

MATANE  
District: Haute-Gaspésie - La Mitis - Matane - Matapédia

Project: R.054888.001      Deck Wharf Reconditioning      2013

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SPECIFICATION

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LIST OF DRAWING AND DETAILS:

<u>Plan no</u>	<u>Sheet no</u>	<u>Description</u>
RM 13005C	C01/C08	Localisation plan General layout before works
	C02/C08	Construction phases
	C03/C08	General layout and sections Concrete slab before works
	C04/C08	Sections and details Concrete slab before works
	C05/C08	General layout and sections Concrete slab after works
	C06/C08	Sections and details Concrete slab after works
	C07/C08	General layout, sections and details Pipes and pulling boxes
	C08/C08	General layout and details Pavement and wheelguards marks

**Part 1            General**

**1.1                WORK COVERED BY CONTRACT DOCUMENTS**

- .1        Work under this contract includes repair to the surface of the commercial wharf in Matane. The work includes, but is not limited to, excavation of paving and granular fill, the establishment of a new concrete slab of 150 mm, laying pipes and manholes for cathodic protection, the implementation of a granular fill and a new layer of asphalt.
- .2        The Contractor shall coordinate its activities with the commercial wharf transshipment operations. Work will therefore be separated into several phases to ensure optimal use of the wharf during construction.

**1.2                PROJECT PHASES**

- .1        Install a security perimeter on the working area, made of concrete blocks New Jersey or any other fence considered safe enough by the Departmental Representative. The safety zone will be displaced in accordance with each phase.
- .2        For each phases, the Contractor shall limit excavation, laying of pipes and manholes and granular fill. The Contractor will not be allowed to excavate or work in two phases at a time. Thus, each phase is independent and must be completed before moving to the next.
- .3        The project will include four distinct phases:
  - .1        Phase A is related to the work in an area of 40 m located at the north end, as illustrated in the drawings. This phase will necessarily be made first. The Contractor shall close the working area with concrete barriers to provide a security perimeter. Site users won't be allowed to use this area as the contractor has long as the Contractor hasn't completed the compaction of granular material.
  - .2        When the phase A will be completed, and the Departmental Representative has approved the work, the Contractor will be allowed to move into phase B, which is an area of 90 m in length the center of the platform. The Contractor shall be permitted to work on a bunch of 30 linear meters at a time and must have completed the granular fill before being allowed to excavate a new band of 30 m. Thus, the phase B is separated into three sub-steps: B-1, B-2 and B-3. Each sub-phase shall be completed until the installation of the granular materials before proceeding to the next sub-phase.

A security perimeter with concrete block will be built in each band of 30 m. In this area, only the Contractor will be allowed to work. Users dock may use the other two bands of 30 m width of the phase B at any time. During starts transshipping, the Contractor shall barricade and leave the working area in phase B and will move the work to the South end of the dock to the "buffer zone". A band of 56 m in length at the south end of the dock will become the working zone when site users will use the center of the deck.
  - .3        When site users use the dock for transshipment operations, the Contractor shall be required to move to the buffer zone. This is to avoid crossing machinery and heavy vehicles in the center of the platform. The buffer zone will also be surrounded by a

security perimeter slide in concrete New Jersey. However, in this area, the contractor is not required to complete the work before moving again to the buffer zone. This area is designed to avoid loss of time related to the activities of site users in the center of the platform. Thus, the Contractor shall consider the buffer zone as an area of secondary work.

- .4 Thus, the work in phases B-1, B-2 and B-3 will be discontinued and transferred to the buffer when there are docked boats. An exception to this rule may be granted to the Contractor if the Departmental Representative considers that there is no risk to the health and safety of workers during the transshipment operations. In such a case, a written agreement must be signed by the Contractor, users dock and Departmental Representative.
- .5 In each of the phases or sub-phases, users dock will be allowed to run as soon as the granular backfill is completed and the security perimeter removed. The Contractor remains responsible for safety in each phases and must ensure that the bearing surfaces are safe at all times.
- .6 In the event that the work in the buffer zone are completed and there is a loss of time for the Contractor in the sub-phase B-1, B-2 and B-3, the Contractor shall be entitled to claim compensation for loss of time, as stipulated in section 01 14 00, section 1.5.

### 1.3 WORKING DESCRIPTION

The following description of the work applies to all phases or sub-phases, unless otherwise indicated.

- .1 Install a security perimeter on the working area, made of concrete blocks New Jersey, or any fence considered safe enough by the Departmental Representative. The safety zone will be displaced in accordance with each phase.
- .2 Excavate and ship off-site coating of asphalt concrete on the surface of the commercial wharf of Matane.
- .3 Excavate and ship off-site granular backfill present on the surface of the platform.
- .4 Fill holes for drainage of the slab with concrete repair.
- .5 Clean the existing concrete slab so that it is free of debris, grease, oils and other contaminants, until accepted by the Departmental Representative. Leave a dry surface, free of dirt, grease, rust and other debris.
- .6 Perform concrete drilling required in the slab along the beams and the locations shown on the drawing. The drill holes are along the piles. The Contractor shall validate the points provided on the site plan.
- .7 Put a 150 mm concrete slab army on the existing slab, as shown on drawings.
- .8 After a wet cure of 3 days, install 75 mm diameter galvanized steel pipes and manholes on the new concrete slab. Backfill the galvanized steel pipes with a concrete layer, as shown on drawings. Also provide a 3-day concrete curing.

- .9 After a curing time of 7 days after the casting of the slab or when the specific resistance is reached, backfill the new concrete slab with a layer of approximately 175 mm MG-20.
- .10 The compaction of granular material shall be done without vibration, according to the results of the board of reference.
- .11 When the granular material will put in place, compacted and accepted by the Departmental Representative, remove the security perimeter of the construction phase and move to the new.
- .12 When all work on each phase will be compacted, decontaminate and reshape 50 mm of granular material to ensure proper installation of bituminous coating.
- .13 Perform the installation of a bituminous coating ESG-14 75 mm thick over the entire deck.
- .14 Perform marking and painting of bituminous as shown on drawings.
- .15 Throughout the work on the commercial wharf of Matane, the Contractor shall take the necessary steps to not hinder port operations, especially during unloading tankers. In this regard, see with the port director of Matane by contacting 418-566-7152. If temporary disruption of access to the wharf is necessary, the Contractor shall obtain permission from the concerned authorities and users and provide Departmental Representative a written statement about it.

#### **1.4 CSST REQUIREMENT**

- .1 The Contractor shall submit the documentary evidence itself and its subcontractors complied with the requirements of the Commission for Health and Safety Labour Quebec.
- .2 Pursuant to the provisions of the Québec Act respecting Occupational Health and (R.S.Q., c. S-2.1) and solely for the purposes on the said Act, the Contractor shall assume from the beginning of the work, the role and obligations of principal contractor as defined in the said Act in addition to the obligations incumbent on him as an employer under the provisions of the said Act and also meet his obligations in respect to health and safety as stipulated in these contract documents.

#### **1.5 ORDER OF WORK**

##### Phase A :

- .1 Commercial wharf must remain operational at all times, and the work will be divided into different phases.
- .2 Phase A will include the work named in 1.3 and will be located north of the wharf on a length of 40 linear meters.
- .3 The Contractor shall be entirely free to work in this area, and the transshipping operation of vessels will not interfere with construction.
- .4 The work will be considered completed on the A phase, when the layer of MG-20 will be packed according to the required specifications.

Sub-phases B-1, B-2 and B-3 :

- .5 When Phase A is completed, the Contractor shall move its security perimeter to the sub-phase B-1. This area is located at the center of the platform and has a length of 30 m.
- .6 The Contractor will not be allowed to excavate more than 30 linear meters in each working area of Phase B, to ensure not to interfere with ongoing activities on the dock.
- .7 In addition the working in phase B, the Contractor shall also establish a security perimeter in the "buffer zone", located in the south over a length of 56 m.
- .8 When vessels are berthed at the dock and activities may affect or delay the Contractor, he will necessarily move his operations to the buffer zone.
- .9 When the ship unloading is complete, the Contractor shall leave the buffer zone and return to the area of phase B. The work of Phase B will always take precedence over the work in the buffer zone.
- .10 When Phase B-1 will be backfilled; the Contractor shall move its scope of work to phase B-2. However, the Departmental Representative shall give its written consentment before allowing the contractor to change phases.

**1.6 BEGINNING AND ENDING OF WORK**

- .1 The Contractor shall begin as soon as possible after receiving the deposit and insurance after receiving confirmation that its bid has been accepted, because intensive use of the dock Matane, no delay will be accepted.
- .2 The Contractor shall coordinate its activities with the usual operations of the harbor. Thus, some dead time periods are to be expected in the normal work schedule. To minimize delays, the Contractor will be allowed to provide two shifts per week. Thus, the day shift will be allowed to work from 7:00 to 18:00 and evening shift from 19:00 to 6:00. In addition, overtime weekend time may be authorized by the Departmental Representative, if the Contractor makes the request 72 hours in advance. The additional time for the weekend period shall be received at least 72 hours in advance, otherwise, it will be automatically rejected by the Departmental Representative.

**1.7 CONTRACTOR USE OF PREMISES**

- .1 Site use is restricted to necessary area for the execution of the work. Compliance phase of the project is paramount and any change in the phasing and schedules to this specification must be approved in writing jointly by the Departmental Representative and the Contractor.
- .2 The Contractor shall put in place appropriate signboards on the access road to the harbour.
- .3 Perform work with minimal disruption to occupants and normal users. The transport of materials on most of the wharf and the circulation in the harbor will remain operational despite the work of the Contractor. Boat transportation will not be interrupted during construction. Make arrangements with the port management to facilitate the use of the site.
- .4 The working area must be barricaded by New Jersey barriers or other means deemed safe by the Departmental Representative.

- .5 The presence of flagman's during excavation, backfill and concrete will be mandatory. The flagman's will also be responsible for ensuring the smooth flow of heavy vehicles on and around the dock.
- .6 Coordinate use of the site as directed by the Departmental Representative.
- .7 Find the areas of work or additional storage required for the execution of work under this contract and pay the cost. No storage of material be allowed into the harbour.
- .8 Concrete ready-mix washing should be done outside the harbour. No rejection of concrete in water or on the roadbed will be accepted.
- .9 At work, avoid damaging the parts must remain in place.
- .10 Once the work is completed, the Contractor shall make the site clean and leave the site free of construction debris.
- .11 When the work is completed on the entire site, a final cleaning will be necessary.

#### **1.8 DEPARTEMENTAL REPRESENTATIVE OCCUPANCY**

- .1 Departmental Representative shall occupy the premise of the site for the duration of working construction and shall continue their normal activities during this period.
- .2 Collaborate with Departmental Representative to the scheduling, to reduce conflict and facilitate the use of the premises by the latter.

#### **1.9 EXISTING SERVICES**

- .1 Prior to interrupt utility services, inform the Departmental Representative and the utilities concerned and obtain the necessary permits companies.
- .2 If we run taps on existing utility line or connections these lines, give the Departmental Representative prior notice of 48 hours before the expected timing of interruption of electrical service or corresponding lifts. Ensure that the duration of interruptions as short as possible. Perform the work the times set by the local authorities, by interfering as little as possible routine activities.
- .3 The commercial dock Matane is a place where there is a significant heavy traffic. Provide alternative routes for the movement of personnel, pedestrians and vehicles, if required.
- .4 Before starting work, define the extent and location of utility lines that are in the work area and notify the Departmental Representative.
- .5 Construct barriers in accordance with Section 01 56 00 – Temporary Barriers and Enclosures.

#### **1.10 INSPECTION AND CERTIFICATION**

- .1 Before tendering, the Contractor should, if necessary, inspect the site in order to familiarize himself with existing conditions and to examine all other details which may affect the cost of the work. Ignorance of local conditions shall at no time constitute a valid reason for claiming extra costs.

**1.11 GUARDRAILS, FENCES AND SIGNALISATION**

- .1 Matane wharf is used intensively. User and workers safety remains a priority for the repairs. Thus, the work area must be protected at all times. Provide and implement concrete barriers, guardrails and rigid barriers and security throughout the construction period. The work area includes the area covered for each phase.
- .2 In addition to the New Jersey barriers, install cones, or other effective means of signaling around the work area. The signs must be reflective and be visible at night.
- .3 Supply and install these security features as required by competent authorities.
- .4 Supply and install signs indicating a work zone near the harbor.

**1.12 DOCUMENTS REQUIRED**

- .1 Maintain at work site, one copy of each document as follows:
  1. Contract Drawings
  2. Specifications
  3. Addenda
  4. Shop drawings approved
  5. List of unapproved shop drawings
  6. Change Orders
  7. Other Modifications to Contract
  8. Field Test Reports
  9. Copy of Approved Work Schedule
  10. Health and Safety Plan and Other Safety Related Documents
  11. Other documents indicated

**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**

**1.1                ACCESS AND EGRESS**

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

**1.2                USE OF SITE AND FACILITIES**

- .1     Execute work with least possible interference or disturbance to normal use of premises. Make arrangements with Departmental Representative to facilitate work as stated.
- .2     Maintain existing services to building and provide for personnel and vehicle access.
- .3     Merchandise shipping shall not be perturbed by the contractor works.
- .4     Where security is reduced by work provide temporary means to maintain security.
- .5     Closures: protect work temporarily until permanent enclosures are completed.

**1.3                WORKING SCHEDULE**

- .1     72 hours prior to mobilizing on site, the Contractor shall provide a mandatory work schedule. This schedule will be provided in the form of Gantt chart or equivalent. This schedule should include all tasks, the time allowed to them, and the dates of start and end.
- .2     The schedule must be produced by computer software. The use of MS Project, MS Office Excel, Primavera, or any other management software is highly recommended.
- .3     The Gantt chart can be delivered electronically or on paper to the Departmental Representative.
- .4     The project schedule shall necessarily be updated once a week and shall be sent to the Departmental Representative no later than 5:00 p.m. Friday.
- .5     Although it is possible that some unforeseen events can disrupt the proposed schedule, to the extent possible, the schedule will be provided and respected by the Contractor. This schedule allows, among other, planned visits, inspections and site supervision by the Departmental Representative.
- .6     The schedule of the week will also determine the days of missed work due to unloading activities (see 1.5).

**1.4                EXISTING SERVICES**

- .1     Notify Departmental Representative and occupants of the site of intended interruption of services and obtain required permission.
- .2     Where Work involves breaking into or connecting to existing services, give Departmental Representative 48 hours of notice before necessary interruption of mechanical or electrical service throughout course of work. Keep duration of interruptions to a minimum. Carry out interruptions after normal working hours of occupants, preferably on weekends.
- .3     Provide for personnel and pedestrian and vehicular traffic.

- .4 During the loading and unloading of boats, maintain access roads and traffic available and safe.
- .5 Construct barriers in accordance with Section 01 56 00 - Temporary Barriers and Enclosures.

**1.5 SPECIAL REQUIREMENTS**

- .1 The work of the Contractor take precedence over the normal wharf activities. So, the Contractor work plan shall at all times be based on the traffic at the wharf. The contractor shall consult on a daily basis the port management department for arrivals and departures of ships. For forecasts of traffic and probable duration of the ships dock, please contact the wharf director.
- .2 The number of vessels is known one (1) month in advance. However, more specific boat schedule will not be known until a week in advance. Thus, the compliance schedule at 1.3.1 is of paramount importance to the project. The Contractor will have to coordinate with site users and port director every Friday to make sure you have a schedule of effective work.
- .3 The Contractor shall consider in its bid all costs associated with lost productivity due to the arrival of these ships.
- .4 The Contractor shall be required to leave much of the functional dock at any time. The work will be divided into two distinct phases: Phase A, which can be used without restriction, and phases B-1, B-2 and B-3, which will be built in alternation with the buffer zone.  
  
 To qualify as functional, the corresponding phase work shall be completely backfilled and compacted with pipes and manholes completed and adjusted to the proper elevation. The compaction of granular material shall be sufficient to allow traffic with forklifts safely.  
  
 Departmental Representative shall give its consent in writing to allow the Contractor to start the work on each of the work areas of sub-phases B-1, B-2 and B-3.
- .5 Each phase of work will be barricaded with a security perimeter made of New Jersey, or any other means deemed equivalent by the Departmental Representative.
- .6 In addition, the wharf is also used for the transshipment of petroleum products. During these periods, no work will be allowed on the wharf, under and around the pier. The Contractor shall coordinate its work schedule depending on the arrival of the ships.

Vessels likely to disrupt the schedule of work are as follows (the contractor should not consider this list as complete and final)

Transport type	Approx. frequency	Apprehended impact on working schedule
Tank ships	Once a month	Wharf shall be completely closed during 72h.

