What's this document about? FCRM Operational Framework
Lot 1 NEC4 ECSC template

Who does this apply to? Area Operations

Contact for queries and feedback

- National Field Operations
- Anonymous feedback for this document can be given here

NEC4 Engineering and Construction

Short Contract

FCRM Operational Framework – Central Hub

A contract between	**The Environment Agency** **Horizon House** **Deanery Road** **Bristol** **BS1 5AH**
And	[redacted]
[redacted]	**Flixborough & Gunness Wharf Wall Repairs**
	Contract Forms - **Contract Data** - **The *Contractor's* Offer and *Client's* Acceptance** - **Price List** - **Scope** - **Site Information**

Contract Data

The *Client's* Contract Data

	The *Client* is	
Name	Environment Agency	
Address for communications	[redacted]	
Address for electronic communications	[redacted]	
The *works* are	Flixborough & Gunness Wharf Wall Repairs	
The *site* is	Flixborough Wharf, Stather Road, Flixborough Stather, DN15 8RS & Gunness Wharf, Station Road, Gunness, DN15 8SX	
The *starting date* is	[redacted]	
The *completion date* is		
The *delay damages* are	NIL	Per day
The *period* for reply is	2	weeks
The *defects date* is	52	weeks after Completion
The *defects correction period* is	4	weeks
The *assessment day* is	the last working day	of each month
The *retention* is	nil	%

The United Kingdom Housing Grants, Construction and Regeneration Act (1996) **does** apply

The *Adjudicator* is :

In the event that a first dispute is referred to adjudication, the referring Party at the same time applies to the Institution of Civil Engineers to appoint an *Adjudicator*. The application to the Institution includes a copy of this

definition of the *Adjudicator*. The referring Party pays the administrative charge made by the Institution. The person appointed is also *Adjudicator* for later disputes.

Contract Data

The *Client's* Contract Data

The interest rate on late payment is		% per complete week of delay.
Insert a rate only if a rate less than 0.5% per week of delay has been agreed.		
For any one event, the liability of the *Contractor* to the *Client* for loss of or damage to the *Client's* property is limited to	£100,000	
The *Client* provides this insurance	None	

Insurance Table

Event	**Cover**	**Cover provided until**
Loss of or damage to the *works*	The replacement cost	The *Client's* certificate of Completion has been issued
Loss of or damage to Equipment, Plant and Materials	The replacement cost	The defects Certificate has been issued
The *Contractor's* liability for loss of or damage to property (except the works, Plant and Materials and Equipment) and for bodily injury to or death of a person (not an employee of the *Contractor*) arising from or in connection with the *Contractor's* Providing the Works	Minimum £5,000,000 in respect of every claim without limit to the number of claims	
Liability for death of or bodily injury to employees of the *Contractor* arising out of and in the course of their employment in connection with this contract	The amount required by the applicable law	
Failure of the *Contractor* to use the skill and care normally used by professionals providing works similar to the works	Minimum £1,000,000 in respect of every claim without limit to the number of claims	12 years following Completion of the whole of the works or earlier termination

The *Adjudicator nominating body* is	The Institution of Civil Engineers
The *tribunal* is	litigation in the courts

The *conditions of contract* are the NEC4 Engineering and Construction Short Contract June 2017 and the following additional conditions	
Only enter details here if additional conditions are required.	
Z1.0	Sub-contracting
Z1.1	The *Contractor* submits the name of each proposed subcontractor to the *Client* for acceptance. A reason for not accepting the subcontractor is that their appointment will not allow the *Contractor* to Provide the Works. The *Contractor* does not appoint a proposed subcontractor until the *Client* has accepted them.
Z1.2	Payment to subcontractors and suppliers will be no more than 30 days from receipt of invoice.
Z2.0	Environment Agency as a regulatory authority
Z2.1	The Environment Agency's position as a regulatory authority and as *Client* under the contract is separate and distinct. Actions taken in one capacity are deemed not to be taken in the other.
Z2.2	Where statutory consents must be obtained from the Environment Agency in its capacity as a regulatory authority, the *Contractor* is responsible for obtaining these and paying fees (unless stated otherwise in the Scope). The *Client's* acceptance of a tender and the *Client's* instruction or variation of the works does not constitute statutory approval or consent.
Z2.3	An action by the Environment Agency as regulatory authority is not in its capacity as *Client* and is not a compensation event.
Z3.0	Confidentiality & Publicity
Z3.1	The *Contractor* may publicise the works only with the *Client's* written agreement.
Z4.0	Correctness of Site Information
Z4.1	Site Information about the ground, subsoil, ducts, cables, pipes and structures is provided in good faith by the *Client* but is not warranted correct. The *Contractor* checks the correctness of any such Site Information they rely on for the purpose of Providing the Works.
Z5.0	The Contracts (Rights of Third Parties) Act 1999
Z5.1	For the purposes of the Contracts (Rights of Third Parties) Act 1999, nothing in this contract confers or purports to confer on a third party any benefit or any right to enforce a term of this contract.
Z6.0	Design
Z6.1	Where design is undertaken, it is the obligation of the *Contractor* to ensure the use of skill and care normally used by professionals providing similar design services.
Z6.2	The *Contractor* designs the parts of the works which the Scope states they are to design.
Z6.3	The *Contractor* submits the particulars of their design as the Scope requires to the *Client* for acceptance. A reason for not accepting the *Contractor's* design is that it does not comply with either the Scope or the applicable law. The *Contractor* does not proceed with the relevant work until the *Client* has accepted this design.
Z6.4	The *Contractor* may submit their design for acceptance in parts if the design of each part can be assessed fully.
Z7.0	Change to Compensation Events
Z7.1	Delete the text of Clause 60.1(11) and replace by: The *works* are affected by any one of the following events • War, civil war, rebellion revolution, insurrection, military or usurped power • Strikes, riots and civil commotion not confined to the employees of the *Contractor* and sub-contractors • Ionising radiation or radioactive contamination from nuclear fuel or nuclear waste resulting from the combustion of nuclear fuel • Radioactive, toxic, explosive or other hazardous properties of an explosive nuclear device • Natural disaster • Fire and explosion

	• Impact by aircraft or other device or thing dropped from them
Z7.2	Additional Compensation Event COVID-19 Managing and mitigating the impact of Covid 19 and working in accordance with Public Health England guidance, as may vary from time to time, until 31 October 2020.'
Z8.0	Framework Agreement
Z8.1	The *Contractor* shall ensure at all times during this contract it complies with all the obligations and conditions of the Framework Agreement made with the *Client*.
Z9.0	Termination
Z9.1	Delete the text of Clause 92.3 and replace with: If the *Contractor* terminates for Reason 1 or 6, the amount due on termination also includes 5% of any excess of a forecast of the amount due at Completion had there been no termination over the amount due on termination assessed as for normal payments.
Z10.0	Data Protection
Z10.1	The requirements of the Data Protection Schedule shall be incorporated into this contract
Z11.0	Liabilities and Insurance
Z11.1	Civil data protection claims and regulatory fines for breaches of Data Protection Legislation are excluded from any limit of liability stated.

