Alan Wood & Partners

1st October 2018

CONDITION SURVEY AND EXCEPTION REPORT For

FLIXBOROUGH WHARF JETTY

GUNNESS WHARF MAIN JETTY

GUNNESS WHARF FINA OIL JETTY

PROJECT NO. 41450
RPT001

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CONDITION SURVEY AND EXCEPTION REPORT FOR:

FLIXBOROUGH WHARF JETTY
GUNNESS WHARF MAIN JETTY
GUNNESS WHARF FINA OIL JETTY

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SENIOR PROJECT MANAGER

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Date:

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DIRECTOR

Signed: ..... [redacted]
Date:

Issue	Revision	Revised by	Approved by	Revised Date
RPT001	0	PH	PD	1/10/18

CONTENTS

1.0 INTRODUCTION

1.1 General

Alan Wood & Partners were commission by RMS Trent Ports Ltd to carry out a follow up condition survey for the jetties at Flixborough and Gunness Wharf previously surveyed in 2017. This report should be read with reference to the following previous Alan Wood & Partners reports:

- Condition Survey and Load Assessment for Flixborough Wharf Jetty 39070 Rpt001 dated 10/10/17
- Condition Survey and Load Assessment for Gunness Wharf Main Jetty 39069 Rpt001 dated 21/9/17
- Condition Survey and Load Assessment for Gunness Wharf Fina Oil Jetty 39069 Rpt002 dated 22/9/17

The condition surveys include an indicative assessment of the extent of any repairs required and the change since the previous survey. This data has been used to make recommendations for the management of the jetties.

1.2 Details

Client

RMS Trent Ports Ltd.
Trent Port House
Flixborough
North Lincolnshire, DN15 8RS
For the attention of Mr J Leary

Structure

Jetties at Flixborough & Gunness Wharf.
The Fina Oil jetty currently has operational restrictions imposed due to its poor condition which prevents access for cranes and the jetty is fenced off.

Extent of Survey

The surveys were carried out on a single visit on 19/9/18. The survey comprised a visual inspection of the underside of the jetties using boat access.

The timing of the survey was set by operational requirements based on berth availability to avoid shipping rather than to maximise tidal conditions and the lowest water level during the surveys was 0.4m above chart datum. The condition of piles below this level could therefore not be assessed, however it is not considered likely that they would differ markedly from the upper sections.

The northern and southern jetty returns of Flixborough wharf (gridlines 1 to 8 and 58 to 65) are deeply hidden by vegetation and it was not possible to survey these extremities. Below this jetty there is a considerable build-up of silt which conceals much of the rear of the jetty from grid line C shore-wards. Notes of condition of this area were taken to the extent possible, however a definitive statement of condition would not be possible without significant dredging.

Weather

The weather conditions during the survey were windy with gusts upto F7 however it is not considered that this adversley affected the survey.

2.0 BACKGROUND

Backgrounds to the three jetties including a description of the structural form, fendering, operating and safety equipment are contained within the previous reports and no changes from these descriptions were observed.

Flixborough Wharf

Gunness Wharf Main Jetty

Gunness Wharf Fina Oil Jetty

3.0 CONDITION SURVEY

3.1 General

The results of the condition surveys have been tabulated on a by exception basis against the condition schedules prepared in the original reports and these are contained in Appendix C. Drawings of the layout of each jetty are contained in Appendix A for ease of reference of the grid lines used to identify the location of defects.

A full photographic record has been made and is enclosed in electronic format together with representative photos of the change in condition and general condition of the structure in Appendix B.

The total extent of defects to the reinforced concrete elements in Appendix C have been tabulated for comparative purposes. Based on the visual inspection, the concrete has been graded against the original scale as follows:

0 Unable to inspect
1 No Work Required
2 Repairs Required: this comprises breaking back the loose and degraded concrete to a sound substrate, cleaning of loose rust from rebar and applying a lightweight repair mortar.
3 Extensive Repairs Required: as for (2) but with the additional installation of lost rebar or major concrete breakout.
4 Section Replacement Required: Effective reconstruction of the structural member

It should be noted that the extent of break back required in practice normally exceeds the outwardly visible damage due to the requirement to get back to structurally sound concrete. Suitable allowances therefore have been made within the estimates.

3.2 Condition Summary – Flixborough Wharf

Piles

The extent of repairs required to the piles since the 2017 survey has increased from 1.5m^2 to 12.0m^2 (+700%). Although the total extent of repairs required remains small and the majority of piles are in fair condition, this is the most significant area of measurable change on the jetty. Typical pile damage is shown in photos 1 to 3). It is notable that the pile head damage tends to reveal existing corroded rebar (photos 2&3) whilst the damage lower down (photo1) reveals uncorroded rebar suggesting that this latter damage may have been caused by impact rather than structural condition.

It is apparent that the head of the intermediate pile at 37a-A has been displaced rearwards by 75-100mm, presumably as a result of an impact. Comparison with the previous survey photos suggest that this may have already occurred prior to the first survey (photo 4).

Bracings

No changes were observed to the reinforced concrete raking longitudinal bracings along the crane beam on gridline B and the raking perpendicular bracings between gridlines A and B.

Deck Soffit

The extent of repairs to the deck soffits since the 2017 survey has increased nominally from 323m^2 to 325m^2 (0.6%) and suggests a low rate of deterioration of this element.

Beams Parallel to Berthing face: Cope, crane beam & rail beams.

The extent of repairs to the parallel beams since the 2017 survey has increased from 418.0m^2 to 439.5m^2 (+5%). Photo 5 shows a typical area of new spalling and the extent of corroded rebar revealed.

At the time of survey, the tide level was higher than during the previous 2017 survey and this has enabled 1 of the more rearward beams to become visible between the mudflat and the deck soffit. Accordingly, 2m^2 of the increase recorded is due to additional defects being observed.

