

PART 1 - GENERAL

- 1.1 Description
- .1 This section specifies requirements for the Site Works -Petit Rocher Wharf in preparation of harbour dredging, construction of Rubble Mound containment cell and the restoration of the site upon completion of dredging.
 - .2 Site Works - Petit Rocher Wharf preparation will consist of, but not necessarily be limited to, the following at Miller Brook Wharf:
 - .1 Mobilization and demobilization of dredging and construction equipment.
 - .2 Installation and maintenance of erosion control measures.
 - .3 Installation and maintenance of Floating Silt curtain in the harbour.
 - .4 Installation and maintenance during dredging operations of safety fence (Snow Fence).
 - .5 Provide a buoy life ring and a rope et the containment cell.
 - .6 Contact NB Power to de-energize overhead power lines, if applicable.
 - .7 Locate under ground elctrical.
 - .8 Ensure noise control and dust control measures are inplace during all construction activities.
 - .3 The containment cell a Petit Rocher Wharf is to be maintained under site work and includes:
 - .1 Security and fencing;
 - .2 Draining of cell.
 - .3 Dust and noise control.
 - .4 Provide a buoy life ring
 - .5 Site security measures.
 - .4 Site restoration is site work, and will consist of, but not necessarily be limited to, the following:
 - .1 Shape containment cell to ensure proper drainage.
- 1.2 Related Work
- .1 Containment Cell Section 35 31 18
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| <u>1.3 Protection</u> | .1 | Protect existing objects designated to remain. In event of damage, immediately replace or make repairs to approval of and at no additional cost to Departmental Representative. |
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| <u>1.4 Measurement for Payment</u> | .1 | Site Works - Petit Rocher Wharf: as specified including all plant, labour will constitute a fixed price item for measurement purposes. |
| | .2 | There will not be any separate payment for the reinstatement of work that was temporarily removed for the installation of the new work. Include cost for this work in the items for payment. |

PART 2 - PRODUCTS

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| <u>2.1 Materials</u> | .1 | Salvaged Sandstone - Not applicable. |
| | .2 | Imported Sandstone: To be of good durability course sandstone rock that is of approved quality, sound, hard, dense, angular, resistant to weathering and salt water, free from overburden, spoils, and organic material. Free from cracks, seams or other defects which may impair durability. |
| | .3 | All rock material to be granitic or basaltic rock that is of approved quality, sound, hard, dense, angular, resistant to weathering and salt water, free from overburden, spoils, and organic material. Larger sizes to be free from cracks, seams or other defects which may impair durability; specific gravity minimum 2.60; slate, shale, and sandstone not acceptable.
.1 The Departmental Representative will inspect and approve the proposed source of supply prior to the start of work

.2 Random Rip Rap Mix: Homogeneous blend supply of specific mixture mixed at the proportions of approx 20% by weight to the |
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2.1 Materials
(Cont'd)

- .3 (Cont'd)
- .2 Random Rip Rap Mix:(Cont'd)
random rip rap material indicated to form a
dense material when placed and compacted. R5
- R5 Random Mix
- | ASTM Sieve Size | % Passing |
|-----------------|-----------|
| 200 mm | 100 |
| 190 mm | 70-90 |
| 150 mm | 40-55 |
| 70 mm | 0-15 |
- .4 Granular 31.5mm Material:
- .1 Granular Base rock, clear, hard durable,
angular, crushed quarried rock aggregate free
from silt, clay lumps, organic matter, foreign
substances and free from splits, seams or
defects. Specific gravity not less than 2.6
when tested to ASTM C127-77 (AASHTO T85-77).
- .2 Gradation to be within following limits
when tested to ASTM C136-84 and ASTM C117-87
and giving a smooth curve without sharp breaks
when plotted on a semi-log grading chart.
- .3 Gradation - Granular Base:
- | ASTM Sieve Size | % Passing |
|-----------------|-----------|
| 31.5 mm | 95-100 |
| 25.0 mm | 81-100 |
| 19.0 mm | 66-90 |
| 12.5 mm | 50-77 |
| 9.5 mm | 41-70 |
| 4.75 mm | 27-54 |
| 2.36 mm | 17-43 |
| 1.18 mm | 11-32 |
| 300 µm | 4-19 |
| 75 µm | 0-8 |
- .5 Control of gradation shall be by visual and
mechanical inspection. Any difference of
opinion between the Engineer and the
Contractor shall be resolved by dumping and
checking the gradation of individual rocks
taken at random. Mechanical equipment, a
sorting site and labour needed to assist in
checking gradation shall be provided, at no
additional cost by the Contractor.
- .6 In the event of more then one category of
rock within a truck load arriving on site,
only one category will be measured at a time
with the remaining category(ies) being removed
and stored temporarily for subsequent
weighing.

PART 3 - EXECUTION

3.1 Common
Excavation

- .1 Excavate layers of sandstone fill within cell configuration. Salvage layers as indicated in materials description.
- .2 Mix excavated Class B materials with imported sandstone fill if necessary for stable embankments.
- .3 Place backfill material in uniform layers not exceeding 300 mm compacted thickness. Compact each layer to 95% of Standard Proctor dry density before placing succeeding layer.
- .4 When using hand operated tamping devices, place backfill material in layers not exceeding 100 mm in thickness.
- .5 Ground water is expected to be encountered at lower levels of the cell during excavation. Take steps to excavate as much spoils as possible in the dry. This may require dewatering the excavation from time to time if water intrudes or modifying the methods of excavation.

3.2 Ditching

- .1 When berms are removed construct swales at limit of spoils so to collect excess water decanted from spoils, and direct toward cell drain structure.

3.3 Cell
Surcharge

- .1 Consolidation of Dredge material is expected to commence immediately upon decanting water from the upper portion of the cell. Water will continue to be squeezed out over the first few weeks and will be accelerated by surcharging the spoils and allowing water to escape.
- .2 The frozen surface of the dredge spoils is expected to be accessible by foot within a few days of draining the cell.

3.3 Cell
Surcharge
(Cont'd)

- .3 Install filter fabric and geogrid fabric over surface of spoils.
- .4 Install consolidation monitor in center of the cell. The monitor will be a 3m long, 50mm diameter steel pipe welded to a 600 mm sq 12mm steel plate. The plate is sandwiched between the fabric and geogrid. Monitor elevation changes daily when infilling and weekly until end of contract.
- .5 Place layers of salvaged fill on dredged material layers of 300 mm.
- .6 A snow layer can be tolerated on the spoils provided it is no more than 300mm and is uniform. If necessary, excess snow will be removed at contractor's expense.
- .7 Install consecutive layers of sandstone fill to layer thickness of 1200mm.
- .8 Cell is allowed to decant and settle for four (4) months.