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# 1. Introduction

1.1 Baffinland Iron Mines (BIM) requires a floating barge accommodation facility (ies) to be located at Steensby Inlet, Baffin Island, Nunavut, to support development of the site as part of the overall development of the Iron Ore mine at Mary River.

1.2 The approximate camp location is shown in H337697-7000-10-014-1107 Steensby Inlet Pre-Development Works Site Layout plan. The floating barge is shown on this plan as indicative only. A larger area has been highlighted as being available for mooring the floating barge. This is shown on H337697-PX701-SK001 Steensby Inlet Bathymetric Survey in section 01 53 00, Appendix A.

1.3 The floating barge accommodation facility will be required to be ready for use and delivered to site for the start of the 2012 sealift during mid-July 2012 and will be used for a period of approximately 5 years during the predevelopment and construction works period. At the end of this period it shall be decommissioned and will be removed from site.

1.4 The floating barge accommodation facility will be fully self-contained and supplied complete with all necessary utilities to accommodate 300 people.

1.5 The overall configuration of how to support accommodation facilities for 300 people will be at the discretion of the contractor.

1.6 The contractor is also required to provide pricing and options for accommodating a further 300 people (minimum) on a floating barge by project sanction in early 2013. *Please note this additional vessel will be required to be delivered to site prior to the end of the 2012 summer sea lift (September / October 2012).*

1.7 This procurement package includes specification requirements for the accommodation facilities and performance specifications for the utility provisions and arctic condition capabilities of the barge structure. The contractor is required to provide all items in accordance with the specifications included within this package.

1.8 Figure 1-1: Site Location Plan of Mary River Project in Nunavut Territory, Canada shows where the overall site is located within Nunavut.