Beams

The extent of repairs to the perpendicular beams since

Perpendicular to Berthing face: A-B, B-C, C-D & D-E	the 2017 survey has increased nominally from 187.0m^2 to 188.0m^2 (+0.5%), however it is important to note that many of the A-B beams are so badly degraded that determining change from a visible inspection has limited value. Photo 6 shows a typical example. It should be noted that the rebar is very heavily corroded, and the beam will have lost a significant proportion of its design capacity.
Fendering	There is little change in the fender condition except for the loss of the waling between gridlines 52 & 55 (Photo 7).

3.3 Condition Summary – Gunness Wharf Main Jetty

Piles	No change in the condition of the box piles was observed.
Bracings	No change in the condition of the pile bracings was observed.
Deck Soffit	The extent of repairs to the deck soffits since the 2017 survey has increased from 34.0m^2 to 39.0m^2 (15%) with new spalled areas and cracking (Photo 8). New spalling is revealing existing corroded rebar. The infill slab remains in good condition.
Beams Parallel to Berthing Face	The extent of repairs to the parallel beams since the 2017 survey has increased from 25.5m^2 to 27.0m^2 (8%). Photo 9 shows increasing spalling at B7-8 and Photo 10a shows newly exposed rebar links. The infill slab beams remain in good condition.
Beams Perpendicular to Berthing face	The extent of repairs to the perpendicular beams since the 2017 survey has slightly increased from 4.0m^2 to 5.0m^2 (25%). A new small area of spalling can be seen to beam 5E-F in photo 10a & 10b and to beam 4E-F in photo 11. The infill slab beams remain in good condition apart from the existing cracked corner at 13F.
Rear Ground Beam	No change in the condition of the rear ground beam was observed.
Fendering	No change in the condition of the fender piles and timber facings was observed.

3.4 Condition Summary – Gunness Wharf Fina Oil Jetty

Piles	No change in the condition of the piles was observed.
Deck Soffit	The extent of repairs to the deck soffits since the 2017 survey has not increased from 15.5m^2
Beams Parallel to Berthing Face	The extent of repairs to the deck soffits since the 2017 survey has not increased from 32.8m^2. There has been minor additional concrete loss from the soffit of beam A9-10 as shown in photos 12a & 12b however as the beam has already failed structurally this is considered insignificant. Photo 13 shows the existing extent of spalling to the front beam at A11-12 and suggests that the beam might be constructed as a structural steel beam encased in reinforced concrete or a composite beam rather than just a RC beam.
Beams Perpendicular to Berthing face	The extent of repairs to the perpendicular beams since the 2017 survey has not increased from 35.2m^2. Photo 14 shows the existing typical damage to both bottom corners of beam 3A-C. Photos 15a and 15b show the existing damage to the failed beams at 9A-C and 12A-C respectively.
Fendering	No change in the condition of the fender piles and timber facings was observed.

4.0 RECOMMENDATIONS

4.1 Flixborough Wharf

The recommendations made in the report produced following the 2017 inspection of the jetty remain valid. The latest inspection has shown that there has been a notable deterioration in the condition of the piles and where spalling has occurred, this has in the main, revealed corroded rebar which would suggest that the condition of the concrete is more significantly affected by chlorides and carbonation than is revealed by a purely visual inspection and that the remaining cover concrete is providing limited corrosion protection to the rebar. This would suggest that the structure has now moved beyond the phase where patch repairs alone would be sufficient to stabilise the structure and that more significant intervention will be required if the jetty is to have a sustainable future. This could potentially involve the introduction of cathodic protection systems or reconstruction of major structural members. In order to understand this more fully it would be necessary to carry out a more detailed inspection including testing for chlorides and carbonation.

It should be noted that a significant proportion of the front perpendicular beams spanning between gridlines A and B are seriously degraded and it is recommended that urgent attention should be given to addressing these or to modifying current working methods.

Given consideration of the conclusions reached in the 2017 report together with due attention to the above issues and on the basis of the observed rate of deterioration of the structure, it would be appropriate to increase the interval for general visual condition monitoring to 3 years. With no intervention, an interval of 2 years would be more appropriate.

4.2 Gunness Wharf Main Jetty

The recommendations made in the report produced following the 2017 inspection of the jetty remain valid. The latest inspection has shown that there has been a continuing deterioration in the condition of the deck soffit and beams, and where spalling has occurred, this has revealed corroded rebar. The comments made above in section 4.1 for newly exposed corroded rebar are also applicable here.

Given consideration of the conclusions reached in the 2017 report together with due attention to the above issues and on the basis of the observed rate of deterioration of the structure, it would be appropriate to increase the interval for general visual condition monitoring to 3 years. With no intervention, an interval of 2 years would be more appropriate.

