 List of Outstanding Shop Drawings
  - .6 Change Orders
  - .7 Other Modifications to the Contract
  - .8 Field Test Reports
  - .9 Copy of Approved Work Schedule
  - .10 Health and Safety Plan and other safety-related documents
  - .11 Other documents as specified

#### **Part 2 Products**

##### **2.1 NOT USED**

- .1 Not used.

**Part 3 Execution**

**3.1 HARBOUR CHARGES FOR CONTRACTORS**

- .1 For the entire contract period, and exclusively within the framework of this project, the Contractor shall be exempt from fees charged by public ports and Transport Canada public port facilities, i.e. the berthage charges, storage charges (at the location defined by the Departmental Representative), harbour dues and wharfage and transfer charges applicable by the port facility covered by these works (<https://www.tc.gc.ca/eng/programs/ports-menupublicportfees-756.htm>).

**END OF SECTION**

**Part 1            General**

**1.1                RELATED REQUIREMENTS**

- .1            Section 35 20 24 - Dredging

**1.2                ADMINISTRATIVE**

- .1            Submit the required documents and samples to the Departmental Representative for review. Submit them promptly and in order so as not to cause delays in operations. Failure to submit on time is not considered sufficient reason for an extension of the contract and no requests for extension for this reason will be accepted.
- .2            Do not start operations that require documents or samples until said submittals have been fully reviewed and approved.
- .3            Measurements shown on shop drawings, product data, samples and mock-ups must be indicated in metric units (SI).
- .4            Verify documents before submitting them to the Departmental Representative. This preliminary review indicates that the necessary requirements have been or will be determined and verified, and that each submittal has been checked against the requirements of the work and contract documents. Submittals not stamped, signed, dated and associated with a specific project will be returned without being examined and shall be considered rejected.
- .5            At the time of submission, notify the Departmental Representative, in writing, of any deviations from the Contract Document requirements, stating the reasons for the deviations.
- .6            Verify field measurements against those of adjacent affected operations.
- .7            The fact that the submitted documents and samples are examined by the Departmental Representative do not release the Contractor from his responsibility to deliver complete and accurate submittals.
- .8            The fact that the submitted documents and samples are examined by the Departmental Representative does not release the Contractor from his responsibility to deliver submittals that meet the requirements of the contract documents.
- .9            Keep one reviewed copy of each submittal on site.

**1.3                CERTIFICATES AND MINUTES**

- .1            Submit relevant documents required by the *Commission des normes, de l'équité, de la santé et de la sécurité au travail* (CNESST) immediately after the Contract is awarded.

**Part 2            Products**

**2.1                NOT USED**

.1                Not used.

**Part 3            Execution**

**3.1                NOT USED**

.1                Not used.

**END OF SECTION**

## **Part 1        General**

**GENERAL NOTE:** in this section the term “site” includes all the facilities located at the site where the work is taking place (construction site, buildings, access, infrastructure, parking, bays, etc.).

### **1.1            RELATED REQUIREMENTS**

- .1        Section 35 20 24 - Dredging

### **1.2            REFERENCES**

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

### **1.3            ACTION AND INFORMATION SUBMITTALS**

- .1        Make submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2        Submit to the Departmental Representative and the CNESST the site-specific prevention program, as outlined in the “GENERAL REQUIREMENTS” subsection, at least 10 days prior to the start of operations.
- .3        The Departmental Representative will review the Contractor’s site-specific prevention program and provide comments to the Contractor within 10 days of receipt of the document. The Contractor must revise the plan as needed and resubmit to the Departmental Representative within 5 days of receipt of comments. The Departmental Representative reserves the right not to authorize the start of operations on the work site as long as the content of the prevention program is not satisfactory. The Contractor must update his prevention program and resubmit it to the Departmental Representative if the scope of work changes, if the working methods of the Contractor differ from the initial plans, or for any other applicable new condition.
- .4        The Departmental Representative’s review of the Contractor’s site-specific prevention program should not be construed as approval of the program and does not diminish the Contractor’s overall responsibility for health and safety during operations.
- .5        Submit the results of on-site health and safety inspections by the Contractor’s authorized representative to the Departmental Representative.
- .6        Submit to the Departmental Representative within 24 hours a copy of all inspection reports, correction notices or recommendations issued by federal, provincial and territorial Health and Safety Inspectors.
- .7        Submit to the Departmental Representative within 24 hours the investigation reports for any accident involving injury and any incident exposing a potential hazard. The investigation report will contain at least the following:
  - .1        Date, time and place of accident;
  - .2        Name of the sub-contractor involved in the accident;

- .3 Number of persons involved and condition of wounded;
  - .4 Identification of witnesses;
  - .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 the Departmental Representative the WHMIS MSDS – Material Safety Data Sheets in accordance with Section 01 33 00 – Submittals. The Contractor must also keep one copy of these documents on the construction site.
  - .9 Medical Supervision: where required by legislation, regulations or prevention programs, submit a certification of medical supervision for construction site personnel to the Departmental Representative before work begins, and submit additional certifications for any new construction site personnel.
  - .10 Submit an on-site Emergency Response Plan to the Departmental Representative at the same time as the prevention program. The Emergency Response Plan must contain the elements listed in the “GENERAL REQUIREMENTS” subsection of this document.
  - .11 Submit to the Departmental Representative copies of all training certificates required for the application of the prevention program, in particular (if applicable) for the following:
    - .1 Workplace first aid 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 Safe operation of forklifts (mandatory for all forklift usage);
    - .6 Safe operation of elevating hydraulic platforms (mandatory for the use of all elevating hydraulic platforms);
    - .7 Any other requirement of Regulations or the safety program.
  - .12 In addition, the certifications of the *Cours de santé et sécurité générale pour les chantiers de construction* (General Health and Safety Training for Construction Sites) shall be available on demand on the construction site.
  - .13 Engineer’s plans and certificates of compliance: The 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 an engineer, of all plans and certificates of compliance required under the *Safety Code for the construction industry* (S-2.1, r.4) (*Code de sécurité pour les travaux de construction* or by any other legislation or regulation or by any other clause in the specifications or in the contract documents. The Contractor must also submit a certificate of compliance 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 A notice of construction site opening must be submitted to the CNESST before work begins. A copy of said notice and acknowledgment of receipt from the CNESST shall be submitted to the Departmental Representative.
- .2 Upon completion of the work, a notice of construction site closing must be submitted to the CNESST, and a copy sent to the Departmental Representative.
- .3 The Contractor shall assume the role of Principal Contractor while within the limits of the construction site and anywhere else where he must perform work related to this project. The Contractor shall assume 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 divide and mark the construction site adequately in order to define time and space at all times throughout the course of the project.

**1.5 RISK ASSESSMENT**

- .1 The Contractor must perform a site-specific safety hazard assessment for the project.

**1.6 MEETINGS**

- .1 Organize and lead a Health and Safety meeting with the Departmental Representative before work begins.
- .2 A decision-making representative of the Contractor must attend any meetings at which construction site health and safety 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 work site committee and hold meetings as required by the *Safety Code for the construction industry* (S-2.1, r. 4) (*Code de sécurité pour les travaux de construction*). A copy of the committee meeting minutes must be provided to the Departmental Representative no more 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 *Safety Code for the construction industry* (S-2.1, r.4) (*Code de sécurité pour les travaux de construction*), notwithstanding the date indicated in that Code.

**1.8 COMPLIANCE REQUIREMENTS**

- .1 Comply with the *Act respecting occupational health and safety* (L.R.Q., c. S-2.1) (*Loi sur la santé et la sécurité du travail*) and the *Safety Code for the construction industry* (S-2.1, r.4) (*Code de sécurité pour les travaux de construction*) 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 are normally performed by a Principal Contractor under the *Act respecting occupational health and safety* (L.R.Q., ch. S-2.1) (*Loi sur la santé et la sécurité du travail*) and the *Safety Code for the construction industry* (S- 2.1, r.4) (*Code de sécurité pour les travaux de construction*).
- .2 The Contractor must respect the dredging limits shown on the drawings especially when working near the structures in order not to damage them.
- .3 The Contractor must be responsible for the health and safety of persons on the construction site, the safety of property on construction site and the protection of the environment and persons adjacent to the construction site to the extent that they may be affected by conduct of the work.
- .4 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 regulations applicable in this regard. The means chosen to define the limits of the construction site must be submitted to the Departmental Representative.
- .5 Comply with the safety requirements of contract documents, applicable federal, provincial, territorial and local statutes, regulations, and ordinances, and with the site-specific Prevention Plan. Ensure employees do the same.

## 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 required 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 HEALTH AND SAFETY SUBORDINATION AGREEMENT section).

## 1.11 GENERAL REQUIREMENTS

- .1 Before starting operations, prepare a site-specific prevention program based on the hazards identified according to the “HAZARD ASSESSMENT” and “RISKS INHERENT TO THE WORKSITE” sections in this document. Apply this program in its entirety from the start of the project until all personnel have been released from the construction site.
- .2 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.
- .3 The safety program must include at least the following:
  - .1 Company health and safety policy;
  - .2 Description of the stages of the work;
  - .3 Total costs, schedule and projected workforce curves;
  - .4 Flow chart of health and safety 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 work site indicated in the "RISKS INHERENT TO THE WORK SITE" section;
  - .8 Identification of preventive measures for the health and safety of employees and/or public at the work site as indicated in the "SPECIFIC REQUIREMENTS FOR THE HEALTH AND SAFETY OF OCCUPANTS AND PUBLIC" section;
  - .9 Training requirements;
  - .10 Procedures in case of accident/injury;
  - .11 Written agreement from all parties to comply with the safety program;
  - .12 Construction site inspection checklist based on the preventive measures;
  - .13 Emergency response plan containing 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 Departmental Representative and the person responsible for the site);
    - .6 Training required for those responsible for applying the plan;
    - .7 Any other information needed, given 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.
- 4 The Departmental Representative may indicate, in writing, deficiencies in or concerns about the prevention program and may request resubmission with correction of deficiencies or concerns.
  - .5 In addition to the prevention program, during the course of the work the Contractor shall develop and submit to the Departmental Representative specific written procedures for any high-risk operations (for example: demolition procedures, specific installation procedures, lifting plans, procedures for entering a confined space, procedures for shutting off electric power, etc.) or at the request of the Departmental Representative.
  - .6 The Contractor shall plan and organize work so as to eliminate danger at the source or ensure collective protection, thereby minimizing the use of personal protective equipment.
  - .7 Equipment, tools and protective gear that 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.
  - .8 All mechanical equipment (including, but not limited to, hoisting devices for persons or materials, excavators, concrete pumps, and concrete saws) must be inspected before delivery to the construction site. Before using any mechanical equipment, the Contractor must 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 must remain on the construction site and be transmitted to the Departmental Representative upon request.

- .9 Ensure all inspections (daily, periodic, annual, etc.) for the hoisting devices for persons or materials required by the current standards are performed and be able to provide a copy of the inspection certificates to the Departmental Representative upon request.
- .10 If the Departmental Representative suspects a malfunction or the risk of an accident, they can at any time order the immediate stop of any piece of equipment and require an inspection by a specialist of their choice.
- .11 The Departmental Representative must be consulted regarding storage locations for gas cylinders and tanks on the construction site.

#### **1.12 RISKS INHERENT TO THE WORK SITE**

- .1 In addition to the risks related to the tasks to be performed, personnel responsible for the execution of the work on the work site will be exposed to the following risks inherent to the area where the work will be executed.
- .2 At the worksite there is, in particular, the presence of the following:
  - .1 Nearby body of water.
- .3 The Contractor shall perform a risk assessment of the site to validate this information and see if other risks are present on the site. The prevention program must include all identified risks.

#### **1.13 SPECIFIC REQUIREMENTS FOR THE HEALTH AND SAFETY OF OCCUPANTS AND THE PUBLIC**

- .1 The work site is occupied by employees and/or the public. Even though these people may not have access to the work site, the Contractor must consider the following specific requirements for the protection of employees and/or the public:
  - .1 Regular crossings of ferries, fishing boats, oil tankers and other types of boats and ships through the work area.
- .2 These requirements, as well as any other measures provided by the Contractor to protect the health and safety of employees and/or the public on the site, must be included in the Contractor's site-specific safety plan.

#### **1.14 UNFORESEEN HAZARDS**

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

#### **1.15 SAFETY OFFICER**

- .1 If the work site meets the requirements of article 2.5.3 of the *Safety Code for the construction industry* (S-2.1, r.4) (*Code de sécurité pour les travaux de construction*), the

Contractor needs to hire a competent person who is certified 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:

- .1 Have held a safety officer certificate issued by the CNESST for at least a year;
  - .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 the Contractor's Health and Safety training sessions and ensure that personnel who have not successfully completed required training are not permitted to enter the construction site to perform work;
  - .5 Be responsible for implementing, enforcing and carefully monitoring the Contractor's site-specific health and safety program;
  - .6 Be on the construction site at all times while work is being performed;
  - .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 submit a copy to the Departmental Representative at least once a week.
- .2 The safety officer's certificate must be submitted to the Departmental Representative before work begins.
  - .3 If the hiring of a safety officer is not required or if this person is hired by the Departmental Representative, the Contractor must 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 must remain on the work site at all times and be able to take all necessary measures to ensure the health and safety of persons and property on or in the immediate vicinity of the work site that may be affected by any of the work. The Contractor must submit the name of this person to the Departmental Representative before the start of work.

#### **1.16 POSTING OF DOCUMENTS**

- .1 Ensure applicable items, articles, notices and orders are posted in a conspicuous location on the construction site in accordance with provincial laws and regulations, and in consultation with the 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 the Principal Contractor;
  - .3 Company OHS policy;
  - .4 Site-specific prevention program;
  - .5 Emergency plan;
  - .6 Minutes of work site committee meetings;
  - .7 Names of work site committee representatives;

- .8 Names of the first-aid attendants;
- .9 Action reports and correction notices issued by the CNESST.

### **1.17 INSPECTION OF THE CONSTRUCTION SITE AND CORRECTION OF NON-COMPLIANCE**

- .1 Inspect the work site and complete the site inspection checklist and submit it to the Departmental Representative in accordance with the “ACTION AND INFORMATIONAL SUBMITTALS” subsection 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 their agent.
- .3 Submit to the Departmental Representative written confirmation of all measures taken to correct a situation that is non-compliant in terms of health and safety.
- .4 The Contractor shall give the safety officer or, where there is no safety officer, the person responsible for health and safety, full authority to order cessation and resuming of work as and when deemed necessary or desirable in the interests of health and safety. This person should always act so that the health and safety of the public and construction site workers and environmental protection takes 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 necessary corrections to conditions deemed non-compliant regarding health and safety conditions. 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 health or safety of construction site personnel, the public or the environment.

### **1.18 PREVENTION OF VIOLENCE**

- .1 Health and Safety Management on Construction Sites, from Public Works and Government Services Canada, includes 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 may be expelled from the construction site by the Departmental Representative.

### **1.19 USE OF PUBLIC ROADS**

- .1 Where it is necessary to use a public road for operational reasons or to ensure the security of workers, occupants or the public (for example: the use of scaffolding, cranes, excavation work, etc.), the Contractor shall obtain, at their own expense, any authorizations and permits required by the relevant 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.

## 1.20 LOCKOUT/TAGOUT

- .1 For all work on equipment powered by electrical or other means, the Contractor shall draw up and implement a general lockout procedure and submit it to the Departmental Representative.
- .2 Supervisors and all workers affected by work requiring lockout/tagout must have received training on lockout procedures by a recognized organization; the Contractor must submit training certificates to the Departmental Representative.
- .3 Before starting the lockout/tagout procedure on a piece of equipment on an occupied site, the Contractor must coordinate his work with the representative of the site if interruption of the power sources can have affect the operations of the site or its occupants.
- .4 The Contractor must designate a qualified person as responsible for the lockout/tagout and must make sure that that person prepares a lockout sheet for each piece of equipment involved. The lockout sheet must be submitted to the Departmental Representative at least 48 hours before the beginning of the work. The Departmental Representative will review the lockout sheet with the site representative if the work takes place in an existing building.
- .5 The lockout sheets must contain at least the following information:
  - .1 Description of work to be performed;
  - .2 Identification, description and location of the circuit and/or equipment to lockout/tagout;
  - .3 Identification of energy sources for the equipment;
  - .4 Identification of each cutoff point;
  - .5 Sequence of lockout/tagout and the release of residual energy as well as the unlocking sequence;
  - .6 List of material needed for the lockout/tagout;
  - .7 Method of verifying zero energy;
  - .8 Name and signature of the person who prepared the lockout sheet.
- .6 When required by the Departmental Representative, the Contractor must record all of this information on the site representative's form.
- .7 At the time of lockout/tagout, the person responsible must date the sheet and ensure that each worker involved in the work on the circuit/equipment to lock out puts their name on the sheet and signs it.