Pulp and papers	2-3 per month	At least 50% of the deck shall remain operational. Presence of overweight vehicles during transshipping. Faster transshipping operations.
Windmill and others	Once or twice a month	At least 50% of the deck shall remain operational. Presence of overweight vehicles during transshipping. Presence of numerous escorts vehicles on the wharf. Windmill operations use a lot of space for temporary material stocking.

- .7 Waiting time:
- .1 The waiting time is defined as the time period for which the Contractor is forced to stop its construction caused by the arrival of oil tankers. This item on the bill is payable on the day.
  - .2 The Contractor must demonstrate that he was unable to work for a minimum of eight consecutive hours during normal working hours under the schedule of the week, from Monday to Friday from 7:00 to 18:00 or 19:00 to 6:00. No waiting time will be recorded for work on Saturday and Sunday, even if they appear in the schedule provided by the Contractor.
  - .3 No waiting time shall be paid if the period not worked is less than 8 hours in a row. Under no circumstances, the missed hours shall be combined.
  - .4 No payment for waiting time will be granted to the Contractor, if it did not provide a timetable on the agreed date, which is Friday 17:00.
  - .5 No payment for waiting time will be granted to the Contractor if it does not routinely meet its timetable deadline.
  - .6 No waiting time will be paid during the unloading of pulp and paper, windmill and others shipments. However, should a particular situation occur, where these operations require a complete cessation of construction, the Departmental Representative may give the Contractor one day of waiting time, if the conditions listed in 1.5.7.2 are met.
  - .8 Ensure that Contractor's worker on the project knows the rules and respect them, including regulations on fire safety, traffic and safety.
  - .9 Contractor shall be staying within the works and access roads.

**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**

**1.1                MEASURING PROCEDURE**

- .1        Provision for labour, materials, tools, equipment, protection, transportation, administrative overhead, profit margin and necessary financing, etc., to complete the work stipulated in this project shall be included in each of the items listed below, except where otherwise indicated.
- .2        Items being the object of a total unit will have to be ventilated and submitted to the Departmental Representative following contract award.
- .3        The procedure for measuring the categories of labour, tools and materials which constitute the work is as follows:

.1        Item no 1, Unit prices:

All unit prices items shall be measured jointly by the Contractor and the Departmental Representative. In case of failure of agreement on the measured quantities, those of the Departmental Representative will prevail.

.1        Item no 1 - Reinforced concrete slab:

This item will be measured per square meter. The bid price shall include all costs, such as concrete 35MPa, steel reinforcing bars, formwork, ripening, joints, finishing, tooling, labor and installation, as described in plans and specifications.

.2        Item no 2 - MG 20:

This item shall be measured by metric tons set in place in the work, within the limits shown on plan. Tendered price shall include purchase, exploitation fees, transportation, weighing, placing and compaction, in accordance with plans and specifications.

.3        Item no 3 - Coated bituminous:

This item shall be measured by metric tons of asphalt 75 mm thick compacted in place in the work within the limits indicated on drawings. Item includes hanging binders and impregnating. This item includes for the final levelling of the granular base and the decontamination of the surface layer, if deemed necessary by the Departmental Representative.

.4        Item no 4 - Waiting time:

This item shall be measured in working shifts lost due to movement or presence of vessels in port during work, as explained in by Section 01 14 00 - Work Restrictions, Section 1.5.7

To be paid, the Contractor shall demonstrate that due to the loading and unloading, it had to stop its activities during 8 consecutive hours for a full shift (day or night) and that this said was planned under his schedule for the week. Failure to meet the deadline with the working schedule will result in automatic rejection of the application for payment of waiting time.

The bid price must therefore include the costs of all labor and equipment that are incurred despite the suspension of works and other incidental expenses.

.2 Item no 2, Firm fixed price:

.1 Item no 1 - Site organisation:

This item will be paid as a firm fixed price. The bid price shall include all costs required for on site installation including office, equipment and labour. Also include all items of the specifications not covered on other sections.

.2 Item no 2 - Demolition and excavation:

This item will be paid as a firm fixed price. The bid price shall include all costs required to perform demolition and excavation paving and granular backfill. The bid price must also include shipping and off-site disposal costs and materials management.

.3 Item no 3 - Drains clogging:

This item will be paid as a firm fixed price. The bid price shall include all costs required to perform the clogging work, of the existing slab. Drains are 50 mm in diameter and approx. 200-250 mm long.

.4 Item no 4 - Concrete slab cleaning:

This item will be paid by as a firm fixed price. The bid price shall include all costs required for cleaning the existing slab. Dust, water and wastes shall be the responsibility of the Contractor and shall be included in the price.

.5 Item no 5 - Cathodic protection pipes and manholes:

This item will be paid by as a firm fixed price. The bid price shall include the supply, equipment and labor required to perform the installation of pipes of 75 mm diameter galvanized steel anchors and laying boxes of prints, as shown on plan. The drilling of concrete slab 100 mm in diameter in the boxes of prints, as well as drilling grid decompression are also included in this price. The concrete 20 Mpa filling, as shown on plan, will also be understood in this item.

.6 Item no 6 – Pavement marking:

This item will be paid by as a firm fixed price. The bid price shall include all cost, labour and materials required to perform the work of the pavement marking, as shown on drawings.

<b>Part 2</b>	<b>Products</b>
<b>2.1</b>	<b>NOT USED</b>
.1	Not used.

MATANE  
Deck Wharf reconditioning  
Project: R.054888.001

Section 01 29 00  
PAYMENT PROCEDURES  
Page 3

**Part 3            Execution**

**3.1                NOT USED**

.1                Not used.

**END OF SECTION**

**Part 1            General**

**1.1                ADMINISTRATIVE**

- .1        Submit to Departmental Representative submittals listed for review. Submit promptly and in orderly sequence to not cause delay in Work. Failure to submit in ample time is not considered sufficient reason for extension of Contract Time and no claim for extension by reason of such default will be allowed.
- .2        Do not proceed with Work affected by submittal until review is complete.
- .3        Present shop drawings, product data, samples and mock-ups in SI Metric units.
- .4        Where items or information is not produced in SI Metric units converted values are acceptable.
- .5        Review submittals prior to submission to Departmental Representative. This review represents that necessary requirements have been determined and verified, or will be, and that each submittal has been checked and co-ordinated with requirements of Work and Contract Documents. Submittals not stamped, signed, dated and identified as to specific project will be returned without being examined and considered rejected.
- .6        Notify Departmental Representative, in writing at time of submission, identifying deviations from requirements of Contract Documents stating reasons for deviations.
- .7        Verify field measurements and affected adjacent Work are co-ordinated.
- .8        Contractor's responsibility for errors and omissions in submission is not relieved by Departmental Representative's review of submittals.
- .9        Contractor's responsibility for deviations in submission from requirements of Contract Documents is not relieved by Departmental Representative review.
- .10      Keep one reviewed copy of each submission on site.

**1.2                SHOP DRAWINGS AND PRODUCT DATA**

- .1        The term "shop drawings" means drawings, diagrams, illustrations, schedules, performance charts, brochures and other data which are to be provided by Contractor to illustrate details of a portion of Work.
- .2        Indicate materials, methods of construction and attachment or anchorage, erection diagrams, connections, explanatory notes and other information necessary for completion of Work. Where articles or equipment attach or connect to other articles or equipment, indicate that such items have been co-ordinated, regardless of Section under which adjacent items will be supplied and installed. Indicate cross references to design drawings and specifications.
- .3        Allow 5 days for Departmental Representative's review of each submission.



- .4 Adjustments made on shop drawings by Departmental Representative are not intended to change Contract Price. If adjustments affect value of Work, state such in writing to Departmental Representative prior to proceeding with Work.
- .5 Make changes in shop drawings as Departmental Representative may require, consistent with Contract Documents. When resubmitting, notify Departmental Representative in writing of revisions other than those requested.
- .6 Accompany submissions with transmittal letter, in duplicate, containing:
  - .1 Date.
  - .2 Project title and number.
  - .3 Contractor's name and address.
  - .4 Identification and quantity of each shop drawing, product data and sample.
  - .5 Other pertinent data.
- .7 Submissions include:
  - .1 Date and revision dates.
  - .2 Project title and number.
  - .3 Name and address of:
    - .1 Subcontractor.
    - .2 Supplier.
    - .3 Manufacturer.
  - .4 Contractor's stamp, signed by Contractor's authorized representative certifying approval of submissions, verification of field measurements and compliance with Contract Documents.
  - .5 Details of appropriate portions of Work as applicable:
    - .1 Materials and manufacturing details.
    - .2 Layout, showing dimensions, including identified field dimensions, and clearances.
    - .3 Setting or erection details.
    - .4 Characteristics such as power, speed or capacity.
    - .5 Performance characteristics.
    - .6 Standards.
    - .7 Operating weight.
    - .8 Wiring diagrams.
    - .9 Single line and schematic diagrams.
    - .10 Relationship to adjacent work.
- .8 After Departmental Representative's review, distribute copies.
- .9 Submit 3 prints of shop drawings for each requirement requested in specification Sections and as Departmental Representative may reasonably request.
- .10 Submit 3 copies of product data sheets or brochures for requirements requested in specification Sections and as requested by Departmental Representative where shop drawings will not be prepared due to standardized manufacture of product.

- .11 Submit 3 copies of manufacturers instructions for requirements requested in specification Sections and as requested by Departmental Representative.
  - .1 The report signed by the official representative of the testing laboratory must certify that materials, products or systems similar to those proposed in the context of work has been tested in accordance with prescribed requirements.
- .12 Submit 3 copies of the certificates prescribed in the specification sections and required by Departmental Representative.
  - .1 Documents printed on paper of official correspondence of the manufacturer and signed by a representative of the latter, must certify that the products, materials, equipment and systems provided meet the requirement of the specifications.
  - .2 Certificates must bear a date after contract award and give name of the project.
- .13 Submit 3 hard copies of the manufacturer established in sections techniques and specifications required by the Departmental Representative.
  - .1 Preprinted documents describing the method of installation of products, equipment and systems, including special notices and material safety data sheets indicating impedances, hazards and safety measures to be implemented.
- .14 Submit 3 copies of inspection reports on site by the manufacturer prescribed in the specification sections and as required by the Departmental Representative.
- .15 In addition to current information, provide any additional details that apply the work.
- .16 The review of shop drawings by Public Works and Government Services Canada (PWGSC) is for sole purpose of ascertaining conformance with general concept.
  - .1 This review shall not mean that PWGSC approves detail design inherent in shop drawings, responsibility for which shall remain with Contractor submitting same, and such review shall not relieve Contractor of responsibility for errors or omissions in shop drawings or of responsibility for meeting requirements of construction and Contract Documents.
  - .2 Without restricting generality of foregoing, Contractor is responsible for dimensions to be confirmed and correlated at job site, for information that pertains solely to fabrication processes or to techniques of construction and installation and for co-ordination of Work of sub-trades.

### **1.3 CONCRETE SAMPLING**

- .1 The Contractor is responsible for quality control of its suppliers. Thus, the concrete mix should be analyzed by a certified laboratory and submitted to the Departmental Representative at least 7 days before the first concrete casting.
- .2 The Contractor is responsible to cover all costs related to the characterization of concrete.
- .3 Departmental Representative reserves the right to perform other tests directly to the site in order to validate the results obtained by the Contractor.

**1.4 PHOTOGRAPHIC SURVEY**

- .1 Perform a photographic survey of the actual site and submit before the work one (1) copy of the file digital photographs submitted electronically. The number of photographs and the number of points of view are at the discretion of the Contractor. However, the survey must fully cover the whole area of work to be done.
- .2 The photographic survey can be replaced by a movie shot in high definition 1080i or equivalent.

**1.5 GANTT CHART**

- .1 No later, than 5:00 p.m. every Friday, the Contractor shall submit to the Departmental Representative a Gantt chart for the schedule of work for the following week.
- .2 The Gantt chart should include at least the task at hand, the start date and end date, the projected duration, predecessors, and any other relevant information to the project.
- .3 The Gantt chart of the Contractor shall be prepared in collaboration with site users and shall include arrival of each week's boats.

**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**

**1.1               REFERENCES**

- .1       Manual of Uniform Traffic Control Devices for Streets and Highways - 2009.

**1.2               PROTECTION OF PUBLIC TRAFFIC**

- .1       Comply with requirements of Acts, Regulations and By-Laws in force for regulation of traffic or use of roadways upon or over which it is necessary to carry out Work or haul materials or equipment.

**1.3               INFORMATIONAL AND WARNING DEVICES**

- .1       Provide and maintain signs, signboards and other devices required to indicate construction activities or other temporary and unusual conditions resulting from Project Work which requires road user response and maintain.
- .2       Place signs and other devices in locations recommended in UTCD manual.
- .3       Meet with Departmental Representative prior to commencement of Work to prepare list of signs and other devices required for project. If situation on site changes, revise list to approval of Departmental Representative.
- .4       Continually maintain traffic control devices in use by:
  - .1       Checking signs daily for legibility, damage, suitability and location. Clean, repair or replace to ensure clarity and reflectance.
  - .2       Removing or covering signs which do not apply to conditions existing from day to day.

**1.4               CONTROL OF PUBLIC TRAFFIC**

- .1       Provide competent flag persons, trained in accordance with, and properly equipped as specified in, UTCD manual in following situations:
  - .1       When public traffic is required to pass working vehicles or equipment that block all or part of travelled roadway.
  - .2       When it is necessary to institute one-way traffic system through construction area or other blockage where traffic volumes are heavy, approach speeds are high and traffic signal system is not in use.

**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**

**1.1                SECTION INCLUDES**

- .1 Contractor shall manage his operations so that safety and security of the public and of site workers, including environmental protection, always take precedence over cost and scheduling considerations.

**1.2                CONTRACTOR RESPONSABILITIES**

- .1 The commercial wharf of Matane will remain open during construction. Thus, users of the site should have access to the dock to load/unload the ships.
- .2 The Contractor shall be responsible for the health and safety of the entire wharf and the adjacent work.
- .3 The Contractor shall coordinate and plan the needs of users of the wharf, and flexibility and cooperation to enable them to continue their activities during the unloading time of construction.

**1.3                REFERENCES**

- .1 Canada Labour Code, Part 2, Canada Occupational Safety and Health Regulations.
- .2 Canadian Standards Association (CSA).
- .3 Occupational Health and Safety Act, R.S.Q. Chapter S-2.1(2010).
- .4 Construction Safety Code, S-2.1, r.6 2010.

**1.4                QUÉBEC ACT RESPECTING OCCUPATIONNAL HEALTHS AND SAFETY AT WORK**

- .1 Pursuant to the provisions of the Québec Act respecting Occupational Health and (R.S.Q., c. S-2.1) and solely for the purposes on the said Act, the Contractor shall assume from the beginning of the work, the role and obligations of principal contractor as defined in the said Act in addition to the obligations incumbent on him as an employer under the provisions of the said Act and also meet his obligations in respect to health and safety as stipulated in these contract documents.

**1.5                SUBMITTALS**

- .1 Make submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Submit to Departmental Representative, the CSST and the Association sectorielle paritaire en santé et en sécurité de la construction (ASP Construction) the site-specific safety program, as outlined in 1.8 at least 10 days prior to start of work. The Contractor must review his program during the course of the project if any change occurs in work methods or site conditions. The Departmental Representative may, after receiving the program or at any time during the project, ask the Contractor to update or modify the program in order to better

reflect the reality of the construction site and activities. The Contractor must make the required changes before work begins.

- .3 Submit to Departmental Representative the site inspection sheet, duly completed, at the intervals indicated in 1.14.
- .4 Submit the Departmental Representative within 24 hours a copy of any inspection report, correction notice or recommendation issued by federal or provincial inspectors.
- .5 Submit to Departmental Representative within 24 hours an investigation report for any accident involving injury and any incident exposing a potential hazard.
- .6 Submit to Departmental Representative all safety data sheets for hazardous material to be used at the site at least three (3) days before they are to be used.
- .7 Submit to Departmental Representative copies of all training certificates required for application or the safety program, in particular:
  - .1 General construction site safety and health courses;
  - .2 Safety officer attestations;
  - .3 First aid in the workplace and cardio-pulmonary resuscitation;
  - .4 Work likely to release asbestos dust;
  - .5 Work in confined spaces;
  - .6 Lockout procedures;
  - .7 Wearing and fitting of individual protective gear;
  - .8 Truck lift safe driving;
  - .9 Working elevating platforms;
  - .10 Any other requirement of Regulations or the safety program.
- .8 Medical examinations: wherever legislations, regulations, directives, specification or a safety program require medical examinations, Contractor must:
  - .1 Prior to start-up, submit to Departmental Representative certificates or medical examination for all concerned supervisory staff and employees concerned with the first paragraph who will be on duty when the site opens.
  - .2 Thereafter, submit without delay certificates of medical examination for any newly hired concerned personnel as and when they start work at the site and concerned with the first paragraph of this article.
- .9 Emergency plan: The emergency plan, as defined in 1.10.3, shall be submitted to Departmental Representative at the same time as the site-specific safety program.
- .10 Notice of site opening: Notice of site opening shall be submitted to the Commission de la santé et de la sécurité du travail before beginning. A copy of such notice shall be submitted to Departmental Representative at the same time and another posted in full view at the site. During demobilization, a notice of site closing shall be submitted to the CSST, with copy to Departmental Representative.
- .11 Plans and certificates of compliance: Submit to the CSST and to the Departmental Representative a copy signed and sealed by Engineer of all plans and certificates of

compliance required pursuant to the Construction Safety Code (S-2.1, r. 6), or by any other legislation or regulation or by any other clause in the specifications or in this contract. Copies of these documents must be on hand at the site at all times.