4.2 Gunness Wharf Fina Oil Jetty

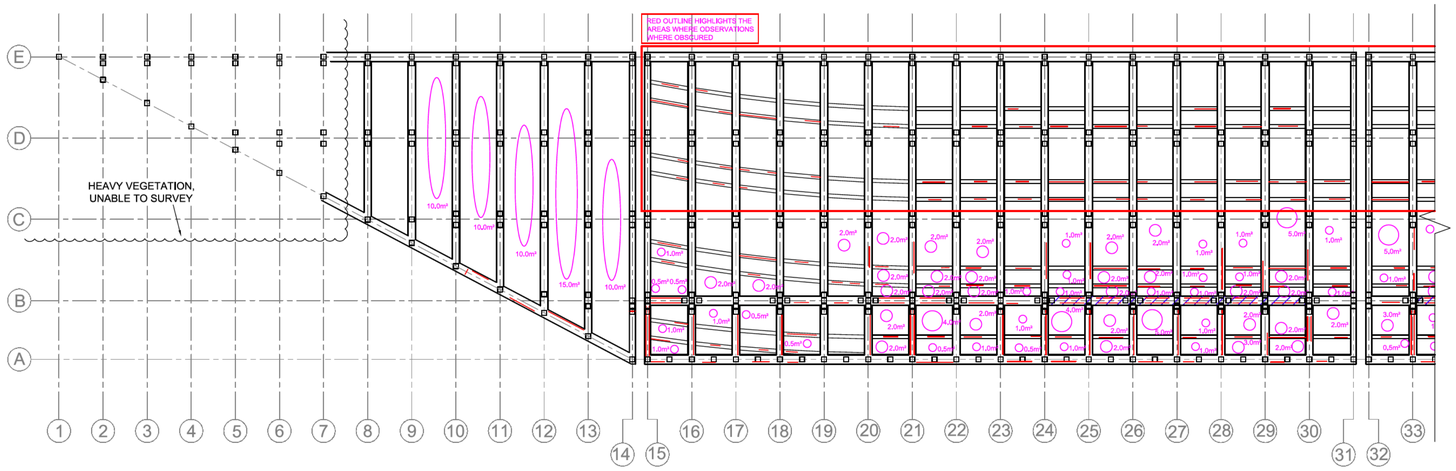
The recommendations made in the report produced following the 2017 inspection of the jetty remain valid. The latest inspection has shown that there has been little change in the structure's condition and this is consistent with the jetty have been out of operational use for cargo handling operations.

It was noted during the inspection in an area of heavy spalling, that zone C may comprise structural steel sections clad in reinforced concrete rather than traditional reinforced concrete beams. If this were confirmed, it has the potential to simplify repairs in this zone however it should be noted that the extent and form of spalling present indicates overloading of the structure generating excessive deflections, and that even if repaired, the structure would still be unsuitable for the previous operational loads applied.

Assuming that the jetty remains in a mothballed condition, on the basis of the observed rate of deterioration of the structure, it would be appropriate to increase the interval for general visual condition monitoring to 5 years.

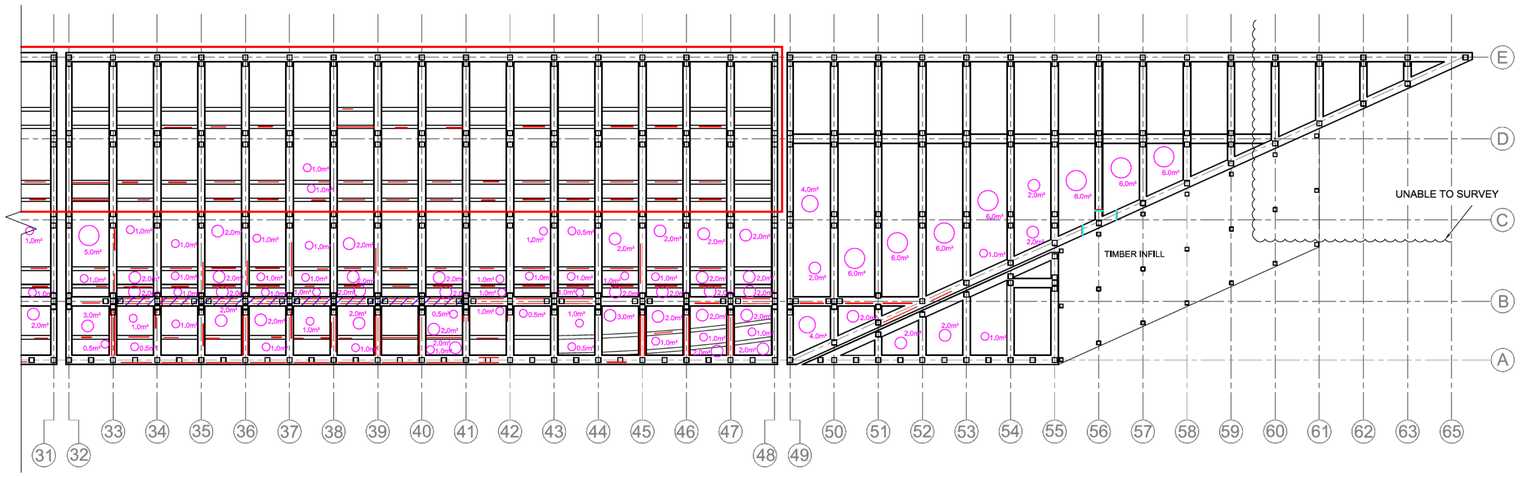
APPENDIX A DRAWINGS

Flixborough Wharf
Gunness Wharf Main Jetty
Gunness Wharf Fina Oil Jetty



PLAN SHOWING PILING LAYOUT

SCALE 1:250



PLAN SHOWING PILING LAYOUT CONT'D

SCALE 1:250

KEY

- CONCRETE REPAIR
- DAMAGED AREA OF SLAB
- WATER PENETRATION
- BEAM CRACKING

100mm at A1

Rev	Description	Date	By	Chk	App
01	Beams added D49+	25.09.18	PH	PH	PH
-	FIRST ISSUE	06.10.17	SO	RCR	PH

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Project: CONDITION SURVEY: FLIXBROUGH WHARF, SCUNTHORPE