## 1.21 EXPOSURE TO ANIMAL FECAL MATTER

- .1 Prior to all work where workers are likely to come in contact with materials contaminated by animal fecal matter, the Contractor must:
  - .1 Provide a written procedure for the work that respects all the requirements of the *Safety Code for the construction industry* (S-2.1, r- 4), (*Code de sécurité pour les travaux de construction*), as well as the requirements indicated in “*Des fientes de pigeons dans votre lieu de travail: méfiez-vous*” (Pigeon Droppings in your Workplace: Beware”) published by the CNESST ([http://www.csst.qc.ca/publications/100/Documents/DC100\\_1331\\_1web2.pdf](http://www.csst.qc.ca/publications/100/Documents/DC100_1331_1web2.pdf)).

- .2 Demonstrate that they have all the necessary material and equipment on hand to follow the procedure and safely perform the work.

## 1.22 RESPIRATORY PROTECTION

- .1 The Contractor must ensure that all workers who must wear a respirator as part of their duties have received training for that purpose as well as fit testing of their respirator, in accordance with CSA Standard Z94.4 *Selection, use and care of respirators*. The Contractor must submit the certificates of the fit testings to the Departmental Representative on demand.

## 1.23 FALL PROTECTION

- .1 Plan and organize work so as to eliminate the risk of falling 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 training for this equipment.
- .3 The use of a safety harness is mandatory for all elevating platforms with telescopic, articulate or rotating masts.
- .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 that is 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 may cause.
- .6 Everyone who works within two metres of a fall hazard of three metres or more must use a safety harness in accordance with the requirements of the standard, unless there is a guardrail or another device offering equivalent safety.
- .7 Despite the requirements of the standard, 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.

## 1.24 CONFINED SPACES

- .1 In addition to the requirements of the provincial regulation applicable to confined spaces, the Contractor must respect the requirements in the following paragraphs.
- .2 The Departmental Representative reserves the right, depending on the nature of the risk of the confined spaces, of the work to be done and/or of the level of competence in confined spaces demonstrated by the Contractor, to require from the latter that they use the services of a firm specialized in health and safety or confined space work to analyze the risks inherent to the confined spaces, complete the entry permit, oversee the work or perform any other task related to the work in confined spaces.
  - .1 Safety officer for work in confined spaces
    - .1 The Contractor shall designate a health and safety officer for work in confined spaces. This person must be qualified, as defined in article 297 of the *Regulation respecting occupational health and safety* (S-2.1, r.13)

*(Règlement sur la santé et la sécurité du travail)*. This person must be present at all times during work in confined spaces and must make sure that all the requirements of the regulation, as well as the requirements specified in this section are respected. This person must, amongst other things, fill out and issue the entry permit for the confined spaces.

.2 Training

- .1 All persons having access to a confined space, including the person in charge and the supervisor of the confined space must have completed training on entry into confined spaces.
- .2 All persons who need to use supplied-air respirators to access a confined space must have completed training on the use of these apparatus.
- .3 All persons identified as rescuers for confined spaces must have completed training on confined space rescue.
- .4 All training required in the preceding paragraphs must be provided by a firm specialized in health and safety or in confined spaces.
- .5 The training certificates of the persons mentioned above must be submitted to the Departmental Representative before the work in confined spaces begins.

.3 Risk assessment of confined spaces

- .1 For each of the confined spaces listed at the beginning of this article, the Contractor must obtain the necessary information from the site representative and perform a risk assessment for each confined space that describes:
  - .1 The prevailing internal atmosphere, namely the concentration of oxygen, flammable gases and vapours, combustible or explosive dusts as well as the types of contaminants likely to be present in this confined space or the surrounding area;
  - .2 The fact that the natural or mechanical ventilation is insufficient;
  - .3 Materials present that may cause the worker to sink, be buried or drown, such as sand, grain or liquids;
  - .4 The interior configuration;
  - .5 Pipes and conduits that penetrate the confined space;
  - .6 Energy such as electricity, moving mechanical parts, heat or cold, noise and hydraulic energy;
  - .7 Ignition sources such as open flames, lighting, welding and cutting, static electricity or sparks;
  - .8 All other notable circumstances, such as the presence of vermin, rodents or insects.
- .2 These risk assessments must be performed by the health and safety officer for work in confined spaces. They must be submitted to the Departmental Representative for analysis at least 10 days before the proposed date for the work in confined spaces and must also include the following information:
  - .1 Location of the confined space;
  - .2 Description of the confined space;

- .3 Dimensions of the confined space;
  - .4 Number, location and dimensions of the openings;
  - .5 Content of the confined space (material, substances, etc.)
  - .6 Date of the assessment;
  - .7 Name and signature of the person who conducted the assessment and the name of their employer.
- .3 The Contractor must repeat this process for each of the confined spaces that they will build/install during this project.
- .4 Confined space entry permits
- .1 At least 5 days before work in a confined space is scheduled to begin, the Contractor must submit for analysis to the Departmental Representative a copy of each entry permit specific to the confined spaces that they must access. The entry permits must be completed by the health and safety officer for work in confined spaces, and must contain at least the following information:
    - .1 Description of the work to be performed and the method of work, including the materials and tools needed to do this work;
    - .2 Description of the risks and corresponding preventive measures according to the risk assessment for the confined space and the risks inherent to the work to be carried out;
    - .3 Safety equipment that will be used to control the risks of confined spaces (e.g.: fan, gas detectors, local exhaust ventilation, personal protective equipment, etc.);
    - .4 Rescue procedure covering at least the following:
      - a) means of communication between the supervisor of the confined space and the workers in the confined space;
      - b) lifesaving equipment specific to each confined space;
      - c) confirmation that the municipal emergency response service has been advised of work in confined spaces occurring at this specific construction site and that they may intervene do to a confined space rescue; otherwise, the Contractor must identify the workers on the construction site that will act as rescuers in a confined space in the case where such rescuers must enter the confined space (rescue training is mandatory);
      - d) location of telephone and phone number of the municipal emergency response service (if applicable);
    - .5 Date of entry permit;
    - .6 Name of person who issued the permit and the name of their employer;
    - .7 Name of the confined space safety supervisor and the name of their employer;
    - .8 Names of the workers who must enter the confined space and the names of their employer/s.

- .2 In cases where the site representative requires the use of a confined space entry permit specific to their site, the Contractor must comply with the requirements of that permit.

.5 Medical supervision

- .1 The Contractor must submit to the Departmental Representative a medical certificate, dated within the last two years, for all persons who must use a supplied-air respirator. The certificate must confirm the ability of each person to use this type of apparatus.
- .2 It is recommended that the persons who must work in sewer collection systems or other similar systems be vaccinated against diphtheria, tetanus and hepatitis B.

.6 Requirements while working in confined spaces

- .1 Before entering a confined space, the health and safety officer for work in confined spaces shall take readings of oxygen concentration, flammable gases and all toxic gases likely to be present and record these readings on the entry permit required earlier.
- .2 No worker may access the confined space if the following requirements are not respected:
  - .1 The concentration of oxygen must be greater than or equal to 19.5% and less than or equal to 23%;
  - .2 Concentration of flammable gases or vapours must be less than or equal to 10% of the lower explosion limit;
  - .3 Concentration of other gases must not exceed the standards prescribed in annex I of the *Regulation respecting occupational health and safety* (S-2.1, r.13) (*Règlement sur la santé et la sécurité du travail*).
- .3 If the oxygen and gas concentrations measured respect the regulatory values, the health and safety officer for work in confined spaces must ensure that all preventive measures indicated on the permit are in place and then must complete the entry permit (date, time, signatures, etc.) before issuing the permit and allowing entry into the confined space.
- .4 Permits are only valid for one work shift; the Contractor must submit a new permit for each extra shift.
- .5 During the work inside the confined space, the gas concentration must be measured continuously and a gas detector must be installed in the breathing range of the workers. If the conditions inside the confined space are such that the workers might not hear/see the detector's alarm, the Contractor must find a way for the confined space safety supervisor to watch the concentration measures while continuing to measure them within the breathing range of the workers.
- .6 If workers are scattered far away from each other in a large confined space, the Contractor needs to provide additional gas detectors.
- .7 The Contractor must provide gas detectors and maintain them in good condition. They must be able to show that the gas detectors used have been calibrated and adjusted by the health and safety officer for work in confined spaces or by a qualified person, according to the manufacturer's

recommendations. The Departmental Representative may have the accuracy of the measuring devices checked at any time. In the event of the failure of a detection device, work must be stopped immediately and all workers must leave the confined space.

- .8 The manufacturer's manual for the gas detectors must be available on the construction site.
- .9 The Contractor shall provide a ventilation system to keep concentrations of contaminants below the regulatory limits.
- .10 If the work being performed may generate contaminants (welding, use of products, etc.), the Contractor must, if needed, install an aspiration system for the contaminants so that air quality can be maintained at all times.
- .11 If a detecting device alarm goes off, all workers must leave the confined space. The measured concentration levels must then be recorded on the entry permit. The Contractor must then find the source of contamination, neutralize it, ventilate the confined space to eliminate contaminant residues and authorize access to the confined space only once concentrations of oxygen and gas have returned to normal.
- .12 Compressed gas cylinders and welding equipment must not be brought into confined spaces. This equipment must remain outside and must not block entrances or exits. All cylinders must be properly secured.
- .13 Tools and electrical devices used to work in the confined spaces must be grounded and, when necessary, designed to be explosion-proof. All equipment must be connected to a ground fault interrupter outlet or to a step-down transformer. The Contractor shall, at their own expense, hire a qualified electrician to adjust power supplies and/or circuit breakers that they intend to use which do not meet these criteria.
- .14 If hot work is to be performed, the Contractor must obtain a hot work permit and respect the conditions of said permit.
- .15 The Contractor must assign a competent person to be a confined space safety supervisor. The supervisor shall be exclusively dedicated to these duties and must constantly remain outside of the confined space as long as there is a worker in it. They must also:
  - .1 Ensure that the entry permit has been filled out, signed and posted near the confined space;
  - .2 Be familiar with the work procedure specific to the confined space and ensure that it is respected;
  - .3 Ensure continuous communication with all workers in the confined space and ensure that all necessary emergency equipment is present;
  - .4 Have good knowledge of the ventilation systems and ensure their proper functioning for the duration of the work;
  - .5 Prevent access to unauthorized persons;
  - .6 Ensure that the conditions around the confined space zone do not pose a health or safety risk to the workers inside the confined space;

- .7 Initiate emergency procedures if needed.
- .16 The same person may act as a confined space safety supervisor and as the health and safety officer for work in confined spaces, provided all requirements of both functions are met.

## **1.25 LIFTING LOADS WITH A CRANE OR BOOM TRUCK**

- .1 Unless otherwise specified, the Contractor must prepare a hoisting plan for all lifting operations done with a crane or a boom truck and submit it to the Departmental Representative at least 5 days before these lifting operations begin. The hoisting plan must contain at a minimum the information listed at the end of this section.
- .2 The hoisting plan must be signed and sealed by an engineer for the following lifting operations:
  - .1 Lifting of concrete panels;
  - .2 Lifting mechanical/electrical equipment on a roof or on the floors of a building;
  - .3 Lifting of loads encroaching on the public road;
  - .4 Lifting large dimensions or very heavy loads;
  - .5 Any other lifting operation, in accordance with the requirements of the Departmental Representative.
- .3 In addition to the above requirements, the Contractor must avoid passing loads over occupied zones on the site. When there is no alternative, the lifting plan must absolutely be signed and sealed by an engineer and must guarantee the security of the occupants of that zone; the plan must also be approved by the Departmental Representative. The Departmental Representative may, if he deems it necessary, require the work to be done at night or on weekends.
- .4 Once operations begin on the work site, the Contractor must submit the list of anticipated hoisting plans anticipated for the whole project to the Departmental Representative. That list must be updated as needed if changes occur during the work.
- .5 In addition to the mechanical service inspection certificate, the annual inspection certificate and the crane logbook must be kept aboard all cranes and boom truck cabs.
- .6 The entire lifting area must be marked off to prevent the entry of non-authorized persons.
- .7 The Contractor must carefully inspect all slings and lifting accessories and make sure that those in poor condition are destroyed and scrapped.
- .8 Compressed-gas cylinders must be lifted with a basket specially designed for this purpose.
- .9 Minimum content of lifting plan
  - .1 Sketch indicating at a minimum the location of the crane, surrounding facilities, zone covered by the lifting operations, pedestrian pathways and vehicular routes, security perimeter, etc.;
  - .2 Weight of loads;
  - .3 Dimensions of loads;
  - .4 List of lifting devices and weight of each;
  - .5 Total weight lifted;

- .6 Maximum height of obstacles to clear;
- .7 Lift height relative to the surface of the roof (for loads to be placed on roofs);
- .8 Use of guide cables;
- .9 Type of crane used;
- .10 Crane capacity;
- .11 Boom length;
- .12 Boom angle;
- .13 Crane's radius of action;
- .14 Deployment of stabilizers;
- .15 Percentage of the crane's capacity used;
- .16 Verification confirmation of hoisting equipment;
- .17 Signed and dated identification of the crane operator and the person responsible for lifting operations.

## **1.26 WORK NEAR BODIES OF WATER**

- .1 For all work performed 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 requirements of the following paragraphs in addition to those in article 2.10.13 of the *Safety Code for the construction industry* (S 2.1, r.4) (*Code de sécurité pour les travaux de construction*).
- .2 The Contractor must include in their work 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 work begins. Each of these documents must contain at a minimum the information required in section 11 of the *Safety Code for the construction industry* (S 2.1, r.4) (*Code de sécurité pour les travaux de construction*). If all or part of the work is to be done during the winter, the safety measures included in the required documents above must be adapted accordingly.
  - .1 Description of the body of water;
  - .2 Description of the work done near this body of water;
  - .3 Plan of transportation on water adapted to the work and to the characteristics of the body of water;
  - .4 Rescue plan adapted to the work and to the characteristics of the body of water.
- .4 Submit to the Departmental Representative the certificate of training required in article 11.2 of the *Safety Code for the construction industry* (S-2.1, r.4) (*Code de sécurité pour les travaux de construction*) for the following individuals:
  - .1 The person assigned to prepare the documents required in the preceding paragraph; and
  - .2 All people responsible for transport or rescue operations
- .5 If the rescue plan stipulates the use of a vessel, the Contractor must submit to the Departmental Representative all Transport Canada qualification cards or certificates for the individuals in the rescue team.

- .6 The Contractor must include in his weekly inspection checklist the devices required in articles 11.4 and 11.5 of the *Safety Code for the construction industry* (S 2.1, r.4) (*Code de sécurité pour les travaux de construction*).
- .7 Ensure that a rescue vessel is available, moored and in the water at each place where a worker may fall in the water. However, a vessel may serve more than one area on the same construction site provided the distance between any of these areas and the vessel is less than 30 m.
- .8 Where the work 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.

**1.27****HEALTH AND SAFETY SUBORDINATION AGREEMENT**

- .1 The agreement to be filled out is on the next page; a completed and signed copy is to be submitted to the Departmental Representative.

<b>HEALTH AND SAFETY SUBORDINATION AGREEMENT</b>	
<p><b>Project:</b> _____ <b>Address:</b> _____</p>	
<p><b>EXTERNAL CONTRACTOR</b></p> <p>I hereby agree to submit to the authority of (name of the Principal Contractor's business) _____, who is the Principal Contractor for the project indicated above for 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"> <li>• Inform my employees of the content of the Principal Contractor's prevention program and ensure that its contents are complied with at all times;</li> <li>• Apply the prevention program that is specific to the activities that we perform under this project;</li> <li>• 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</li> <li>• Follow the health and safety directives provided by the Principal Contractor's representative on the construction site and, depending on requirements, attend training sessions and health and safety meetings organized by the Principal Contractor's representative.</li> </ul>	
Name of Representative:	Name of Business:
Description of work to be done on the construction site:	
Approximate dates of work (start-end): Start:	End:
<p>_____ Signature</p>	<p>_____ Date</p>
<p><b>PRINCIPAL CONTRACTOR</b></p> <p>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 Principal Contractor's business:
<p>Signature: _____ Date: _____</p>	
<p>Submit a completed and signed copy to the Departmental Representative.</p>	

**Part 1            General**

**1.1                PRECEDENCE**

- .1        The sections in Division 01 have precedence over the technical sections in the other divisions of this project.