- .12 Certificate of compliance delivered by the CSST: The certificate of compliance is a document delivered by the CSST confirming that the Contractor is in rule with the CSST, i.e. that he had pay out all the benefits concerning this contract. This document must be delivered to Departmental Representative at the end of the work.

## **1.6 HAZARDS ASSESSMENT**

- .1 The Contractor must identify all hazards inherent in each task to be carried out at the site.
- .2 The Contractor must plan and organize work so as to eliminate hazards at source or promote mutual protection so that reliance on individual protective gear can be kept to a minimum. Where individual protection against falling is required, workers shall use safety harness that meets standard Can-CSA-Z-259.10-F06. Safety belts shall not be used as protection against fallings.
- .3 Equipment, tools and protective gear which cannot be installed, fitted or used without compromising the health or safety of workers or the public shall be deemed inadequate for the work to be executed.
- .4 All mechanical equipment shall be inspected before delivery to the site. Before using any mechanical equipment, submit to Departmental Representative a certificate of compliance signed by a qualified mechanic. Whenever he suspects a defect or accident risk, Departmental Representative may at any time order the immediate shut-down of equipment and require a new inspections by a specialist of his own choosing.

## **1.7 SAFETY MEETINGS**

- .1 Contractor decisional representative must attend meetings at which site safety and health issues are to be discussed.
- .2 The Contractor must set up a site safety committee, and convene meetings in accordance with the Construction Safety Code.

## **1.8 LEGAL AND REGULATORY REQUIREMENTS**

- .1 Comply with all legislation, regulations and standards applicable to the site and its related activities.
- .2 Comply with specified standards and regulations to ensure safe operations at the site containing hazardous or toxic materials.
- .3 Standards: Regardless of the publication date shown in the construction safety code, always use the most recent version.

## **1.9 SITE-SPECIFIC CONDITIONS**

- .1 Loading / unloading of ships can take place on a regular basis on the work site of the Contractor. The Contractor shall coordinate its activities with those of users of the wharf



to minimize the likelihood that workers in the construction and / or construction equipment circulate in the same areas as the vehicle for loading / unloading ships.

- .2 As prime contractor, the Contractor shall implement all necessary measures to ensure the safety of construction workers and users of the wharf in these areas: establishment of a traffic plan, lighting, set up signalers, etc.. Planning these security measures must be included in the prevention program required.
- .3 During the work, the Contractor shall act to correct the situation if construction pose risks to users of the wharf or, conversely, if the vehicular users of the platform pose risks to the construction workers.
- .4 At the site, take account of the following specific conditions:

- .1 Works involving drowning risks.

The following requirements shall be met for work involving drowning risks:

- .1 Comply with section 2.10.13 of the Safety Code for the construction industry.
- .2 (a) Wear a life jacket or buoyancy device that meets the standards set out in the Canadian General Standards Board Standard:
  - CAN/CGSB-65.7-M88, *Life Jackets, Inherently Buoyant Type*, dated April, 2007.
  - or, unusually be accepted by Transport Canada.(b) or be protected by a safety net or a fall protection system.
- .3 Obtain and forward to the Departmental Representative a letter of compliance issued by Transports Canada for the approval of any vessel (transportation, rescue, inspection, etc.) before work begins. (Reference: Mr Robert Fecteau, Transport Canada, 418 722-3040).
- .4 Ensure that a rescue vessel moored and in the water is available for each workstation. However, where the vessel is accessible by land, it may serve more than on workstation provided the distance between any workstation and the vessel is less than 100m.
- .5 Ensure that the vessel is equipped with a motor powerful enough to overcome the current.
- .6 Ensure that the vessel has the necessary features to accommodate persons likely to be part of a rescue operation.
- .7 Ensure that the rescue vessel is available for workers at all times in case of an emergency.
- .8 Ensure that a qualified person is available to use the emergency equipment. That person must have a pleasure craft operator card for the length of vessel being used.
- .9 Establish written emergency procedures containing the following information and ensure that all workers subject to those procedures have the training and information needed to apply them:
  - A full description of the procedures, including the responsibilities of the people who have access to the work site.
  - The location of the emergency equipment.

- .10 Where the work site is a pier, a basin, a jetty, a wharf 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 meters. This measure shall apply even if the project is a construction project, in which case a temporary (or portable) ladder may be used and removed when the work is complete if the owner does not own the basic facilities. However, the owner must be notified in writing that the site does not comply with the Canada Labour Code, part II.

## **1.10 SAFETY AND HEALTH MANAGEMENT**

- .1 Acknowledge and assume all the tasks and obligations which customarily devolve upon a principal Contractor under the terms of the Occupational Health and Safety Act (R.S.Q., chapter S-2.1) and the Construction Safety Code (S-2.1, r.6).
- .2 Develop a site-specific safety program based on the hazards identified and apply it from the start project work until close-out is completed. The safety program must take account of all information as defined in 1.7 and must be submitted to all parties concerned as defined in 1.2. At a minimum, the site-specific safety program must include:
  - .1 Company safety and health policy.
  - .2 A description of the work, total costs, schedule and projected workforce curve.
  - .3 Flow chart of safety and health responsibility.
  - .4 The physical and material layout of the site.
  - .5 First-aid and first-line treatment standards.
  - .6 Identification of site-specific hazards.
  - .7 Risk assessment for the tasks to be carried out, including preventive measures and the procedures for applying them.
  - .8 Training requirements.
  - .9 Procedures in case of accident/injury.
  - .10 Written commitment from all parties to comply with the prevention program.
  - .11 A site inspection schedule based on the preventive measures.
- .3 The Contractor must draw up an effective emergency plan based on the characteristics and constraints of the site and its surroundings. Submit the emergency plan to all parties concerned as defined in 1.2. The emergency plan must include:
  - .1 Evacuation procedure;
  - .2 Identification of resources (police, firefighters, ambulance services, etc.);
  - .3 Identification of persons in charge at the site;
  - .4 Identification of those with first-aid training;
  - .5 Training required for those responsible for applying the plan;
  - .6 Any other information needed, in light of the site characteristics.

## **1.11 RESPONSABILITIES**

- .1 No matter the size of the construction site or how many workers are present at the workplace, designate a competent person to supervise and take responsibility for health and safety. Take all necessary measures to ensure the health and safety of persons and property at or in the immediate vicinity of the site and likely to be affected by any of the work.

- .2 Take all necessary measures to ensure application of and compliance with the safety and health equipments of the contract documents, applicable federal and provincial regulations and standards as well as the site-specific safety program, complying without delay with any order or correction notice issued by the Commission de la santé et de la sécurité du travail.
- .3 Take all necessary measures to keep the site clean and in good order throughout the course of the work.

#### **1.12 POSTING OF DOCUMENTS**

- .1 Make all necessary arrangements to ensure effective communication of safety and health information at the site. As they arrive on site, all workers must be informed of their rights and obligations pertaining to the site specific safety program. The Contractor must insist on their right to refuse to perform work which they feel may threaten their own health, safety or physical integrity or that of other persons at the site. The Contractor must keep and update a written record of all information transmitted, with signatures of all affected workers.
- .2 The following information and documents must be posted in a location readily accessible to all workers:
  - .1 Notice of site opening;
  - .2 Identification of principal Contractor;
  - .3 Company OSH policy;
  - .4 Site-specific safety program;
  - .5 Emergency plan;
  - .6 Data sheets for all hazardous material used at the site;
  - .7 Minutes of site committee meetings;
  - .8 Names of site committee representatives;
  - .9 Names of those with first-aid training;
  - .10 Action reports and correction notices issued by the CSST.

#### **1.13 UNFORSEEN HAZARDS**

- .1 Whenever a source of danger not defined in the specifications or identified in the preliminary site inspection arises as a result of or in the course of the work, immediately suspend work, take appropriate temporary measures to protect the workers and the public and notify Departmental Representative, both verbally and in writing. Then the Contractor must modify or update the site specific safety program in order to resume work in safe conditions.

#### **1.14 INSPECTION OF SITE AND CORRECTION OF HAZARDOUS SITUATIONS**

- .1 Inspect the work site and complete the site inspection sheet at least one time per week.
- .2 Immediately take all necessary measures to correct any lapses from legislative or regulatory requirements and any hazards identified by a government inspector, by the Departmental Representative, by the site safety and health coordinator or during routine inspections.
- .3 Submit to Departmental Representative written confirmation of all measures taken to correct lapses and hazardous situations.

- .4 Give the safety officer or, where there is no safety officer, the person assigned to safety and health responsibilities, full authority to order interruption and resuming of work as and when deemed necessary or desirable in the interests of safety and health. This person must act so that the safety and health of the public and site workers and environmental protection take precedence over cost and scheduling considerations.
- .5 Without limiting the scope of articles 1.8 and 1.10, Departmental Representative may order cessation of work if, in his/her view, there is any hazard or threat to the safety of health of site personnel or the public or the environment.

**1.15 BLASTING**

- .1 Blasting and other use of explosives are forbidden.

**1.16 POWDER HAMMERS AND OTHER EXPLOSIVE-ACTUATED DEVICES**

- .1 Use powder actuated devices only after receipt of written permission from Departmental Representative.
- .2 Any person using a power hammer shall hold a training certificate and meet all requirements of Section 7 of the Construction Safety Code (S-2.1, r.6).
- .3 Any other explosive-actuated device shall be used in accordance with the manufacturer's directions and applicable standards and regulations.

**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**

**1.1                REFERENCES**

.1            Definitions :

- .1            Environmental Pollution and Damage: presence of chemical, physical, 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 humankind; or degrade environment aesthetically, culturally and/or historically.
- .2            Environmental Protection: prevention/control of pollution and habitat or environment disruption during construction. Control of environmental pollution and damage requires consideration of land, water, and air; biological and cultural resources; and includes management of visual aesthetics; noise; solid, chemical, gaseous, and liquid waste; radiant energy and radioactive material as well as other pollutants.

**1.2                SUBMITTALS**

.1            Submit in accordance with Section 01 33 00 - Submittal Procedures.

.2            Before commencing construction activities or delivery of materials to site, submit Environmental Protection Plan for review and approval by Departmental Representative.

.3            Environmental Protection Plan must include comprehensive overview of known or potential environmental issues to be addressed during construction.

.4            Address topics at level of detail commensurate with environmental issue and required construction tasks.

.5            Include in Environmental Protection Plan :

- .1            Names of persons responsible for ensuring adherence to Environmental Protection Plan.
- .2            Names and qualifications of persons responsible for manifesting hazardous waste to be removed from site.
- .3            Names and qualifications of persons responsible for training site personnel.
- .4            Descriptions of environmental protection personnel training program.
- .5            Erosion and sediment control plan identifying type and location of erosion and sediment controls to be provided including monitoring and reporting requirements to assure that control measures are in compliance with erosion and sediment control plan, Federal, Provincial, and Municipal laws and regulations.
- .6            Spill Control Plan to include procedures, instructions, and reports to be used in event of unforeseen spill of regulated substance.
- .7            Non-Hazardous solid waste disposal plan identifying methods and locations for solid waste disposal including clearing debris.
- .8            Air pollution control plan detailing provisions to assure that dust, debris, materials, and trash, are contained on project site.

- .9 Contaminant Prevention Plan identifying potentially hazardous substances to be used on job site; intended actions to prevent introduction of such materials into air, water, or ground; and detailing provisions for compliance with Federal, Provincial, and Municipal laws and regulations for storage and handling of these materials.
- .10 Waste Water Management Plan identifying methods and procedures for management discharge of waste waters which are directly derived from construction activities, such as concrete curing water, clean-up water, dewatering of ground water, disinfection water, hydrostatic test water, and water used in flushing of lines.

### **1.3 FIRES**

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

### **1.4 DRAINAGE**

- .1 There is a lot of holes drains on the current concrete slab. Some of them are clogged by material fill. Drains shall be cleaned before being colmated, as shown on section 03 30 00 – Cast-in-place concrete.
- .2 Cleaning of the concrete slab could generate wasted water and dust. Wasted water shall be treated in respect of every regulation. Water shall not be released in the environment.

### **1.5 WORK ADJACENT TO WATERWAYS**

- .1 Construction equipment should only be used on the wharf.
- .2 Perform vehicle maintenance, solid fuel, oil changes and various maintenance at a minimum distance of 30m from the shore.
- .3 Store fuel and any potential contaminants more than 30m from the shore.
- .4 Streams must be free of debris, scrap materials and debris.

### **1.6 MATERIAL TRANSPORTATION**

- .1 The transport of material to the worksite is allowed on public roads Monday to Friday inclusively, unless otherwise instructed by the authority having jurisdiction. Material transport is prohibited on Saturdays, Sundays and legal holidays.
- .2 The transport of material through municipality may begin at 7:00 a.m. until 8:00 p.m. for the day shift. Transportation during the night shift will not be authorized. Transportation on weekends will not be allowed.
- .3 Contractor shall use trucks in good running order. Any truck or any carrier mode with a noise output found above the normal level by Departmental Representative, shall terminate material hauling to be repaired or modified.
- .4 Contractor shall use an effective regulation sign and cooperate with municipality, Departmental Representative and other authorities having jurisdiction to minimize impact of transportation on the daily life of residents in the vicinity of trucks route and worksite.

**1.7 CONCRETE WORK**

- .1 Perform concrete work in order to prevent particles reaching the aquatic environment.
- .2 Do not discharge concrete directly or indirectly into the aquatic environment.
- .3 Cleaning concrete mixers must be made outside the dock in a specially designed area for this purpose. No concrete release into the environment shall be tolerated.

**1.8 POLLUTION CONTROL**

- .1 Temporary stockpiling shall not be tolerated in the harbour area. Excavation materials shall be shipped off site.
- .2 Maintain temporary facilities to prevent erosion and pollution, and implemented under this contract.
- .3 Ensure emissions particles from equipment and tools are in accordance with local authority requirements.
- .4 On site granular stockpiling for MG-20 filling will not be tolerated. However, should a particular situation where some materials can not be implemented immediately, the Contractor shall cover or wet down dry materials and rubbish to prevent blowing dust and debris. Provide dust control for temporary roads.

**1.9 NOTIFICATION**

- .1 Departmental Representative will notify Contractor in writing of observed non compliance with Federal, Provincial or Municipal environmental laws or regulations, permits, and other elements of Contractor's Environmental Protection plan.
- .2 Contractor: after receipt of such notice, inform Departmental Representative of proposed corrective action and take such action for approval by Departmental Representative.
- .3 Departmental Representative will issue stop order of work until satisfactory corrective action has been taken.
- .4 No time extensions granted or equitable adjustments allowed to Contractor for such suspensions.

**1.10 ATTENUATION MEASURES**

- .1 Contractor shall considerate the following attenuation measures while performing work to reduce environmental impacts in case of failure.
  - .1 Equipment in contact with water shall use vegetable and biodegradable oil.
  - .2 Double shift work shall be allowed.
  - .3 Contractor shall be equipped with a spill kit in case of fuel spilling.
  - .4 Contractor's employees shall received a formation and be able to take actions in case of fuel spilling.
  - .5 In any case of fuel spilling in aquatic zone, contaminated water shall be confined and recuperated by an specialised crew and sent to a treatment center approved by

the Ministry of Sustainable Development, Environment, Wildlife, and Parks (MDDEFP).

- .6 Before beginning work, Departmental Representative shall indicate a maintenance, stocking and hazardous handling area. This site shall be located at least 30 meters away from any water source.
- .7 The Contractor shall also ensure acute coordination with users dock to use the site, because the loading and unloading must remain functional at all times.
- .8 Shut down machinery engines when its not used.
- .9 Cover truck during transport operations
- .10 During night shift, limit noise as much as possible.
- .11 Advise residents that may be affected by night work, their specifying the duration and nature of the work.
- .12 Any environmental hazardous spill shall be declared to Environnement Canada at 1-866-283-3333 and MDDEFP at 1-866-694-5454.