Client: RMS TRENT PORTS LTD

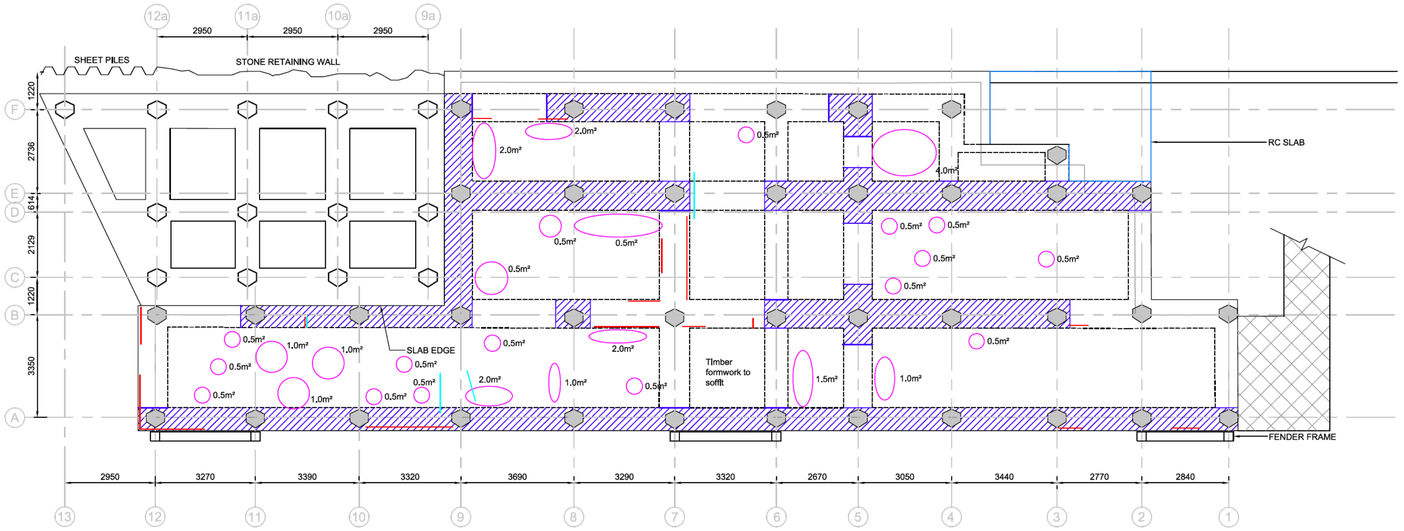
Drawing: CONDITION SUMMARY OF THE EXISTING WHARF

Role: SURVEYOR

Drawing Status: WORK IN PROGRESS

Job. no. 39870 | Scale@ A1: As Noted | Rev. 04

Project	Orginator	Volume	Level	Type	Role	Number
FWS	AWP	00	GF	DR	S	0004

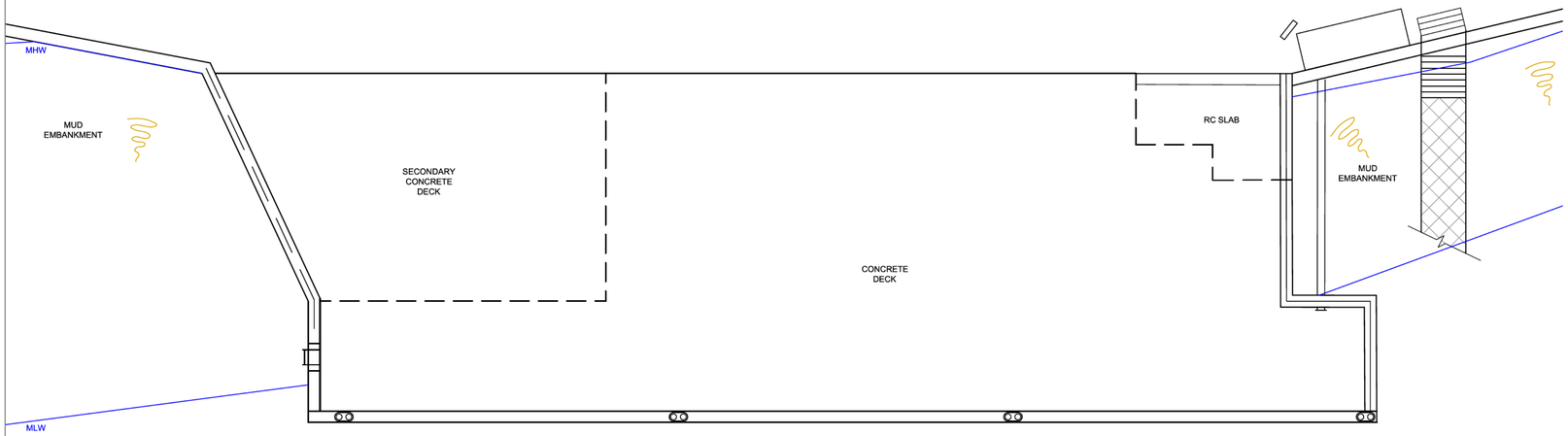


KEY

- CONCRETE REPAIR
- DAMAGED AREA OF SLAB
- WATER PENETRATION
- BEAM CRACKING

GENERAL ARRANGEMENT OF GUNNESS - MAIN JETTY

Scale 1:100



DECK PLAN OF GUNNESS - MAIN JETTY

Scale 1:100

NOTES:

100mm at A1

Rev	Description	Date	By	Chk	App
01-	Minor Amendments	29.09.18	PH	PH	PH
-	FIRST ISSUE	22.09.17	KJH	RCR	PH