Contract Data

The *Contractor's* Contract Data

	The *Contractor* is	
Name	[redacted]	
[redacted]	[redacted]	
[redacted]	[redacted]	
[redacted]	[redacted]	
[redacted]	[redacted] *Lot 1 Pricing Workbook (Final Version)*	
category of person	unit	rate
The *published list of Equipment* is		*Central Hub – Operational Framework Lot 1 Pricing Workbook (Final Version)*
The *percentage for adjustment for Equipment* is		

Contract Data

The *Contractor's* Offer and *Client's* Acceptance

The *Contractor* offers to Provide the Works in accordance with these *conditions of contract* for an amount to be determined in accordance with these *conditions of contract*.

The offered total of the Prices is	[redacted]
	[redacted] **Prices from the Price List.**

Signed on behalf of the *Contractor*

Name	[redacted]
Position	[redacted]
Signature	[redacted]
Date	12/08/2020

The *Client* accepts the *Contractor's* Offer to Provide the Works

Signed on behalf of the *Client*

Name	[redacted]
Position	
Signature	
Date	

Price List

Entries in the first four columns in this Price List are made either by the *Client* or the tenderer.

If the *Contractor* is to be paid an amount for the item which is not adjusted if the quantity of work in the item changes, the tenderer enters the amount in the Price Column only: the Unit, Quantity and rate columns being left blank.

If the *Contractor* is to be paid an amount for the item of work which is the rate for the work multiplied by the quantity completed, the tenderer enters the rate which is then multiplied by the expected quantity to produce the Price, which is also entered.

Item Number	Description	Unit	Quantity	Rate	Price
	Flixborough & Gunness Wharf Wall Repairs	Sum	1	[redacted]	
	Flixborough Wharf Wall Repairs	Sum	1		
FWWR1	Project supervision and management including third party liaison, start-up meeting and progress meetings	Sum	1		
FWWR2	Apply for and secure the Flood Risk Activity Permit & Natural England Consent for the site construction works where necessary	Sum	1		
FWWR3	Undertake any topographic surveys, GPR surveys and site investigation	Sum	1		
FWWR4	Design, supply, installation and removal of any temporary works as required	Sum	1		
FWWR5	Design of all aspects of the works including all survey, meetings and EA acceptance	Sum	1		
FWWR6	Undertake all work as highlighted in the scope document “FGWWR Scope and Constraints” and its Appendix 1-1 “FWWR SoW”	Sum	1		
FWWR7	Mobilisation/demobilisation of equipment and welfare facilities	Sum	1		
FWWR8	Removal and Disposal offsite of all surplus materials and waste (assumed non-hazardous)	Sum	1		
FWWR9	Complete and Supply H&S file including As-built Drawings	Sum	1		
			Sub-total		
	Gunness Wharf Wall Repairs			[redacted]	
GWWR1	Project supervision and management including third party liaison, start-up meeting and progress meetings	Sum	1		

GWWR2	Apply for and secure the Flood Risk Activity Permit & Natural England Consent for the site construction works where neccessary	Sum	1	[redacted]	
GWWR3	Undertake any topographic surveys, GPR surveys and site investigation	Sum	1		
GWWR4	Design, supply, installation and removal of any temporary works as required	Sum	1		
GWWR5	Design of all aspects of the works including all survey, meetings and EA acceptance	Sum	1		
GWWR6	Undertake all work as highlighted in the scope document “FGWWR Scope and Constraints” and its Appendix 1-2 “GWWR SoW”	Sum	1		
GWWR7	Mobilisation/demobilisation of equipment and welfare facilities	Sum	1		
GWWR8	Removal and Disposal offsite of all surplus materials and waste (assumed non-hazardous)	Sum	1		
GWWR9	Complete and Supply H&S file including As-built Drawings	Sum	1		
			Sub-total		
			The total of the Prices	[redacted]	

The method and rules used to compile the Price List are
Civil Engineering Standard Method of Measurement 4th edition (CESMM4) as per the Framework Price Workbook.

Scope

The Scope should be a complete and precise statement of the *Client's* requirements. If it is incomplete or imprecise there is a risk that the *Contractor* will interpret it differently from the *Client's* intention.

1. Description of the *works*

Give a detailed description of what the *Contractor* is required to do and of any work the *Contractor* is to design.

The detailed description of the *works* required can be found in the Scope Document (F&GWWR Scope and Constraints), Appendix 1-1 & 1-2 of the Scope Document (FWWR SoW & GWWR SoW) and Appendix 2-1 & 2-2 of the Scope document (FWWR Site Details & Photos & GWWE Site Details & Photos).

The *Contractor* is responsible for all design work. The *Contractor* is to submit all designs to the *Client* for Acceptance prior to *works* commencing on *site*.

2. Drawings

List the drawings that apply to the contract.

Drawing Number	**Revision**	**Title**
None provided by *Client*	**N/A**	**N/A**

3. Specifications

List the specifications which apply to the contract.

Title	**Date or Revision**	**Tick if publicly available**
Client's Minimum Technical Requirements (412_13_SD01)	V9 – August 2018	No
Civil Engineering Specification for the Water Industry	7th Edition	Yes
Environment Agency SHEW-CoP	2018	No

4. Constraints on how the *Contractor* Provides the Works

State any constraints on the sequence and timing of work and on the methods and conduct of work including the requirements for any work by the *Client*.

For identified constraints, please refer to the scope document (F&GWWR Scope and Constraints).

Working times

The standard EA working hours within which the *Contractor* will be permitted to work is 7.30am to 6.00pm on weekdays (Monday to Friday). However, depending upon standard opening hours of the wharfs, any restrictions on work hours imposed by the wharfs etc., the *Contractor* may, subsequent to negotiation and agreement with wharf management, amend the working hours accordingly to suit prevailing conditions and wharf operations.

5. Requirements for the programme

State whether a programme is required and, if it is, state what form it is to be in, what information is to be shown on it, when it is to be submitted and when it is to be updated.