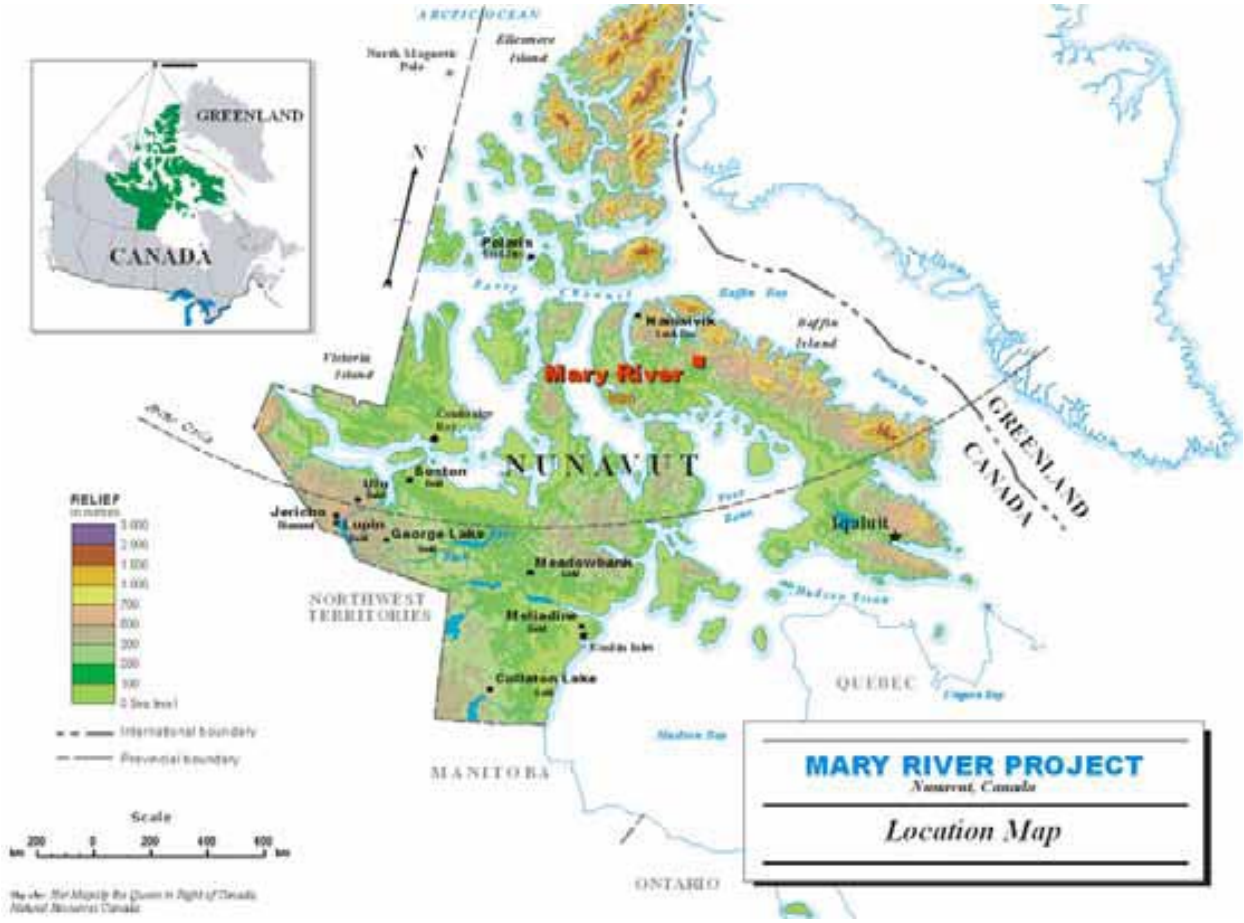


**Figure 1-1: Site Location Plan of Mary River Project in Nunavut Territory, Canada**

# 2. Floating Barge Accommodation Facility

## 2.1 Scope of Work

The Contractor shall provide an appropriate facility, based on all information contained herein, including prefabricated modular buildings using new materials, complete with fully operational equipment and all necessary auxiliary equipment and accessories, unless specifically excluded from scope of work.

All exceptions to this specification shall be clearly informed in the proposal, so as to characterize an alternative supply. Nevertheless, compliance to specification does not exempt the Contractor from its responsibilities in furnishing reliable and safe equipment.

### *2.1.1 Work Included*

The key objectives for provision of the floating barge accommodation facility for the contractor includes all project components and installation activities for a complete and total operable facility including but not limited to the following:

- The design, submission of drawings and / or documents for approval and permitting
- The supply, manufacture, installation, commissioning and provisions of necessary training for all buildings, facilities, services and equipment located on the barge
- Shipping / towing, positioning and mooring of floating barge accommodation facility to site, ready for occupation by mid-July 2012
- Provide standard accommodation facilities as per the requirements set out in this specification to accommodate 300 people
- B [1]Provide floating barge structure suitable for year round use in arctic environments designed as an offshore vessel and in accordance with all SOLAS regulations.
- Accommodation facilities shall be provided complete with furniture, equipment, finishes and fixtures for the following:
  - Dormitory Complex
  - Kitchen / Diner / Recreation Complex
  - Offices
  - First aid complex
  - Exercise facilities.
- Utility services and all supporting infrastructure shall be provided to ensure a complete self contained floating barge accommodation facility (see section 2.1.2 for exclusions) for the following:

[1] *Requirement for offshore vessel design to SOLAS Regulations added.*

- Potable water treatment and storage
- Desalination facilities
- Sewage treatment
- Electrical generation
- Lighting
- Heating
- All HVAC and ventilation systems
- Fire protection
- All necessary internal plumbing
- Waste management and incineration.

- Provide floating gangway platform(s) as necessary to enable access and egress to the mainland (approximately 200m in length)

B [2]*(please note: The contractor may recommend an alternative mooring distance to suit the vessel design based on bathymetry data provided in specification section 01 53 00)*

- Provide a complete 4 point mooring system for the floating barge and gangway.

### *2.1.2 Work Excluded*

The scope of work excludes the following components identified below:

- All site based communications required during installation shall be provided by BIM;
- Management and operations of the floating barge accommodation facility following assembly and delivery to site.

## 2.2 Alternative Options

The contractor is encouraged to suggest for discussion at any time alternative solutions for providing a floating accommodation facility to site by mid-July 2012, suitable for arctic conditions and to accommodate a minimum 300 persons and a further 300 person capacity accommodation facility to site before the end of the 2012 sea lift season (approx September / October 2012) for use immediately after project sanction in early 2013.

This includes provision of larger occupancy barges and leasing options for known existing barges. *Please note. A minimum 300 person capacity floating accommodation facility is required by 15th July 2012.*

[2] *Note added*

# 3. Design Regulations

The floating barge accommodation facility should be supplied to meet the following minimum design criteria.

## 3.1 Design Life

It is the intention of BIM that the facility could be sold following it's utilisation for this project. As such a 30 year design life shall be assumed.

## 3.2 Accommodation Capacity Requirements

The accommodation and all supporting utilities shall be sized accordingly to support a maximum workforce capacity of 300 people for 24/7 year round operations.