**1.2                LEGAL REQUIREMENTS**

- .1        Before starting any dredging operations on the site, the Contractor must confirm to the Departmental Representative that a Disposal at Sea Permit has been issued for the project. If necessary, the Contractor must also have copies of the Disposal at Sea Permit, issued by Environment Canada, on hand and onboard all floating machinery. They must comply with these permits to the letter.
- .2        The Contractor shall keep on a copy of the specific authorization for the present work under the *Canadian Navigable Waters Act (CNWA)* on site.

**1.3                DEFINITIONS**

- .1        Environmental pollution and damage: presence of chemical, physical, or biological elements or agents which adversely affect human health and welfare, unfavourably alter ecological balances of importance to human life, affect other species of importance to humans, or degrade the environment aesthetically, culturally and/or historically.
- .2        Environmental protection: prevention/control of pollution and habitat or environment disruption during construction.

**1.4                ACTION AND INFORMATIONAL SUBMITTALS**

- .1        Before beginning dredging operations or delivering materials to the site, submit the Environmental Protection Plan to Departmental Representative for review.
- .2        Address topics at level of detail commensurate with environmental issues and required dredging operations.
- .3        Include in Environmental Protection Plan:
  - .1        Names of people responsible for ensuring compliance with the plan.
  - .2        Work Area Plan showing proposed activity in each section.
  - .3        Sediment Resuspension Prevention Plan indicating measures that will be implemented, including work supervision to ensure compliance with applicable laws and regulations.
  - .4        Spill Control Plan including procedures to implement, instructions to follow and reports to generate in the event of an accidental spill of a regulated substance.
  - .5        Contaminant Prevention Plan identifying potentially hazardous substances to be used on job site and intended actions to prevent introduction of such substances into air or water, and detailing provisions for compliance with federal, provincial, and municipal laws and regulations for storage and handling of these substances.

- .6 Keep Environmental Protection Plan available on site (including on floating equipment) at all times, and employees must be trained in its use

## **1.5 FIRES**

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

## **1.6 WASTE DISPOSAL**

- .1 Do not dispose of waste materials and/or volatile materials such as mineral spirits and oil or paint thinners in waterways, storm drains or sanitary sewers. These materials must be managed and disposed of in accordance with the requirements of local authorities.

## **1.7 INVASIVE SPECIES**

- .1 An exotic invasive species is, by definition, a species alien to the ecosystem where it is found, but able to breed and likely to have harmful effects on the economy, the environment or human health. In addition to plants, some animals, fungi and microorganisms are also considered threats to biodiversity.
- .2 Marine ecosystems are vulnerable to exotic or invasive species during work that requires floating equipment. To prevent the introduction of invasive species into the natural ecosystem, the following measures must be observed when working with floating equipment in a marine environment. The risks of introducing exotic species are minimized when using clean marine equipment that has been stored on land prior to work inception. Thus:
  - .1 For equipment that has been cleaned and stored on land just before work starts, the Contractor must:
    - .1 Submit to the Departmental Representative, in writing, a list of the equipment with location of storage area and expected launch date. The Departmental Representative is entitled to verify if the equipment was actually cleaned and stored on land prior to the beginning of work.
  - .2 For equipment that is already in the water, the Contractor must demonstrate, at their own expense, that the floating equipment is free from invasive species just before bringing them to the work site. Thus:
    - .1 The Contractor must submit a written inspection report, immediately before bringing the equipment to the work site, certifying that it is free of invasive species. The inspection report must be prepared by a qualified biologist experienced in the identification of benthic fauna. Sampling must be performed by divers. The report must include, but is not limited to, the following information and data: list of inspected equipment (tugboats, barges, etc.), date and location of inspection, summary of sampling and identification protocols, list of samples, table of results, and a certification of the presence or absence of invasive species. The report must include photographs and bear the signature of the qualified biologist before it can be submitted to the Departmental Representative along with other necessary contract documents. This report must be submitted before the equipment is mobilized.

- .2 Should the inspection report confirm the presence of invasive species, the Contractor is required to replace the equipment or completely clean the equipment at their own expense. A description of the cleaning work performed must be included in an additional (post-cleaning) inspection report with all the relevant information mentioned above.
- .3 The Department reserves the right to seek a second expert opinion at any time. Should an invasive species be observed, the Contractor must suspend work, completely clean the affected equipment at their own expense and follow the procedure mentioned above.

## **1.8 POLLUTION CONTROL**

- .1 Control emissions from equipment and machinery in accordance with the requirements of local authorities.
- .2 Prevent fine materials and other foreign matter from contaminating air beyond the work site.
- .3 Have absorbent materials available at all time on the construction site/workplace in order to respond promptly in the case of a hazardous material spill.
- .4 In the case of an accidental marine spill, the Contractor must immediately notify the Regional Alert and Warning Network (Canadian Coast Guard) at 1-800-363-4735 and take all actions required to correct the situation and minimize the environmental impacts.
- .5 The Contractor must also make any declarations or reports requested by the competent authorities and inform the Departmental Representative.
- .6 In addition the Contractor must have available on the dredge a spill control kit. 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) or several salvage drums with 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
- .7 Regarding the transportation, handling and storage of dangerous goods on vessels, the Contractor must comply with the *Canada Shipping Act* and all regulations made under the Act.
- .8 Do not dump excavated fill, waste material or debris in waterways.

- .9 Dispose excavated fill, waste material or debris according to applicable laws and regulations. Any material accidentally reaching waterways must be recovered as soon as possible.
- .10 Do not store oil products or other hazardous material less than 30 metres from the shore.
- .11 Perform vehicle maintenance and refueling at a minimum distance of 30 metres from the shore.

## **Part 2 Products**

### **2.1 NOT USED**

- .1 Not used

## **Part 3 Execution**

### **3.1 MITIGATION MEASURES**

- .1 Throughout the work, the Contractor shall implement rigorously all the requirements listed in this section as well as those included in Appendix C.

### **3.2 DREDGING, RELEASE AND TRANSPORT OF SEDIMENTS**

- .1 Whenever possible, prioritize the use of a grab dredger for dredging in order to limit sediment resuspension.
- .2 Execute work in such way as to minimize sediment resuspension.
- .3 Reduce the rate of rise and descent of the dredger. Avoid sudden movements of the dredger.
- .4 Avoid overfilling the barges to prevent liquid overflow and sediment spillage during transport to the offshore disposal site.
- .5 Avoid dredging, transporting and releasing sediment during unfavourable weather conditions (strong winds, storms, etc.) in order to prevent overflow and minimize sediment dispersion.
- .6 If debris is dredged, dispose of it on land at an authorized site.
- .7 Ensure that the bottom of the barge is leak-proof during the transport of sediments.
- .8 Do not fill barges to capacity during inclement weather in order to prevent sediment overflow during transportation.

9. The Contractor must be able to demonstrate that his equipment was inspected and is free of invasive species.
- .10 The Contractor must implement an Environmental Emergency Plan (EEP) to deal with spills involving oil products or other hazardous material. The EEP must be available on site and be communicated to all employees.
- .11 Perform a preliminary inspection of equipment and regular check-ups thereafter in order to ensure that the machinery is in good working order, clean and free of leaks. In case of failure, replace the equipment or repair it in appropriate locations identified in the Contractor's EEP.
- .12 Favour floating equipment that runs on biodegradable oil specially designed for that type of equipment.
- .13 Have on hand and maintain a spill emergency kit both near the dredge and in the refuelling areas. The kit must include all the necessary materials in sufficient quantities to recover all contaminants.
- .14 Do not dispose of volatile materials or other hazardous materials by releasing them into the water.
- .15 In the case of a spill, respond immediately to contain the leak and confine the hazardous materials. The area affected by the spill should be cleaned and the contaminated material removed and disposed of at an authorized site.
- .16 In the case of a spill, immediately report the incident to Environment Canada's emergency service (1-866-283-2333), to *Urgence Environnement du Québec* (1-866-694-5454) and the Canadian Coast Guard (1-800-363-4735).
- .17 Manage used oils and other contaminated waste in accordance with applicable regulations. This includes on-site storage, transportation and disposal.

### **3.3 FISH, MARINE MAMMALS AND OTHER WILDLIFE**

- .1 The use of means or devices to scare marine mammals is prohibited.
- .2 When a marine mammal or species at risk is observed within 200 metres of the aquatic work area, stop the work and wait for the animal to move more than 200 metres away to avoid injuring or disturbing it. Remain stationary and resume work only when the animal has left the protection zone. This measure applies day and night. In the event that marine mammals or species at risk are found near the barges or dredging equipment, do not harass them to make them leave the 200-m protection zone.
- .3 Complete a Marine Mammal Monitoring Form (Appendix D) daily. Forward a copy of each form to the Departmental Representative once dredging work is complete.

- .4 Implement whatever measures are necessary to comply with the *Migratory Birds Convention Act, 1994* (MBCA).
- .5 Dredging and disposal operations are prohibited from July 16 to August 10 to protect the deposit of American lobster and rock crab larvae.

### 3.4 MANAGEMENT OF DREDGED SEDIMENT ON LAND

- .1 Hire and assume all costs for an environmental consultant to **develop and implement** an Environmental Management Program for the work site, which shall at minimum include management of dredged sediment and work site cleaning before, during and after the dredging work. Submit the Environmental Management Program to the Departmental Representative for review and approval. The program shall contain at minimum, without being limited to, the following:
  - .1 Temporary stockpiling method, sediment dewatering method, and method to treat the water from dewatering process. Include storage site plans in Environmental Management Program and, if necessary, structures for dewatering contaminated soils and treating dewatering water.
  - .2 Hauling methods, type of vehicle and routes taken (traffic plan).
  - .3 If temporary stockpiling areas are used, provide written permission from land owners, as well as location and layout plans for these stockpiling areas, even if located outside port facilities.
  - .4 Name and address of sediment disposal sites.
  - .5 Certificates of authorization issued by the MELCC for all temporary or permanent disposal sites used to dispose of sediment. If site(s) are located outside of Quebec, obtain authorization from the province and disposal site, and submit letters and/or certificates of authorization to Departmental Representative.
  - .6 Submit a copy of authorizations and permits obtained from disposal site or temporary stockpiling site owners or managers to Departmental Representative in order to obtain permission to remove dredged materials from the site. The MELCC will provide information regarding disposal sites in operation, upon request. Also submit disposal site's certificate of authorization to operate.
  - .7 In addition to obtaining aforementioned authorizations, demonstrate knowledge of the environmental quality of the selected temporary or final disposal site. If Contractor intends to dispose of and/or temporarily stockpile sediment, dry materials and/or fill at a non-assessed (or non-regulatory certified) site of its choice, conduct and assume all costs for soil characterization at that site and obtain authorization from the Departmental Representative prior to using such site. If the site will be used only temporarily, obtain a release from the owner of the site when stockpiles are permanently removed.
  - .8 Ensure laboratory used is accredited by the MELCC and approved by the Departmental Representative.

### 3.5 MATERIALS THAT CAN BE DIVERTED

- .1 Dredged materials that can be diverted outside of this contract are Class “B” and Class “A” materials. Ensure all materials diverted outside of this contract are done so in accordance with applicable legislation.
- .2 Assume sole responsibility for dredging sediment selected for diversion.
- .3 Dredged material for diversion may be removed from the site under following conditions:
  - .1 Submit a written undertaking that the operator of the site where materials that may be diverted, in accordance with applicable legislation, are to be stockpiled and the owner of such site, if the operator is not the owner, will indemnify and save harmless Her Majesty in right of Canada from and against all claims, demands, losses, costs, damages, actions, suits or proceedings by any person based upon, arising out of, connected with, resulting from, or attributable to the stockpiling of such materials at such site by the Contractor, its employees, agents or subcontractors, or the subsequent use of such materials.
  - .2 Submit a document duly signed by the site operator and owner, if the operator is not the owner, authorizing the Contractor to use such site for stockpiling materials that may be diverted in accordance with applicable legislation.
  - .3 Submit a document duly signed by the site operator and owner, if the operator is not the owner, indemnifying and holding harmless Her Majesty in right of Canada from and against any claims that may arise from stockpiling, on such site, demolition materials that may, in the opinion of the Contractor, be diverted, as well as from any subsequent use of such materials.
    - .1 Ensure such document:
      - .1 Is made in duplicate if the site operator is not the owner (i.e., one copy signed by the site operator and one copy signed by the site owner);
      - .2 Indicates the lot number(s) forming the disposal site for diverted materials and the name of the owner(s) of these lots;
      - .3 Contains the following paragraph:

“ ..... (enter the name of the company operating the site or, if applicable, the name of the site owner) shall indemnify and save harmless Her Majesty in right of Canada from and against all claims, demands, losses, costs, damages, actions, suits or proceedings by any person based upon, arising out of, connected with, resulting from or attributable to the stockpiling by .....(insert Contractor's name), its employees, agents or subcontractors, on the lot(s) bearing the number(s) ..... at lot ....., of materials from the ..... (indicate site of dredging work) dredging site, and which, in accordance with the applicable legislation, may be diverted, or from subsequent use of such materials.” Submit a document duly issued by the MRC or the municipality and, if necessary, authorizations from the MELCC where the site is located, authorizing the site operator and owner, if the site operator is not the owner, to use this site for stockpiling of dredged

*materials for diversion; obtain prior written approval from the  
Departmental Representative.*

**END OF SECTION**

**Part 1            General**

**1.1                RELATED REQUIREMENTS**

- .1        Section 35 20 24 - Dredging

**1.2                INSTALLATION AND REMOVAL**

- .1        Prepare a site plan indicating the proposed location and dimensions of the area to be fenced and used by the Contractor, the number of trailers to be used, entrances and exits for the fenced area and the details of the fence installation.
- .2        Identify areas that need to be gravelled to prevent tracking of mud.
- .3        Indicate use of supplemental or other staging areas.
- .4        Provide construction facilities in order to perform work as quickly as possible.
- .5        Remove all such facilities from the site after use.

**1.3                HOISTING**

- .1        Provide, operate and maintain hoists and cranes required for moving workers, materials and equipment. Make financial arrangements with Subcontractors for their use of hoists.
- .2        Hoists and cranes must be operated by a qualified operator.

**1.4                SITE STORAGE/LOADS**

- .1        Ensure that the work is performed within the limits indicated in the Contract Documents. Do not store unreasonable amounts of equipment or materials in the area.
- .2        Do not overload or allow the overloading of any part of the equipment in a way that will compromise its integrity. In the event that the Contractor has to use part of the structure, the Contractor must provide load calculations approved by an engineer confirming compliance with the admissible loads of the port facilities.

**1.5                PARKING**

- .1        Parking will be permitted on site provided it does not disrupt performance of the work.
- .2        Provide and maintain adequate access to the project site.
- .3        Clean runways and taxi areas where used by Contractor's equipment.

**1.6                SECURITY**

- .1        Provide and pay for reliable security personnel to guard the site and its contents after working hours and during holidays.

**1.7                OFFICES**

Not Used

**1.8 EQUIPMENT, TOOL AND MATERIALS STORAGE**

- .1 Provide and maintain, in clean and orderly condition, lockable weatherproof sheds for storage of tools, equipment and materials.
- .2 Store materials that do not need to be sheltered in a way that causes minimal interference with work activities.