State what the use of the *works* is intended to be at their Completion as defined in clause 11.2(1).

The *Contractor* submits his programme with the *Contractor's* Offer for acceptance. The *Contractor* shows on each programme which they submit for Acceptance (in form of Gantt chart showing the critical path, proposed order and timing to undertake the works and proposed plant and labour resources) the following:

(a) Period required for mobilisation/ planning & post contract award

(b) *starting date*

(c) Each of the activities listed within the Price List

(d) Any key third party interfaces: lead in periods for materials and sub-contractors; time required to obtain consents/waste permits; stated constraints; *Contractor's* risks.

(e) c*ompletion date*

(f) The programme is to be updated on a fortnightly basis and provided to the *Client* by the *Contractor*

6. Services and other things provided by the *Client*

Describe what the *Client* will provide, such as services (including water and electricity) and "free issue" Plant and Materials and equipment.

Item	**Date by which it will be provided**
No services information is to be provided by the *client.*	**N/A**

Site Information

Flixborough Wharf Wall Repairs

Site transport/vehicle movement restrictions

- Vehicle access to the worksite is via RMS Trent Ports (Flixborough Wharf). Access to the wharf is from Stather Road, Flixborough Stather, DN15 8RS.
- The use of larger vehicles and/or articulated vehicles would be possible within the majority of the wharf area, as there is ample space in which these vehicles can turn round. Access by all such vehicles would have to be organised in advance with wharf personnel, and all such vehicles would have to be cognisant of all other plant and HGV vehicle movements within the wharf area.
- Flixborough Wharf is an extremely busy enterprise, comprising of offloading and loading of ships and in land logistics. Plant and HGV wagon movements are constantly being undertaken within the wharf area. All worksites are to be adequately fenced-off, and movements of construction vehicles should take into account the busy nature of the wharf.
- The wharf is constantly in use as a material handling point, with minimal down-time between departing and arriving ships. All *works* to the berthing jetty area, or to areas adjacent to the berthing jetty area, can only be undertaken during times when no ship is berthed on the jetty. Ship arrivals are determined at short notice. The *Contractor* is to keep in constant liaison with the management of Flixborough Wharf to determine suitable working windows for these areas.
- Upon arrival to the wharf, all personnel are to sign-in at the site office. On completion of each shift, all personnel are also to sign-out.
- Only vehicles associated with the construction *works* are to be taken into the working wharf area. All other vehicles are to be parked in the car park adjacent to the main office, or in other areas as agreed by the Wharf Manager.
- The full length of the dry side of the flood defence wall is accessible both on foot and by vehicle. Upstream of the jetty, between Ch. 0.00 and the jetty, access on foot to the wet side of the flood wall is possible via an existing timber decked area. Apart from the area immediately adjacent to the jetty, access to the wet side of the flood wall downstream of the jetty is possible on foot, subject to density of vegetation. Along the length of the berthing jetty, no access is possible to the wet side of the flood wall. Due to the high tidal range, and the velocity of flow within the river, access to the wet side of the flood wall along the jetty would also be impractical by boat / barge etc.
- The pedestrian walking routes within the wharf area are to be strictly adhered to.
- The *Contractor* is to continually assess ground conditions on the 'wet' side of the flood wall, as these vegetated areas may be soft and silty / muddy, and may become boggy when wet.
- Site operations shall not damage the existing surfacing within the wharf area. However, should any damage occur, any rectification is to be undertaken with the express agreement of the wharf manager.

Adjacent land use and known construction activity

- The River Trent is present alongside the full length of the worksite, to the immediate west of the worksite area.
- All work areas – RMS Trent Ports Ltd – Flixborough Wharf.

Other than wharf operations, there are no other known activities in the vicinity of the *site* at this time. There are no other known construction works in the vicinity of the site at this time.

Ground Conditions

The *Client* does not have ground investigation information for the site.

However, from site inspection: -

- Various areas on the 'wet' side of the flood wall are sloping and silty / muddy. These silty / muddy areas can become boggy and soft when wet. Various areas are covered in brambles, grass and weeds. These areas can potentially become slippery underfoot, especially when wet.

The *Contractor* is to continually assess the ground conditions throughout the works period, with appropriate measures put in place to mitigate any risks.

Unexploded Ordnance

An unexploded ordnance search has been carried out: -

The worksite has been classified as a low risk UXO site.

Existing Structures

The following existing structures are present at the site of works: -

- Flixborough Wharf flood wall: –

The existing concrete flood wall has been built / upgraded / repaired over a considerable number of years. Cross sectional profiles range from L-sections, square / rectangular beams with vertical faces on both the wet and dry sides, and square / rectangular beams with a sloping face on the dry side. Width of wall also varies depending upon cross sectional profile. Along the front of the jetty, the flood wall deviates around the dry side of the mooring bollards

- Within the wharf premises, various other buildings are present, such as offices, weighbridge, warehouses, storage buildings, welfare buildings, facilities buildings, etc.

Gunness Wharf Wall Repairs

Site transport/vehicle movement restrictions

- Vehicle access to the worksite between ch 0.00 and ch 15.20 is via a Network Rail vehicle access point, located on Burringham Road, adjacent to Keadby road/rail bridge (859 key).
- It is envisaged that the use of larger vehicles and/or articulated vehicles to gain access to this Network Rail access point would be impractical, as there are no areas in which these vehicles can turn round.
- Vehicle access to the worksite between ch 15.2 and ch 421.35 is via RMS Trent Ports (Gunness Wharf). Access to the wharf is from the A18 Station Road, Gunness, DN15 8SX.
- The use of larger vehicles and/or articulated vehicles would be possible within the majority of the wharf area, as there is ample space in which these vehicles can turn round. Access by all such vehicles would have to be organised in advance with wharf personnel, and all such vehicles would have to be cognisant of all other plant and HGV vehicle movements within the wharf area.
- Gunness Wharf is an extremely busy enterprise, comprising of offloading and loading of ships and in land logistics. Plant and HGV wagon movements are constantly being undertaken within the wharf area. All worksites are to be adequately fenced-off, and movements of construction vehicles should take into account the busy nature of the wharf.
- The wharf is constantly in use as a material handling point, with minimal down-time between departing and arriving ships. All *works* to section 3 (berthing jetty) or to areas adjacent to section 3 can only be undertaken during times when no ship is berthed on the jetty. Ship arrivals are determined at short notice. The *Contractor* is to keep in constant liaison with the management of Gunness Wharf to determine suitable working windows for these areas.
- Upon arrival to the wharf, all personnel are to sign-in at the weighbridge office. On completion of each shift, all personnel are also to sign-out.
- Only vehicles associated with the *works* are to be taken into the working wharf area. All other vehicles are to be parked in the car park adjacent to the main entrance, or in other areas as agreed by the Wharf Manager.
- The full length of the dry side of the flood defence is accessible on foot. The majority of the dry side of the flood defence is also accessible by vehicle. Various parts of the wet side of sections 1, 2, 4 and 5 are accessible on foot. Due to the fact that section 3 is located upon the berthing jetty, no access is possible to the wet side of these walls. Due to the high tidal range and the velocity of flow, access to the outside of the walls in section 3 would also be impractical by boat / barge etc.
- The pedestrian walking routes within the wharf area are to be strictly adhered to.

