BDFA Temporary Facility - Functional Requirements

18 November 2016
Issue and Revision Record

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1 Introduction

This specification covers the minimum functional requirements for the BDFA Temporary Facility.

1.1 General

During the construction of the Boston Barrier, temporary berth and associated landside facilities are required to accommodate the operations of the Boston and District Fisherman’s Association (BDFA) fishing fleet. The facilities are required to be in place for use by the BDFA for the duration of the construction of the tidal barrier structure, gate, and associated in-channel works.

The baseline functional requirements of the temporary BDFA facility have been developed through consultation with representatives from the BDFA.

1.2 Location

The temporary facilities are to be positioned at the existing Grain and Lairage Quay’s at the Port of Boston (PoB), immediately downstream of the proposed barrier structure. The location and extent of the facility is governed by the area of land proposed for temporary lease for the BDFA facility, and is shown on drawings IMAN001472-CIV-DR-050 and IMAN001472-CIV-DR-057. The length and width of the temporary quay and associated area is approximately 300m x 15m. The landside facilities are to be provided immediately adjacent to the quay frontage so as to minimise encroachment into the PoB operational port area.

1.3 Planning and Design

The Contractor is responsible for the planning, design, supply, installation, and commissioning of the temporary BDFA facility through liaison with the BDFA, the PoB and the Environment Agency (EA) to accommodate the interests of all parties and meet the functional and performance requirements of this Specification.

1.4 Clearance

The Contractor is required to clear the entire site to the satisfaction of the BDFA prior to handing over the facility. The Contractor shall liaise and coordinate clearance works with the PoB with regard to ownership and disposal requirements of materials and equipment that are currently stored on the site to be cleared. The Contractor will gain in writing all items to be retained by the PoB prior to commencement of clearance works.

1.5 Codes and Standards

The design, manufacture, provision, installation and construction of the works shall comply with the latest editions of British (BS), European (EN) and international (ISO) Specifications, Codes of Practice, and all statutory regulations including UK Building Regulations. A consistent, coherent and compatible set of standards shall be used, appropriate to the form of construction and environment.

As a guide, the following list represents some but not all design standards and guidelines to be used by the Contractor for these works:
- BS6349-1: Maritime Works – General (all relevant sub parts).
- BS6349-4: Maritime Works – Code of practice for design of fendering and mooring systems.
- BS EN50132-7: Alarm systems - CCTV surveillance systems for use in security applications.
- BS EN 806: Specifications for installations inside buildings conveying water for human consumption.
- BS EN ISO 4064: Water meters for cold potable water and hot water.
- BS 7671: Requirements for Electrical Installations. IET Wiring Regulations.
2 Requirement of the Temporary BDFA Facility

The sub-sections below set out the baseline requirements of the temporary BDFA facility.

2.1 Temporary Quay Facility

The existing Grain (Figure 1 and Figure 2) and Lairage (Figure 3) Quay's are required to temporarily accommodate the normal operations of the BDFA fishing fleet.

Figure 1 – Existing Lairage Quay
Figure 2 – Existing Lairage Quay

Figure 3 – Existing PoB Quay Side
The quay will be required to accommodate up to 24 fishing vessels moored alongside at any one time. Raft (side by side) mooring is standard practice and will be implemented by the vessel operators in the event that the available 300m quay length is insufficient. The 300m quay length can provide a Not Always Afloat but Safely Aground (NAABSA) berth.

Particulars of the typical and maximum fishing vessels to be accommodated at the temporary quay are shown in Table 1.

### Table 1 – Maximum Fishing Vessel Particulars

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<th>Parameter</th>
<th>Typical Fishing Vessel</th>
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<tr>
<td>Displacement</td>
<td>45 tonnes</td>
<td>90 tonnes</td>
</tr>
<tr>
<td>Length Overall</td>
<td>10.0 m</td>
<td>14.0 m</td>
</tr>
<tr>
<td>Beam</td>
<td>5.0 m</td>
<td>6.0 m</td>
</tr>
<tr>
<td>Maximum Draft</td>
<td>1.4 m</td>
<td>1.6 m</td>
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In addition to the fishing vessels, the port area fronted by the quay and bounded by the landside boundary agreed with the PoB shall be capable of accommodating the landside operations of the BDFA. Landside operations will result in the following site wide loads:

- General surcharge of 10kN/m².
- Commercial vehicles/vans of maximum gross weight of 5 tonnes.
- Front lift fork trucks of maximum lift capacity of 2.5 tonnes.

The Contractor shall assess the condition and capacity of both the quay structure and existing pavements for these operational loads. The paving shall provide a smooth uninterrupted surface suitable for use by the vehicles set out above and pedestrians. Should modifications or upgrades to the existing paving or quay be required to meet these operational requirements, the Contractor shall design and construct such modifications as necessary.

Recessed galvanised steel mooring rings shall be fixed to the face of the existing cope structure over the full 300m length of quay. The maximum spacing of mooring rings shall be 2.5m. The elevation (height) of the rings shall be agreed with the BDFA with consideration to the capacity and dimensions of existing cope structure (to be assessed by the Contractor) to which they are attached. The clear internal diameter of the rings shall be 100 mm, and their capacity shall be determined by the Contractor assuming the maximum design vessel set out in Table 1 moored in environmental conditions resulting from a 1 in 50 year event. The existing mooring bollards along the quay shall be retained.