## 3.3 Codes and Standards

The design of all facilities shall be at least in accordance with minimum specifications in (but not limited to) the following documents:

- National Building Code of Canada 2010 (NBCC)
- Government of Nunavut - Good Building Practices Guideline 2005 Second Edition
- American Bureau of Shipping (ABS) Rules for Building and Classing Steel Barges - 2009
- ASTM Volume 01.07 Ships and Marine Technology
- British Standards - Shipbuilding and Marine Structures Series
- Canada Shipping Act including all Transport Canada, Canada Shipping Act technical publications
- CSA S-16-1: Design of Steel Structures; (S16)
- Canadian Institute of Steel Construction Handbook of Steel Construction
- CAN/CSA W59 – Welded Steel Construction
- CAN/CSA G40.20/G40.21 – General Requirements for Rolled or Welded Structural.
- [3]SOLAS (Safety of Life at Sea) Regulations

## 3.4 Units

The SI (metric) system will be used.

[3] *New code/standard added*

## 3.5 Barge Hull / Vessel Classification

### *3.5.1 National Authorities*

Construct the barge in accordance with all Marine Safety Requirements as applicable for the operation and location. Service notation should generally be as follows:

- Non-passenger vessel
- Barge – Accommodation
- Near Coastal Voyage Class 2

### *3.5.2 International Maritime Organization (IMO)*

Certify the vessel by National Authority or Class as being in accordance with the applicable sections of the following regulations:

- International Loadline Convention, 1966, with latest amendments
- Colregs
- Tonnage Regulations (per Transport Canada Requirements)
- International Convention for the Prevention of Pollution from Ships (MARPOL)
- [4]SOLAS (Safety of Life at Sea): 1974 △B

### *3.5.3 Classification Society*

Construct the barge to meet or exceed all requirements of an appropriately recognized Class Society (Lloyd's Register of Shipping, American Bureau of Shipping, Det Norske Veritas, Bureau Veritas, or Germanischer Lloyd). Typical notation as follows (per Lloyd's):

- Lloyd's ✠ 100 AT Moored Pontoon - for North Baffin Island

### *3.5.4 Certificates and Fees*

Obtain all certificates required by law and post same in suitable frames or mark same as directed. Contractor to be responsible for all Survey and Measurement Fees

### *3.5.5 Approvals*

Construct the vessel to the satisfaction and approval of Inspectors representing:

- The Owner and Owner's Representative
- Relevant National Authorities
- Classification Society.

[4] *New code/standard added*

## 3.6 Barge Hull / Vessel Registry and Certification

### *3.6.1 General*

Provide all necessary forms and certificates to ensure the vessel satisfies all applicable national and / or international regulations, including the following

### *3.6.2 Registry*

Register the vessel under appropriate flag:

- home port - TBD

### *3.6.3 Load Line*

Certify and mark the vessel for an International Load Line in accordance with IMO, Classification

### *3.6.4 Tonnage*

Measure and mark the vessel's gross (GRT) and net (NRT) tonnage in accordance with International Tonnage Measurement

### *3.6.5 Certificates (Other)*

On delivery of the vessel, supply the following certificates to the Owner in triplicate:

- Certificate of Classification Society and National Authority for the hull
- Certificate of Classification Society and National Authority for seaworthiness
- Nationality Certificate
- Builder's Certificate
- Certificate for Navigation Lights
- Certificates for Machinery and Deck Equipment
- Certificate of all Towing Gear, Wire Ropes, etc
- Other certificates as required by all authorities

## 3.7 Barge Hull / Vessel Tests and Trials

### *3.7.1 General*

Perform a comprehensive set of tests and trials throughout the construction and/or upon completion of the vessel to satisfy the following:

- Satisfy Regulatory Authorities that vessel and all systems and equipment are fit for purpose, and in compliance with all applicable regulations
- Prove that execution of all work is in accordance with the Specification
- Prove the full and satisfactory operation of all shipboard systems

- Establish performance benchmarks of all shipboard systems as a baseline for future monitoring
- Identify any aspects of workmanship, material, or equipment defect which require rectification prior to acceptance of the vessel.

Record test configurations, test procedures, and test results, and submit report to Owner on all tests conducted

### *3.7.2 Commissioning Tests and Sea Trials*

Conduct the tests and trials in accordance with the approved program and record the results

Prepare and submit the tests and trials report documenting the test and trials completed and the results

## 4. Health and Safety

4.1 During installation, The Contractor shall adhere to all relevant clauses specified in Nunavut's Mine Health and Safety Regulations under the Nunavut Mine Health and Safety Act.

4.2 The Contractor shall also adhere to all procedures relating to site health, safety and welfare as stipulated by BIM and their representatives.

**END OF SECTION**