- The *Contractor* is to continually assess ground conditions on the 'wet' side of the flood wall, as these vegetated areas may be soft and silty / muddy, and may become boggy when wet.
- Site operations shall not damage the existing surfacing within the wharf area. However, should any damage occur, any rectification is to be undertaken with the express agreement of the wharf manager.

Adjacent land use and known construction activity

- The River Trent is present alongside the full length of the worksite, to the immediate west of the worksite area.
- Ch 0.00 to ch 15.20 – Network Rail vehicle access point (859 key for vehicle access gate). Vehicle / pedestrian access to the railway is not possible.
- Ch 15.20 to ch 421.35 – RMS Trent Ports Ltd – Gunness Wharf.

Other than wharf operations, there are no other known activities in the vicinity of the site at this time. There are no other known construction works in the vicinity of the site at this time.

Ground Conditions

The *Client* does not have ground investigation information for the site.

However, from site inspection: -

- Various areas on the 'wet' side of the flood wall are sloping and silty / muddy. These silty / muddy areas can become boggy and soft when wet. Various areas are covered in brambles and grass. These areas can potentially become slippery underfoot, especially when wet.
- Beyond each side of the jetty area, the river bank is steep and heavily vegetated. Measures should be put in place to keep all site personnel away from the leading edge of the river bank.

The *Contractor* is to continually assess the ground conditions throughout the works period, with appropriate measures put in place to mitigate any risks.

Unexploded Ordnance

An unexploded ordnance search has been carried out: -

The worksite has been classified as a low risk UXO site.

Existing Structures

The following existing structures are present at the site of works: -

- Gunness Wharf flood wall (5no sections – see 1.1, above, for further details): –
  - Sections 1 and 5 – concrete wall
  - Sections 2 and 4 – sheet piles with concrete capping beam
  - Section 3 – jetty with concrete flood walls / upstand
- Ch 136.30 to ch 139.01 – jetty for pedestrian access
- Ch 312.29 to ch 357.00 – second berthing jetty
- Ch 411.30 – jetty for pedestrian access / services jetty
- Within the wharf premises, various other buildings are present, such as offices, weighbridge, warehouses, storage buildings, welfare buildings, facilities buildings, etc.

Proposed sub-contractors

	Name and address of proposed subcontractor	Nature and extent of work
1.	Form of Contract:	
2.	Form of Contract:	
3.	Form of Contract:	
4.	Form of Contract:	

Scope – Flixborough Wharf Wall Repairs

Description of the *works*

Background

Flixborough Wharf, owned and operated by RMS Trent Ports, is located on the east side of the River Trent in Flixborough Stather, North Lincolnshire. Access to the wharf is from Stather Road, Flixborough Stather, DN15 8RS. The wharf is an extremely busy enterprise, comprising of the offloading and loading of ships and in land logistics. Large gantry cranes / crawler cranes / grabs operate on the berthing jetty, with loading shovels, forklifts and telehandlers moving the materials on the landward side. The wharf has large material storage areas (steel sections, pig iron etc) and subsequently has a large amount of HGV wagon movements.

At Flixborough Wharf, the difference in water level between high tide and low tide is substantial and, between tides, the velocity of flow in the River Trent can be seriously fast.

At this location, flood defences are provided along the east side of the River Trent. Throughout the Flixborough Wharf property, these flood defences essentially consist of a concrete flood defence wall. Upstream and downstream of Flixborough Wharf, flood defences consist of an earth flood bund.

Within this package of *works*, remedial works are required to the existing concrete flood wall. The upstream section of concrete flood wall, approximately 118m long, is not included within this package of *works* as, due to heavy vegetation and wharf operational requirements, it has not been possible to adequately scope this section (any remedial works which may be required to this 118m long section will be let as a separate future package, however it is anticipated that any repairs required would be minimal in comparison to the jetty area). Also included within this package of *works* is the construction of a short section of new flood defence wall at the downstream end, as there is currently a short gap in the flood defence between the end of the existing concrete flood wall and the adjacent earth flood bund.

Within this package of *works*, remedials are required between Ch. 0.00 (SE859143; DN15 8RS) at the upstream end, and approx. Ch. 267.80 (SE858145; DN15 8SD) at the downstream end where the new section of flood wall ties in to the existing earth flood bund. Within this section, Asset ID's 22544, 39626 and 180291 apply.

The existing concrete flood wall has been built / upgraded / repaired over a considerable number of years. Cross sectional profiles range from L-sections, square / rectangular beams with vertical faces on both the wet and dry sides, and square / rectangular beams with a sloping face on the dry side. Width of wall also varies depending upon cross sectional profile. Along the front of the jetty, the flood wall deviates around the dry side of the mooring bollards.

Throughout the full length of the existing flood wall, various concrete defects are present which currently affect the integrity of the flood wall and which affect the design flood defence height. These defects, ranging from small areas of scraped / missing concrete through to areas where larger sections of concrete have been removed, have predominantly been caused by physical impact loadings from clam-shell buckets or fork-lift trucks. Also, the sealant within a large number of the movement joints has either failed or become debonded.

The full length of the dry side of the flood defence wall is accessible both on foot and by vehicle. Upstream of the jetty, between Ch. 0.00 and the jetty, access on foot to the wet side of the flood wall is possible via an existing timber decked area. Apart from the area immediately adjacent to the jetty, access to the wet side of the flood wall downstream of the jetty is possible on foot, subject to density of vegetation. Along the length of the berthing jetty, no access is possible to the wet side of the flood wall. Due to the high tidal range, and the velocity of flow within the river, access to the wet side of the flood wall along the jetty would also be impractical by boat / barge etc.