**1.11 SOIL CHARACTERISATION**

- .1 See 01 74 25 – Solid waste and dry materials to evaluate level of contamination of soils in place in Matane deck wharf.

**Part 2 Products**

**2.1 NOT USED**

- .1 Not Used.

**Part 3 Execution**

**3.1 CLEANING**

- .1 Ensure decompression chamber and water remains dust and debris free at all time.
- .2 In case of water wasted reject, the Contractor is responsible to pick up any debris, at the satisfaction of Departmental Representative.

**END OF SECTION**



**Part 1            General**

**1.1                INSPECTION**

- .1        The Departmental Representative shall have access to works. If part of the work or works is executed outside the site, access to this area should be him provided throughout this work.
- .2        In case of works shall be subject to inspections, approvals or special tests ordered by the Departmental Representative or required under local regulations for the site, apply within a reasonable time.
- .3        If the Contractor covered or allowed to cover a book before it was submitted to inspections, approvals or special tests required, it must discover the work in issue, see the execution of inspections or tests required to the satisfaction of the competent, then put the book in its original condition.
- .4        Departmental Representative may order the inspection of any part of the work which compliance with the contract documents is in doubt. If, after examination, the work in question is found non-compliant with the requirements of the Contract Documents, the Contractor must take the necessary measures to make the work complies with the requirements specified, and perform inspection and repair costs. If the work in question is found to comply with the contract documents, the Departmental Representative bear the cost of inspection and refurbishment thus incurred.
- .5        When the slab will be excavated and cleaned, a waiting period of a few hours will be granted to the Departmental Representative for visual inspection and analysis the quality of the existing concrete slab.

**1.2                INDEPENDENT INSPECTION AGENCIES**

- .1        Independent Inspection/Testing Agencies hired by Departmental Representative for purpose of inspecting and/or testing portions of Work. Cost of such services will be assumed by Departmental Representative.
- .2        Provide equipment required for executing inspection and testing by appointed agencies.
- .3        Employment of inspection/testing agencies does not relax the Contractor's responsibility to perform Work in accordance with Contract Documents.
- .4        If defects are revealed during inspection and/or testing, appointed agency will request additional inspection and/or testing to ascertain full degree of defect. Correct defect and irregularities as advised by Departmental Representative at no cost to Departmental Representative. Pay costs for retesting and reinspection.

**1.3                ACCESS TO WORK**

- .1        Allow inspection/testing agencies access to Work, off site manufacturing and fabrication plants.
- .2        Co-operate to provide reasonable facilities for such access.

#### **1.4 PROCEDURES**

- .1 Notify appropriate agency and Departmental Representative in advance of requirement for tests, in order that attendance arrangements can be made.
- .2 Submit samples and/or materials required for testing, as specifically requested in specifications. Submit with reasonable promptness and in orderly sequence to not cause delays in Work.
- .3 Provide labour and facilities to obtain and handle samples and materials on site. Provide sufficient space to store and cure test samples.

#### **1.5 REJECTED WORK**

- .1 Remove defective Work, whether result of poor workmanship, use of defective products or damage and whether incorporated in Work or not, which has been rejected by Departmental Representative as failing to conform to Contract Documents. Replace or re-execute in accordance with Contract Documents.
- .2 Make good other Contractor's work damaged by such removals or replacements promptly.
- .3 If in opinion of Departmental Representative it is not expedient to correct defective Work or Work not performed in accordance with Contract Documents, Owner will deduct from Contract Price difference in value between Work performed and that called for by Contract Documents, amount of which will be determined by Departmental Representative.

#### **1.6 REPORTS**

- .1 Submit 3 copies of inspection and test reports to Departmental Representative.
- .2 Provide copies to subcontractor of work being inspected or tested and manufacturer or fabricator of material being inspected or tested.

#### **1.7 TESTS AND MIX DESIGNS**

- .1 Furnish test results and mix designs as requested.
- .2 Cost of tests and mix designs beyond those called for in Contract Documents or beyond those required by law of Place of Work will be appraised by Departmental Representative and may be authorized as recoverable.

#### **1.8 FACTORY TESTS**

- .1 Submit certificates of in-plant testing as required and prescribed in different Sections.

### **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**

**1.1                BALLUSTRADE AND BARRIERS**

- .1        Provide and install rigid barriers around the working area, as shown on drawings, with the Departmental Representative approval.
- .2        Provide and install these components in accordance with the requirements of the competent authorities.

**1.2                INSTALLATION AND REMOVAL**

- .1        Provide temporary utilities controls in order to execute work expeditiously.
- .2        Coordinate excavation activities with site users.
- .3        Remove from site all such work after use.

**1.3                WATER SUPPLY**

- .1        Departmental Representative will not provide continuous supply of potable water for construction use.
- .2        Contractor shall arrange for connection with existing power supply and pay costs for installation, maintenance and removal.
- .3        Contractor shall pay for water consumption used in the work.

**1.4                TEMPORARY POWER AND LIGHT**

- .1        Departmental Representative will not provide temporary power during construction for temporary lighting and operating of power tools. Contractor shall make his own arrangement with local port administration or install an electric meter for his own needs or make an agreement with the port director. A written copy of the agreement must be provided to the Departmental Representative.
- .2        Night lighting on the commercial wharf is reserved for the ongoing operations of loading and unloading of ships. If the Contractor wishes to use available lighting towers, it shall conclude a written agreement with the Port Authority before starting work. The Contractor shall ensure the maintenance of the lighting system while using it. A written copy of the agreement must be provided and submitted the Departmental Representative.
- .3        Notwithstanding section 1.7.2, the Contractor shall ensure to provide sufficient lighting at the working site. Thus, portable light towers may be necessary if the Departmental Representative considers that the light level is not safe.
- .4        Repair any damage to power and lighting systems.

**1.5                TEMPORARY COMMUNICATION FACILITIES**

- .1        Provide and pay for temporary telephone, fax and Internet service hook up, and lines necessary for own use and use of Departmental Representative.

- .2 The Contractor shall provide a cell phone, if the area is covered to the site supervisor. Cellular fees shall be assumed by the Contractor.

**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**

**1.1                INSTALLATION AND REMOVAL**

- .1        An approximate area was indicated on the plans showing the location reserved the Contractor for the construction trailer, parking, and equipment storage. This area should be fenced and secure. At the kick-off meeting, indicate the Departmental Representative dimensions of the area to be fenced and used by the Contractor, the number of construction trailers required access roads to the area closed and installation of the fence details.
- .2        Site plan shall be done in cooperation with wharf director and Departmental Representative and shall be given 72 h prior to the work.
- .3        Identify areas which have to be gravelled to prevent tracking of mud.
- .4        Indicate use of supplemental or other staging area.
- .5        Provide construction facilities in order to execute work expeditiously.
- .6        Remove from site all such work after use.

**1.2                SCAFFOLDING**

- .1        Scaffolding in accordance with CAN/CSA-S269.2.

**1.3                LIFTING EQUIPMENT**

- .1        Supply and install winches, cranes or lifting equipment required to move workers, materials / materials and equipment, and maintain and maneuver. Take the necessary financial arrangements with subcontractors to use lifting equipment.
- .2        Cranes to be operated by qualified operator.

**1.4                SITE STORAGE/LOADING**

- .1        Do not store materials or equipment directly to the solid platform.
- .2        Ensure that the work is performed within the limits indicated in the documents contract. Do not clutter the scene unreasonably with materials and materials.
- .3        Do not overfill or allow overloading any part of the work in order not to compromising integrity.
- .4        The Contractor shall not cause accumulation of material that exceeds the overload eligible 24 kPa.

**1.5                CONSTRUCTION PARKING**

- .1        Parking will be permitted on site provided it does not disrupt performance of Work. Vehicles must be parked so as not to interfere with activities of the port.
- .2        Provide and maintain adequate access to project site.

- .3 Clean road access if equipment is used.

## **1.6 OFFICES**

- .1 The Contractor is not required to provide a construction trailer for supervisor site. This will move into the office of the port. However, the Contractor must provide the following services:
  - .1 Provide high speed internet services, preferably a wireless internet key in the office of the port.
  - .2 Provide a complete first aid kit and identified care and store it in a place easy access in the office of the port.

## **1.7 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 Locate materials not required to be stored in weatherproof sheds on site in manner to cause least interference with work activities.

## **1.8 SANITARY FACILITIES**

- .1 Provide sanitary facilities for work force in accordance with governing regulations and ordinances.
- .2 Post notices and take precautions as required by local health authorities. Keep area and premises in sanitary condition.
- .3 Once the permanent connections to the networks of water supply and drainage wastewater has been made, arrange, within the building, temporary enclosures which will be installed toilet and urinal. Permanent sanitary facilities may be used upon approval of the Departmental Representative.

## **1.9 PROTECTION AND MAINTENANCE OF TRAFFIC**

- .1 Provide access and temporary relocated roads as necessary to maintain traffic.
- .2 Maintain and protect traffic on affected roads during construction period except as otherwise specifically directed by Departmental Representative.
- .3 Provide measures for protection and diversion of traffic, including services supervisors and signallers, installing barricades, the installation of lighting around and in front of equipment and the work area, the establishment and maintenance.
- .4 Protect travelling public from damage to person and property.
- .5 Contractor's traffic on roads selected for hauling material to and from site to interfere as little as possible with public traffic.
- .6 Verify adequacy of existing roads and allowable load limit on these roads. Contractor: responsible for repair of damage to roads caused by construction operations.
- .7 Construct access and haul roads necessary.

- .8 Provide necessary lighting, signs, barricades, and distinctive markings for safe movement of traffic.
- .9 Provide any necessary means to eliminated aerial dust and clean dust and debris on the road.
- .10 Lighting: to assure full and clear visibility for full width of haul road and work areas during night work operations.
- .11 Provide for the removal of snow during the construction period.
- .12 Remove, upon completion of work, haul roads designated by Departmental Representative.

#### **1.10 CLEAN-UP**

- .1 Remove construction debris, waste materials, packaging material from work site daily.
- .2 Clean dirt or mud tracked onto paved or surfaced roadways.
- .3 Store materials resulting from demolition activities that are salvageable.
- .4 Stack stored new or salvaged material not in construction facilities.

#### **1.11 CONSTRUCTION SIGNAGE**

- .1 Provide and erect, within 2 weeks of signing Contract, a project identification site sign in a location designated by the Departmental Representative.
- .2 Project identification site sign shall be 1200mm X 2400mm, 19mm thick of wood frame and plywood construction on which vinyl overlay to be provided by Departmental Representative can be installed.
- .3 No other signs or advertisements are permitted on site without Departmental Representative's written authorization.
- .4 Install the project identification site sign as follow:
  - .1 Erect framework, and attach signboard to framing.
  - .2 Signboard shall be made of Douglas fir sanded plywood, 19mm thick, and suitable for outdoor use. Edges shall be sanded and sealed with one coat of sealant, or trimmed with aluminum moulding. Joints between adjacent panels shall be reinforced with 25mm X 50 mm batten on the back. Panels shall be given one coat of sealant, one of primer in accordance with CGSB standard 1-GP-55M and one top coat of white enamel suitable for outdoor use, in accordance with CAN/CGSB-1.59-M89. The sealant, primer and top coat must be chemically compatible. Silicate paint shall not be used.
  - .3 Install the vinyl overlay on the signboard with necessary tools and instructions. Supply and install the supports and the sign as directed by the Departmental Representative. The supports shall be made of top grade wood.
  - .4 Vinyl overlay shall be placed on the plywood before nailing the panel upright. Vinyl overlay shall be covered with a plexiglass sheet 1200mm x 2400mm fixed to the plywood with screws and rubber gaskets.
  - .5 Supports shall be given one coat of primer for exterior use and paint.



- .6 On work completion, remove the signboard, in accordance with Departmental Representative's directions.

**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**

**1.1                REFERENCES**

- .1    Canadian General Standing Boards (CGSB)
  - .1        CGSB 1.59-97, Alkyd exterior gross material.
  - .2        CAN/CGSB 1.189-00, Exterior alkyd exterior for wood.
- .2    Canadian Standing association (CSA International)
  - .1        CSA-O121, Contreplaqué en sapin de Douglas.

**1.2                INSTALLATION AND REMOVAL**

- .1    Provide temporary controls in order to execute Work expeditiously.
- .2    Remove from site all such work after use.

**1.3                PALISADES**

- .1    Erect a temporary fence to ensure site access is close at all time.

**1.4                GUARD RAILS AND BARRICADES**

- .1    Provide secure, rigid guard rails and barricades around deep excavations and all such works.
- .2    Provide as required by governing authorities.

**1.5                ACCESS TO SITE**

- .1    Provide and maintain access roads, sidewalk crossings, ramps and construction runways as may be required for access to Work.

**1.6                TRAFIC**

- .1    Hire competent signal flag operator and foresee any necessary traffic lights, fences, flares, and lights useful to complete the work while ensuring public security.

**1.7                FIRE ROUTES**

- .1    Maintain access to property including overhead clearances for use by emergency response vehicles.

**1.8                PROTECTION FOR OFF-SITE AND PUBLIC PROPERTY**

- .1    Protect surrounding private and public property from damage during performance of Work.
- .2    Be responsible for damage incurred.

**1.9 WASTE MANAGEMENT AND DISPOSAL**

- .1 Separate waste materials for reuse and recycling in accordance with Section 01 74 21 – Construction-Demolition Waste Management and Disposal.

**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**

**1.1                REFERENCES**

- .1        Conform to standards, as specifically requested in specifications.
- .2        If there is question as to whether products or systems are in conformance with applicable standards, Departmental Representative reserves right to have such products or systems tested to prove or disprove conformance.
- .3        Cost for such testing will be born by Departmental Representative in event of conformance with Contract Documents or by Contractor in event of non-conformance.

**1.2                QUALITY**

- .1        Products, materials, equipment and articles incorporated in Work shall be new, not damaged or defective, and of best quality for purpose intended. If requested, furnish evidence as to type, source and quality of products provided.
- .2        Buying policy is to acquire, at a minimal cost, articles containing the greatest percentage of recycled and reused, while maintaining satisfactory levels of competitiveness. Make reasonable efforts to use recycled materials for execution of the works.
- .3        Defective products, whenever identified prior to completion of Work, will be rejected, regardless of previous inspections. Inspection does not relieve responsibility, but is precaution against oversight or error. Remove and replace defective products at own expense and be responsible for delays and expenses caused by rejection.
- .4        Should disputes arise as to quality or fitness of products, decision rests strictly with Departmental Representative based upon requirements of Contract Documents.
- .5        Unless otherwise indicated in specifications, maintain uniformity of manufacture for any particular or like item throughout building.
- .6        Permanent labels, trademarks and nameplates on products are not acceptable in prominent locations, except where required for operating instructions, or when located in mechanical or electrical rooms.

**1.3                AVAILABILITY**

- .1        Immediately upon signing Contract, review product delivery requirements and anticipate foreseeable supply delays for items. If delays in supply of products are foreseeable, notify Departmental Representative of such, in order that substitutions or other remedial action may be authorized in ample time to prevent delay in performance of Work.
- .2        In event of failure to notify Departmental Representative at commencement of Work and should it subsequently appear that Work may be delayed for such reason, Departmental Representative reserves right to substitute more readily available products of similar character, at no increase in Contract Price or Contract Time.

#### **1.4 STORAGE, HANDLING AND PROTECTION**

- .1 Handle and store products in manner to prevent damage, adulteration, deterioration and soiling and in accordance with manufacturer's instructions when applicable.
- .2 Store packaged or bundled products in original and undamaged condition with manufacturer's seal and labels intact. Do not remove from packaging or bundling until required in Work.
- .3 Store products subject to damage from weather in weatherproof enclosures.
- .4 Store cement products clear of earth or concrete floors, and away from walls.
- .5 Keep sand, when used for grout or mortar materials, clean and dry. Store sand on wooden platforms and cover with waterproof tarpaulins during inclement weather.
- .6 Place timber and wood materials, panels on rigid supports, plates, so they do not rest directly on the floor. Give a gentle slope to facilitate the flow of condensate.
- .7 Store and mix paint products in a warm and well ventilated area. Every day, remove oily rags and other flammable waste workplaces. Take all necessary precautions to avoid the risk of spontaneous combustion.
- .8 Remove and replace damaged products at own expense and to satisfaction of Departmental Representative.
- .9 Touch-up damaged factory finished surfaces to Departmental Representative's satisfaction. Use touch-up materials to match original. Do not paint over name plates.