The Contractor shall install alternating safety ladders 15 m maximum intervals and handholds to the existing quay face at 30 m maximum intervals. Both ladders and handholds shall extend from the top of the quay cope down to river bed level. Rubbing strips force to be provided on either side of the ladder and at 5m intervals between each ladder. The configuration and details of the ladders and handholds shall meet the requirements of BS6349-2. In addition, ladders shall be protected by timber facing or extruded rubber fendering to prevent damage to vessels that may accidently make contact with the ladder.
Signage shall be provided at regular intervals along the quay stating that the temporary facility is for the sole use of the BDFA, prohibiting general access to the public.

Power, water and life-saving facilities shall be provided along the quay as set out in sub-section 2.2.

The Contractor shall ensure the removal of temporary provision as may be required to ensure the effective installation of any permanent works constructed after the temporary berthing quay is no longer required.

### 2.2 Services Requirements

The Contractor shall design, supply, install and commission the electrical supply to the temporary BDFA facility in accordance with all regulatory by-laws. The Contractor shall liaise with the PoB to agree the nearest and most suitable electrical supply connection point to the facility. The electrical supply shall be metered at the point of connection to the PoB network within a new main distribution board. The main distribution board shall be complete with a lockable cover and incoming integral isolating switches, and with a full complement of MCB/RCBO units and blanking plates. All power cables throughout the designated area shall be installed below ground in accordance with all regulatory by-laws.

The Contractor shall design, supply, install and commission potable cold water supply to the temporary BDFA facility in accordance with all regulatory by-laws. The Contractor shall liaise with the PoB to agree the nearest water connection point. If required an application for the new connection shall be made to Anglian Water Services Ltd. The connection shall be complete with isolating valves, strainer, double check valve, water meter, back flow prevention and drain valve. The new water connection and supply bore shall be sized accordingly in order to ensure adequate flow rate and low pressure loss in the system. The water supply network within the temporary facility shall be installed below ground.

A total of 2 number electrical connection points shall be provided and distributed evenly along the full length of the existing quay. The connection points shall take the form of 750mm high marina type pedestals suitable for the port environment. Each pedestal shall comprise a minimum of two number 220V/240V 16 amp RCD protected single phase sockets. The Contractor’s design shall assume that all quayside power outlets can be in use at any one time. A minimum of three number pedestals, distributed evenly along the 300m quay, shall also provide cold only potable water supply for use on the fishing vessels and general quayside use. The type of potable water tap shall be agreed with the BDFA. In addition, a minimum of two pedestals shall be provided with life-saving equipment so as to have no more than 100m between each pedestal. Pedestals with life-saving equipment shall be clearly marked and shall comprise lifebuoys and throwing lines.

### 2.3 Lighting

The entire quay length and landside area of the temporary facility shall have lighting to allow night time BDFA operation. The minimum maintained illuminance by area shall be as set out below with a minimum maintenance factor (MF) of 1.25 and minimum uniformity ratio (Uo) of 0.4:

- Quay side: 50 lux
- Entrance gates: 50 lux
- Land side area: 20 lux
Existing lighting may be used to provide the required illuminance and supplemented is required with new temporary lighting installations.

2.4 Perimeter Fencing and Signage

The full perimeter of the landside boundary between the temporary fishing facility and the PoB shall be fenced. A temporary security fence such as Heras fencing with a minimum height of 2.0m above finished ground levels shall be provided. The landside boundary is indicatively shown on drawing IMAN001472-CIV-DR-057. The temporary fencing shall meet the security requirements of the PoB.

A lockable main access gate suitable for two way vehicle access shall be provided. The location of the gate shall be agreed with both the BDFA and the PoB.

Immediately adjacent to the main access gate a pedestrian only lockable access gate shall be provided. The gate shall meet the security requirements of the PoB.

Signage directing BDFA traffic to the temporary facility main access gate shall be provided by the Contractor within the confines of the PoB. The entrance point into the PoB and internal traffic route shall be agreed with the PoB and the extent and type of signage agreed with both the PoB and the BDFA.

2.5 Personal Hygiene Amenities

The Contractor shall provide and maintain portable toilets and hand washing facilities for all BDFA personnel. As a minimum the following shall be provided:

- 10 individual self-contained portable toilets.
- 6 urinals in one self-contained portable block.
- 10 hand wash basins with cold water and instantaneous hot water in a single self-contained portable block.

The location of these amenities within the temporary facility shall be agreed with the BDFA. A provisional location is provided on drawing IMAN-001472-CIV-DR-020. The Contractor will be responsible for arranging and providing maintenance, servicing and provisioning of the portable facilities to the satisfaction of the BDFA and the PoB for the full duration that the designated area is occupied by the BDFA.

2.6 Fork Lift Lock Ups

The Contractor shall design and install 2 number minimum size of 1.1m by 2.4m secure lock up enclosures for the BDFA front lift fork trucks. The enclosures shall be constructed from secure wire mesh and galvanised steel posts with a lockable twin leaf entrance gate at one end. The enclosures shall also have a secure wire mesh roof with galvanised steel support frame as required.

The location and dimensions of the enclosures shall be agreed with the BDFA.

If demonstrated by the Contractor’s design to be adequate, the existing pavement may be used as the platform for parking of fork trucks within the enclosures.

2.7 Parking Facilities

The Contractor shall mark out a dedicated car parking area for BDFA personnel vehicles within the temporary facility. A minimum of 16 car parking spaces for parking shall be provided. The
location of the parking area shall be agreed with the BDFA. The minimum dimensions of each parking bay shall be 2.5m wide x 5.0m long. A provisional location is provided on drawing IMAN-001472-CIV-DR-020.