**1.9 SANITARY FACILITIES**

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

**1.10 SIGNAGE**

Not Used

**1.11 PROTECTION AND MAINTENANCE OF TRAFFIC**

- .1 Provide access roads and temporary detours as needed to maintain traffic.
- .2 Maintain and protect traffic on affected roads during the period of operations except as otherwise specifically directed by the Departmental Representative.
- .3 Provide measures for the protection and diversion of traffic, including supervisors and flag-persons, barricades, lights around and in front of equipment and operations, and adequately posted and maintained warning, danger, and direction signs
- .4 Protect travelling public from damage to people and property.
- .5 Vehicles used by the Contractor to transport material to and from the site must interfere with traffic as little as possible.
- .6 Ensure that existing roads and their load limits are sufficient for transporting equipment and materials. The Contractor is responsible for repairing roads that have been damaged by construction.
- .7 Build all necessary access and haul roads.
- .8 Haul roads must have an appropriate width and grade. Avoid sharp curves, blind corners and dangerous intersections.
- .9 Provide the necessary lighting, signs, barricades, and distinctive markings for safe traffic flow.
- .10 Control dust in order to ensure safe operation at all times.
- .11 The location, grade, width, and alignment of hauling roads are subject to approval by the Departmental Representative.
- .12 Lighting must be sufficient to ensure total visibility along the entire length of construction roads and work areas during the evening and at night.
- .13 Provide snow removal during the work period.
- .14 Upon completion of work, remove the haul roads designated by the Departmental Representative.

**1.12 CLEAN-UP**

- .1 Remove debris, waste materials, packaging material from the work site daily.
- .2 Clean dirt or mud that has been tracked onto paved or surfaced roadways.

**Part 2 Products**

**2.1 NOT USED**

- .1 Not Used.

**Part 3 Execution**

**3.1 TEMPORARY EROSION AND SEDIMENTATION CONTROL**

- .1 Provide temporary erosion and sedimentation control measures to prevent soil erosion and travel of soil-bearing water runoff or airborne dust to adjacent properties and walkways, according to requirements of authorities.

**END OF SECTION**

**Part 1            General**

- .1        Section 35 20 24 - Dredging

**1.2                PROJECT CLEANLINESS**

- .1        Keep the work site tidy, free from accumulated waste products and debris, including silt left behind by dredging equipment.
- .2        Remove waste materials from site daily, at regularly scheduled times, or dispose of them as directed by the Departmental Representative. Do not burn waste materials on site.
- .3        Make arrangements with and obtain permits from authorities having jurisdiction over the disposal of waste and debris.

**1.3                FINAL CLEANING**

- .1        Once the work is “Substantially performed”, remove surplus products, tools, machinery and equipment not required for performance of remaining work.
- .2        Remove waste products and debris other than that generated by others, and leave the site clean and ready for occupancy.
- .3        Before the final inspection, remove excess products, tools, machinery and equipment.
- .4        Make arrangements with and obtain permits from authorities having jurisdiction over the disposal of waste and debris.

**Part 2            Products**

**2.1                NOT USED**

- .1        Not Used.

**Part 3            Execution**

**3.1                NOT USED**

- .1        Not Used.

**END OF SECTION**

**Partie 1      General**

**1.1            RELATED REQUIREMENTS**

- .1      Section 01 11 01 – General Work Information.
- .2      Section 01 35 29.06 – Health and Safety Requirements.
- .3      Section 01 35 43 – Environmental Procedures.

**1.2            LOCATION**

- .1      The work to be performed is located in Îles-de-la-Madeleine, more precisely in the community of Cap-aux-Meules.
- .2      The preliminary location of the material to be dredged is shown on drawings QU-22005-M and QU-22006-M. Appendix A shows the authorized disposal site for Class B material. For Class A material, the open water disposal sites are indicated on plan QU-22005-M.

**1.3            MEASUREMENT FOR PAYMENT**

- .1      Only material excavated above the required dredge level and from side slopes indicated or specified will be measured.
- .2      Quantities shown on the price list are approximate amounts and may not be increased without written authorization from the Departmental Representative. No payment will be made for additional quantities unless authorized in writing by the Departmental Representative.
- .3      Item No. 1.1/3.1 of the Combined Price Table – Mobilization and demobilization of equipment for dredging and disposal of Class B materials for the harbour:
  - .1      Contractor agrees to provide, at the Departmental Representative's request, the following information related to the lump sum amount defined in this section, within 48 hours:
    - .1      Distances to be travelled in kilometres
    - .2      Itinerary
    - .3      Approximate dates
  - .2      The lump sum shall represent the costs incurred by Her Majesty in relation to setting up and commissioning the Contractor's equipment at the dredging site, as well as dismantling and demobilizing the Contractor's equipment upon completion of the work.
  - .3      Site organization costs shall be included in this lump sum.
- .4      Item No. 1.2/3.2 of the Unit Price Table – Development of land stockpiling area (depending on method of disposal):

- .1 The lump sum amount defined in the Unit Price Table under the “Development of land stockpiling area” shall represent the costs incurred by Her Majesty to build and/or develop the infrastructure required to:
  - .1 unload dredged materials at the wharf or any other location approved by the Departmental Representative;
  - .2 unload dredged materials at the land stockpiling area;
  - .3 build an outlet to allow excess water that accumulates in the stockpiling area to return to the harbour after filtration.

This amount shall also include restoring the premises, after work is completed, to its original condition and/or to the satisfaction of the Departmental Representative.
- .5 Item No. 2.1/4.1 of the Unit Price Table – Dredging of Class B materials for the harbour:
  - .1 Submit a unit price per cubic metre place measurement (CMPM) to be applied to the volume dredged.
  - .2 The dredging area is defined by side boundaries and depth levels indicated on the plans, including 3:1 side slopes, as stipulated in paragraph 1.4.16.
  - .3 Dredging will be measured in cubic metre place measurement. The volume will be established according to bathymetric soundings conducted before and after dredging of areas indicated on the plans is complete.
  - .4 In the event that the work exceeds thirty (30) days, a claim for progress payment based on the estimated volume payable by the Departmental Representative may be accepted.
  - .5 Based on the pre-dredge soundings, the Department reserves the right to modify the horizontal and/or vertical boundaries at any time in order to stay as close as possible to the quantities estimated in the unit price table.
  - .6 Sweeping and levelling the dredged areas are included in the unit price for dredging, along with all equipment, tools, labour, etc. required to do the work.
  - .7 All operations related to dredging equipment setup shall be deemed related to the work and will not result in a separate payment.
  - .8 Filling and sedimentation in areas where work is incomplete or areas that were previously dredged may occur prior to acceptance. The Contractor is responsible for dredging and subsequently removing all equipment from all areas indicated in the plans to the specified depth, in order to obtain the Certificate of Completion for dredging work. Fill or sediment removed during dredging will not be measured separately for payment.
  - .9 The Contractor’s unit price shall also include all costs associated with dredged materials below the dredge lines and outside the dredging limits.
- .6 Item No. 2.2/4.2 of the Unit Price Table – Disposal of Class B materials (dumping at sea):
  - .1 The Contractor shall submit a unit price per cubic metre place measurement (CMPM) to be applied to the volume determined in Item No. 2.1 of the Unit Price Table for dumping Class B dredged material at sea. Should the work take longer than thirty (30) days, a claim for progress payment based on the Departmental Representative’s estimate may be accepted.

- .2 Disposal of dredged material includes hauling dredged materials to the disposal site (dumping at sea).
  - .3 Dredged material will be disposed of in accordance with the requirements of the applicable Disposal at Sea Permits, and all other requirements set out in the contract documents.
  - .4 All operations related to hauling materials for dumping at sea will be considered as related to the work and will not be the subject of a separate payment.
- .7 Item No. 2.3/4.3 of the Unit Price Table – Disposal of Class B materials (management on land, depending on method of disposal):
- .1 Submit a unit price per cubic metre place measurement (CMPM) to be applied to the volume dredged.
  - .2 In the event that the work exceeds thirty (30) days, a claim for progress payment based on the quantities CMSM or m<sup>3</sup> pumped and measured at the disposal site may be accepted.
  - .3 The quantity payable for this item will be based on the results obtained for Item No. 2.1 of the Unit Price Table.
  - .4 The Contractor's unit price shall also include all costs associated with removing and disposing of all dredged materials below the dredge lines and outside the dredging limits.
  - .5 Include grading of land stockpiling area in unit price for stockpiling on land, as well as all equipment, tools, labor, etc. necessary to perform this work.
  - .6 Include grading of land stockpiling area in unit price for stockpiling on land, as well as all equipment, tools, labor, etc. necessary to perform this work.
- .8 **OPTION:** Item No. 5.1 of the Combined Price Table – Mobilization and demobilization of equipment for dredging and disposal of Class A materials for the channel and the harbour:
- .1 Contractor agrees to provide, at the Departmental Representative's request, the following information related to the lump sum amount defined in this section, within 48 hours:
    - .1 Distances to be travelled in kilometres
    - .2 Itinerary
    - .3 Approximate dates
  - .2 The lump sum shall represent the costs incurred by Her Majesty in relation to setting up and commissioning the Contractor's equipment at the dredging site, as well as dismantling and demobilizing the Contractor's equipment upon completion of the work.
  - .3 Site organization costs shall be included in this lump sum.
- .9 **OPTIONAL:** Item No. 6.1 of the Unit Price Table – Dredging of Class A materials for the channel and the harbour:
- .1 Submit a unit price per cubic metre place measurement (CMPM) to be applied to the volume dredged.

- .2 The dredging area is defined by side boundaries and depth levels indicated on the plans, including 3:1 side slopes, as stipulated in paragraph 1.4.16.
- .3 Dredging will be measured in cubic metre place measurement. The volume will be established according to bathymetric soundings conducted before and after dredging of areas indicated on the plans is complete.
- .4 In the event that the work exceeds thirty (30) days, a claim for progress payment based on the estimated volume payable by the Departmental Representative may be accepted.
- .5 Based on the pre-dredge soundings, the Department reserves the right to modify the horizontal and/or vertical boundaries at any time in order to stay as close as possible to the quantities estimated in the unit price table.
- .6 Sweeping and levelling the dredged areas are included in the unit price for dredging, along with all equipment, tools, labour, etc. required to do the work.
- .7 All operations related to dredging equipment setup shall be deemed related to the work and will not result in a separate payment.
- .8 Filling and sedimentation in areas where work is incomplete or areas that were previously dredged may occur prior to acceptance. The Contractor is responsible for dredging and subsequently removing all equipment from all areas indicated in the plans to the specified depth, in order to obtain the Certificate of Completion for dredging work. Fill or sediment removed during dredging will not be measured separately for payment.
- .9 The Contractor's unit price shall also include all costs associated with dredged materials below the dredge lines and outside the dredging limits.
- .10 **OPTIONAL:** Item No. 6.2 of the Unit Price Table – Disposal of Class A materials (discharge in open water harbour, harbour tidal flats):
  - .1 Submit a unit price per cubic metre place measurement (CMPM) to be applied to the volume determined in Item No. 4.1 of the Unit Price Table for dumping Class A dredged material at sea. Should the work take longer than thirty (30) days, a claim for progress payment based on the Departmental Representative's estimate may be accepted.
  - .2 Disposal of dredged material includes hauling dredged materials to the disposal site (dumping at sea).
  - .3 Dredged material will be disposed of in accordance with the requirements of the applicable Disposal at Sea Permits, and all other requirements set out in the contract documents.
- .1 All operations related to hauling materials for dumping at sea will be considered as related to the work and will not be the subject of a separate payment.
- .11 Miscellaneous considerations
  - .1 Include all materials, equipment, equipment transportation, leasing and installation, tools, labour and costs to perform work not specifically described in plans, specifications or any other bid documents but deemed necessary to ensure that the work is performed to professional standards.
  - .2 All work described in these specifications, represented in the plans or needed to complete the work covered by these specifications but not defined as a separate component entitling the Contractor to a lump sum or single payment shall be

deemed directly or indirectly related to the general purpose of the contract, and no separate payment shall be made for any such work; the cost of all work directly or indirectly related to the purpose of this contract shall, however, be included in the unit prices indicated in the bid.

- .3 No additional payment shall be made for temporary structures used during dredging operations.
- .4 No additional payment shall be made for delays attributable to fishing seasons or fishing gear located at the dredging sites or dumping site.
- .5 No additional payment shall be made for delays resulting from vessel traffic.
- .6 No additional payment shall be made for downtime.
- .7 No additional payment shall be made for mooring and anchoring facilities for the dredging or other floating equipment.
- .8 No additional payment shall be made for downtime resulting from operational performance adjustments.
- .9 No additional payment shall be made for lost time resulting from temperature conditions.

.12 Bidders shall present their bids as follows:

**Base work**

- .1 Total fixed price for mobilizing and demobilizing dredging equipment to perform the planned dredging work of Class B materials at Cap-aux-Meules. (Reference: Item No. 1.1/1.2/3.1/3.2)
- .2 Total fixed costs to build land stockpiling area for dredged materials, if Contractor so requires. (Reference: Item No. 1.3 of the Price Schedule)
- .3 Unit price per cubic metre place measurement (CMPM) for dredging an estimated volume of 6,000 CMPM of Class B materials. (Reference: Item No. 2.1/4.1)
- .4 Unit price per cubic metre place measurement (CMPM) for the disposal (dumping at sea) of dredged material as directed by the Departmental Representative. (Reference: Item No. 2.2/4.2)
- .5 Unit price per cubic metre place measurement (CMPM) for the disposal (management on land) of dredged materials as directed by the Departmental Representative. (Reference: Item No. 2.34.3)

**Optional work**

- .6 Total fixed price for mobilizing and demobilizing dredging equipment to perform the planned dredging work of Class A materials at Cap-aux-Meules. (Reference: Item No. 5.1)
- .7 Unit price per cubic metre place measurement (CMPM) for dredging an estimated volume of Class A materials. (Reference: Item No. 6.1)
- .8 Unit price per cubic metre place measurement (CMPM) for the disposal (dumping at sea) of Class A materials, as directed by the Departmental Representative. (Reference: Item No. 6.2) Class A material disposal sites are

identified on Plan QU-22005-M and shall not exceed a depth of 9 m to chart datum when filled.

- .13 Maximum dimensions:
  - .1 Removal of debris or obstructions, as authorized in advance by Departmental Representative, and cost of such work shall be determined based on the number of hours actually spent removing the material. Hourly cost of dredging equipment used to perform work shall be paid at rate previously negotiated and authorized in writing by Departmental Representative.
- .14 Payment schedule – Her Majesty shall pay the Contractor as follows:
  - .1 Mobilization/Demobilization – Floating equipment
    - .1 Once dredging equipment is at the dredging site, and after three (3) successive days of dredging operations, 50% of the lump sum under the Mobilization/Demobilization item in the bid documents.
    - .2 Remaining 50% will be included in final contract payment after Certificate of Completion is signed.
  - .2 Dredging
    - .1 In accordance with clauses 1.3.6, 1.3.8 and 1.3.10 of this section (and all sub-clauses thereof), monthly progress payments shall be made, based on work progress, or after Certificate of Completion is signed for 100% of the amount determined by the CMPM volume dredged and unit price for dredging.
  - .3 Disposal
    - .1 In accordance with clauses 1.3.7, 1.3.9 and 1.3.11 of this section (and all sub-clauses thereof), monthly progress payments shall be made, based on work progress, or after Certificate of Completion is signed for 100% of the amount determined by the CMPM volume dredged and unit price for disposal.
  - .4 Payment will include disposal of dredged material at specified locations.
  - .5 No additional payment shall be made for delays incurred during periods when dredging is prohibited.
  - .6 No additional payment shall be made for downtime and delays caused by vessel traffic or weather conditions.
  - .7 Excavation of infilling material in dredge area will not be measured for payment.

#### 1.4 DEFINITIONS

- .1 Dredging: excavation of submerged material (including debris and obstructions).
- .2 Evacuation: transportation and mass disposal of excavated material at a disposal site or on land.
- .3 Class A materials: solid rock to be mechanically fragmented, as well as boulders or rock fragments of individual volumes of 3.0 m<sup>3</sup> or more.