The full length of the *works site* is located on RMS Trent Ports' property.

The wharf is constantly in use as a material handling point, with minimal down-time between departing and arriving ships.

Required *Works*

Works are required to various parts of the concrete flood defence wall in order to remove all defects which would affect wall integrity and/or long term flood defence height, and to bring the wall back to an acceptable standard, which is that on review, it meets the target condition for the asset based on our T98 asset inspection process. In addition, a short section of new concrete flood wall is to be constructed, in order to ensure that the flood defences are continuous.

A full survey of the flood defence wall has been undertaken. The required repairs have been scheduled within **Appendix 1-1** of this document "FWWR SoW". In order to correctly locate and identify the scheduled defects, a chainage system has been used. Chainage 0.00m is located at the upstream end of the concrete mooring bollard plinth, located beyond the upstream end of the jetty (refer to photographs within the document entitled "FWWR Site Details and Photos", which is included as **Appendix 2-1** of this document). Chainage 259.05 is located at the downstream end of the existing flood wall. The extent of the concrete repairs may alter during concrete removal, in order to fully remove the defect.

The flood defences within the Wharf property are in the ownership of RMS Trent Ports, although currently the maintenance of these flood defences is the responsibility of the Environment Agency. As it is intended to hand the maintenance responsibility of these flood defences over to RMS Trent Ports upon *Completion* of the *works*, all advance proposals are to be agreed by both RMS Trent Ports and the Environment Agency. Upon *Completion* of the *works*, all areas are to be inspected by both RMS Trent Ports and the Environment Agency prior to handover.

In general, the *works* required are as follows (see **Appendix 1-1** for full details): -

- Saw-cut and break out various areas of existing defective concrete (cracked, spalling, damaged, laminated, missing, etc), leaving the existing reinforcement intact. Any pre-exposed reinforcement is to be treated with Fosroc Nitoprime Zinc-Rich Primer (or similar), applied as per manufacturers' instructions. Depending upon the size of the repair, the section is to be reformed with either C40 concrete or suitable proprietary repair mortar.
    - Larger repairs are to be reinstated using C40 concrete. Depending upon findings, additional reinforcement bars and/or resin anchored starter-bars etc, may be required. All design *works* are to be undertaken by the Contractor and will need EA approval before work can commence. Where these repairs are located adjacent to a movement joint, the 20mm wide movement joint is to be reformed.
    - Smaller patch repairs are to be broken out to sound concrete, with the perimeter saw-cut. Repairs are to be undertaken using Fosroc Nitobond HAR primer and Fosroc Renderoc GP / HB (or similar products) as required. Any pre-exposed reinforcement is to be treated with Fosroc Nitoprime Zinc-Rich Primer (or similar). All proprietary products are to be applied as per manufacturers' instructions.
- Ch.200.85 to Ch.203.19 – physical impact has caused this section of flood wall to be displaced outwards and lifted at the downstream end. This L-shaped section is to be fully removed and reconstructed in reinforced C40 concrete to the correct lines and levels. Movement joints are to be incorporated at each end.
- Ch.259.05 to Ch.261.55 – the existing flood wall terminates at Ch. 259.05, at the upstream end of a mooring bollard. A new section of reinforced concrete flood wall is to be constructed around the dry side of this mooring bollard. This new section of wall is to be anchored into the top of the existing concrete slab. The height of the wall is to be such that the design flood defence height is maintained. All design *works* are to be undertaken by the Contractor. A movement joint is to be incorporated at the upstream end, where this new wall ties in to the end of the existing flood wall.
- Ch.261.55 to approx. Ch,267.80 – when the new section of concrete upstand has been constructed between Ch.259.05 and Ch.261.55 (around the mooring bollard), there will still be a section of missing flood wall between this new upstand and the adjacent earth flood bund. A new section of reinforced concrete flood wall is to be constructed to infill this gap. It is envisaged that this will comprise of a reinforced concrete base with a reinforced concrete upstand wall. The height of the wall is to be such that the design flood defence height is maintained. All design *works* are to be undertaken by the Contractor. A movement joint is to be incorporated at the upstream end, where this new base / wall ties in to the end of the previous section of flood wall.
- Various cracks are present through the existing flood wall. These may coincide with previous construction joints, where a movement joint had not been introduced. Where scheduled, these cracks are to be ground out 20mm deep, with the resultant void infilled with polysulphide sealant.
- The existing polysulphide sealant to many of the movement joints is debonded and/or life expired. Where scheduled, this sealant is to be replaced.
- All work areas and access routes to be reinstated to *Client* / landowner satisfaction.

- All waste is to be removed from *site* to licenced waste facility.
- Preparation and submission of the H & S File.

Constraints on how the *Contractor* Provides the *Works*

State any constraints on the sequence and timing of work and on the methods and conduct of work including the requirements for any work by the *Client*.

The *Contractor* is responsible for gaining landowner agreement for all points of required access, and for site compound locations.

All *works* are located on RMS Trent Ports (Flixborough Wharf) property. The initial site walk-over by the *Client* indicates that the only safe access route to the work site is via the main entrance to Flixborough Wharf. This entrance is located on Stather Road, Flixborough Stather, North Lincolnshire, DN15 8RS.

Any constraints, as observed by / discovered by the *Client*, are listed below: -