#### **1.5 TRANSPORTATION**

- .1 Pay costs of transportation of products required in performance of Work.

#### **1.6 MANUFACTURER'S INSTRUCTIONS**

- .1 Unless otherwise indicated in specifications, install or erect products in accordance with manufacturer's instructions. Do not rely on labels or enclosures provided with products. Obtain written instructions directly from manufacturers.
- .2 Notify Departmental Representative in writing, of conflicts between specifications and manufacturer's instructions, so that they will establish course of action.
- .3 Improper installation or erection of products, due to failure in complying with these requirements, authorizes Departmental Representative to require removal and re-installation at no increase in Contract Price or Contract Time.

#### **1.7 WORK QUALITY**

- .1 Ensure Quality of Work is of highest standard, executed by workers experienced and skilled in respective duties for which they are employed. Immediately notify Departmental Representative if required Work is such as to make it impractical to produce required results.
- .2 Do not employ anyone unskilled in their required duties. Departmental Representative reserves right to require dismissal from site, workers deemed incompetent or careless.

- .3 Decisions as to standard or fitness of Quality of Work in cases of dispute rest solely with Departmental Representative, whose decision is final.

#### **1.8 CO-ORDINATION**

- .1 Ensure co-operation of workers in laying out Work. Maintain efficient and continuous supervision.
- .2 Be responsible for coordination and placement of openings, sleeves and accessories.

#### **1.9 REMEDIAL WORK**

- .1 Perform remedial work required to repair or replace parts or portions of Work identified as defective or unacceptable. Co-ordinate adjacent affected Work as required.
- .2 Perform remedial work by specialists familiar with materials affected. Perform in a manner to neither damage nor put at risk any portion of Work.

#### **1.10 LOCATION OF FIXTURES**

- .1 Consider location of fixtures, outlets, and mechanical and electrical items indicated as approximate.
- .2 Inform Departmental Representative of conflicting installation. Install as directed.

#### **1.11 FASTENINGS**

- .1 Provide metal fastenings and accessories in same texture, colour and finish as adjacent materials, unless indicated otherwise.
- .2 Prevent electrolytic action between dissimilar metals and materials.
- .3 Use non-corrosive hot dip galvanized steel fasteners and anchors for securing exterior work, unless stainless steel or other material is specifically requested in affected specification Section.
- .4 Space anchors within individual load limit or shear capacity and ensure they provide positive permanent anchorage. Wood, or any other organic material plugs are not acceptable.
- .5 Keep exposed fastenings to a minimum, space evenly and install neatly.
- .6 Fastenings which cause spalling or cracking of material to which anchorage is made are not acceptable.

#### **1.12 FASTENINGS - EQUIPMENT**

- .1 Use fastenings of standard commercial sizes and patterns with material and finish suitable for service.
- .2 Use heavy hexagon heads, semi-finished unless otherwise specified. Use No. 304 stainless steel for exterior areas.
- .3 Bolts may not project more than one diameter beyond nuts.

- .4 Use flat washers on equipment and materials and washers sheet with flexible padding in places where there is vibration. To secure devices and materials on stainless steel components, using resilient washers.

**1.13 EXISTING STRUCTURE PROTECTION**

- .1 Do not overload any part of the structure. Perform the required openings in accordance with plans and specifications. Unless otherwise indicated, obtain written permission of the Departmental Representative before cutting or drilling a framework element not shown in the plan.
- .2 30% of the concrete commercial wharf surface is covered with delaminating. Take precautions to limit further damage to the structure. Overload use allowed on the wharf is 24 kPa.

**1.14 UTILITY**

- .1 Lines for the transfer of petroleum products are protected in an opening in the floor and covered with a grid. The Contractor shall include measures to prevent damage to the grid and pipes.
- .2 When making connections to existing networks, perform the work at the times set by the local authorities and minimizing interference with the work.
- .3 Protect, move or remain in service utility lines that are functional.

**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**

**1.1                PROJECT CLEANLINESS**

- .1      Maintain Work in tidy condition, free from accumulation of waste products and debris, including that caused by Owner or other Contractors.
- .2      Remove waste materials from site at daily regularly scheduled times or dispose of as directed by Departmental Representative.
- .3      Do not burn waste materials on site.
- .4      Clear snow and ice from access to building, bank/pile snow in designated areas only and remove from site.
- .5      Make arrangements with and obtain permits from authorities having jurisdiction for disposal of waste and debris.
- .6      Provide on-site containers for collection of waste materials and debris.
- .7      Provide and use marked separate bins for recycling.
- .8      Dispose of waste materials and debris at authorized dumping areas.
- .9      On site stockpiling shall not be tolerated in any time.

**1.2                FINAL CLEANING**

- .1      When Work is Substantially Performed remove surplus products, tools, construction machinery and equipment not required for performance of remaining Work.
- .2      Make a final visit to the site with the Departmental Representative in order to draw up a list of deficiencies and remedial work if necessary.
- .3      Prior to final review remove surplus products, tools, construction machinery and equipment.
- .4      Review finishes, accessories and hardware to ensure they meet prescribed requirements for the operation and quality of execution.
- .5      Remove dirt or any other debris who mess up with the site work.
- .6      Sweep and clean the sidewalks, steps or any other surfaces; clean the remaining of the site work.

**1.3                WASTE MANAGEMENT AND DISPOSAL**

- .1      Separate waste materials for recycling.



**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**

**1.1                WASTE MANAGEMENT GOALS**

- .1        Prior to start of Work conduct meeting with Departmental Representative to review and discuss Canada's Waste Management Plan and Goals.
- .2        Canada's Waste Management Goal 75 percent of total Project Waste to be diverted from landfill sites. Provide Departmental Representative documentation certifying that waste management, recycling, reuse of recyclable and reusable materials have been extensively practiced.
- .3        Accomplish maximum control of solid construction waste.
- .4        Preserve environment and prevent pollution and environment damage.

**1.2                DEFINITIONS**

- .1        Class III: non-hazardous waste - construction renovation and demolition waste.
- .2        Cost/Revenue Analysis Workplan (CRAW): based on information from waste reduction workplan (WRW), and intended as financial tracking tool for determining economic status of waste management practices.
- .3        Demolition Waste Audit (DWA): relates to actual waste generated from project.
- .4        Inert Fill: inert waste - exclusively asphalt and concrete.
- .5        Materials Source Separation Program (MSSP): consists of series of ongoing activities to separate reusable and recyclable waste material into material categories from other types of waste at point of generation.
- .6        Recyclable: ability of product or material to be recovered at end of its life cycle and re-manufactured into new product for reuse.
- .7        Recycle: process by which waste and recyclable materials are transformed or collected for purpose of being transferred into new products.
- .8        Recycling: process of sorting, cleansing, treating and reconstituting solid waste and other discarded materials for purpose of using in altered form. Recycling does not include burning, incinerating, or thermally destroying waste.
- .9        Reuse: repeated use of product in same form but not necessarily for same purpose. Reuse includes:
  - .1        Salvaging reusable materials from re-modelling projects, before demolition stage, for resale, reuse on current project or for storage for use on future projects.
  - .2        Returning reusable items including pallets or unused products to vendors.
- .10      Salvage: removal of structural and non-structural materials from deconstruction/disassembly projects for purpose of reuse or recycling.

- .11 Sorted waste: Waste already classified by type.
- .12 Source separation: Separation of different types of products and waste material from the moment they become waste.
- .13 Waste Audit (WD): The WD includes assessment, volume and mass amounts of waste materials and waste generated by the construction, renovation, deconstruction or demolition. The quantities of recycled / reused, recycled and land filled materials must be indicated separately.
- .14 Coordinator Waste Management (CWM): Representative of the Contractor responsible for overseeing activities related to waste management and coordination of reporting requirements, documentation and samples to be submitted.
- .15 Waste Reduction Plan (WRP): A written document in which are considered the opportunities to reduce, reuse or recycling. The WRP is based on data on the checklist of waste.

### **1.3 WASTE REDUCTION WORKPLAN (WRW)**

- .1 Prepare WRW prior to project start-up.
- .2 WRW should include but not limited to:
  - .1 Destination of materials listed.
  - .2 Deconstruction/disassembly techniques and sequencing.
  - .3 Schedule for deconstruction/disassembly.
  - .4 Location.
  - .5 Security.
  - .6 Protection.
  - .7 Clear labelling of storage areas.
  - .8 Details on materials handling and removal procedures.
  - .9 Quantities for materials to be salvaged for reuse or recycled and materials sent to landfill.
- .3 Arrange plan to reduce waste so that the efforts are accompanied by priorities that meet the 3R hierarchy, ie, in descending order of importance, reduction, recycling / reuse and recycling.
- .4 Describe the method of waste management.
- .5 From data on WD, identify opportunities for reduction, recycling / reuse or recycling of waste materials.
- .6 View WRD, or a summary of the latter, on the site, a place where workers can see it.
- .7 Set realistic goals for waste reduction; identify existing constraints and develop strategies to eliminate them.
- .8 Keep track of reducing waste to produce a report, indicate the total volume of waste material actually removed from the site and the cost of the operation.

#### **1.4 STORAGE, HANDLING AND PROTECTION**

- .1 Store, materials to be reused, recycled and salvaged in locations as directed by Departmental Representative.
- .2 Unless specified otherwise, materials for removal become Contractor's property.
- .3 Protect, stockpile, store and catalogue salvaged items.
- .4 Separate non-salvageable materials from salvaged items. Transport and deliver non-salvageable items to licensed disposal facility.
- .5 Protect structural components not removed for demolition from movement or damage.
- .6 Support affected structures. If safety of building is endangered, cease operations and immediately notify Departmental Representative.
- .7 Protect surface drainage, mechanical and electrical from damage and blockage.
- .8 Separate and store materials produced during dismantling of structures in designated areas.
- .9 Prevent contamination of materials to be salvaged and recycled and handle materials in accordance with requirements for acceptance by designated facilities.
  - .1 On-site source separation is recommended.
  - .2 Remove co-mingled materials to off-site processing facility for separation.
  - .3 Provide waybills for separated materials.

#### **1.5 DISPOSAL OF WASTES**

- .1 Do not bury rubbish or waste materials.
- .2 Do not dispose of waste into waterways, storm, or sanitary sewers.
- .3 Keep a log of the following items:
  - .1 Bacs type and size.
  - .2 Kind of debris.
  - .3 Weight of waste materials.
  - .4 Weight of recycled materials.
  - .5 Destination of wastes materials.
- .4 Remove materials from deconstruction as deconstruction/disassembly Work progresses.

#### **1.6 SCHEDULING**

- .1 Co-ordinate waste management with other activities at site to ensure timely and orderly progress of Work.

**Part 2 Products**

**2.1 NOT USED**

- .1 Not Used.

**Part 3 Execution**

**3.1 APPLICATION**

- .1 Perform the work in accordance with WRD.
- .2 Handle waste materials not reused, salvaged, or recycled in accordance with appropriate regulations and codes.

**3.2 CLEANING**

- .1 Remove tools and waste materials on completion of Work, and leave work area in clean and orderly condition.
- .2 Clean-up work area as work progresses.
- .3 Separate wasting materials who shall be recycled and put them in the designated area.

**3.3 CANADIAN AND PROVINCIAL GOVERNMENTAL DEPARTMENTS CHIEF RESPONSIBILITY FOR THE ENVIRONMENT**

- .1 Schedule E - Government Chief Responsibility for the Environment:

Province	Address	General Inquires	Fax
Québec	Ministère de l'Environnement et de la Faune, Siège social 150, boul, René-Lévesque Est Québec QC G1R 4Y1	418-643-3127 800-561-1616	418-646-5974
	Conseil de la conservation et de l'environnement 800, place d'Youville, 19e étage Québec QC G1R 3P4	418-643-3818	

**END OF SECTION**

**Part 1            General**

**1.1                NOT USED**

- .1        Not Used.

**Part 2            Products**

**2.1                NOT USED**

- .1        Not Used.

**Part 3            Execution**

**3.1                REMOVAL OF SOLID WASTE AND DRY MATERIALS**

- .1        Do not bury or burn solid waste and dry materials on site.
- .2        The contractor shall engage, at his own expenses, a consulting expert in environment, in order to work out a control program of waste from cleaning, demolition and excavation. The program is subject to acceptance by the provincial environmental authorities (MDDEP).
- .3        Do not dispose of solid waste and dry materials in waterways, unless authorized in writing by the Departmental Representative.
- .4        Dry materials from demolition that are not to be reused shall be disposed off the site.
- .5        Dry materials from demolition, according to the Regulation Respecting Solid Waste RSQ 1981, c. Q-2, r. 14 of the Environment Quality Act are defined in the Regulation (section 1 (n)) as: “non-fermentable, shredded residues free of hazardous waste, cut wood, debris and rubble; fragments of concrete, masonry and asphalt”.
- .6        Dry materials from demolition that are not reusable shall be disposed of at sites authorized by the Ministry of Sustainable Development, Environment, Wildlife and Parks of Quebec (MSDEWP). On request, the MSDEWP can provide information on the sites in operation.
- .7        The Contractor shall submit to the Departmental Representative a copy of the authorizations and permits from the owners or managers of dry material disposal sites before the latter authorizes the Contractor to remove dry materials from the work site.  
  
The Departmental Representative shall have in his possession a copy of all certificates, licences and permits before allowing the excavation work.
- .8        The expert in environment mandated by the contractor will have to take account of the information in the preparation of materials for disposal management plan.
- .9        Soils will be managed according to their degree of contamination, according to the Grid management of contaminated soil excavated Interim MSDEP:
  - .1        Contaminated soil, smaller than “A”;

.2 Contaminated soil, class “A-B”;

Public Works and Government Services Canada, on behalf of Transport Canada mandated CIMA + to ensure environmental characterization of the Matane commercial wharf. The characterization was held from February 12th to 14th 2013.

The following parameters have been analyzed :

- Hydrocarbons C10-C50
- PAH
- Metals (As, Cd, Cr, Cu, Hg, Ni, Pb and Zn)
- BTEX
- Cl and SO4 Anions

Concentrations in the range of criteria “A-B” for copper were found in the area shown in the appendix to this section. This area is located south of the wharf and is shown in dark grey. The length of the “A-B” area is 55 m, either from 31 to 43, and this across the entire width of the wharf. The contractor is responsible for assessing the volume of material “A-B” to manage according to the depths of material to be excavated in this area. Moreover, the rate of salinity found in soils varies from 3 to 172 mg/kg for chlorides and 13 to 55 mg/kg for sulphate. Salinity rates found may constitute an environmental constraint available off-site soils. The contractor will have to taken into account in its waste management plan. The contractor is able to determine an appropriate for each type of equipment based on volumes and the type of contaminant on-site management mode.

Following the results of analyzes of soil samples, the concentrations obtained by CIMA + meet the criteria applicable for commercial and industrial use. The criterion C of the soil protection and land reclamation contaminated policy of MSDEWP is respected. Thus, no soil volume in excess of the criterion B of the policy have been identified.

The asphalt layer should be managed according to the regulations of MSDEWP.

- .10 According to the results for parameters analyzed, all soils will be loaded and transported out of the place of formal submission by the Contractor at locations authorized by MSDEWP.
- .11 Contractor shall provide to Departmental Representative sites certificates demonstrating that these sites authorized by the MSDEWP. The excavation of soils classified as "AB" shall not start until the Departmental Representative have in his possession all documents showing the authorizations by MSDEWP.
- .12 Contractor shall provide to Departmental Representative a copy of the results analysis, weigh tickets where necessary, permits and licenses obtained with the relevant authorities. The Contractor shall demonstrate that materials have been arranged in an authorized site.

### 3.2 **INCORPORATING DEMOLITION MATERIAL INTO SITE WORK**

- .1 Materials from demolition (aggregates and paving) are nor reusable in the work, regardless of contamination level.

### 3.3 **REUSABLE MATERIALS**

- .1 Reusable materials are aggregates with a soil contamination smaller than “A”.

- .2 The Contractor shall have sole responsibility for determining which materials are reusable. Certified laboratory tests should be provided to the Departmental Representative.
- .3 Dry materials from demolition that are reusable may be removed from the site as long as the Contractor:
  - .1 submits a written promise that the site user and owner, if the user is not the owner, where the materials deemed reusable by the Contractor will be stored shall indemnify and save Canada harmless from and against all claims, demands, losses, costs, damages, actions, suits or proceeding by whomever made, brought or prosecuted and in any manner based upon, arising out of, related to, occasioned by or attributable to the storage of these materials at the site by the Contractor, his employees, agents or sub-contractors, or the subsequent use of these materials;
  - .2 submits a document duly signed by the site user and owner, if the user is not the owner, authorizing the Contractor to store demolition material deemed reusable by the Contractor at the site;
  - .3 submits a document duly signed by the site user and owner, if the user is not the owner, indemnifying and saving Canada harmless from any claims resulting from storage at the site and subsequent use of demolition materials deemed reusable by the Contractor.