- .4 Class B materials: loose or shale rock, silt, sand, quick sand, mud, shingle, gravel, clay, sand, gumbo, boulders, hardpan and debris of individual volumes of at least 3.0 m<sup>3</sup>.
- .5 Debris: pieces of wood, wire rope, scrap steel, pieces of concrete and other waste materials.
- .6 Obstructions: materials other than Class A materials, with individual volume of 1.5 m<sup>3</sup> or more.
- .7 Chart datum: permanently established plane from which soundings or tide heights are referenced, usually Lowest Normal Tide (LNT).
- .8 Coordinate system
  - .1 MTM projection: Modified Transverse Mercator projection.
  - .2 MTM co-ordinates: plane rectangular co-ordinates used in grid system in which grid network is applied to MTM projection. Horizontal control information as indicated.
- .9 Estimated quantity: unless otherwise specified, volume of material above the required dredging depth, including material to be removed to shape the prescribed side slopes.
- .10 Depth or dredging depth: horizontal plane above which all material must be dredged.
- .11 Mechanical dredging equipment: floating equipment consisting of a clamshell bucket, dragging bucket, dipper or backhoe dredge mounted on the deck of a barge equipped with spuds, dump scows and tugs.
- .12 Hydraulic dredging equipment: equipment that uses the movement of water to excavate and transport underwater materials such as cutter suction dredger, suction dredger or trailing suction hopper dredger.
- .13 Lowest Normal Tide (LNT): plane so low that tide will seldom fall below it.
- .14 Measurements
  - .1 CMPM: cubic metres place measurement at dredging site.
  - .2 CMSM: cubic metres scow measurement.
- .15 Mechanical sweep: clearing dredged areas to grade depth using a mechanical device suspended from barge.
- .16 Side slope: inclined surface or plane from side limit of dredging area to intersection with natural seabed line outside of side limit and to be expressed as ratio of horizontal to vertical.
- .17 DGPS-RTK technology: technology that makes it possible to obtain GPS positioning (x, y, z) in real-time, with centimetric accuracies.
- .18 Verified area: dredging area deemed to be in compliance with indications, plans and specifications.
- .19 Certificate of acceptance of dredging work: a letter, email or memo sent to the Contractor by the Departmental Representative, confirming that dredging has been completed.
- .20 Departmental Representative: The Departmental Representative acts as the technical manager for the project. The Departmental Representative is appointed at contract award and is responsible for all technical aspects of the work stipulated in the Contract. The Departmental Representative is authorized to issue notices, instructions, and change

orders in accordance with the scope of Work under the contract. The Departmental Representative accepts, on behalf of Canada, all notices, orders or other communications with respect to the Work, within a reasonable time. The Departmental Representative reviews and follows up on the documents filed by the Contractor, in accordance with Contract requirements. The Departmental Representative cannot authorize changes to Contract terms and conditions.

## **1.5 ADMINISTRATIVE PROCEDURES**

- .1 Navigation co-ordination:
  - .1 Execute Work in accordance with Collision Regulations. Ensure Work does not obstruct navigation.
  - .2 Observe vessel movements and fishery activities in area affected by dredging operations, including movement of vessels at adjacent wharves.
  - .3 Plan and execute Work in manner that will not interfere with fishing operations, marina operations, construction activities at wharf sites, or access to wharves by land or water.
  - .4 Departmental Representative is not responsible for loss of time, equipment, material or any other cost related to interference with moored vessels in harbour or due to Contractor's other operations.
  - .5 Keep Watchkeeper Operations Centre, District Manager, Canadian Coast Guard (CCG), Fisheries and Oceans, informed of dredging operations in order that necessary Notices to Mariners will be issued.
  - .6 Make arrangements with CCG, as required, to relocate and replace buoys for execution of work. Advise nearest Coast Guard Base of any requirements to relocate channel markers/buoys within dredging area.
  - .7 Arrange operations to minimize interference with recreational boaters using channel and basin.
- .2 Work schedule
  - .1 Prior to starting work or within two (2) weeks after Contract award, submit work schedule to Departmental Representative for approval, including duration of each operation until work is completed.
  - .2 In addition to schedule required in preceding article, inform Departmental Representative date of arrival at site, at least two (2) weeks in advance. During that two-week period, conduct a pre-dredging bathymetric survey and inform Departmental Representative of results.
  - .3 Adhere to schedule agreed upon and take immediate action to correct any delays by modifying dredging work in progress or transporting and mobilizing other equipment. Inform Departmental Representative of corrective action implemented.
  - .4 Complete work by dates specified in contract documents.

## **1.6 REGULATORY REQUIREMENTS**

- .1 Approvals from regulatory agencies

- .1 Comply with municipal, provincial and national codes and regulations relating to project.
- .2 Mark floating equipment with lights in accordance with Collision Regulations and Notices to Mariners.
  - .1 Maintain VHF marine radio (Channel 16) on board floating equipment.

#### **1.7 INTERFERENCE WITH NAVIGATION**

- .1 Obtain all necessary information regarding vessel movements and fishery activities in area affected by dredging operations.
- .2 Plan and execute Work in manner that will not interfere with fishing operations, marina operations, construction activities at wharf sites, or access to wharves by land or water.
- .3 Department will not be responsible for loss of time, equipment, material or any other cost related to interference with moored vessels in work area or due to Contractor's other operations.
- .4 Inform Departmental Representative, forty-eight (48) hours in advance, if possible, of any special movement of dredging equipment (either for refueling, repairs, etc.).
- .5 Continuously and accurately report all dredging equipment movement to the Department of Fisheries and Oceans' Marine Communications and Traffic Services (MCTS).
- .6 If Contractor's equipment were to interfere with navigation, Contractor shall:
  - .1 notify DFO Marine Communications and Traffic Services (MCTS) and Departmental Representative;
  - .2 comply with Article 3.1.14 of this section;
  - .3 immediately remove such equipment at own expense. If Contractor fails to do so, Department will arrange for removal of obstruction and all costs incurred will be charged to Contractor.

#### **1.8 CHART DATUM, DEPTHS AND BENCHMARKS**

- .1 Dredging depths and levels used in these specifications and in contract drawings are expressed in metres from chart datum.
- .2 Depths will be reduced to chart datum using DGPS-RTK technology. Obtain, by own means and at own expense, all relevant data relating to the water level values to be used for Work.

#### **1.9 FLOATING EQUIPMENT**

- .1 Supply and maintain all dredging equipment required to dredge, load, transport and dispose of full volume of materials specified in specifications, taking into account bulking of material and excess material dredged, as applicable.
- .2 All equipment necessary to execute dredging contract shall be, at all times, to Departmental Representative's satisfaction.
- .3 Barges and dredging equipment under this contract shall have characteristics that prevent dredged materials from escaping during loading, hauling and transport operations.

**1.10 SITE INSPECTION**

- .1 Before submitting a bid, Contractor is responsible for obtaining all necessary information pertaining to nature and scope of Work and any conditions that could affect performance of said Work.
- .2 In submitting a bid, Contractor acknowledges that it understands the nature and location of Work, general and local conditions, particularly weather and climactic conditions, water turbulence, tide levels, physical conditions of work site, nature of soil and seafloor, nature of materials to be dredged, and any other circumstances that could affect conditions of Contract performance and value of Work.

**1.11 LOCATION INFORMATION**

- .1 Take necessary steps to become fully familiar with potential inclement weather and sea conditions in this area.
- .2 Particle size of surface materials is shown in Appendix B.
- .3 In harbour, areas covered by Work were most recently dredged in 2021, to a depth of 6.5 m. In channel, areas covered by Work were most recently dredged in 2021, to a depth of 7.1 m in channel and 6.8 m in channel expansion.
- .4 Due to weather exposure in dredging area, expect to experience sediment transport during Work, resulting in deposits in dredging area (reference: Articles 1.3.6.8 and 1.3.8.9 of this Section).
- .5 At Cap-aux-Meules, tidal range varies from 0.6 to 1.1 m and water level varies between 0.4 and 1.5 m above chart datum (CD). Daily tide predictions can be found at: <https://www.tides.gc.ca/tides/en/stations>
- .6 Approximate location of materials to be dredged and grade depth are indicated on drawings QU-22005-M and QU-22006-M. Planned dredging depths are 7.1 m for channel (including channel expansion area), 4.5 m for temporary wharf, 7.5 m for tanker wharf and 7 m for rest of harbour.
- .7 The contractor shall validate coordinates of all four corners of temporary wharf to ensure that a two (2) metre restriction zone is maintained around it. No dredging should be done in restriction zone to prevent risk of damaging structure integrity.
- .8 Research historical temperature and wave conditions and assess difficulties that may be encountered.

**1.12 BATHYMETRIC SURVEYS AND ACCEPTANCE OF WORK**

- .1 Perform all bathymetric surveys (soundings) required for dredging work.
- .2 Perform pre-dredge soundings at least five (5) working days prior to starting dredging work.
- .3 Bathymetric soundings will be at no cost to Departmental Representative.
- .4 Contractor shall subcontract the bathymetric soundings to a qualified firm (third party) with competent and experienced personnel to perform such soundings.
- .5 Perform all bathymetric soundings using the same equipment.

- .6 Perform bathymetric soundings using sounding and positioning equipment that ensure accuracy to at least 10 cm both vertically and horizontally.
- .7 Submit work plan to Departmental Representative for approval, at least ten (10) working days before performing first bathymetric sounding. This work plan shall include the following, without being limited to:
  - .1 Targeted survey completion dates.
  - .2 Characteristics of equipment used for surveys.
  - .3 Quality control procedures.
  - .4 Acquisition procedures.
  - .5 All baseline data used for georeferencing surveys.
  - .6 Resumes for people responsible for data acquisition and processing.
- .8 Submit changes to work plan to Departmental Representative for approval within ten (10) working days before performing next bathymetric survey.
- .9 Notwithstanding approvals issued by Departmental Representative, provide quality bathymetric data that meets requirements listed in plans and specifications.
- .10 Data transfer
  - .1 Submit raw and processed data files to Departmental Representative in agreed format. Agreed format must allow Departmental Representative to manipulate data using “Hypack” software.
  - .2 Within twenty-four (24) hours of completing data acquisition, submit to Departmental Representative:
    - .1 Information used to configure data collection;
    - .2 Information used to perform bathymetric surveys;
    - .3 Raw bathymetric survey data.
  - .3 Within three (3) working days after completing data collection, send processed data and validated bathymetric surveys to Departmental Representative for approval.
  - .4 Deliver bathymetric sounding results in an ASCII text file in the following format, based on a grid with the resolution indicated by the Departmental Representative:
    - .1 East coordinate (in metres), North coordinate (in metres), Depth (in metres)
    - .2 Example of file:  
362699.285,5564155.826,5.74  
362698.904,5564150.841,5.92  
362698.524,5564145.855,6.02
    - .3 Depths should be positive below chart datum and negative above.
    - .4 Each cell in the grid will contain the minimum depth.
    - .5 Filling the grid by interpolation is not permitted.
- .11 Approval of bathymetric survey results

- .1 Departmental Representative's approval of soundings will be based primarily on comparing survey submitted for approval with prior bathymetric surveys performed either by Departmental Representative or Contractor. For example, without limitation, Departmental Representative ensures that differences between surveys are less than or equal to 10 cm in area deemed representative (areas altered by dredging are removed from assessed areas).
- .12 If Departmental Representative rejects a bathymetric survey, re-survey as soon as possible, at no cost to Departmental Representative.
- .13 Bathymetric survey equipment:
  - .1 Positioning system:
    - .1 Real Time Kinematic (RTK) Satellite Positioning System or Approved Equivalent.
    - .2 Equipment: Trimble 5700 or equivalent.
  - .2 Sounding system:
    - .1 Multi-beam system including inertial unit.
    - .2 Vertical accuracy:  $\pm 0.1$  metre.
    - .3 Frequency: 200 to 400 kHz.
- .14 Bathymetric data processing:
  - .1 Data processing and validation steps should include the removal (by tagging) of erroneous raw data located above and below interpreted seabed.
  - .2 Once raw data have been validated, create grid with resolution of at least 100 cm by 100 cm and export in ASCII format.
  - .3 This grid may be generated from a 3D surface. However, the 3D surface shall be created in such a way that all shoaling is visible.
- .15 Perform soundings such that depth is measured at minimum every fifty (50) centimetres (0.25 m<sup>2</sup>).
- .16 The Departmental Representative reserves the right to perform bathymetric soundings for validation and quality control purposes.
- .17 Prepare drawing in AutoCAD format for each survey and submit to Departmental Representative to view survey results. Include following non-exhaustive list of information on drawing:
  - .1 Wharf and adjacent structures
  - .2 Dredge templates
  - .3 Soundings, ensuring that a sounding is traced every 5 mm to plan scale
  - .4 Draw soundings to represent minimum values measured.
  - .5 Bathymetric contours with contour interval of 1.0 metre
  - .6 One main bathymetric contour for each dredging level
  - .7 Projection grid
  - .8 Title block with metadata information.
  - .9 All other information deemed relevant.

- .18 Assume responsibility for producing all necessary information for Work to progress smoothly.

### **1.13 UNIT SYSTEM**

- .1 Values for bathymetric surveys, water levels, distances, areas and volumes, vertical benchmark elevations (based on CD), etc., referred to in these specifications, and those to be referred to during performance of Work, are and will be expressed in International System of Units (SI).

### **1.14 SITE CONDITIONS**

- .1 Before submitting a bid, obtain all necessary information pertaining to nature and scope of Work and any conditions that could affect performance of said Work.
- .2 Material to be dredged is Class B with Class A as option.
- .3 Results of prior soundings are made available for bidding purposes only. It should be noted that this information may differ from site condition. Take this into consideration when submitting bid.
- .4 Sediment sampling locations and particle size distribution are indicated in Schedule B. Grain size analysis is limited to the depth of core samples as specified and may not be indicative of the overall soil conditions.
- .5 Channel was previously dredged to a depth of 7.1 m below chart datum. Most recent dredging in harbour was to a depth of 6.5 m.
- .6 Results of most recent soundings are shown on drawings. Data may differ from actual site conditions; please take this into account when submitting bid.
- .7 Take necessary steps to become fully familiar with potential inclement weather and sea conditions in this area.

### **1.15 DREDGING EQUIPMENT**

- .1 Dredging equipment used for work to be of sufficient capacity and in good operating condition to complete Work in satisfactory manner within time schedule and in accordance with specifications.

## **Partie 2 Products**

### **2.1 DREDGING AND POSITIONING EQUIPMENT**

- .1 Determine equipment required to dredge prescribed materials and dispose of said materials in locations indicated.
- .2 Perform Work with a clamshell dredge and/or a hydraulic excavator and/or trailing suction hopper dredger.
- .3 Ensure dimensions, characteristics and draft of dredger are suitable for execution of Work.
- .4 Equipment for disposal of dredged sediment at sea: refer to Article 3.6 of this section.

- .5 Dredges and other floating equipment used within the context of this Work to be manufactured/built and registered in Canada or approved by Industry Canada – Aerospace, Defence and Marine Branch with relevant certificate of compliance (refer to tender documents).

### **Partie 3 Execution**

#### **3.1 GENERAL**

- .1 Obtain written approval of work schedule from Departmental Representative prior to performing work.
- .2 Dredge material to dredging levels indicated on drawings QU-22005-M and QU-22006-M. For information purposes, bathymetry from May 2022 shows location materials.
- .3 During Work, dredge entire area above dredging level as shown on plan.
- .4 Comply with dredging levels as directed by Departmental Representative to dredge as little material below these levels as possible. Assume responsibility and expense for any excess dredging.
- .5 Dredge using computerized system equipped with on-screen display of dredge position, relevant bathymetric data (location and depths of material to dredge) and dredging template.
- .6 Coordinates of relevant points for determining horizontal boundaries of areas to be dredged will be provided by Departmental Representative.
- .7 Ensure spatial positioning of dredge by own means.
- .8 Departmental Representative may verify, at their convenience, accuracy of Contractor's positioning system(s).
- .9 All principal, intermediate or secondary points ([X,Y], [X,Y,Z] and [lat, long]) used by Contractor, that were either determined by Contractor or provided by Departmental Representative or others, shall be at Contractor's sole risk and peril.
- .10 During Contract execution, dredge and support equipment shall be maintained in good working condition and properly repaired at all times.
- .11 Demobilization: Contractor may demobilize dredging equipment only after receiving authorization from Departmental Representative, which will be issued upon acceptance of Work.
- .12 Buoys required for Contract: Supply, place (anchor) and maintain, at own expense, all buoys or markers required to properly execute Work. If by chance or accident, one or more buoys/markers sink or drift, refloat and/or recover at own expense, to Departmental Representative's approval. Assume responsibility for any accident of any nature whatsoever caused by improper placement or poor visibility of buoys/markers during day, improper/poor lighting at night, or for any other reason.
- .13 Navigation buoys: Do not remove or relocate the main navigation buoys at any time. Any justified relocation of one or more buoys shall be made by Department of Fisheries and Oceans Canada; submit requests for this service to Departmental Representative at least five (5) working days in advance. Departmental Representative reserves right to evaluate merits of any request in this regard.