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York T. 01904 611594

Project: Condition Survey: Gunness Wharf, Scunthorpe

Client: RMS Trent Ports Ltd

Drawing: Condition summary of exiting Wharf - Main Jetty

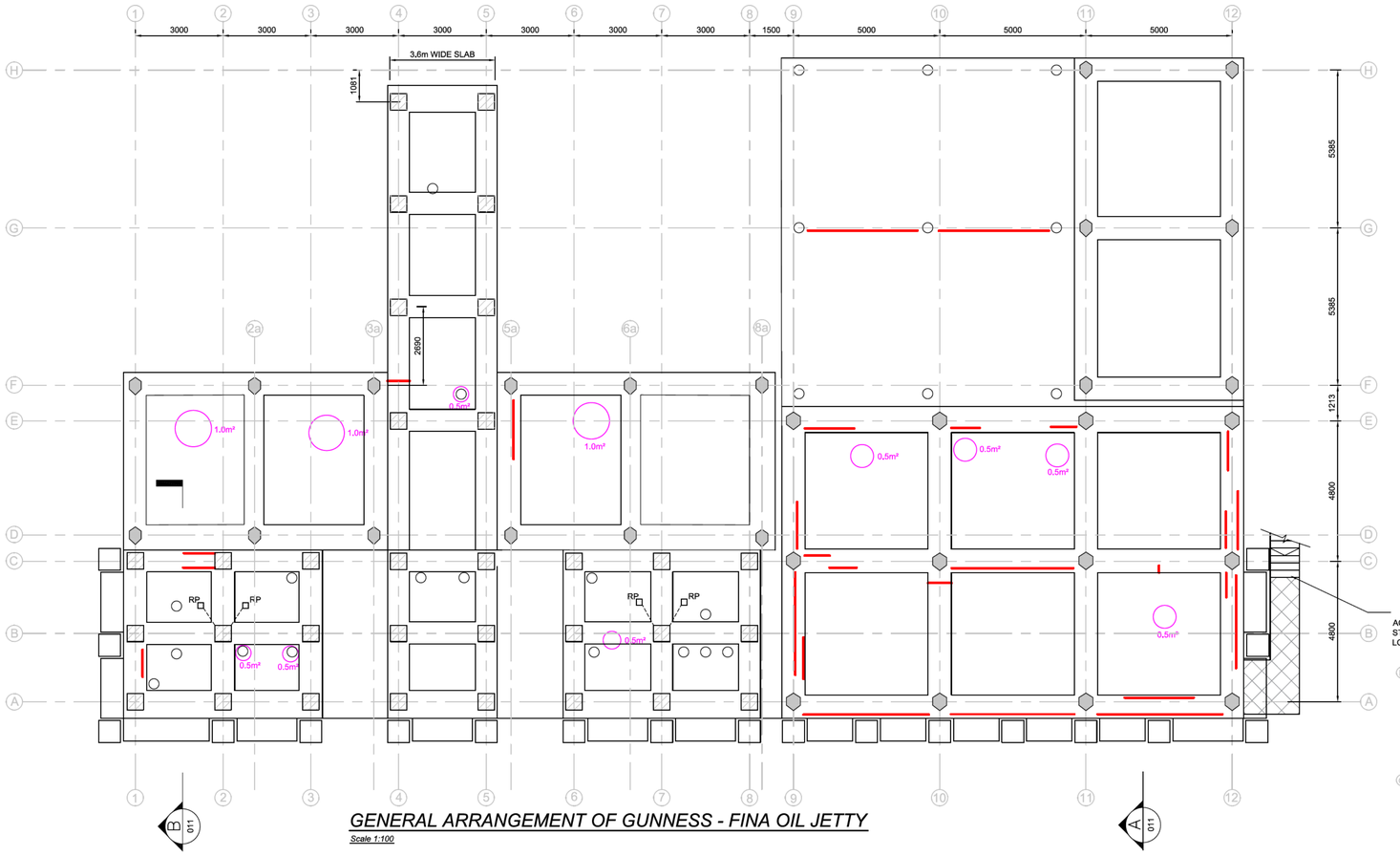
Role: Surveyor

Drawing Status: For Information

Job. no. 39869 | Scale@ A1: As Noted | Rev. 01

Project Originator Volume Level Type Role Number

GWS - AWP - 00 - GF - DR - S - 0004



GENERAL ARRANGEMENT OF GUNNESS - FINA OIL JETTY

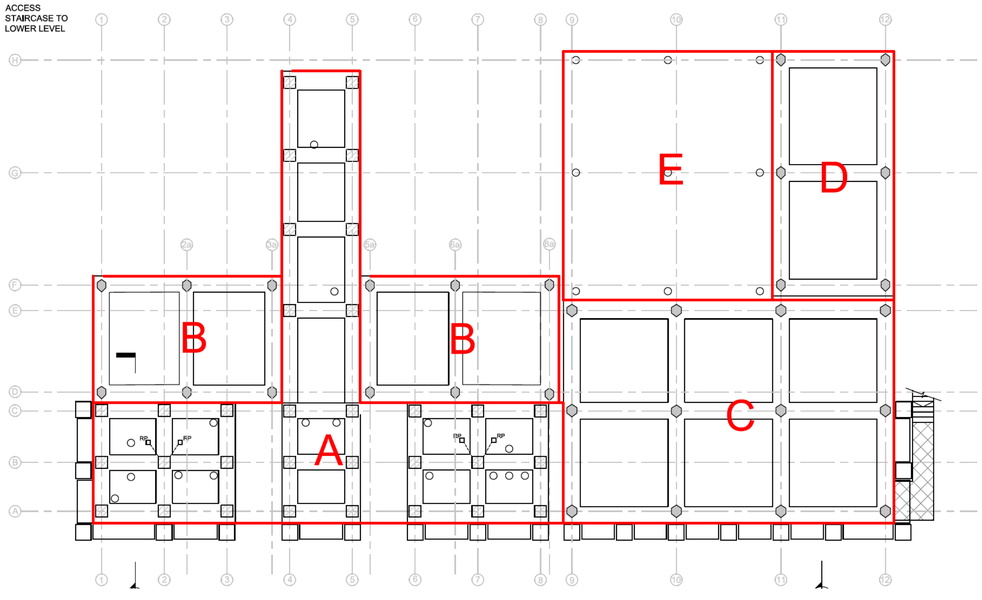
Scale 1:100

KEY

- CONCRETE REPAIR
- DAMAGED AREA OF SLAB
- WATER PENETRATION
- BEAM CRACKING

NOTE SEE CONDITION SCHEDULE FOR DETAILS OF LOSS OF SECTION ON TIMBER PILE

THE LAYOUT BELOW HIGHLIGHTS THE DIFFERENT CONSTRUCTIONS OF THE OVERALL JETTY.
ZONE A - THE ORIGINAL TIMBER PILED SECTION, WITH CONCRETE BEAMS AND A CONCRETE DECK. GENERAL LAYOUT IS A CENTRAL JETTY WITH TWO DOLPHINS. THE GAP BETWEEN THE JETTY AND DOLPHINS WERE LATER INFILLED WITH A CONCRETE DECK.
ZONE B, C & D - ALL HAVE A SIMILAR CONSTRUCTION WITH LARRSON PILES SUPPORTING CONCRETE BEAMS AND A CONCRETE DECK. MINOR DIFFERENCES WOULD SUGGEST THEY WERE ALL BUILT AT SEPARATE TIMES. PHASING OF WORKS IS UNKNOWN. IT IS ASSUMED THAT THE JETTY WAS ORIGINALLY INFILLED WITH ZONE B, ZONE C WAS AN ADDITION AND FINALLY ZONE D WAS BUILT TO PROVIDE ACCESS ZONE E - A CIRCULAR PILE SUPPORTING A CONCRETE DECK. IT IS ASSUMED THAT THIS WORK IS THE MOST RECENT.