This document shall:

    - .1 be completed in duplicate if the site user is not the owner (i.e. one copy for the site user and one copy for the site owner);
    - .2 indicate the cadastre number of the lots of the storage site for material deemed reusable and the name of the owner of these lots;
    - .3 contain the following paragraph:

“ \_\_\_\_\_ (enter the name of the company using the site or the site owner) shall indemnify and save Canada harmless from and against all claims, demands, losses, costs, damages, actions, suits or proceedings by whomever made, brought or prosecuted and in any matter base upon, arising out of, related to, occasioned by or attributable to the storage by \_\_\_\_\_ (enter the Contractor’s name), his employees, agents or sub-contractors, on the lot(s) bearing the number(s) \_\_\_\_\_ in the cadastre of \_\_\_\_\_, of demolition materials from \_\_\_\_\_, (enter the structure to be demolished) deemed reusable by the \_\_\_\_\_ (enter the Contractor’s name), or to the subsequent use of these materials”;
  - .4 provides a document duly issued by the RCM or the municipality where the site is located authorizing the site user and owner, if the user is not the owner, to use the site to store reusable material from the demolition site; and
  - .5 obtain written approval from the Departmental Representative in advance.

**END OF SECTION**



**Légende :**

- Site à l'étude
- Sondage manuel (CIMA+, 2013)
- Soils A-B à gérer si excavés
- Lampadaire
- Bollard

**Résultats en fonction des plages de qualité environnementale**

SM-01	Identification de l'excavation et parcelle
0,00-0,50	HAP
0,50-1,00	HAP
1,00-1,50	HAP
1,50-2,00	HAP
2,00-2,50	HAP

- Plaque s-A  
- Plaque A-B  
- Plaque B-C  
- Plaque C-D  
- Plaque s-D

Paramètres d'analyse  
Intervalle de profondeur (mètre sous la surface)

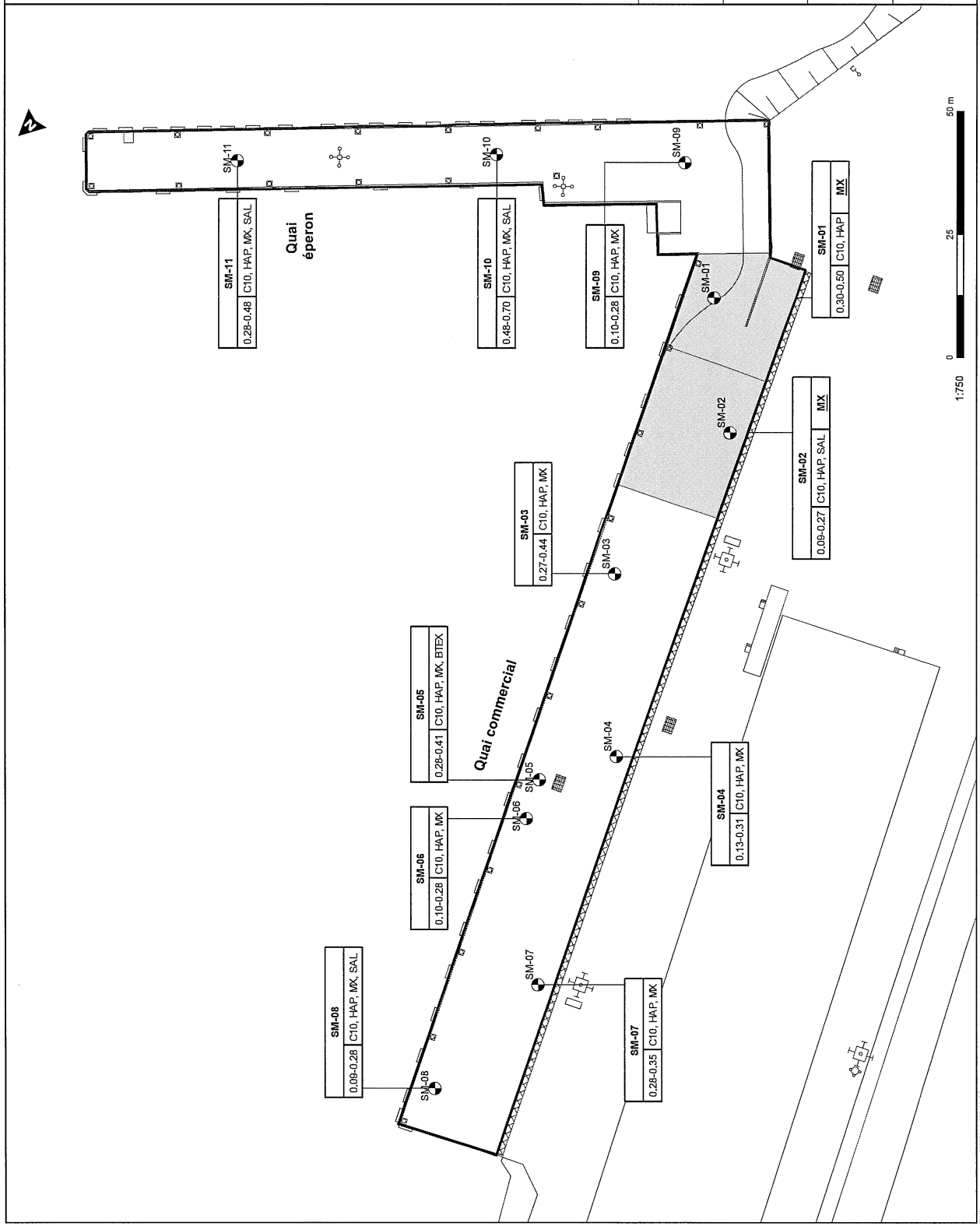
**Abréviation :**  
 BTEX : Benzène, Toluène, Éthylbenzène et Xylènes  
 C10 : Hydrocarbures pétroliers C<sub>10</sub>-C<sub>10</sub>  
 HAP : Hydrocarbures aromatiques polycycliques  
 MX : Métaux  
 SAL : Salinité

Travaux publics et Services gouvernementaux Canada

**FIGURE 3 :  
RÉSULTATS ANALYTIQUES DES SOLS**

**TPSGC Matane  
Caractérisation environnementale des sols**

Préparé par : Roger Duchesne  
 Dessiné par : Benoit Gasiglia  
 Vérifié par : Annie Bénibé  
 # Projet : M02681B-110  
 12 mars 2013  
 Partenaire de génie



Références géométriques : M02681A-250-25-05

**Part 1           General**

**1.1               INSPECTION**

- .1 Contractor's inspection: Contractor and sub-contractors shall inspect work, identify defects and deficiencies and make necessary repairs to comply with the requirements of Contract documents.
  - .1 Notify Departmental Representative in writing of satisfactory completion of Contractor's Inspection and that corrections have been made.
  - .2 Request Departmental Representative Inspection.
- .2 Departmental Representative Inspection: Departmental Representative and Contractor will perform inspection of Work to identify obvious defects or deficiencies. Contractor shall correct Work accordingly.
- .3 Completion: submit written certificate that following have been performed:
  - .1 Work has been completed and inspected for compliance with Contract Documents.
  - .2 Defects have been corrected and deficiencies have been completed.
- .4 Final Inspection: when items noted above are completed, request final inspection of Work by Departmental Representative. If Work is deemed incomplete by Departmental Representative, complete outstanding items and request reinspection.

**1.2               FINAL CLEANING**

- .1 Final site cleaning shall be done in respect with section 01 74 11 - Cleaning.

**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**

**1.1               DOCUMENTS/SAMPLES TO BE SUBMITTED FOR APPROVAL/INFORMATION**

- .1       Submittals in accordance with Section 01 33 00 - Submittal Procedures and in accordance with Section 01 74 21 - Construction/Demolition waste management.
- .2       WMC shall ensure compliance with all the requirements for the transmission of documents, samples and reporting requirements.
- .3       Prior to beginning of Work on site submit detailed Waste Reduction Workplan in accordance with Section 01 74 25 - Solid Waste and Dry Materials and indicate:
  - .1       Descriptions of and anticipated quantities in percentages of materials to be salvaged reused, recycled and landfilled.
  - .2       Descriptions of and anticipated quantities in percentages of materials to be salvaged reused, recycled and landfilled.
  - .3       Name and address of haulers, waste facilities and waste receiving organizations.
  - .4       Demolition plan
  - .5       Frequency of collecting operations.
- .4       Submit copies of certified weigh bills, bills of lading and receipts from authorized disposal sites and reuse and recycling facilities for material removed from site upon request of Departmental Representative.
  - .1       Written authorization from Departmental Representative is required to deviate from haulers, facilities and receiving organizations listed in Waste Reduction Workplan.

**1.2               QUALITY ASSURANCE**

- .1       Regulatory Requirements: Ensure Work is performed in compliance with applicable Provincial/Territorial and Municipal regulations.
- .2       Meetings:
  - .1       Prior to start of Work arrange for site visit with Departmental Representative to examine existing site conditions adjacent to demolition work.

**1.3               EXISTING CONDITIONS**

- .1       Matane commercial wharf was built in the 1960. It's a structure built on steel pipes with a layer of concrete and steel beams and slabs. Rehab concrete slabs are 250 mm thick. The wharf is protected with a cathodic protection. Dimensions are shown on drawings.

Slab elevation is not equal; the south section is lower than the majority of the structures. Volume excavation shall be bigger in this zone.

Samples analyses shown concrete slab is attacked with chlorides ions and RAG reaction. Utilisation live load is limited to 24kPa. Contractor shall be responsible to ensure machinery used in the work respect these criteria.

Therefore any unnecessary vibration shall be avoid. Granular backfill shall be placed without vibration.

The structure is adjacent to the dock spur, built during the same years. The finger pier is currently barricaded. The state of the finger pier structure is strongly reduced.

- .2 Existing conditions cited above are valid on the day of the acceptance bid.

#### **1.4 METHOD OF CONSTRUCTION**

- .1 Techniques and method of construction are the responsibility of Contractor.
- .2 The Contractor should obtain his own experts advice with regard to techniques and method of construction to use to demolish the work stipulated in this contract.
- .3 Contractor is not allowed to circulate on the spur wharf, unless specified on drawings.

The Contractor shall restrict his movement with heavy machinery on the existing slab.

- .4 So he shall evaluate the solidity of the structures to be demolished and choose a method of construction fitted for work requirements. Structural state change during work shall not be, on no account, a valid reason to sue for extra fees.

### **Part 2 Products**

#### **2.1 EQUIPMENT**

- .1 Equipment and heavy machinery to:
  - .1 On-road vehicles to meet applicable emission requirements as prescribed in CEPA-SOR/2003-2, On-Road Vehicle and Engine Emission Regulations.
  - .2 Off-road vehicles to meet applicable emission requirements as prescribed in EPA CFR 86.098-10 and EPA CFR 86.098-11.
- .2 Leave machinery running only while in use, except where extreme temperatures prohibit shutting machinery down.

### **Part 3 Execution**

#### **3.1 PREPARATION**

- .1 At the intersection of commercial and spur wharf, take the necessary measures to prevent displacement or soils settlings and adjacent land.
- .2 The Contractor shall delimit this area with carefully and avoid as much as possible move with machinery. However, since only a part of the spur wharf along the commercial wharf, it is possible that the Contractor should partly encroach on this area during excavation and fill

work. Therefore, the Contractor shall take the following measures, if they are deemed necessary:

- .1 Respect indication given into drawings.
- .2 Do not dig larger than necessary.
- .3 Avoid any movement of trucks on the spur wharf. Divert traffic to the commercial wharf.
- .4 Position the machinery necessary to the excavation and embankment on the commercial wharf and not on the finger pier.
- .5 If asked by the Departmental Representative, install bracing and repairs if needed.
- .6 In case of structural damage, repairs the spur wharf base on Departmental Representative.

### **3.2 DEMOLITION**

- .1 Perform work following section 01 56 00 – Temporary Barriers and Enclosures.
- .2 It is strictly forbidden to use the blasting for demolition work.
- .3 Plug the drains before cleaning the slab.
- .4 Remove the material defined as hazardous or contaminated by the competent authorities for the protection of the environment and get rid the construction taking all security measures to minimize the hazards during their removal and disposal.
- .5 Paving should be related as a contaminated material, and must be disposed of in a site authorized by the MDDEP. A certificate of compliance must be provided to the Departmental Representative prior to the excavation.
- .6 At the end of each work's day, ensure that the work is safe and stable.
  - .1 Make sure that the security perimeter is functional.
- .7 Perform demolition work to raise the least possible dust.
- .8 Remove and evacuate the construction demolition material, according to the requirements of the competent authorities.
- .9 Take the means necessary to protect the bollards and any other structures to remain in place during the excavation work.

**END OF SECTION**

**Part 1 General**

**1.1 REFERENCES**

- .1 Canadian Standards Association (CSA International)
  - .1 CSA-A23.1/A23.2-F-09, Concrete Materials and Methods of Concrete Construction/Methods of Test and Standard Practices for Concrete.
  - .2 CAN/CSA-S269.3-M92(R2008), Concrete Formwork, National Standard of Canada.

**1.2 DOCUMENTS/SAMPLES SUBMITTAL FOR APPROBATION/INFORMATION**

- .1 Submit drawings shops for concrete formwork.
  - .1 Drawing shops shall wear the seal of a competent engineer who can perform his work in Quebec, Canada.
- .2 Drawing shops shall indicate, the construction method and the schedule, the procedures for shoring, stripping and replacing props, materials, special architectural features finished exposed surfaces, the arrangement of joints, tie rods and elements lining, and the location of temporary embedded parts.
- .3 Drawing shops shall indicate calculation data forms such as speed and allowable temperature development of the concrete in the forms.
- .4 State the order of assembly and dismantling of formwork and temporary shoring works, as directed by the Departmental Representative.

**Part 2 Products**

**2.1 MATERIALS**

- .1 Formwork materials:
  - .1 For concrete without special architectural features, use wood and wood product formwork materials to CAN/CSA-O86.
  - .2 For concrete with special architectural features, use formwork materials to CSA-A23.1/A23.2.
- .2 Form release agent: non-toxic, biodegradable, low VOC.
- .3 Form stripping agent: colourless mineral oil, non-toxic, biodegradable, low VOC, free of kerosene.
- .4 Falsework materials: to CSA-S269.1.

**Part 3 Execution**

**3.1 FABRICATION AND ERECTION**

- .1 Verify lines, levels and centres before proceeding with formwork/falsework and ensure dimensions agree with drawings.
- .2 Obtain Departmental Representative's approval for use of earth forms framing openings not indicated on drawings.
- .3 Fabricate and erect falsework in accordance with CSA S269.1.
- .4 Do not place shores and mud sills on frozen ground.
- .5 Fabricate and erect formwork in accordance with CAN/CSA-S269.3 to produce finished concrete conforming to shape, dimensions, locations and levels indicated within tolerances required by CSA-A23.1/A23.2.
- .6 Align form joints and make watertight.
  - .1 Keep form joints to minimum.
- .7 Use 12 mm chamfer strips on external corners and/or 12 mm fillets at interior corners, joints, unless specified otherwise.
- .8 Construct forms for architectural concrete, and place ties as indicated and as directed.
  - .1 Joint pattern not necessarily based on using standard size panels or maximum permissible spacing of ties.

**3.2 REMOVAL AND RESHORING**

- .1 Leave formwork in place for following minimum periods of time after placing concrete.
  - .1 3 days for concrete components.
- .2 Re-use formwork and falsework subject to requirements of CSA-A23.1/A23.2.

**END OF SECTION**

**Part 1            General**

**1.1                REFERENCES**

- .1 American Concrete Institute (ACI)
  - .1 SP-66-04, ACI Detailing Manual 2004.
    - .1 ACI 315-99, Details and Detailing of Concrete Reinforcement.
    - .2 ACI 315R-04, Manual of Engineering and Placing Drawings for Reinforced Concrete Structures.
  - .2 Canadian Standards Association (CSA International)
    - .1 CSA-A23.1-04/A23.2-09, Concrete Materials and Methods of Concrete Construction/Methods of Test and Standard Practices for Concrete.
    - .2 CSA-A23.3-04, Design of Concrete Structures.
    - .3 CAN/CSA-G30.18-09 2009, Billet-Steel Bars for Concrete Reinforcement, National Standard of Canada.
    - .4 CSA-S806-02, Design and Construction of Building Components with Fibre-Reinforced Polymers.
    - .5 CSA-G40.20-04/G40.21-04 (R2009) - General Requirements for Rolled or Welded Structural Quality Steel/ Structural Quality Steel.
    - .6 CSA-W186-M1990 (R2007) - Welding of Reinforcing Bars in Reinforced Concrete Construction.
- .3 Reinforcing Steel Institute of Canada (RSIC) RSIC-2004, Reinforcing Steel Manual of Standard Practice.