- .14 Maintain all signals and lights required to be installed on equipment necessary for Work in accordance with "Collision Regulations" and "Navigation Safety Regulations" on St. Lawrence River. Ensure all equipment required for Work is properly identified and/or visible at all times.
- .15 Subject to Departmental Representative's approval, no dredged material may be deposited anywhere other than disposal site designated by Departmental Representative.
- .16 Mark floating equipment with signal lights in accordance with International Rules of the Road and provide listening service on board.
- .17 Complete daily reports on these activities. Departmental Representative will provide forms prior to starting Work.
- .18 Execute Work ensuring no fishing gear is damaged and minimize interference with fishing operations when conducting operations within identified areas.
- .19 Assume responsibility for damage to fishing gear within marked areas when damage results from dredging work. Assume responsibility for reimbursing costs for repairs and lost fishing opportunities.
- .20 Keep all machinery in good working order at all times throughout Contract execution; repair quickly and properly as needed. Ensure all equipment used is seaworthy and in good condition.
- .21 If, during execution of Work, equipment provided is not, in Departmental Representative's judgement, suitable and sufficient to execute Work appropriately, or if Contractor falls behind schedule, within fifteen (15) days of receiving written notice from Departmental Representative, supply different equipment that meets all contractual requirements, subject to Departmental Representative's pre-approval.
- .22 Establish and maintain tide gauges or water level indicators to determine appropriate depth of dredging operations. Position tide gauges or water level indicators so they are clearly visible.
- .23 Remove accumulated materials resulting from Work at no additional cost to Crown.
- .24 Remove material deposited in area adjacent to Work and dispose of as dredged material. Unless authorized by Departmental Representative, no material shall be deposited in vicinity of Work.
- .25 Notify Departmental Representative immediately upon finding any object, including solid rock or boulders 3.0 m<sup>3</sup> or greater, that may be classified as debris or obstruction. Skirt object after clearly marking its location with buoys fabricated prior to starting Work, inform Departmental Representative of MTM coordinates and then proceed with Work.
- .26 Provide and assume all risks and costs for anchoring dredging equipment.
- .27 Take necessary precautions to protect existing structures located in vicinity of Work. Repair and assume cost for any damage incurred to these structures.
- .28 Unless authorized in writing by the Departmental Representative, dredging may not be carried out within 3.0 metres of any existing structure, or within restrictions indicated on plans. (Refer to commercial wharf and ferry wharf restrictions.) The intersection between the side slope and original ground line shall be 3.0 metres from any structure. Unless otherwise indicated on the plan, side slopes against the structure must be 3:1 for Class B

dredging and 2:1 for Class A dredging, measured perpendicularly to the side of the structure.

### **3.2 EXAMINATION**

- .1 Verification of location
  - .1 Work consists in dredging areas as indicated and as specified herein.
- .2 Bathymetric survey and acceptance of Work
  - .1 As soon as possible after notice of Contract award, the Departmental Representative will perform a comprehensive pre-dredge bathymetric sounding of the dredge areas, prior to starting work.
  - .2 No area may be dredged until the Departmental Representative has accepted the pre-dredge soundings for that area.
  - .3 Post-dredge soundings will be performed by the Contractor once dredging has been completed. Soundings will confirm if dredging is completed as specified and area can be considered cleared. If not, sounding will identify areas requiring additional work to achieve required dredging levels.
  - .4 If necessary, repeat dredging to remove all material from dredged areas to required dredging depth, in accordance with this section.
  - .5 Contractor shall assume all costs for bathymetric soundings.

### **3.3 LAYOUT OF WORK**

- .1 Immediately upon entering site for purpose of beginning work on this project, locate reference points and take proper action necessary to prevent their disturbance.
- .2 Maintain established horizontal and vertical control and lay out work from established references. Be responsible for accuracy of work relative to established references. Provide and maintain electronic position fixing and distance measuring equipment as required for accurate dredging control.
- .3 Make electronic positioning system available to Departmental Representative upon request. It must provide a continuous automatic update of position in all weather conditions. Minimum accuracy of positioning to be  $\pm 1$  metre. An on-line graphics display of position and hard copy capability is required.
- .4 Implement adequate means to determine appropriate depth of dredging work.
- .5 Establish and maintain additional markers and buoys for location and definition of designated dredge area limits as required. Remove on completion of work.

### **3.4 DREDGING**

- .1 Mark floating equipment with lights in accordance with Collision Regulations and maintain VHF (Channel 16) radio watch.
- .2 Place and maintain buoys and lights required to define work and disposal areas, as needed.
- .3 Assume responsibility for accuracy of work relative to tides. Provide and maintain electronic positioning and measuring equipment, as well as any other equipment normally required for accurate dredging control.

- .4 Remove materials above specified grade depths, within limits indicated. Dredging of material below subgrade depth or outside specified area or side slope is not part of Contract.
- .5 Remove, at no cost to Departmental Representative, any shoals or spills caused by accumulation of material during performance of Work.
- .6 Remove material cast-over on surrounding area and dispose of it as dredged material. Do not cast-over material unless authorized in writing by Departmental Representative.
- .7 Remove infilling in dredge areas that occurs prior to acceptance by Departmental Representative.
- .8 Notify Departmental Representative immediately upon discovery of any object that could be classified as obstruction. By-pass object after clearly marking its location and continue Work.
- .9 Tolerances
  - .1 Dredging level tolerance is 0.1 m.
  - .2 No depth above dredging level minus tolerance will be accepted within the dredging limits or above slopes.

### **3.5 CLASS A DREDGED MATERIALS**

- .1 Remove cover materials (Class B materials) above Class A materials.
- .2 If additional Class A materials must be dredged, Departmental Representative will evaluate such additional work. At Departmental Representative's request, provide required and appropriate dredging equipment to dredge, load, haul and dispose of such Class A materials to Departmental Representative's satisfaction. Cost of such additional work to the contract (dredging of Class A materials) shall be agreed upon in advance by the Contractor and Departmental Representative.

### **3.6 DISPOSAL OF DREDGED MATERIALS**

- .1 Dispose of dredged material at authorized sites, either on land and/or in marine environment, as Contractor has chosen.
- .2 Prior to starting Work, submit dredged material management plan to Departmental Representative for approval, including, at minimum, the following:
  - .1 Disposal method(s) selected;
  - .2 Transport and disposal method;
  - .3 Volume of material disposed at selected site(s);
  - .4 If applicable, details of all land disposal operations.
- .3 Dispose of spoil at authorized site in accordance with environmental regulations in force.
- .4 Ensure bottom of equipment used to transport dredged material is watertight and does not leak any dredged material during transport from dredging site to containment transfer area. If dredged material spills or leaks, stop work until remedial measures are taken.
- .5 Ensure SS control measures specified in Appendix C are implemented.
- .6 Ensure that

**Disposal site PBCM-1**

- .1 Ensure disposal site is at least 11.1 m deep, in accordance with Transport Canada's Canadian Navigable Waters Act. Sound disposal site to confirm required minimum depth was reached.
- .2 Assume responsibility for conducting all bathymetric surveys necessary to ensure and demonstrate compliance with requirements; provide one (1) pre-dredging survey, two (2) surveys during Work and one (1) post-dredging survey at disposal sites.
- .3 Provide and install any additional markers or buoys needed to guide boats to the dumping area (ocean dumping site). Maintain markers and buoys for duration of contract. Remove markers and buoys once the Departmental Representative has indicated that the ocean dumping site has been sounded and meets requirements.
- .4 The Contractor shall sound the disposal site(s) prior to starting work to confirm that each location meets the minimum required depth, and that it is not responsible for shallower water depths prior to the first dumping operations.
- .5 In the event that the disposal site (PBCM-1) is used by another promoter, the Contractor shall prepare a new dumping pattern that meets the surface area allocated to it within the ocean dumping site; all subsequent disposal operations shall respect this new pattern. The Contractor may be required to perform a new bathymetric sounding of the disposal site, at no cost to the Department.
- .6 Ensure dump scows are sealed and do not leak dredged material during transportation between dredging site and disposal area. If dredged material spills or leaks, stop work until remedial measures are taken.
- .7 Provide Disposal at Sea permit issued by Environment Canada pursuant to Part VI of the Canadian Environmental Protection Act prior to starting Work.
- .8 Dispose of dredged material at indicated dumping sites, in manner that meets Ocean Dumping Permit requirements and is approved by Departmental Representative.
- .9 Mark dump site with marker buoys equipped with signal lights and radar reflectors.
- .10 Buoys demarcating dump site shall be anchored within 15-metre radius of the theoretical position given by the Departmental Representative.
- .11 Dump in accordance with the dumping pattern approved by the Departmental Representative, to ensure dredged materials are spread out evenly. The Contractor shall have this pattern in hand before dredging begins.
- .12 Dumping shall be performed using a DGPS positioning system with + 5-metre accuracy or better.
- .13 Avoid overloading equipment used to transport dredged materials, especially in adverse weather conditions.
- .14 Perform ocean dumping as quickly as possible.
- .15 All equipment used for ocean dumping must be equipped with a bottom that opens for dumping sediment.

- .16 After the last dumping, depth of ocean disposal site shall be greater than prescribed depths. If this is not the case, the Contractor shall take corrective action as directed by, and to the satisfaction of, the Departmental Representative.

### **3.7 FIELD QUALITY CONTROL**

- .1 Site Tests/Inspections
  - .1 Cooperate with Departmental Representative during Work inspections and provide any assistance requested.
  - .2 At the Departmental Representative's request, the Contractor shall provide the vessels, equipment and labour normally used for dredging and disposal operations, and deemed necessary for the inspection and supervision of the work.
  - .3 Provide approved duty boat to transport Departmental Representative and PSPC Inspectors.
- .2 Non-conforming work
  - .1 Assume additional costs if, as result of incomplete Work, additional verification of depths by sounding becomes necessary.
  - .2 Re-dredge unsatisfactory work and verify depths with additional sounding or mechanical sweeping to Departmental Representative's approval.

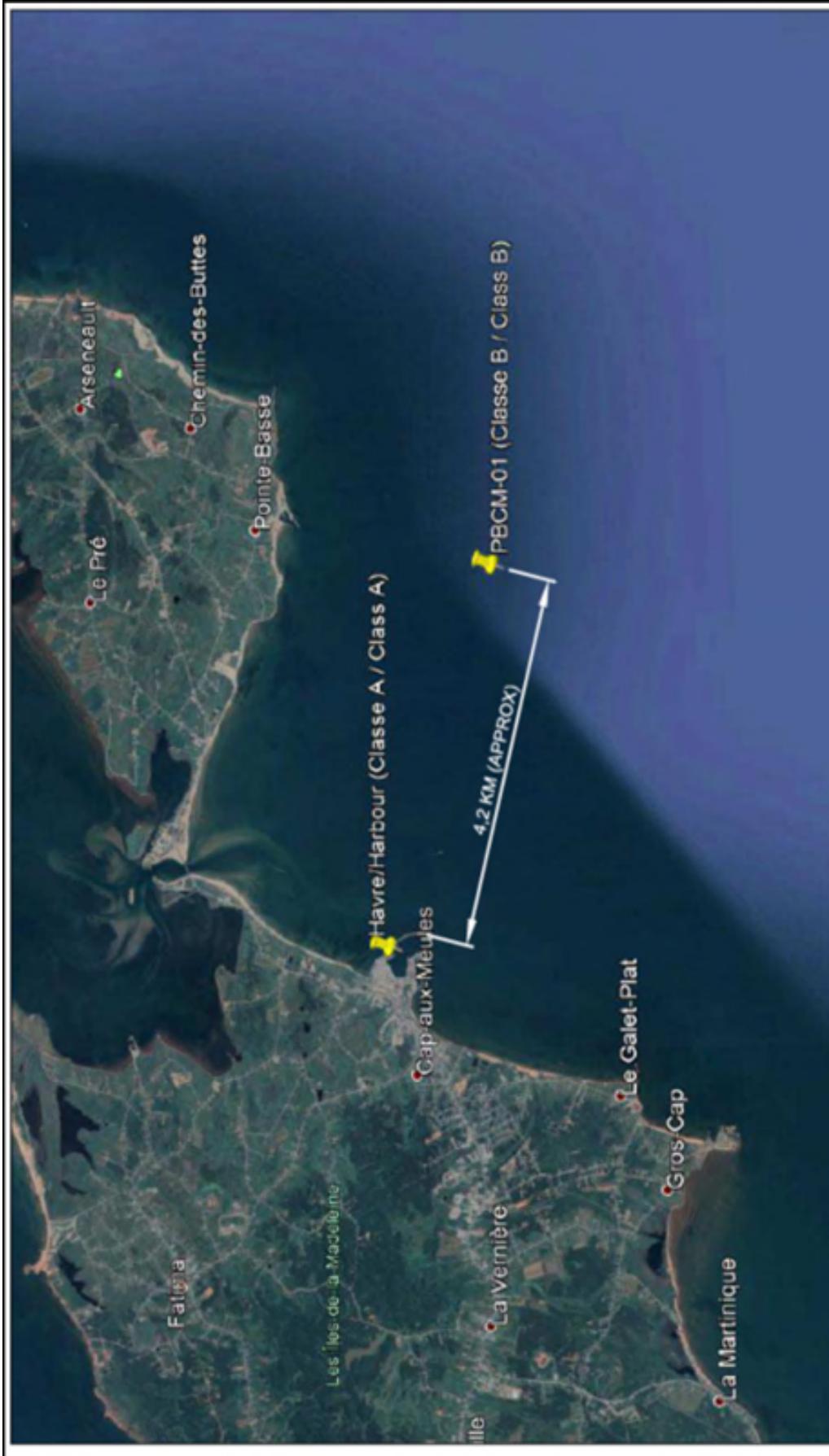
### **3.8 CLEANING**

- .1 Progress cleaning: Clean in accordance with Section 01 74 11 – Cleaning.
  - .1 Leave Work area clean at end of each day.
- .2 Final cleaning: Upon completion, remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11 – Cleaning.

**END OF SECTION**

# **APPENDIX A**

## **DISPOSAL AT SEA SITES**



CAP-AUX-MEULES (ILES-DE-LA-MADELEINE)  
 DRAGAGE DU HAVRE ET DU CHENAL  
 PROJET : R.082054.001  
 SEPTEMBRE 2020

CAP-AUX-MEULES (MAGDALEN ISLANDS)  
 HARBOUR AND CHANNEL DREDGING  
 PROJECT : R.082054.001  
 SEPTEMBRE 2020

SITES D'IMMERSION EN MER

DISPOSAL AT SEA AREAS

□

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CAP-AUX-MEULES (MAGDALEN ISLANDS)  
 Dredging of Harbour  
 Project N° : R.082054.600