NOTES:

100mm at A1

Rev	Description	Date	By	Chk	App
01	Additional gridlines added	29.09.18	PH	PH	PH
-	FIRST ISSUE	22.09.17	KJH	RCR	PH

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Project:	Condition Survey: Gunness Wharf, Scunthorpe
Client:	RMS Trent Ports Ltd
Drawing:	Condition summary of existing Wharf - FINA Oil Jetty
Role:	Surveyor
Drawing Status:	For Information
Job. no.	39869
Scale@ A1:	1:50
Rev.	01

Project	Orfginator	Volume	Level	Type	Role	Number
GWS -	AWP -	00 -	GF -	DR -	S -	0014

APPENDIX B PHOTOGRAPHS

Flixborough Wharf
Gunness Wharf Main Jetty
Gunness Wharf Fina Oil Jetty

Photograph No. 1

Flixborough Wharf

Intermediate Pile 18a-A

DSCN7437.jpg

Photograph No. 2

Flixborough Wharf

Pile 20A

DSCN7424.jpg

Photograph No. 3

Flixborough Wharf

Pile 33A

DSCN7367.jpg

Photograph No. 4

Flixborough Wharf

Displaced Intermediate Pile 37a-A

DSCN7347.jpg

Photograph No. 5

Flixborough Wharf

**Parallel Beam
30-31 Rail 3**

DSCN7378.jpg

Photograph No. 6

Flixborough Wharf

**Perpendicular Beam
15A-B**

DSCN7449.jpg

Photograph No. 7

Flixborough Wharf

Fender waling lost between GL52-55

DSCN 7466.jpg

Photograph No. 8

Gunness Wharf Main Jetty

A-B 2-3 Deck Soffit

DSCN7189.jpg

Photograph No. 9

Gunness Wharf Main Jetty

Parallel Beam B7-8

DSCN7162.jpg

Photograph No. 10a

Gunness Wharf Main Jetty

Parallel Beam F4-5 Exposed links

Perpendicular beam 5E-F spalling

DSCN7179.jpg

Photograph No. 10b

DSCN 7180.jpg

Photograph No. 11

Gunness Wharf Main Jetty

Perpendicular beam 4E-F spalling

DSCN7185.jpg

Photograph No. 12a

Gunness Wharf
Fina Oil Jetty

Parallel Beam A9-10

2017
DSCN3092.jpg

Photograph No. 12b

2018
DSCN7246.jpg

Photograph No. 13

Gunness Wharf
Fina Oil Jetty

Parallel Beam A11-12
Exposed steelwork

DSCN7129.jpg

Photograph No. 14

**Gunness Wharf
Fina Oil Jetty**

**Perpendicular Beam
3A-C**

DSCN7217.jpg

Photograph No. 15a

**Gunness Wharf
Fina Oil Jetty**

**Perpendicular Beam
9A-C**

DSCN7247.jpg

Photograph No. 15b

**Perpendicular Beam
12A-C**

DSCN7127.jpg

APPENDIC C SCHEDULES OF CONCRETE REPAIRS

Flixborough Wharf
Gunness Wharf Main Jetty
Gunness Wharf Fina Oil Jetty

Condition Survey Schedule
Flixborough Wharf - Jetty 2018

Condition

0 Unable to inspect
1 No work required
2 Repairs required
3 Extensive repairs required
4 Replacement required

No Change since 2017

Change since 2017

Please note that the extent of repairs scheduled below are based on observations from the berthing face rather than actual measurements and as such are intended to provide an order of magnitude assessment of the overal scale of repairs required and not a precriptive schedule for individual member repair.

Bay	Grid Area	Condition 2017	Condition 2018	Area to repair 2017	Area to repair 2018	Notes (2018 notes in Red) NC = No change
Piles: Exception report only						
15	A	1	2	0	1.0	Pile head damage
18a	A	1	2	0	2.0	Exposed rebar in 18a Intemediate pile front corner
20a	A	1	2	0	1.5	Intermediate pile head damage & exposed rebar
22a	A	1	2	0	1.5	Intermediate pile head damage & exposed rebar
26a	A	1	2	0	0.5	Cover concrete cracked away at pile head
27	A	1	2	0	0.5	Cover concrete cracked at pile head
28	A	1	2	0	1.0	Exposed rebar at pile head
33	A	2	2	0.5	0.5	NC Exposed rebar at pile head
33a	A	1	2	0	0.5	Cover concrete cracked at pile head
34a	A	1	2	0	0.5	Cover concrete cracked at pile head
37a	A	2	2	1	1.0	Pile head has been displaced rearwards 75-100mm
47a	A	1	2	0	0.5	Cover concrete cracked at pile head
50a	A	1	2	0	1.0	Cover concrete cracked at pile head
				1.5m²	**12.0m²**	Additional 11.5m^2 repairs required since 2017 survey

Condition Survey Schedule

19/9/18

Flixborough Wharf - Jetty 2018

Condition

0 Unable to inspect
1 No work required
2 Repairs required
3 Extensive repairs required
4 Replacement required

No Change since 2017

Change since 2017

Please note that the extent of repairs scheduled below are based on observations from the berthing face rather than actual measurements and as such are intended to provide an order of magnitude assessment of the overal scale of repairs required and not a precriptive schedule for individual member repair.