1. Flixborough Wharf is an extremely busy enterprise, comprising of offloading and loading of ships and in land logistics. Plant and HGV wagon movements are constantly being undertaken within the wharf area. All sites are to be adequately fenced-off, and movements of construction vehicles should take into account the busy nature of the wharf.
2. The wharf is constantly in use as a material handling point, with minimal down-time between departing and arriving ships. All *works* to the berthing jetty, or to areas adjacent to the berthing jetty, can only be undertaken during times when no ship is berthed on the jetty. Ship arrivals are determined at short notice. The *Contractor* shall keep in constant liaison with the management of Flixborough Wharf to determine suitable working windows for these areas.
3. Only vehicles associated with the construction *works* are to be taken into the working wharf area. All other vehicles are to be parked in the car park adjacent to the main office.
4.
5. Between Ch. 0.00 and the berthing jetty, various cables and pipes are located on the wet side of the flood wall. Some of these are fixed to the flood wall. These may have to be removed and refixed in order to undertake the scheduled repairs.
6. All *works* to the flood wall require working on a flood defence structure which is adjacent to a Main River (River Trent). The flood wall is also located in close proximity to the tidal watercourse. It is envisaged that a FRAP will be required for the *works* (Flood Risk Activity Permit / Flood Defence Permit). This will be the Contractor's responsibility to provide.
7. The wet side of the flood wall falls within the Humber Estuary SSSI (reference no. 1009830), Humber Estuary SAC (reference no. UK0030170) and Humber Estuary Ramsar Site (reference no. UK11031). Access to the wet side of the wall will be required in order to undertake the various *works* (except on the berthing jetty). Where vegetation is required to be removed, an appendix 3 will need to be completed by the *Contractor* and sent to Natural England before vegetation removal can take place. "The relevant consents and permits shall be required from Natural England in advance of the *works*, and all requirements within the issued permit will have to be complied with during the *works*. Please refer to the Environment Agency (EA's) internal NEAS report in **Appendix 3-2** "GWWR NEAS Determination" for further information
8. muddy.
9. *Works* along the berthing jetty, and either side of the berthing jetty, lead to working at height issues. Working at height and falls from height shall be taken into account when determining any suitable method of *works*. Suitable restraint systems shall be adopted whilst working in these areas.
10. An FBG report / ecology survey is still to be undertaken for this *site*. When completed, all recommendations and timings from the report / survey are to be adhered to.
11. Himalayan Balsam identified in wharf and therefore appropriate measures must be taken to prevent plant, tools and PPE used in the area from spreading seeds to non-contaminated areas. In the area they were used, plant, tools and PPE used in contaminated areas to be thoroughly cleaned and dried before reuse with a towable jet wash. Inspect plant, tools and PPE before use in other fresh water areas or prior to off-hiring to ensure fragments of the vegetation do not remain on the equipment.
12. No existing as-built records exist for the various sections of flood wall.
13. No underground or overhead services searches have been undertaken by the *Client*. Only those services observed on *site* have been highlighted. The *Contractor* shall obtain all service search information (for both

the access routes and the work area) and take into account all of the findings when planning and pricing the *works*.

Scope - Gunness Wharf Wall Repairs

Description of the *works*

Background

Gunness Wharf, owned and operated by RMS Trent Ports, is located on the east side of the River Trent in Gunness, North Lincolnshire. Access to the wharf is from the A18 Station Road, Gunness, DN15 8SX. The wharf is an extremely busy enterprise, comprising of offloading and loading of ships and in land logistics. Large crawler cranes / grabs operate on the berthing jetty, with loading shovels and forklifts / telehandlers moving the materials on the landward side. The wharf has large material storage areas (steel sections, pig iron etc) and subsequently has a large amount of HGV wagon movements.

At Gunness Wharf, the difference in water level between high tide and low tide is substantial and, between tides, the velocity of flow in the River Trent can be seriously fast.

At this location, flood defences are provided along the east side of the River Trent. Between Keadby railway bridge and the Gunness Wharf property, throughout the Gunness Wharf property and throughout the adjacent northern property (Corus), these flood defences essentially consist of a concrete flood defence wall. North of the Corus property, flood defences consist of an earth flood bund.

Within this package of *works*, remedial works are required to the concrete flood wall between Keadby railway bridge (SE8417310675 ; DN15 8SX) and the northern extent of the Gunness Wharf property (SE8398911009 : DN15 8SY). Within this section, Asset ID's 39730, 39729, 22545 and 55492 apply. This length of flood wall has been built / upgraded over a considerable number of years, and now essentially consists of 5no discrete sections. These sections comprise, from south to north: -

Section 1 – Reinforced concrete wall. Length = 120.25m, width of wall = 0.38m, height of wall on dry side ranges between 0.30m and 0.62m, height of wall on wet side ranges between 0.32m and 0.75m. Movement joints are present within this wall at approx. 5m intervals.

Section 2 – Steel sheet piles with concrete capping beam. On the wet side, the steel sheet piles are visible. On the dry side, the capping beam is extended vertically downwards to form a reinforced concrete wall. Length = 45.07m, width of capping beam = 0.75m, height of capping beam on wet side = 0.50m, height of wall on dry side ranges between 0.53m and 0.64m. Movement joints are present within this section at approx. 3m intervals.

Section 3 – Reinforced concrete walls on the existing berthing jetty.

- The south side wall is in 3no sections, totalling 14.24m in length. Width of wall ranges between 0.33m and 0.37m. Height ranges between 0.64m (landward end) and 0.48m (river end).
- The riverside wall of the jetty totals 35.82m in length. Height of wall on landward side = approx. 0.24m. Width of main wall ranges between 0.335m and 0.40m, with plinths for the mooring bollards ranging in width between 0.45m and 0.57m.
- The north side wall has a length of 12.33m, width of 0.53m and a height ranging between 0.53m (river end) and 0.78m (landward end).

Section 4 – Steel sheet piles with concrete capping beam. On the wet side, the steel sheet piles are visible. On the dry side, the capping beam is extended vertically downwards to form a reinforced concrete wall. Length = 84.58m, width of capping beam = 0.50m, height of capping beam on wet side = 0.40m, height of wall on dry side ranges between 0.40m and 0.80m. Movement joints are present within this section but at varying intervals.

Section 5 – Reinforced concrete wall. Length = 91.72m, width of wall = 0.38m, height of wall on dry side ranges between 0.34m and 0.48m, height of wall on wet side ranges between 0.28m and 0.70m. Movement joints are present within this wall at approx. 5m intervals.

Within sections 1, 2, 4 and 5, various features are currently present. These predominantly take the form of 'cut-outs' within the flood wall where stop-log arrangements are present and timber stop-logs have been installed. These are at locations where pedestrian access is required onto a jetty, where vehicle access is required onto a

working wharf and where mooring bollards are located on the landward side of the flood defences. There is also an instance where the cut-out on the top of the flood wall is of minimal depth to allow the safe use of mooring ropes where the mooring bollard is located behind the flood wall.

Sections 2 and 4 were constructed during the mid 1970's, as Phase 1 of the flood defence upgrade. Section 3, the berthing jetty area, was ear-marked as Phase 2 of the development. However, this phase was never carried out. As a result, the south side walls and the riverside wall of this jetty are all in a poor state of repair. In addition, the riverside wall of the jetty is approximately 275mm lower than all of the other walls and is now below the required design flood defence height.

Throughout the full length of the flood wall, especially within the older sections (section 1 and section 5), various concrete defects are present which could affect the integrity of the flood wall and which could affect the design flood defence height. Also, within these sections, the sealant within a large number of the movement joints has either failed or become debonded.

The full length of the *site* is 421.35m, of which 15.2m is located on Network Rail property (adjacent to the railway bridge) and 406.15m on RMS Trent Ports' property.