# **APPENDIX B**

## **GRAIN SIZE OF MATERIAL**

CAP-AUX-MEULES

Granulométrie / Grain size

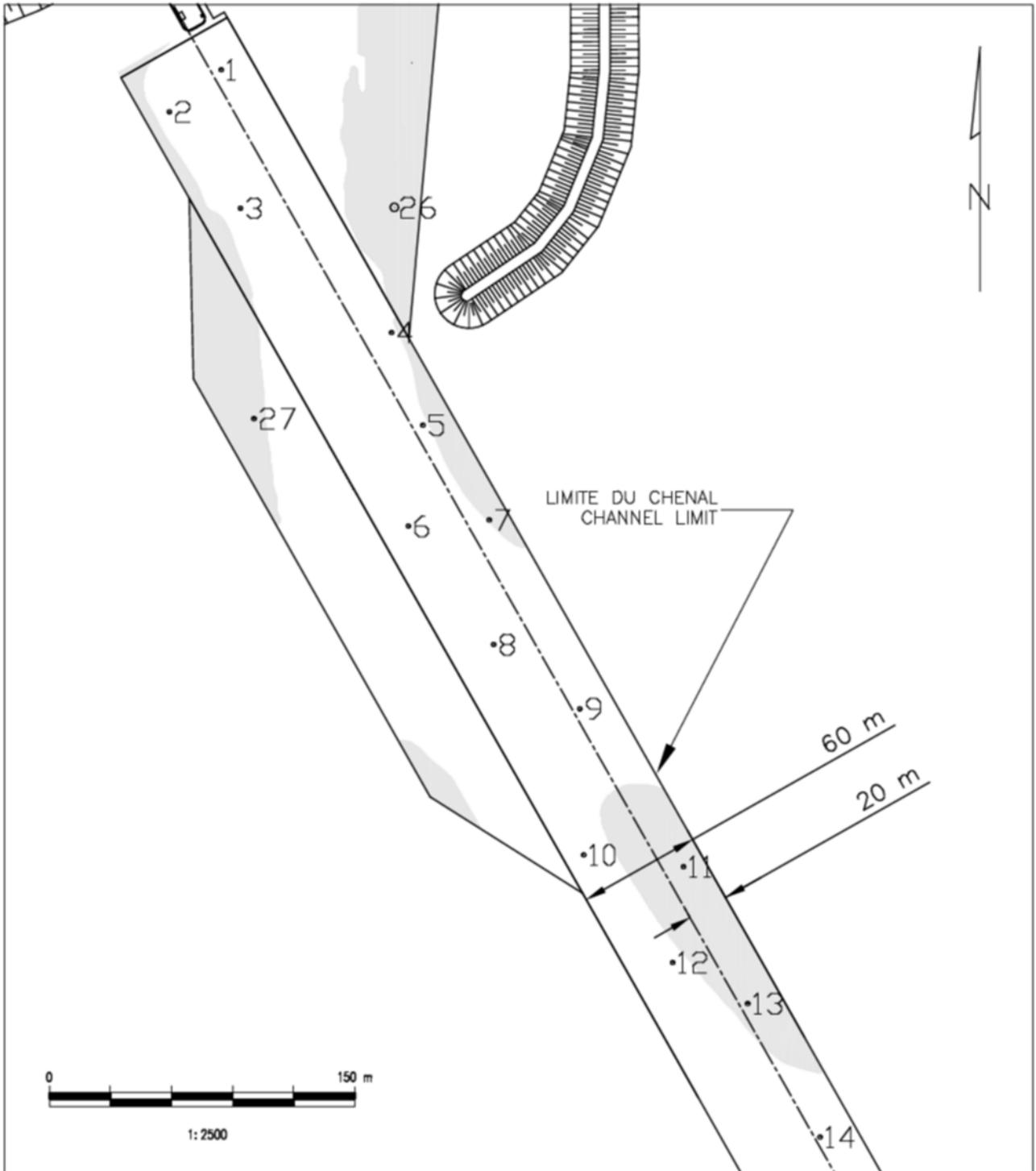
Date de l'échantillonnage : 29 juillet 2020 / Sampling date : July 29, 2020

Échantillon Sample	Numéro de référence Reference number	Granulométrie / Grain size			
		Gravier Gravel	Sable Sand	Limon Silt	Argile Clay
<b>CHENAL / CHANNEL</b>					
1	CaM2020-CH-1	<0.1%	65.0%	21.0%	14.0%
2	CaM2020-CH-2	<0.1%	54.0%	31.0%	15.0%
3	<b>CaM2020-CH-3A</b>	<0.1%	80.0%	13.0%	6.3%
4	CaM2020-CH-4	N/D	N/D	N/D	N/D
5	<b>CaM2020-CH-5A</b>	0.1%	97.0%	0.8%	2.5%
6	<b>CaM2020-CH-6A</b>	<0.1%	93.0%	4.1%	2.9%
7	CaM2020-CH-7	<0.1%	96.0%	0.7%	2.9%
8	CaM2020-CH-8	0.2%	96.0%	1.1%	2.3%
9	<b>CaM2020-CH-9A</b>	0.2%	97.0%	0.7%	2.0%
10	CaM2020-CH-10	<0.1%	97.0%	0.6%	2.2%
11	<b>CaM2020-CH-11A</b>	<0.1%	94.0%	0.4%	5.1%
12	CaM2020-CH-12	0.2%	97.0%	0.5%	2.0%
13	<b>CaM2020-CH-13A</b>	<0.1%	98.0%	0.2%	2.0%
14	CaM2020-CH-14	<0.1%	97.0%	0.7%	2.2%
27	CaM2020-CH-27	<0.1%	95.0%	2.6%	2.6%
<b>HAVRE / HARBOUR</b>					
15	CaM2020-HV-15A	0.3%	75.0%	12.0%	12.0%
15	<b>CaM2020-HV-15B</b>	0.6%	79.0%	12.0%	8.7%
16	CaM2020-HV-16	<0.1%	59.0%	21.0%	20.0%
17	CaM2020-HV-17	<0.1%	81.0%	11.0%	8.8%
18	<b>CaM2020-HV-18A</b>	<0.1%	76.0%	14.0%	10.0%
19	CaM2020-HV-19	3.8%	86.0%	5.8%	4.9%
20	CaM2020-HV-20	<0.1%	80.0%	12.0%	8.3%
22	<b>CaM2020-HV-22A</b>	<0.1%	69.0%	17.0%	14.0%
23	<b>CaM2020-HV-23A</b>	<0.1%	80.0%	11.0%	8.9%
24	<b>CaM2020-HV-24A</b>	<0.1%	54.0%	27.0%	18.0%
26	CaM2020-HV-26	<0.1%	76.0%	16.0%	8.5%
CaM2020-...	Échantillon au carottier (A=0 à 50 cm, B=50 à 100 cm et C=100 à 150 cm) Core sample (A=0 to 50 cm, B=50 to 100 cm et C=100 to 150 cm)				
CaM2020-...	Échantillon de surface Surface sample				

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□

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CAP-AUX-MEULES (ILES-DE-LA-MADELEINE)  
 DRAGAGE DU HAVRE ET DU CHENAL  
 PROJET : R.082054.001  
 SEPTEMBRE 2020

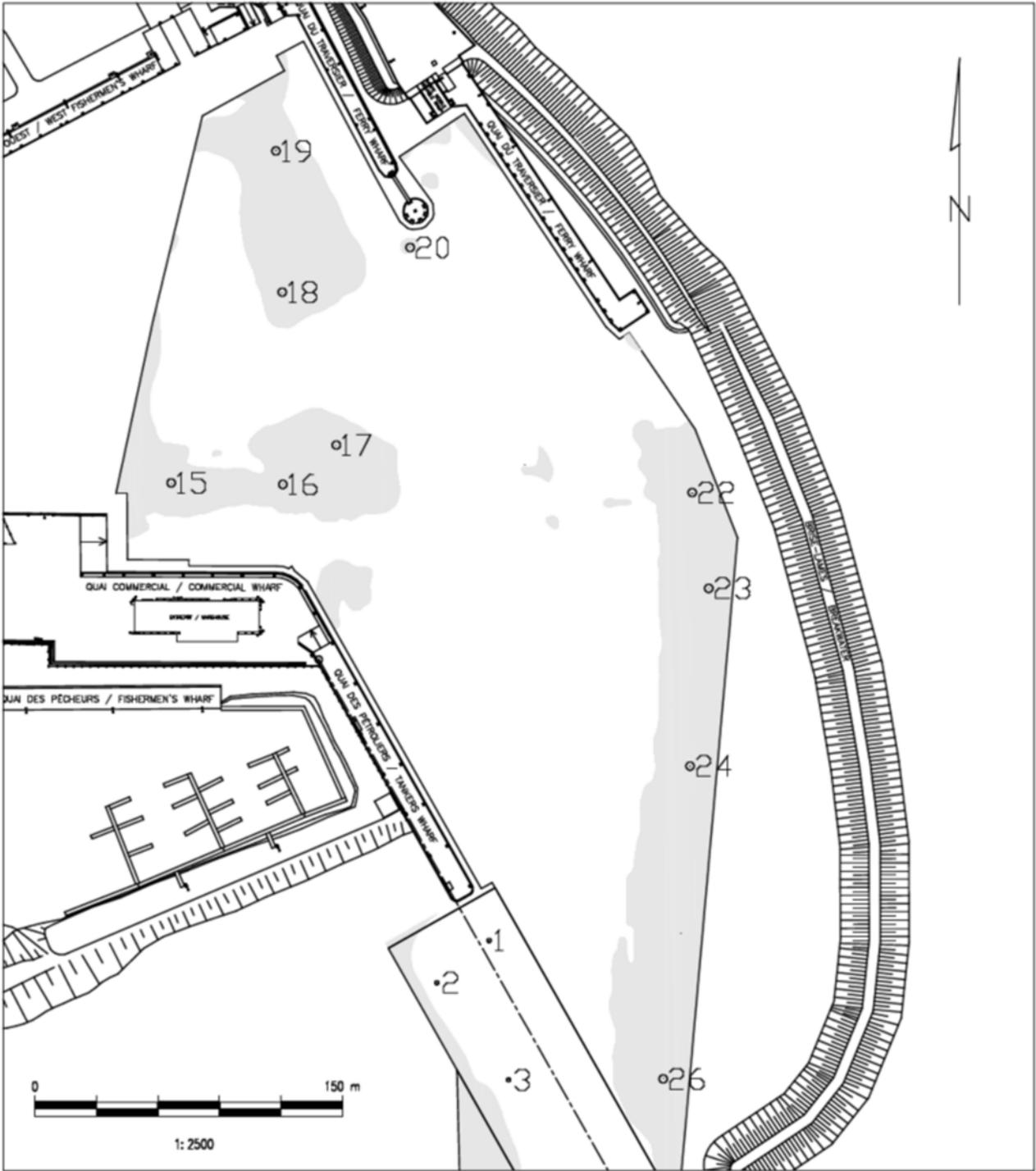
CAP-AUX-MEULES (MAGDALEN ISLANDS)  
 HARBOUR AND CHANNEL DREDGING  
 PROJECT : R.082054.001  
 SEPTEMBRE 2020

**STATIONS D'ÉCHANTILLONNAGE  
 CHENAL**

**SAMPLING STATIONS  
 CHANNEL**



CAP-AUX-MEULES (MAGDALEN ISLANDS)  
 Dredging of Harbour  
 Project N° : R.082054.600



CAP-AUX-MEULES (ILES-DE-LA-MADELEINE)  
 DRAGAGE DU HAVRE ET DU CHENAL  
 PROJET : R.082054.001  
 SEPTEMBRE 2020

**STATIONS D'ÉCHANTILLONNAGE  
 HAVRE**

CAP-AUX-MEULES (MAGDALEN ISLANDS)  
 HARBOUR AND CHANNEL DREDGING  
 PROJECT : R.082054.001  
 SEPTEMBRE 2020

**SAMPLING STATIONS  
 HARBOUR**

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CAP-AUX-MEULES (MAGDALEN ISLANDS)  
 Dredging of Harbour  
 Project N° : R.082054.600

# **APPENDIX C**

## **ENVIRONMENTAL MITIGATION MEASURES**

## FORMULAIRE DE SURVEILLANCE ENVIRONNEMENTALE

**IDENTIFICATION DU PROJET**

<b>Promoteur :</b>	Services publics et Approvisionnement Canada pour Transports Canada		
<b>Titre du projet :</b>	Dragage d'urgence du chenal d'accès et du havre du port de Cap-aux-Meules, Îles-de-la-Madeleine		
<b>Date de réalisation des travaux :</b>	Octobre		
<b>Date de réalisation de la surveillance :</b>			
<b>Activité de surveillance réalisée :</b>	<input checked="" type="checkbox"/>	Visite sur le terrain lors des travaux	
	<input type="checkbox"/>	Autre activité de surveillance (spécifier) :	
	<input type="checkbox"/>	Urgence environnement	

**SURVEILLANCE DU CHANTIER ASSURÉE PAR :**

Nom du surveillant :  
Titre :  
Compagnie :  
No de tél. :

**Je certifie que les renseignements fournis ci-dessus sont exacts et complets et qu'ils correspondent à mon interprétation des travaux.**

Signature : \_\_\_\_\_

Date : \_\_\_\_\_

Nom : \_\_\_\_\_

MESURES D'ATTÉNUATION			FOURNIR		MESURE RÉALISÉE		COMMENTAIRES (Sinon, expliquez!)
			Photo(s)	Document(s)	oui	non	
<b>Organisation et démolition du chantier</b>							
1	Activités et infrastructures portuaires	Planifier l'organisation et la mobilisation du chantier en collaboration avec les usagers du port afin d'assurer un bon déroulement des activités et minimiser les désagréments pour les usagers.					
2		Coordonner les différentes opérations de dragage avec les usagers du port et émettre des avis afin de les informer de la période des travaux, de la localisation des travaux et de la fréquence des déplacements entre l'aire de dragage et l'accès près du quai ou le site d'immersion en mer.					

MESURES D'ATTÉNUATION			FOURNIR		MESURE RÉALISÉE		COMMENTAIRES (Sinon, expliquez!)
			Photo(s)	Document(s)	oui	non	
3	Activités et infrastructures portuaires	Assurer une bonne gestion des services et l'accessibilité au quai en tout temps pour les activités portuaires des différents usagers (pêches commerciales, traversier, cargo pétrolier ou général...)					
4		Mettre en place un programme de sécurité spécifiant la signalisation qui sera mise en place et les restrictions sur la circulation dans les différents sites des travaux.					
5		Maintenir un système de communication adéquat entre les responsables des travaux et les usagers du port afin de minimiser les risques d'accident.					
Utilisation de la machinerie et transport des sédiments							
6	Qualité de l'eau, des sédiments et des sols	Respecter une distance minimale de 30 mètres du fleuve, d'un milieu aquatique ou d'un milieu humide pour effectuer le ravitaillement, le stationnement de la machinerie et l'entreposage des produits pétroliers. Si cette distance ne peut être respectée, l'entrepreneur devra installer un système de confinement secondaire adéquat pour contenir un déversement potentiel.					
7		Élaborer un plan de mesures d'urgence environnementale dans lequel on retrouve le nom des personnes et des autorités à contacter, de même que les mesures à mettre en œuvre en cas de déversement. Ce plan d'urgence devra être soumis à Transports Canada au moins 5 jours ouvrables avant le début des travaux.					
8		Maintenir en tout temps, à proximité de l'aire des travaux, des trousse d'intervention d'urgence complètes (produits absorbants, sacs étanches, obturateurs, gants, etc.) afin de confiner tout déversement. S'assurer que le personnel sache utiliser un tel équipement. Advenant un déversement d'hydrocarbures ou de toute autre substance nocive, tous les moyens nécessaires pour arrêter la fuite et confiner le produit déversé devront être pris					

MESURES D'ATTÉNUATION			FOURNIR		MESURE RÉALISÉE		COMMENTAIRES (Sinon, expliquez!)
			Photo(s)	Document(s)	oui	non	
9	Qualité de l'eau, des sédiments et des sols	Advenant un déversement d'hydrocarbures ou d'autres matières dangereuses, aviser les autorités compétentes selon le plan d'urgence. Rapporter immédiatement la situation au service d'urgence d'Environnement Canada (1-866-283-2333), à Urgence-Environnement du Québec (1-866-694-5454) et à la Garde côtière canadienne - Pollution maritime (1-800-363-4735). Veiller à ce que le terrain soit nettoyé, que les sols contaminés soient retirés et qu'ils soient éliminés dans un lieu autorisé selon leur niveau de contamination. Une caractérisation de la qualité des sols laissés en place, confirmant que le site touché a été réhabilité correctement, devra être effectuée à la satisfaction de TC.					
10		Ne pas entreposer les matériaux contaminés sur des sols à moins d'installer des toiles étanches et de les recouvrir de toiles si la disposition immédiate vers un centre de disposition accrédité n'est pas prévue. Abrier de toiles lestées les piles afin d'éviter que le vent soulève la poussière (et la contamination) et éviter que la pluie puisse ruisseler et provoquer l'érosion des sols de la pile contaminée vers le site.					
11		Maintenir la machinerie et les équipements utilisés lors des travaux en bon état de fonctionnement, propres et exempts de fuite d'huile, d'essence ou de tout autre liquide qui risque de polluer l'environnement et arrêter les moteurs lorsqu'inutilisés.					
12		Préconiser l'utilisation d'une huile hydraulique biodégradable dans la machinerie (pelles hydrauliques) qui travaillera à moins de 30 mètres d'un cours d'eau ou d'un milieu humide afin de réduire les impacts sur le milieu.					
13		Interdire le rejet de contaminants dans le golfe du Saint-Laurent, dans un milieu aquatique/marin ou dans un milieu humide.					