**1.2                DOCUMENTS/SAMPLES SUBMITTAL FOR APPROBATION**

- .1 Submit required documents and samples in accordance with 01 33 00 submittal procedures section.
- .2 Drawings frames must be performed in accordance with the Manual of recommended standards published by the IAAC.
- .3 Shop Drawings
  - .1 The drawings shall bear the seal and signature of a competent engineer recognized and holding a license to practice in Canada, in the province of Quebec.
    - .1 The drawings must indicate the details of implementation of the frames and the following.
      - .1 Bending reinforcing bars.
      - .2 List of frames.
      - .3 Number of frames.
      - .4 Size, spacing and location of reinforcement and mechanical splices necessary if their use is authorized by the Departmental Representative. Frames must be marked with an identification



code to identify their location without the need to consult the structural drawings.

.5 The drawings must also indicate the size, spacing and location of chairs, spacers and supports.

.2 Unless otherwise stated, the right lengths and sealing overlap lengths of the bars must comply with CAN / CSA A23.3.

## **Part 2 Products**

### **2.1 MATERIALS**

- .1 Substitute different size bars only if permitted in writing by Departmental Representative.
- .2 Reinforcing bars: 15M @ 200c/c both ways.
- .3 Minimal concrete cover: 40 mm.
- .4 Rehab bars: 400W, to CAN/CSA-A23.1.
- .5 Ligature wire: annealed and cold drawn, according to the ASTM standard A82/A82M steel wire.
- .6 Wire frame: steel wire with high adhesion to ASTM standard A82/A82M.
- .7 Lots reinforcing bars shipped should be clearly marked as a code identification in accordance with the list of rebar and details required folding thereof.

### **2.2 FABRICATION**

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

## **Part 3 Execution**

### **3.1 FIELD BENDING**

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

### **3.2 PLACING REINFORCEMENT**

- .1 Place reinforcing steel as indicated on placing drawings and in accordance with CSA-A23.1/A23.2.

- .2 Ensure concrete cover above reinforcement bars stays in place during concrete flow.
- .3 Prior to placing concrete, obtain Departmental Representative's approval of reinforcing material and placement.

**END OF SECTION**

## **Part 1           General**

### **1.1               REFERENCES**

- .1       Abbreviations and Acronyms:
  - .1       Cement: hydraulic cement or blended hydraulic cement (the “b” suffix denotes blended product).
    - .1       Type GU, GUb or GUL - General use cement.
- .2       Reference Standards:
  - .1       CSA International
    - .1       CSA A23.1/A23.2-F09, Concrete Materials and Methods of Concrete Construction/Methods of Test and Standard Practices for Concrete.
    - .2       CSA A283-00 R2006, Qualification Code for Concrete Testing Laboratories.
    - .3       CSA A3000-F08, Cementitious Materials Compendium (Consists of A3001-88).

### **1.2               ADIMINISTRATIVE MEASURES**

- .1       Coordination meeting: one (1) week before concrete work, hold a coordination meeting with the Departmental Representative, the users dock, the responsible of Transport Canada and the harbor master
  - .1       This meeting aims to coordinate the activities of the dock during concreting operations.
    - .1       The first 3 days, the Contractor shall not work on the slab, unless it is needed to ensure humid curing is functional. Site users shall not be allowed to walk on the slab.
    - .2       Between day 4 and 7 or until the concrete has reached 100 % of its strength in compression specific, Contractor will be allowed to install manholes and pipes only. Site user could walk on the slab to install cables dockings, after approval by the Contractor and the Departmental Representative.
    - .3       After day 7, Contractor will be allowed to back fill the slab. Site user could walk on the slab to install cable dockings, after approval by the Contractor and the Departmental Representative.
  - .2       The Contractor shall take into account the schedule of transport ships and common operations on the wharf before planning the concrete pouring. Coordination and cooperation with the various users of the dock will be essential and mandatory.
  - .3       Departmental Representatives is the only person authorized to take a decision on the concrete pouring. Thus, the Contractor will be allowed to start pouring concrete only when the Departmental Representative has given its green light.
    - .1       A written authorization of the concrete pouring will be provided to the Contractor by the Departmental Representative.
    - .2       Provide a waiting time of several hours between the end of the installation of the reinforcement bars and pouring concrete to allow time for the

Ministerial Representative to inspect and verify the installation of reinforcing steel.

### **1.3 ACTION AND INFORMATIONAL SUBMITTALS**

- .1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2 At least 4 weeks prior to beginning Work, provide Departmental Representative with samples of materials proposed for use as follows:
  - .1 Curing compound.
  - .2 Type of supplementary cementing material.
  - .3 Type of blended hydraulic cement.
  - .4 Admixture.
  - .5 Fine and coarse aggregate.
  - .6 Joint types.
- .3 Provide testing results and reports for review by Departmental Representative and do not proceed without written approval when deviations from mix design or parameters are found.
- .4 Curing concrete: Submit to the Departmental Representative at least 72h in advance the methodology used for curing.
- .5 Pouring concrete: Submit registers about concrete lots put in place. Lots shall indicate the placement, quality, air temp, and samples taken.

### **1.4 QUALITY ASSURANCE**

- .1 Quality Assurance: in accordance with Section 01 45 00 - Quality Control.
- .2 Submit to the Departmental Representative 4 weeks prior to starting concrete work, a valid certificate release by the concrete shop.
  - .1 Provide test data and certification issued by a laboratory inspection and recognized testing and independent confirmation that the materials used in the manufacturing of the concrete mix and the dosage form to meet specified requirements.
- .3 Minimum 2 weeks prior to starting concrete work, provide proposed quality control procedures for review by Departmental Representative on following items:
  - .1 False work erection.
  - .2 Hot weather concrete.
  - .3 Cold weather concrete.
  - .4 Curing.
  - .5 Finishes.
  - .6 Formwork removal.
  - .7 Joints.
  - .8 Measure of protection during the curing.

## **1.5 DELIVERY, STORAGE AND HANDLING**

- .1 Delivery and Acceptance Requirements:
  - .1 Concrete hauling time: deliver to site of Work and discharged within 120 minutes maximum after batching.
    - .1 Do not modify maximum time limit without receipt of prior written agreement from Departmental Representative and concrete producer as described in CSA A23.1/A23.2.
    - .2 Deviations to be submitted for review by Departmental Representative.
  - .2 Concrete delivery: ensure continuous concrete delivery from plant meets CSA A23.1/A23.2.

## **Part 2 Products**

### **2.1 MATERIALS**

- .1 Cement: to CSA A3001, Type GUB.
- .2 Water: to CSA A23.1.
- .3 Aggregates: to CSA A23.1/A23.2.
- .4 Admixtures :
  - .1 Air entraining admixture: to ASTM C260.
  - .2 Chemical admixture: to ASTM C494 and ASTM C1017. Departmental Representative to approve accelerating or set retarding admixtures during cold and hot weather placing.
- .5 Curing compound: to CSA A23.1/A23.2 white.
- .6 Asphaltic board:
  - .1 Asphaltic board 12 mm thick shall be glued on the concrete perimeter of the wheel guard and decompression chamber.
    - .1 Asphaltic board shall be firmly fixed to make sure there is no displacement during concrete pouring.
    - .2 Asphaltic board dimensions are 150mm height, which is the same size of the concrete slab.
- .7 Adhesive: No adhesive is allowed between both concrete slabs. They will both move freely.

### **2.2 SAMPLING OF CONCRETE**

- .1 The Contractor shall provide the results of compressive strength at 7 days, % air led, water content, sagging and other laboratory results indicating the compliance of its concrete at least one (1) week before the first casting. Resistance in concrete compressive 7 days must equal 100% for the compression strength specific concrete, as required by the specifications in Section 03 30 00 – Cast-in-Place Concrete.

## 2.3 DOSAGE FORMS

### .1 Concrete for reinforced concrete slab:

The concrete implementation of the slab will have 100% of the specific compressive strength of a witness construction cylinder, but with a minimum of 3 consecutive days of treatment. It must be ensured to have 100% of the specific compressive strength of a cylinder witness to the site before putting up the granular materials on the new concrete slab. It is possible to have a concrete formula with a specific resistance of 35 MPa at 28 days and have 100% of the specific resistance within 7 days. The Contractor shall dose his mixing formula accordingly. The minimum requirements are:

- .1 Use cement Type GUb -SF
- .2 Compressive strength: 35 MPa at 28 days.
- .3 Class exposure: F-1.
- .4 Nominal coarse aggregate: 20 mm microns.
- .5 Sag at the time and point of discharge: 80 +-30 mm before superplasticizer, and 140 + - 40 mm after.
- .6 Air entraining admixture: 5 to 8 %.
- .7 Water / cement maximum mass: 0.40.
- .8 Admixture: type approved by Departmental Representative, used to correct the defect of the mixture or to facilitate implementation. Shall be based on ASTM C494. Contractor shall submit admixture used in cold or hot weather.

### .2 Concrete backfill of galvanized steel pipes:

The concrete implementation of the slab will have 40% of the specific compressive strength of a witness construction cylinder, but with a minimum of 3 consecutive days of treatment. The minimum requirements are:

- .1 Use cement Type GUb -SF.
- .2 Compressive strength: 20 MPa at 28 days.
- .3 Class exposure: F-1.
- .4 Nominal coarse aggregate: 20 mm microns.
- .5 Sag at the time and point of discharge: 80 +-30 mm before superplasticizer, and 140 + - 40 mm after.
- .6 Air entraining admixture: 5 to 8 %.
- .7 Water / cement maximum mass: 0.40.
- .8 Admixture: type approved by Departmental Representative, used to correct the defect of the mixture or to facilitate implementation. Shall be based on ASTM C494. Contractor shall submit admixture used in cold or hot weather.

### .3 Concrete repair clogged drains:

Drains were used to evacuate water from the slab, as shown on drawings. With the new concrete slab, drains are no longer needed, therefore, they shall be plugged.

- .1 Remove the actual pvc pipe insert in the drilling hole, to ensure concrete gets a good grip.
- .2 Use a concrete repair product, such as Sika Sikarepair 222, or equivalent.

- .3 Add to the concrete repair product, an sandy aggregate, 5mm or less in size particule to increase overall performances
  - .4 Humidify the hole to obtain an saturated surface
  - .5 Apply repair product slowly, and avoid dryness.
  - .6 Hole size is 50mm and length is 250mm.
  - .7 Other admixtures: shall respect ASTM C494.
- .4 Products for joints:
- .1 Construction joints shall be executed as shown on drawings, and covered by a layer of Sika Sikaflex 1-A or equivalent.
  - .2 Intersections between cathodic pipes, manholes and concrete shall be plugged with Sika Sikaflex 1-A:
    - .1 Brush with a steel brush the pipes and manhole to ensure a rough and clean surface.
    - .2 Clean every steel surfaces with an acetan solution.
    - .3 Apply one layer of Sika Sikaflex 1-A, or equivalent consisting of 3 overlap of 20mm each.
    - .4 Temperatures during installation shall be between 4 and 38 °C.
    - .5 Contractors shall follow manufacturer's instructions.
    - .6 Concretes opening, manholes and galvanized steel pipes shall be waterproof.

### **Part 3 Execution**

#### **3.1 PREPARATION**

- .1 Obtain Departmental Representative's written approval before placing concrete.
  - .1 Provide 72 hours minimum notice prior to placing of concrete.
- .2 Place concrete reinforcing in accordance with Section 03 20 00 - Concrete Reinforcing.

Observe the following concrete work instructions:

  - .1 Development of cold joints not allowed.
  - .2 Ensure concrete delivery and handling facilitates placing with minimum of re-handling, and without damage to existing structure or Work.
- .3 Pumping of concrete will not be permitted.
- .4 Ensure reinforcement and inserts are not disturbed during concrete placement.
- .5 Prior to placing of concrete obtain Departmental Representative's approval of proposed method for protection of concrete during placing and curing.

Since the slab will be cast on a dock, including a strong and effective protection in bad weather.

- .6 Any damage caused by windstorms or water crossing on the slab will responsibility of the Contractor. In case of damage caused by bad weather or any other circumstances beyond the control of the Departmental Representative, concrete work will be taken to the satisfaction of Departmental Representative, at no extra charge.
- .7 Protect existing structures (decompression grille, wheel guard, fenders, and various accessories) against dirt.
- .8 Clean and remove stains prior to application for concrete finishes.
- .9 Maintain accurate records of poured concrete items to indicate date, location of pour, quality, air temperature and test samples taken.
- .10 Install asphaltic board 12 mm thick into the wheel guard perimeter, as shown on drawings.
- .11 Do not place load upon new concrete until authorized by Departmental Representative.

### **3.2 INSTALLATION/APPLICATION**

- .1 Do cast-in-place concrete work to CSA A23.1/A23.2.
- .2 Weep holes and weep:
  - .1 Do not permit any kind of obstructions and keep weep holes fully functional.
  - .2 If needed, concrete near weep hole shall be trim to ensure correct water flow excavation.
- .3 Finishing and curing:
  - .1 Main slab: Water curing consisting of a 72h period, until 100% of specific compressive strength on the control site. Accepted curing methods are: water nap, water dampening, absorptive materials, or continuous cloth maintained wet.
  - .2 Coating of steel pipes: The cure is basic and a duration of 3 days or for the time required to reach 40% of the specific resistance requested.
  - .3 Finish concrete surfaces according to CSA A23.1/A23.2.

### **3.3 JOINTS**

- .1 Construction joints must be performed when the Contractor is passing from one phase to another, as shown on plan. The Contractor is responsible for determining the exact location of joints. In the event the Contractor shall stop casting in the middle of a phase, it will be allowed to do a construction joint as shown on plan. The location of the construction joint shall however be approved by Departmental Representative.
- .2 Dilatation joints shall be done accordingly to the drawings, vis-à-vis the plates overlap the joints of the existing slab.
- .3 Asphalt board 12 mm thick and 150 mm high must be affixed to the rim of the wheel guard and grid decompression, as shown in the plan. The new concrete slab must not come into direct contact with the vertical concrete surfaces present on deck.

### **3.4 SURFACE TOLERANCE**

- .1 Concrete tolerance to CSA A23.1 Straightedge Method.



### **3.5 FIELD QUALITY CONTROL**

- .1 Tests performed on site: The contractor is responsible for performing the tests indicated below and submit a report:
  - .1 Concrete pouring
  - .2 Sagging
  - .3 Air content
  - .4 Compressive strength at seven (7) and 28 days
  - .5 Ambient temperature and concrete temperature.
- .2 Test carried out on the site will be performed by a skilled and experienced technician.
  - .1 Ensure that the testing laboratory is certified according to CSA A283.
- .3 Inspection results shall be given to the Departmental Representative as soon as possible.
- .4 Contractor shall pay for costs of tests.
- .5 Departmental Representative could take additional test cylinders during concreting. Cure cylinders on job site under same conditions as concrete which they represent.
- .6 Inspection and testing by Departmental Representative can not replace on complete the quality control performed by the Contractor, nor do they emit this last of its contractual responsibilities in this regard. Thus, the Contractor shall appoint a specialized laboratory for the quality control.

### **3.6 CLEANING**

- .1 Clean in accordance with Section 01 74 11 - Cleaning.
  - .1 The concrete ready mix wash should be done outside of Matane wharf. Provide offsite area for safely washing concrete trucks.
  - .2 Transport unused admixtures (pigments, fibres) to an authorized site for hazardous materials, according to the regulations.
  - .3 It is strictly forbidden to discharge unused additives in sewers, in a river, a lake, on the ground or any other place where it could pose a risk to health or the environment.
  - .4 Avoid admixtures contamination of waterways and drinking water sources.
  - .5 If necessary, collect the liquid or solidify them with an inert non-combustible taking all appropriate security measures material.
  - .6 Dispose of waste in accordance with the requirements of federal provincial territorial and local laws.
  - .7 Provide an emergency spill kit in case of a spill of petroleum products or chemicals on the platform.

**END OF SECTION**

**Part 1            General**

**1.1                REFERENCES**

- .1 Canadian Standards Association (CSA International)
  - .1 CAN/CSA-G40.20/G40.21-2004, General Requirements for Rolled or Welded Structural Quality Steel/Structured Quality Steel.
  - .2 CAN/CSA-G164-M92(R2003), Hot Dip Galvanizing of Irregularly Shaped Articles.
  - .3 CAN/CSA-S16.1-2003, Limit States Design of Steel Structures.