The full length of the dry side of the flood defence is accessible on foot. The majority of the dry side of the flood defence is also accessible by vehicle. Various parts of the wet side of sections 1, 2, 4 and 5 are accessible on foot. Due to the fact that section 3 is located upon the berthing jetty, no access is possible to the wet side of these walls. Due to the high tidal range and the velocity of flow, access to the outside of the walls in section 3 would also be impractical by boat / barge etc.

The wharf is constantly in use as a material handling point, with minimal down-time between departing and arriving ships.

Required *Works*

Works are required to various parts of the flood defence wall in order to remove all defects which would affect wall integrity and/or long term flood defence height and to bring the wall back to an acceptable standard, that on review, it meets the target condition for the asset based on our T98 asset inspection process. In addition, the riverside wall of the berthing jetty is to be repaired and brought up to the desired flood defence height. This would also require the raising of the 4no existing mooring bollards.

The various cut-out / stop-log areas within the flood wall have temporary timber stop-logs inserted which would not be an effective solution during times of flood. Wherever possible, a permanent watertight solution is to be provided. During rising river levels / impending flood conditions, this would minimise the time that Wharf personnel or Environment Agency personnel would need in order to prepare the flood defences.

A full survey of the flood defence wall has been undertaken. The required repairs have been scheduled within **Appendix 1-2** of this document "GWWR SoW". - In order to correctly locate and identify the scheduled defects and to correctly locate and identify areas of required *works*, a chainage system has been used. Chainage 0.00m is located at the north side of the bridge pier of Keadby road/rail bridge (south end of the *site*) with chainage 421.35m being located at the boundary fence between the Wharf property and the adjacent Corus property (north end of the *site*). Refer to photographs within the document entitled "GWWR Site Details and Photos", which is included as **Appendix 2-2** of this document). Further concrete repairs may be exposed in sections 1 and 5, upon removal of the moss / algae which is present on much of the existing wall. The extent of the concrete repairs may alter during concrete removal, in order to fully remove the defect.

The flood defences within the Wharf property are in the ownership of RMS Trent Ports, although currently the maintenance of these flood defences is the responsibility of the Environment Agency. As it is intended to hand the maintenance responsibility of these flood defences over to RMS Trent Ports upon *Completion* of the *works*, all advance proposals are to be agreed by both RMS Trent Ports and the Environment Agency. Upon *Completion* of the *works*, all areas are to be inspected by both RMS Trent Ports and the Environment Agency prior to handover.

In general, the *works* required are as follows (see **Appendix 1-2** for full details): -

- Vegetation clearance adjacent to section 1 of the flood wall. On the wet side of the flood wall, vegetation clearance is limited to a 1m wide strip (brambles only).
- Jet-wash (or similar) the full length of sections 1 and 5 (the oldest of the existing concrete walls) to remove all moss, algae, dirt etc.
- Saw-cut and break out various areas of existing defective concrete (cracked, spalling, damaged, etc), leaving the existing reinforcement intact. Any pre-exposed reinforcement is to be treated with Fosroc Nitoprime Zinc-

Rich Primer (or similar). Depending upon the size of the repair, the section is to be reformed with either C40 concrete or suitable proprietary repair mortar.
    - Larger repairs are to be reinstated using C40 concrete. Depending upon findings, additional reinforcement and/or resin anchored dowels etc, may be required. Where these repairs are located adjacent to a movement joint, the 20mm wide movement joint is to be reformed.
    - Smaller patch repairs are to be broken out to sound concrete, with the perimeter saw-cut. Repairs are to be undertaken using Fosroc Nitobond HAR primer and Fosroc Renderoc GP / HB (or similar products) as required. Any pre-exposed reinforcement is to be treated with Fosroc Nitoprime Zinc-Rich Primer (or similar).
- The existing polysulphide sealant to many of the movement joints is debonded and life expired. The sealant to all of the joints in Section 1 is to be replaced, and the sealant to many of the joints in Section 5 is to be replaced. The sealant within various other joints within sections 2, 3 and 4 requires replacing.
- Ch 165.32 – 3no pipes are present which are located below the level of the flood defence. These pipes are open ended and would allow flood water to pass through the flood defences. Each of these pipes is to be blanked off with a removable bolt-on blanking plate.
- Ch 136.30 to ch 139.01 – a 2.71m long x 0.75m wide x 0.51m / 0.53m high cut-out in the flood wall is present which is currently infilled with stop-log timbers. This cut-out gives pedestrian access to a jetty. This arrangement is to be replaced with double leaf flood gates to provide a more permanent watertight solution. These gates are to be kept in the closed position at all times, and only opened during times of access.
- Ch 116.25 to ch 119.25 – a 3.00m long x 0.38m wide x 80mm deep cut-out in the top of the flood wall is present where a mooring bollard is located on the dry side of the flood wall. The cut-out is currently required to allow mooring ropes to be used without them being rubbed / worn on top of the concrete wall. The flood wall is to be raised to flood defence height, with the upper surface of this wall infill being a rounded stainless steel plate (to prevent the wearing of mooring ropes). A collar may also be required on the lower portion of the mooring bollards so that the ropes are located at a higher level.
- Ch 383.07 to ch 386.07 – a 3.0m long x 0.38m wide x 0.38m / 0.385m high cut-out in the top of the flood wall is present where a mooring bollard is located on the dry side of the flood wall. This cut-out is currently infilled with timber stop-logs. These timber stop-logs are removed whenever mooring ropes are required to be placed on the mooring bollard. The flood wall is to be raised to flood defence height with a watertight, demountable, bolt-down steel fabrication (or similar). The upper surface of this fabricated infill is to be a half-round stainless steel plate (to prevent the wearing of the mooring ropes).
- Ch 414.4 to ch 417.40 – a 3.0m long x 0.38m wide x 0.49m / 0.50m high cut-out in the top of the flood wall is present where a make-shift mooring bollard is located on the dry side of the flood wall. This cut-out is currently infilled with timber stop-logs. This mooring bollard / cut-out are now redundant. The flood wall is to be raised to flood defence height with C40 reinforced concrete.
- Ch 341.52 to 346.14 – this is a vehicle access onto the second berthing jetty. This jetty is to be used a lot more frequently in the future. At present timber stop-logs are used. To avoid expensive damage to alternative solutions, this 4.62m long x 0.62m / 0.64m high timber stop-log arrangement is to be retained. The steel channel stop-log rebates and the concrete walls on either side of the opening require extensive repairs. Repairs are required to the U-shaped brackets which store the timbers. Adjacent to the vehicle access, a 1200mm x 600mm x 600mm high galvanised steel chest, with hinged, lockable lid is present. The chest and contents are life expired and are to be replaced like-for-like.
- The walls on the south side of the berthing jetty require repairing: -
    - Ch 165.32 to 173.04 – badly damaged section of wall, exhibiting severe cracking, movement, exposed reinforcement and loss of section due to prolonged scraping by wharf plant. This section of wall requires replacing or extensive repairs undertaking.
    - Ch 173.04 – the end of the wall / corner of the wall has extensive loss of section due to prolonged scraping by wharf plant. This section requires rebuilding so that it attains the same profile as that detailed above.
    - Ch 165.32 to ch 179.56 – the existing damaged handrail is to be replaced.
- The jetty wall adjacent to, and parallel to, the river is approximately 275mm lower than all of the other flood walls. This wall, ch 179.56 to ch 215.38 is therefore approximately 275mm below flood design height. This section of wall therefore requires to be raised to the required flood design height. In doing so, the 4no mooring bollards, and the 4no concrete plinths on which they are sat, also require to be raised. Raising of the mooring bollard plinths is expected to be undertaken using C40 reinforced concrete. Raising of the flood defence wall could be undertaken in either C40 reinforced concrete or by the use of bolt-down pre-cast concrete beams. Prior to the raising of this flood wall, extensive concrete repairs are required to the existing wall and existing mooring bollard plinths.
- All work areas and access routes to be reinstated to *Client* / landowner satisfaction.