MESURES D'ATTÉNUATION			FOURNIR		MESURE RÉALISÉE		COMMENTAIRES (Sinon, expliquez!)
			Photo(s)	Document(s)	oui	non	
14	Qualité de l'eau, des sédiments et des sols	Retirer du chantier, tout au long des travaux, les matériaux inutilisés, les déchets et les débris de toutes sortes et les disposer dans un site autorisé, conformément à la réglementation applicable.					
15		Ne rejeter aucun déchet dans les cours d'eau. Retirer, dans les plus brefs délais, tout déchet accidentellement introduit dans ceux-ci.					
16		Pour les travaux réalisés au-dessus du niveau de la pleine mer supérieure de grande marée (PMSGM), mettre en place des mesures efficaces pour limiter l'apport de sédiments provenant du chantier vers le milieu aquatique et assurer leur entretien (p. ex. : barrière à sédiments, bermes, trappe à sédiments, bassin de sédimentation, stabilisation temporaire des talus, déviation des eaux vers des zones de végétation). Les mesures doivent demeurer efficaces lors de la fermeture temporaire du chantier et lors des périodes de crues ou lors de fortes pluies.					
17	Environnement sonore	Respecter la réglementation municipale en vigueur relative au bruit et ajuster les opérations de la machinerie en conséquence, si applicable.					
18		Tenter de limiter le camionnage et fermer les moteurs de la machinerie et des équipements lorsqu'inutilisés.					
19		Utiliser de la machinerie et des équipements en bon état de fonctionnement afin de minimiser le bruit.					
20		Prendre les précautions nécessaires afin de minimiser le niveau sonore général.					
21		Informez la municipalité de Cap-aux-Meules des activités prévues et de l'horaire des travaux.					

MESURES D'ATTÉNUATION			FOURNIR		MESURE RÉALISÉE		COMMENTAIRES (Sinon, expliquez!)
			Photo(s)	Document(s)	oui	non	
22	Environnement sonore	Entreprendre les travaux générant du bruit subaquatique de façon très progressive afin de permettre aux cétacés qui pourraient être présents dans la zone des travaux de quitter le secteur.					
23	Espèces exotiques envahissantes (EEE)	Fournir une preuve de la provenance des équipements et qu'ils soient exempts d'espèces exotiques envahissantes.					
24		Utiliser des équipements marins propres et entreposés sur la terre ferme avant la réalisation des travaux et les garder ainsi par la suite.					
25		Fournir une preuve à TC que les équipements déjà à l'eau sont restés le long de la côte des Îles-de-la-Madeleine au cours des 12 derniers mois ou plus et qu'ils sont exempts d'EEE juste avant de la mobiliser vers le site des travaux.					
26	MM	Réduire la vitesse des équipements dans le cas de l'utilisation d'une drague autoporteuse.					
27	Activités et infrastructures portuaires	Coordonner les différentes opérations de dragage avec les usagers du port et émettre des avis afin de les informer de la période des travaux, de la localisation des travaux et de la fréquence des déplacements entre l'aire de dragage et l'accès près du quai.					
28		Émettre des avis à la navigation afin d'informer les utilisateurs du port et de la voie navigable de la période et de la localisation des travaux.					
29		Assurer une bonne gestion des services et l'accessibilité au quai en tout temps pour les activités portuaires des usagers.					
30		Une coordination étroite est exercée entre l'entrepreneur, les opérateurs, le surveillant des travaux, la direction du port et TC afin de ne pas nuire aux activités en cours dans les limites du port, les activités du traversier et à celles des autres navires.					

MESURES D'ATTÉNUATION			FOURNIR		MESURE RÉALISÉE		COMMENTAIRES (Sinon, expliquez!)
			Photo(s)	Document(s)	oui	non	
31	Activités et infrastructures portuaires	Préparer un plan d'intervention et de signalisation afin d'assurer la sécurité des usagers du port.					
32	Activités récréotouristiques	Informar les utilisateurs de la marina de Cap-aux-Meules de la nature et de l'échéancier des travaux qui auront lieu dans le port.					
33		Limiter la circulation de la machinerie dans la zone des travaux et éviter de laisser tourner les moteurs des véhicules lorsqu'ils sont arrêtés ou inutilisés.					
34		Réduire le bruit des activités, principalement les fins de semaine.					
35	Qualité de vie	Informar la municipalité de Cap-aux-Meules de la nature et de l'échéancier des travaux.					
36		Limiter la circulation de la machinerie et éviter de laisser tourner les moteurs des véhicules lorsqu'ils sont arrêtés ou inutilisés.					
37		Respecter la réglementation municipale en vigueur sur les nuisances et ajuster les opérations de la machinerie en conséquence, si applicable.					
38	Sécurité publique	Coordonner les différentes opérations de dragage avec les usagers et le directeur du port et émettre des avis afin de les informer de la période des travaux, de la localisation des travaux et de la fréquence des déplacements entre l'aire de dragage et le site de rejet en eau libre ainsi que les dépôts sur le quai. Maintenir un système de communication adéquat entre les différents responsables des travaux.					
39		Assurer une bonne gestion des services et l'accessibilité du quai en tout temps pour les activités portuaires des usagers.					

MESURES D'ATTÉNUATION			FOURNIR		MESURE RÉALISÉE		COMMENTAIRES (Sinon, expliquez!)
			Photo(s)	Document(s)	oui	non	
40	Sécurité publique	S'assurer de respecter toutes les conditions liées à l'approbation émise par TC - Programme de protection de la navigation, si une telle approbation est nécessaire pour ce projet.					
41		Mettre en place un programme de sécurité spécifiant la signalisation qui sera mise en place et les restrictions sur la circulation dans les divers sites des travaux.					
42		Mettre en place une signalisation adéquate dans les divers secteurs des travaux afin d'assurer la sécurité du public et des usagers du port.					
43		Restreindre la circulation de la machinerie à l'intérieur de la zone des travaux.					
44		Maintenir un système de communication adéquat entre les responsables des travaux, le directeur du port et les usagers du port afin de minimiser les risques d'accident.					
45		Utiliser de la machinerie en bon état.					
46		Informier régulièrement les travailleurs des mesures environnementales et de sécurité.					
<b>Opération de dragage</b>							
47	Qualité de l' eau	Adapter la vitesse des activités de dragage et de largage (ex. : mouvement de la benne preneuse) pour minimiser la remise en suspension des sédiments.					
48		Utiliser une barge ou des tuyaux flottants étanches pour minimiser les pertes de sédiments dragués lors du transport.					
49		Éviter de remplir de manière excessive la barge dans le cas d'un dragage mécanique ou la drague dans le cas d'utilisation d'une drague autoporteuse (surverse) pour minimiser les pertes et, ainsi, la remise en suspension de sédiments dragués.					

MESURES D'ATTÉNUATION			FOURNIR		MESURE RÉALISÉE		COMMENTAIRES (Sinon, expliquez!)
			Photo(s)	Document(s)	oui	non	
50	Qualité de l' eau	Cesser les opérations lorsque les conditions météorologiques sont défavorables (forts vents et vagues) et pourraient provoquer la perte des sédiments de la barge.					
51		Lors du remplissage de la barge, descendre la benne de la pelle le plus bas possible avant de relâcher les sédiments.					
52		L'entrepreneur doit s'assurer de respecter les critères en vigueur concernant les concentrations de MES pendant les activités de dragage des sédiments, par la mise en place de mesures spécifiques:					
53		<p>Si un panache de MES est observé durant les travaux, le représentant du ministère pourrait exiger la prise de mesure afin de s'assurer du respect des critères suivants.</p> <ul style="list-style-type: none"> <li>À 100 m de la drague : Augmentation moyenne maximale de la concentration en MES de 100% par rapport aux teneurs ambiantes, sur la période de dragage quotidienne ou sur une période consécutive de 6 heures si le dragage est continu;</li> <li>À 300 m de la drague : Augmentation moyenne maximale de la concentration en MES de 25 mg/L par rapport aux teneurs ambiantes, sur la période de dragage quotidienne ou sur une période consécutive de 6 heures si le dragage est continu.</li> </ul>					
54	Faune benthique et ichtyenne	Respecter l'aire de dragage (limites et profondeurs prédéterminées). Un système de positionnement précis de type DGPS sur l'équipement de dragage permettra de respecter les limites de cette dernière.					
55		Gérer de façon responsable les sédiments retirés afin d'éviter la dispersion de ceux-ci dans le milieu marin.					
56		Ne pas réaliser les travaux de dragage des sédiments du 16 juillet au 10 août afin de protéger la période de concentration larvaire maximale pour le homard d'Amérique et le crabe commun.					

MESURES D'ATTÉNUATION			FOURNIR		MESURE RÉALISÉE		COMMENTAIRES (Sinon, expliquez!)
			Photo(s)	Document(s)	oui	non	
57		Appliquer les mesures d'atténuation énoncées pour la qualité de l'eau.					
58	Mammifères marins	Interrompre les opérations de largage des sédiments dans le cas où un mammifère marin est présent dans la zone des travaux (à moins de 200 m autour des barges). Rester stationnaire et reprendre les travaux seulement lorsque le mammifère marin a quitté la zone de protection.					
59	Activités et infrastructures portuaires	Planifier et coordonner les différentes opérations de dragage avec le directeur et les usagers du port afin de limiter les effets sur les activités portuaires.					
60		Maintenir l'accès du port pour les bateaux en tout temps.					
61		Émettre un avis à la navigation afin d'assurer la sécurité des usagers.					
62		S'assurer de respecter toutes les conditions liées à l'approbation émise par TC - Programme de protection de la navigation, si une telle approbation est nécessaire pour ce projet.					
Disposition du roc dans les sites d'affouillement à l'intérieur des limites du port							
63	Activités et infrastructures portuaires	Une coordination étroite est exercée entre l'entrepreneur, les opérateurs, le surveillant des travaux, la direction du port et TC afin de ne pas nuire aux activités en cours dans les limites du port, les activités du traversier et celles des autres navires.					
64		Émettre des avis à la navigation afin d'informer les utilisateurs du port et de la voie navigable de la nature, la période et la localisation des travaux.					
65		Assurer une bonne gestion des services et l'accessibilité au quai en tout temps pour les activités portuaires des usagers.					

MESURES D'ATTÉNUATION			FOURNIR		MESURE RÉALISÉE		COMMENTAIRES (Sinon, expliquez!)
			Photo(s)	Document(s)	oui	non	
Immersion en mer							
66	Qualité des sédiments	Utiliser un équipement de dragage limitant au maximum la remise en suspension des sédiments.					
67		S'assurer que la barge servant au transport des déblais est étanche et ne pas la surcharger afin de réduire la probabilité de surverse lors du transport.					
68		Respecter les limites du site d'immersion (ou du gabarit de dragage habituel advenant la pratique du <i>side casting</i> ) pour effectuer le largage des sédiments.					
69		Interrompre les travaux lorsque des conditions météorologiques difficiles (p. ex. : forts vents, tempête, etc.) se manifestent afin d'éviter la dispersion des sédiments hors de l'aire de travail.					
70	Qualité de l' eau	L'entrepreneur doit s'assurer de respecter les critères en vigueur concernant les concentrations de MES pendant les activités de largage des sédiments, par la mise en place de mesures spécifiques : <ul style="list-style-type: none"> <li>À 100 m de la drague et du point de rejet : Augmentation moyenne maximale de la concentration en MES de 100% par rapport aux teneurs ambiantes, sur la période de dragage quotidienne ou sur une période de 6 heures consécutives si le dragage est continu;</li> <li>À 300 m de la drague et du point de rejet : Augmentation moyenne maximale de la concentration en MES de 25 mg/L par rapport aux teneurs ambiantes, sur la période de dragage quotidienne ou sur une période de 6 heures consécutives si le dragage est continu.</li> </ul>					
71		Adapter la vitesse de largage des sédiments dragués au site de rejet en eau libre afin de minimiser la remise en suspension des sédiments.					

MESURES D'ATTÉNUATION			FOURNIR		MESURE RÉALISÉE		COMMENTAIRES (Sinon, expliquez!)
			Photo(s)	Document(s)	oui	non	
72	Qualité de l' eau	Utiliser une barge étanche dans le cas d'un dragage mécanique ou réduire la surverse (en diminuant le chargement de la drague) dans le cas où une drague autoporteuse est utilisée afin de minimiser les pertes de sédiments dragués lors du transport.					
73		Éviter de remplir de manière excessive la barge dans le cas d'un dragage mécanique pour minimiser les pertes et ainsi la remise en suspension de sédiments dragués lors du transport.					
74		Cesser les opérations lorsque les conditions météorologiques sont défavorables (forts vents et vagues) et pourraient provoquer la perte des sédiments de la barge ou de la drague autoporteuse.					
75	Faune benthique	Effectuer la mise en dépôt des sédiments dragués de façon à étaler ces derniers sur l'ensemble de la portion ciblée en plusieurs dépôts distincts pour ne pas créer une accumulation trop importante de sédiments et, ainsi, favoriser la survie des organismes capables de migrer vers la surface des sédiments nouvellement déposés.					
76		Respecter l'aire qui sera ciblée pour la mise en dépôt des sédiments dragués au site de rejet en eau libre. Un système de positionnement précis de type DGPS permettra de respecter les limites de cette dernière.					
77		Faire l'immersion lorsque les conditions météorologiques sont favorables.					
78		Ne pas réaliser les travaux de dragage et d'immersion en mer des sédiments du 16 juillet au 10 août afin de protéger la période de concentration larvaire maximale pour le homard d'Amérique et le crabe commun.					
79	Faune ichtyenne	Respecter l'aire qui sera ciblée pour la mise en dépôt des sédiments au site de rejet en eau libre. Un système de positionnement précis de type DGPS permettra de respecter les limites de cette dernière.					

MESURES D'ATTÉNUATION			FOURNIR		MESURE RÉALISÉE		COMMENTAIRES (Sinon, expliquez!)
			Photo(s)	Document(s)	oui	non	
80	MM	Interrompre les opérations de largage des sédiments dans le cas où un mammifère marin est présent dans la zone des travaux (à moins de 200 m autour des barges). Rester stationnaire et reprendre les travaux seulement lorsque le mammifère marin a quitté la zone de protection.					
Disposition des sédiments sur les quais pour entreposage temporaire							
81	Activités et infrastructures portuaires	Émettre des avis à la navigation afin de ne pas perturber la circulation maritime commerciale et d'assurer la sécurité des usagers.					
82		Planifier et coordonner les différentes opérations de disposition avec le directeur et les usagers du port afin de limiter les effets sur les activités portuaires.					
83		Procéder aux aménagements requis de façon à éviter le débordement des eaux dans les milieux environnants et maintenir la pérennité des milieux naturels adjacents en respectant les lois et règlements applicables.					
84		Maintenir l'accès du port pour les bateaux en tout temps.					
Présence d'aire d'assèchement sur l'un des quais pour la disposition des sédiments							
85	Activités et infrastructures portuaires	Informer les utilisateurs du port et du ou des quais utilisé(s) de la nature et la période d'entreposage des sédiments.					
86		Restreindre la circulation des véhicules et des piétons à l'intérieur des aires désignées.					

MESURES D'ATTÉNUATION			FOURNIR		MESURE RÉALISÉE		COMMENTAIRES (Sinon, expliquez!)
			Photo(s)	Document(s)	oui	non	
87	Qualité de l' eau	Pour les travaux réalisés au-dessus du niveau de la pleine mer supérieure de grande marée (PMSGM), mettre en place des mesures efficaces pour limiter l'apport de sédiments provenant du chantier vers le milieu aquatique et assurer leur entretien (p. ex. : barrière à sédiments, bermes, trappe à sédiments, bassin de sédimentation, stabilisation temporaire des talus, déviation des eaux vers des zones de végétation). Les mesures doivent demeurer efficaces lors de la fermeture temporaire du chantier et lors des périodes de crues ou lors de fortes pluies.					
88		Disposer les matériaux de déblais à l'extérieur du niveau de la pleine mer supérieure de grande marée (PMSGM). Si requis, confiner ou stabiliser ces matériaux (p. ex. : toile imperméable, barrière à sédiments) de façon à prévenir l'apport de sédiments vers le milieu aquatique.					
89		Lorsque les conditions météorologiques se détériorent (p.ex. : forts vents, tempête, etc.), arrêter les travaux afin d'empêcher la dispersion de matières remises en suspension par les travaux.					

**Commentaires (observations sur le terrain, mauvaise gestion des déchets, présence d'huiles usées, fuites sur la machinerie, travaux réalisés non pris en compte dans l'évaluation environnementale, etc. - tout détail n'étant pas mentionné dans les mesures d'atténuation) :**

# **APPENDIX D**

## MARINE MAMMAL MONITORING FORM