**1.2                SUBMITTALS**

- .1 Shop Drawings
  - .1 Submit shop drawings in accordance with Section 01 33 00 - Submittal Procedures.
  - .2 The shop drawing shall indicate or show materials, sizes, connections, joints and welds.

**1.3                DELIVERY, STORAGE, AND HANDLING**

- .1 Packing, Shipping, Handling and Unloading:
  - .1 Deliver, store, handle and protect materials in accordance with Section 01 61 00 - Common Product Requirements.

**Part 2            Products**

**2.1                MATERIALS**

- .1 Steel sections : Schedule 40 Galvanized Steel pipe 75 mm inside diameter
- .2 Steel: 350W to CAN/CSA-G40.20 G40.21
- .3 Welding materials: to CSA W59 2008.
- .4 Welding electrodes: to CSA W48 Series.
- .5 Bolts and anchor bolts: to ASTM A307.
- .6 Manholes:
  - .1 Frame: Ductil, conic, street type with clear opening 762 mm, model Laroche 739-0090, or equivalent.
  - .2 Tampon: Ductil, waterproof and lockable, outer diameter of 804 mm, with “protection cathodique” written on top of it, model Laroche 739-0080, or equivalent.
  - .3 Opening in the frame shall for the passage of steel pipes galvanized not have to weaken and holes must be sealed as prescribed provided in Section 03 30 00 – Cast-in-Place Concrete.

- .4 Boxes of prints are installed directly on the existing slab. Make sure the boxes of prints are installed at right angles, and are based on a surface flat and stable. An opening of 100mm should be performed at the center of boxes of prints. In addition, the various openings shall be located at a distance of 50mm from the axis B, as shown on plan.

## **2.2 WORK METAL – GENERAL**

- .1 The construction work must be straight, square, aligned and consistent with dimensions prescribed and the joints must be tight and properly secured.
- .2 To the extent possible, works must be adjusted and assembled in the workshop, and delivered ready to assemble.
- .3 Exposed welds shall be continuous over the entire length of the joint, they must be filed down or sanded to provide a smooth and even surface.

## **2.3 FABRICATION**

- .1 Galvanised steel: Following pieces shall be galvanised: pipes, screw and anchor.
  - .1 Galvanizing: hot dipped galvanizing with zinc coating 600 g/m<sup>2</sup> to CAN/CSA-G164-M92(R2003).
  - .2 Damaged surfaces, attachment, on site welds, etc. shall be cleaned with mechanic tools, according to SSPC SP3, and be covered by two (2) coats of 95% zinc rich primer paint, “Galvicon” type or equal approved.

## **Part 3 Execution**

### **3.1 ERECTION**

- .1 Do welding work in accordance with CSA W59 unless specified otherwise.
- .2 Erect metalwork square, plumb, straight, and true, accurately fitted, with tight joints and intersections.
- .3 Make field connections with bolts to CAN/CSA-S16.1, or weld.
- .4 Hand items over for casting into concrete or building into masonry to appropriate trades together with setting templates.

### **3.2 SHAPING**

- .1 Assemble and erect various parts according to CAN/CSA-S16.1 standard.
- .2 Advise Departmental Representative about any difficulties encountered during execution of assemblies shown on drawings and obtain his approval for modifications to be done.
- .3 Respect required tolerances.
- .4 Assume total responsibility concerning work integrity during assembling.

- .5 Take good care not to soil steel surfaces, make sure that location of substructure parts and anchor bolts as well as elevation of load bearing parts are conforming to drawing indications and to specification requirements. Immediately advise Departmental Representative for any discrepancies found.
- .6 Secure the anchor rings to 2 meters c/c and ensure that the galvanized steel pipes are firmly fixed in the slab. Also provide an anchor ring to each end pipes.
- .7 Provide an attachment mechanism between each section of galvanized steel pipes. The Contractor can weld pipes, or secure it with a circular ring or any other method deemed satisfactory by the Departmental Representative.

### **3.3 CONTROL AND INSPECTION**

- .1 Supply in writing welding description methods for Departmental Representative's approval four (4) weeks before beginning of works.
- .2 Departmental Representative's reserves right to proceed with non-destructive weld inspections done on site. Inspection costs will be to Departmental Representative's expenses.
- .3 Contractor shall submit to Departmental Representative all means and required help for weld inspection and this, without any expense to Departmental Representative.
- .4 If controls reveal a defect to be repaired, wells must be repaired and inspected again. Contractor shall modify his welding method to eliminate defects found. Repairs and second inspection will be to Contractor's expenses.
- .5 Permit Departmental Representative's to make inspection at fabrication, mounting and/or assembling plant.
- .6 Report to Departmental Representative any failure in material or any other assembling problems at worksite. Corrections made, if applying, shall be executed to Departmental Representative's satisfaction.

**END OF SECTION**

**Part 1            General**

**1.1                REFERENCES**

- .1 American Society for Testing and Materials International (ASTM)
  - .1 ASTM C117-04, Standard Test Method for Material Finer than 0.075 mm (No.200) Sieve in Mineral Aggregates by Washing.
  - .2 ASTM C136-06, Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates.
  - .3 ASTM D422-63(2007), Standard Test Method for Particle-Size Analysis of Soils.
  - .4 ASTM D698-00ae1, Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft ; ) (600 kN-m/m ; ).
  - .5 ASTM D1557-07e1, Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft ; ) (2,700 kN-m/m ; ).
  - .6 ASTM D4318-10, Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils. Canadian General Standards Board (CGSB)
  - .7 CAN/CGSB-8.1-88, Sieves, Testing, Woven Wire, Inch Series.
  - .8 CAN/CGSB-8.2-M88, Sieves, Testing, Woven Wire, Metric.
- .2 Canadian Standards Association (CSA International)
  - .1 CAN/CSA-A3000-F08, Cementitious Materials Compendium (Consists of A3001, A3002, A3003, A3004 and A3005).
    - .1 CSA-A3001-F03, Cementitious Materials for Use in Concrete.
  - .2 CSA-A23.1/A23.2-F09, Concrete Materials and Methods of Concrete Construction/Methods of Test and Standard Practices for Concrete.

**1.2                DEFINITIONS**

- .1 Excavation classes: one class of excavation will be recognized;
  - .1 Common excavation: excavation of materials of whatever nature, which are not included under definitions of rock excavation.
- .2 Unclassified excavation: excavation of deposits of whatever character encountered in Work.
- .3 Waste material: excavated material unsuitable for use in Work or surplus to requirements.
- .4 Materials borrowing: materials from areas outside of the area to level and necessary for the construction of embankments or other parts of the work.

**1.3                DOCUMENTS/SAMPLES SUBMITTED FOR APPROVAL/INFORMATION**

- .1 Make submittals in accordance with Section 01 33 00 - Submittal Procedures.

- .2 Documents/samples to be submitted before work:
  - .1 Before commencing work under this section, submit a list major appliances and equipment that will be used for the realization of these last.
- .3 Samples:
  - .1 Submit samples in accordance with Section 01 33 00 - Submittal Procedures.
  - .2 Inform Departmental Representative at least 4 weeks prior to beginning Work, of proposed source of fill materials and provide access for sampling.

#### **1.4 QUALITY ASSURANCE**

- .1 Competence certificate: submit written documents attesting the Contractor got an insurance.
- .2 Do not use soil material until written report of soil test results are reviewed and approved by Departmental Representative.
- .3 Health and Safety Requirements:
  - .1 Do construction occupational health and safety in accordance with Section 01 35 29.06 – Health and Safety Requirements.

#### **1.5 WASTE MANAGEMENT AND DISPOSAL**

- .1 Separate waste materials for reuse and recycling in accordance with Section 01 74 21 – Construction/Demolition Waste Management.

#### **1.6 EXISTING CONDITIONS**

- .1 Piping buried utilities:
  - .1 Before starting work, check the location of utility lines located on site or at the vicinity thereof.
  - .2 Arrange, with the competent authorities for redirect buried pipes that may affect the performance of work, and bear the costs of such work.
  - .3 Details of the size, location and depth landfill works and utility lines are given as only and do not necessarily accurate or complete.
  - .4 Maintain and protect against damage water pipes, sewer, gas, electricity and telephone and other lines or other structures identified as indicated.
  - .5 Take note of the location of underground pipes preserved rerouted or abandoned.
  - .6 Confirm the location of the recently performed near the excavations work area.
- .2 Buildings and elements on the ground:
  - .1 In the presence of the Departmental Representative check the condition of buildings, trees and other plants, lawns, fences, poles connection, the cables, railroad rails, floor coverings, terminals delimitation and benchmarks may be affected by the work.
  - .2 During the works, protect against damage buildings and other elements present in the field. In case of damage, immediately put state affected by the elements, as directed by the Departmental Representative.

**Part 2 Products**

**2.1 MATERIALS**

.1 Mg-20 crushed stone.

.1 Gradations to be within limits specified when tested to ASTM C 136 and ASTM C 117 Sieve sizes to CAN/CGSB-8.1.

.2 Gradation to:

Sieve Designation	% Passing
31.5 mm	100
20 mm	90-100
14 mm	68-93
5 mm	35-60
1.25 mm	19-38
315 um	9-17
80 um	2-7

.3 Liquid limit: to ASTM D 4318, maximum 25.

.4 Plasticity index: to ASTM D 4318, maximum 6.

.5 Los Angeles degradation: to ASTM C 131. Max. % loss in weight: 45.

.6 Free of contamination with certificate of authorization written by competent authority.

**Part 3 Execution**

**3.1 MEANS OF CONTROL OF EROSION AND SEDIMENT**

.1 Establish temporary measures to fight against erosion and sediment disposition to prevent soil loss that can result from storm water runoff or erosion by wind and driving on the soil properties.

**3.2 SITE PREPARATION**

.1 Remove obstructions, ice and snow, from surfaces to be excavated within limits indicated.

.2 Saw cut pavement neatly along limits of proposed excavation in order that surface may break evenly and cleanly.

**3.3 PREPARATION/PROTECTION**

.1 Protect existing features in accordance with Section 01 56 00 - Temporary Barriers and Enclosures.

.2 Keep excavations clean, free of standing water, and loose soil.

.3 Protect natural and artificial elements that must remain in place.

- .4 Protect pipes and utilities that remain in place.

### **3.4 STOCK PILING**

- .1 On site stock piling is strictly forbidden inside Matane wharf.
- .2 Contractor could use an stock pile site outside of the harbour, however it should respect the following:
  - .1 Stock pile granular materials in manner to prevent segregation.
- .3 Protect backfill material against contamination.
- .4 Take measures to ensure erosion and sedimentation are limited inside the working area.

### **3.5 DEWATERING AND HEAVE PREVENTION**

- .1 Keep excavations free of water while work is in progress.
- .2 Protect open excavation against flooding and damage due to surface runoff.
- .3 Dispose of water in accordance with section 01 35 43 – Environmental Procedures and so there is no risk to public or private property, or one or the other part of the work completed or in progress.

### **3.6 EXCAVATION**

- .1 Excavate to lines, grades, elevations and dimensions as indicated.
- .2 Avoid plugging existing drains during the excavation work. Avoid dropping aggregates in water.
- .3 Excavation must not interfere with bearing capacity of adjacent foundations.
- .4 Unless the Departmental Representative is authorized in writing, it is forbidden to dig an area greater than the plane drawn phases.

### **3.7 FILL TYPES AND COMPACTING**

- .1 Use types of fill as indicated or specified below.
- .2 Compaction equipment should allow the Contractor to obtain compaction with density required for this work.
- .3 A board of reference shall be made to the site prior to compaction of granular material. This reference board will seek to determine the maximum density of compaction achievable under present conditions at the site. The board of reference shall be performed by a specialized laboratory and this at the expense of the Contractor. The board of reference shall be performed under the same conditions as for the implementation of the granular material.
- .4 The results obtained with the reference board should have been provided to the Departmental Representative 24 hours prior to the establishment of the granular material. Acceptance of the results will be confirmed by the Departmental Representative before allowing Contractor to perform compaction of granular fill on the concrete slab.



- .5 Current concrete slab is delaminated and damaged on about 30% of its surface. Thus, in order to protect the concrete from further damage, **compaction by vibration shall not be allowed**. The Contractor shall then be compacting granular material with a roller compactor, but without vibration.
- .6 Provide a waiting period of a few hours for the Departmental Representative to visually inspect the slab.
- .7 Compaction MG-20:
  - .1 Section less than 300 mm. Implementation of one (1) single layer.
  - .2 Section greater than 300 mm. Establishment in several layers of uniform thickness not exceeding 300 mm. This situation applies is the southern sector of the dock, see plan.
  - .3 No vibration shall be permitted for compacting granular material.
  - .4 Optimum water content: 5-6%, but must be validated at the site using the reference board.
  - .5 Compaction requirements: 100% of the value obtained in the reference board.
- .8 Profiler and cylinder alternatives to obtain a layer of solid foundation, equal and uniformly compacted.
- .9 During compaction, gradually add the water necessary for obtaining the required the weight prescribed volume.
- .10 Correct surface irregularities by loosening the soil and adding or removing material until the surface meets the prescribed tolerances.
- .11 Tolerances poses MG-20 are more or less 10 mm.

### **3.8 RESTORATION**

- .1 Upon completion of work, remove waste materials and debris in accordance to Section 01 74 21 – Construction/Demolition Waste Management, trim slopes, and correct defects as directed by Departmental Representative.
- .2 Protect newly graded areas from traffic and erosion and maintain free of trash or debris.

**END OF SECTION**

**Part 1           General**

**1.1               REFERENCES**

- .1 American Society for Testing and Materials International, (ASTM)
  - .1 ASTM D698-00a, Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft<sup>3</sup> (600 kN-m/m<sup>3</sup>)).
- .2 Canadian General Standards Board (CGSB)
  - .1 CAN/CGSB-1.74, Alkyd traffic paint.
- .3 Government of Quebec, Ministry of Transport
  - .1 Specification and general specifications (ECGD)-2013

**1.2               SAMPLES**

- .1 Submit samples as shown in section 01 33 00 – Submittal Procedures.
- .2 Submit to the Departmental Representative at least 2 weeks prior the work materials samples for granulometric analysis.

**1.3               MANAGEMENT AND DISPOSAL OF WASTE**

- .1 Recycle and reuse materials as shown in section 01 74 21 – Construction/Demolition Waste Management.
- .2 Ship off site unused bituminous materials to an adequate recycling facility.

**Part 2           Products**

**2.1               MATERIALS**

- .1 Aggregates used in asphalt concrete: to ECGD, 4201 standard.
- .2 Prime coat: SS-1 to ECGD.
- .3 Asphalt concrete: to ECGD.
- .4 Paint pavement markings: White, according to CAN/CGSB-1.74
- .5 Paint thinner: CAN/CGSB-1.5

**Part 3           Execution**

**3.1               FOUNDATIONS**

- .1 Foundations for pavement should include the following elements:

- .1 A foundation layer composed of aggregate type MG-20 compacted maximum number of the board.

### **3.2 PAVEMENT THICKNESS**

- .1 Pavements for roadways:
  - .1 Single layer: mixture ESG-14, 75 mm thick.

### **3.3 PAVEMENT CONSTRUCTION**

- .1 Coating surface preparation: according to the ECGD.
- .2 Application of the print layer: According to Article 13.3.3 of the ECGD.
- .3 Design of the coating asphalt concrete: According to Article 13 of the ECGD.
- .4 The paving will be performed in a single step when all the phases will be backfilled and compacted as shown in the plans and specifications.
- .5 The Contractor is free to choose the working method. However, the number of oil seals should be minimized to ensure continuity of the surface without cracks or bumps.
- .6 Making cold joints is strictly prohibited.
- .7 The Contractor is responsible for decontaminating layer MG-20 of about 50 mm thickness immediately prior to the paving.
- .8 The granular base shall be accepted by the Departmental Representative before allowing the contractor to begin paving.
- .9 The Contractor shall coordinate with the users of the wharf to ensure that the entire surface of the platform is free for the decontamination and paving.

### **3.4 PAVEMENT MARKING**

- .1 Delimited by painting directly on the paving intersections of each axis, which represents the center of each pole by means of a circular spot of 100 mm in diameter white color, as shown in the plan.
- .2 Delimited by painting directly on the wheel guard the various axes by means of a line of 100 mm wide and extending along the entire height of the wheel guard in white color, as illustrated in the plan.
- .3 Use paint thinner according to manufacturer's recommendations.

**END OF SECTION**