Bay	Grid Area	Condition 2017	Condition 2018	Area to repair 2017	Area to repair 2018	Notes (2018 notes in Red) NC = No change
Jetty Deck: Main Slab						
1-8	C-E	0	0		0.0	Unable to inspect
9-10	A-E	2	2	10.0	10.0	NC
10-11	A-E	2	2	10.0	10.0	NC
11-12	A-E	2	2	10.0	10.0	NC
12-13	A-E	2	2	15.0	15.0	NC
13-14	A-E	2	2	10.0	10.0	NC
14-15						Not applicable, no effective slab due to joint
15-16	A-B	2	2	2.0	2.0	NC
	B-C	2	2	2.0	2.0	NC
	C-D	0	0	0.0	0.0	NC
	D-E	0	0	0.0	0.0	NC
16-17	A-B	2	2	1.0	1.0	NC
	B-C	2	2	2.0	2.0	NC
	C-D	0	0	0.0	0.0	NC
	D-E	0	0	0.0	0.0	NC
17-18	A-B	2	2	0.5	0.5	NC
	B-C	2	2	2.0	2.0	NC
	C-D	0	0	0.0	0.0	NC
	D-E	0	0	0.0	0.0	NC
18-19	A-B	2	2	0.5	0.5	NC
	B-C	1	1	0.0	0.0	NC
	C-D	0	0	0.0	0.0	NC
	D-E	0	0	0.0	0.0	NC
19-20	A-B	1	1	0.0	0.0	NC
	B-C	2	2	2.0	2.0	NC
	C-D	0	0	0.0	0.0	NC
	D-E	0	0	0.0	0.0	NC
20-21	A-B	2	2	4.0	4.0	NC
	B-C	2	2	6.0	6.0	NC
	C-D	0	0	0.0	0.0	NC
	D-E	0	0	0.0	0.0	NC
21-22	A-B	2	2	4.5	4.5	NC
	B-C	2	2	6.0	6.0	NC
	C-D	0	0	0.0	0.0	NC
	D-E	0	0	0.0	0.0	NC
22-23	A-B	2	2	3.0	3.0	NC
	B-C	2	2	6.0	6.0	NC
	C-D	0	0	0.0	0.0	NC
	D-E	0	0	0.0	0.0	NC
23-24	A-B	2	2	1.5	1.5	NC
	B-C	2	2	1.0	1.0	NC
	C-D	0	0	0.0	0.0	NC
	D-E	0	0	0.0	0.0	NC

Condition Survey Schedule
Flixborough Wharf - Jetty 2018

Condition

0 Unable to inspect
1 No work required
2 Repairs required
3 Extensive repairs required
4 Replacement required

No Change since 2017

Change since 2017

Please note that the extent of repairs scheduled below are based on observations from the berthing face rather than actual measurements and as such are intended to provide an order of magnitude assessment of the overal scale of repairs required and not a precriptive schedule for individual member repair.

Bay	Grid Area	Condition 2017	Condition 2018	Area to repair 2017	Area to repair 2018	Notes (2018 notes in Red) NC = No change
Jetty Deck: Main Slab						
24-25	A-B	2	2	5.0	5.0	Exposed Rebar
	B-C	2	2	3.0	3.0	NC
	C-D	0	0	0.0	0.0	NC
	D-E	0	0	0.0	0.0	NC
25-26	A-B	2	2	4.0	4.0	NC
	B-C	2	2	6.0	6.0	NC
	C-D	0	0	0.0	0.0	NC
	D-E	0	0	0.0	0.0	NC
26-27	A-B	2	2	5.0	5.0	Exposed rebar to 50% of bottom mat
	B-C	2	2	5.0	5.0	NC
	C-D	0	0	0.0	0.0	NC
	D-E	0	0	0.0	0.0	NC
27-28	A-B	2	2	2.0	2.0	NC
	B-C	2	2	3.0	3.0	NC
	C-D	0	0	0.0	0.0	NC
	D-E	0	0	0.0	0.0	NC
28-29	A-B	2	2	5.0	5.0	Exposed rebar
	B-C	2	2	4.0	4.0	NC
	C-D	0	0	0.0	0.0	NC
	D-E	0	0	0.0	0.0	NC
29-30	A-B	2	2	4.0	4.0	NC
	B-C	2	2	4.0	4.0	NC (Bulk of timber jammed at gridline B)
	C-D	2	2	5.0	5.0	NC
	D-E	0	0	0.0	0.0	NC
30-31	A-B	2	2	2.0	2.0	NC
	B-C	2	2	2.0	2.0	NC
	C-D	0	0	0.0	0.0	NC
	D-E	0	0	0.0	0.0	NC
31-32						Not applicable, no effective slab due to joint
32-33	A-B	2	2	3.5	3.5	Displaced/bent exposed rebar
	B-C	2	2	6.0	6.0	NC
	C-D	0	0	0.0	0.0	NC
	D-E	0	0	0.0	0.0	NC
33-34	A-B	2	2	1.5	1.5	NC
	B-C	2	2	5.0	5.0	NC
	C-D	0	0	0.0	0.0	NC
	D-E	0	0	0.0	0.0	NC
34-35	A-B	2	2	1.0	1.0	NC
	B-C	2	2	3.0	3.0	NC
	C-D	0	0	0.0	0.0	NC
	D-E	0	0	0.0	0.0	NC

Condition Survey Schedule
Flixborough Wharf - Jetty 2018

Condition

0 Unable to inspect
1 No work required
2 Repairs required
3 Extensive repairs required
4 Replacement required

No Change since 2017

Change since 2017

Please note that the extent of repairs scheduled below are based on observations from the berthing face rather than actual measurements and as such are intended to provide an order of magnitude assessment of the overal scale of repairs required and not a precriptive schedule for individual member repair.