- All waste is to be removed from site to licenced waste facility.
- Preparation and submission of the H & S File.

Constraints on how the *Contractor* Provides the *Works*

State any constraints on the sequence and timing of work and on the methods and conduct of work including the requirements for any work by the *Client*.

The *Contractor* is responsible for gaining landowner agreement for all points of required access, and for site compound locations.

The initial *site* walk-over by the *Client* indicates that there are 2no accesses to the site. The *site* between ch 0.00 and ch 15.20 is located on Network Rail property, with a vehicle access point located on Burringham Road, adjacent to Keadby road/rail bridge (859 key). The *site* between ch 15.2 and ch 421.35 is located on RMS Trent Ports (Gunness Wharf) property. Access to the wharf is from the A18 Station Road, Gunness, DN15 8SX.

Any constraints, as observed by / discovered by the *Client*, are listed below: -

1. Gunness Wharf is an extremely busy enterprise, comprising of offloading and loading of ships and in land logistics. Plant and HGV wagon movements are constantly being undertaken within the wharf area. All *sites* are to be adequately fenced-off, and movements of construction vehicles should take into account the busy nature of the wharf.
2. The wharf is constantly in use as a material handling point, with minimal down-time between departing and arriving ships. All *works* to section 3 (berthing jetty) or to areas adjacent to section 3 can only be undertaken during times when no ship is berthed on the jetty. Ship arrivals are determined at short notice. The *Contractor* is to keep in constant liaison with the management of Gunness Wharf to determine suitable working windows for these areas.
3. Only vehicles associated with the construction *works* are to be taken into the working wharf area. All other vehicles are to be parked in the car park adjacent to the main entrance.
4. Due to the fact that section 3 is located upon the berthing jetty, no access is possible to the wet side of these walls. Due to the high tidal range and the high velocity of flow, access to the outside of the walls in section 3 would also be impractical by boat / barge etc.
5. Between ch 329.63 (second berthing jetty area) and ch 411.30 (service jetty at north end of the wharf property), various cables and pipes are located on the wet side of the flood defence. Many of these cables are fixed to the flood wall, with the pipe being in close proximity to the flood wall.
6. Between ch 352 and ch 354, 6no pipes cross over the flood wall.
7. The second berthing jetty area has a security fence on the landward side. *Works* to the flood wall are required within this fenced-off jetty area. Permission for access is to be gained from the management of Gunness Wharf.
8. A cable tray is present on the wetside of the flood wall upstream of Ch 383.07, installed by British Steel to run cables and provide power to a low-lift PS located near to the weight bridge office, and runs upstream towards the second wharf, and downstream up and over the flood wall to run parallel with the wall towards the end of the compound at Ch 421.35. Please refer to **Appendix 2-2** for photos of the cable tray.
9. All *works* to the flood wall require working on a flood defence structure which is adjacent to a Main River (River Trent). The flood wall is also located in close proximity to the tidal watercourse. It is envisaged that a FRAP will be required for the *works* (Flood Risk Activity Permit / Flood Defence Permit). This will be the Contractor's responsibility to provide.
10. The wet side of the flood wall falls within the Humber Estuary SSSI (reference no. 1009830), Humber Estuary SAC (reference no. UK0030170) and Humber Estuary Ramsar Site (reference no. UK11031). Access on the wet side will be required to undertake the *works* to sections 1, 2, 4 and 5. Where vegetation is required to be removed, an appendix 3 will need to be completed by the *Contractor* and sent to Natural England before vegetation removal can take place." The relevant consents and permits will be required from Natural England in advance of the *works*, and all requirements within the issued permit will have to be complied with during the *works*. Please refer to the EA's internal NEAS report in **Appendix 3-2** "GWWR NEAS Determination" for further information.
11. *Works* within section 3 (berthing jetty), and the areas of sections 2 and 4 adjacent to section 3, lead to working at height issues. Working at height and falls from height would have to be taken into account when determining any suitable method of *works*. Suitable restraint systems should be adopted whilst working in these areas.

12. An FBG report / ecology survey is still to be undertaken for this *site*. When completed, all recommendations and timings from the report / survey are to be adhered to.
13. Himalayan Balsam identified in wharf and therefore appropriate measures must be taken to prevent plant, tools and PPE used in the area from spreading seeds to non-contaminated areas. In the area they were used, plant, tools and PPE used in contaminated areas to be thoroughly cleaned and dried before reuse with a towable jet wash. Inspect plant, tools and PPE before use in other fresh water areas or prior to off- hiring to ensure fragments of the vegetation do not remain on the equipment.
14. No existing as-built records exist for the various sections of flood wall. However, all relevant archive drawings have been included within **Appendix 4** “GWWR Archive Drawings”.
15. No underground or overhead services searches have been undertaken by the *Client*. Only those services observed on *site* have been highlighted. The *Contractor* is to obtain all service search information (for both the access routes and the work area) and take into account all of the findings when planning and pricing the *works*.