Bay	Grid Area	Condition 2017	Condition 2018	Area to repair 2017	Area to repair 2018	Notes (2018 notes in Red) NC = No change
Jetty Deck: Main Slab						
35-36	A-B	2	2	2.0	2.0	NC
	B-C	2	2	6.0	6.0	NC
	C-D	0	2	0.0	2.0	Exposed rebar to soffit
	D-E	0	0	0.0	0.0	NC
36-37	A-B	2	2	3.0	3.0	NC
	B-C	2	2	3.0	3.0	NC
	C-D	0	0	0.0	0.0	NC
	D-E	0	0	0.0	0.0	NC
37-38	A-B	2	2	1.0	1.0	NC
	B-C	2	2	2.0	2.0	NC
	C-D	0	0	0.0	0.0	NC
	D-E	0	0	0.0	0.0	NC
38-39	A-B	2	2	3.0	3.0	NC
	B-C	2	2	6.0	6.0	NC
	C-D	0	0	0.0	0.0	NC
	D-E	0	0	0.0	0.0	NC
39-40	A-B	1	1	0.0	0.0	NC
	B-C	1	1	0.0	0.0	NC
	C-D	0	0	0.0	0.0	NC
	D-E	0	0	0.0	0.0	NC
40-41	A-B	2	2	5.5	5.5	NC
	B-C	2	2	4.0	4.0	NC
	C-D	0	0	0.0	0.0	NC
	D-E	0	0	0.0	0.0	NC
41-42	A-B	2	2	1.0	1.0	NC
	B-C	2	2	3.0	3.0	NC
	C-D	2	2	2.0	2.0	NC
	D-E	0	0	0.0	0.0	NC
42-43	A-B	2	2	0.5	0.5	NC
	B-C	2	2	2.0	2.0	NC
	C-D	0	0	0.0	0.0	NC
	D-E	0	0	0.0	0.0	NC
43-44	A-B	2	2	1.5	1.5	NC
	B-C	2	2	2.5	2.5	NC
	C-D	0	0	0.0	0.0	NC
	D-E	0	0	0.0	0.0	NC
44-45	A-B	2	2	3.0	3.0	NC
	B-C	2	2	5.0	5.0	NC
	C-D	0	0	0.0	0.0	NC
	D-E	0	0	0.0	0.0	NC
45-46	A-B	2	2	3.0	3.0	NC
	B-C	2	2	5.0	5.0	NC
	C-D	0	0	0.0	0.0	NC
	D-E	0	0	0.0	0.0	NC

Condition Survey Schedule
Flixborough Wharf - Jetty 2018

Condition

0 Unable to inspect
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No Change since 2017

Change since 2017

Please note that the extent of repairs scheduled below are based on observations from the berthing face rather than actual measurements and as such are intended to provide an order of magnitude assessment of the overal scale of repairs required and not a precriptive schedule for individual member repair.

Bay	Grid Area	Condition 2017	Condition 2018	Area to repair 2017	Area to repair 2018	Notes (2018 notes in Red) NC = No change
Jetty Deck: Main Slab						
46-47	A-B	2	2	5.0	5.0	NC
	B-C	2	2	6.0	6.0	NC
	C-D	0	0	0.0	0.0	NC
	D-E	0	0	0.0	0.0	NC
47-48	A-B	2	2	5.0	5.0	NC
	B-C	2	2	6.0	6.0	NC
	C-D	0	0	0.0	0.0	NC
	D-E	0	0	0.0	0.0	NC
48-49						Not applicable, no effective slab due to joint
49-50	A-B	2	2	4.0	4.0	Exposed Rebar
	B-C	2	2	2.0	2.0	NC
	C-D	2	2	4.0	4.0	NC
	D-E	0	0	0.0	0.0	NC
50-51	A-B	2	2	2.0	2.0	NC
	B-C	2	2	6.0	6.0	NC
	C-D	1	1	0.0	0.0	NC
	D-E	0	0	0.0	0.0	NC
51-52	B-C	2	2	6.0	6.0	NC
	C-D	1	1	0.0	0.0	NC
	D-E	0	0	0.0	0.0	NC
52-53	B-C	2	2	6.0	6.0	NC
	C-D	1	1	0.0	0.0	NC
	D-E	0	0	0.0	0.0	NC
53-54	B-C	2	2	1.0	1.0	NC
	C-D	2	2	6.0	6.0	NC
	D-E	0	0	0.0	0.0	NC
54-55	B-C	2	2	2.0	2.0	NC
	C-D	2	2	2.0	2.0	NC
	D-E	0	0	0.0	0.0	NC
55-56	C-D	2	2	6.0	6.0	NC
	D-E	0	0	0.0	0.0	NC
56-57	C-D	2	2	6.0	6.0	NC
	D-E	0	0	0.0	0.0	NC
57-58	C-D	2	2	6.0	6.0	NC
	D-E	0	0	0.0	0.0	NC
59-64	C-E	0	0		0.0	Unable to inspect
			323.0m²		**325.0m²**	Additional 2.0m^2 repairs required since 2017 survey

Condition Survey Schedule
Flixborough Wharf - Jetty 2018

Condition

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3 Extensive repairs required
4 Replacement required

No Change since 2017

Change since 2017

Please note that the extent of repairs scheduled below are based on observations from the berthing face rather than actual measurements and as such are intended to provide an order of magnitude assessment of the overal scale of repairs required and not a precriptive schedule for individual member repair.

Bay	Grid Area	Condition 2017	Condition 2018	Area to repair 2017	Area to repair 2018	Notes (2018 notes in Red) NC = No change
Jetty Deck: Southern Extension						
51-52	A-B	2	2	2.0	2.0	Exposed & heavily corroded rebar
52-53	A-B	2	2	2.0	2.0	Exposed rebar
53-54	A-B	2	2	1.0	1.0	NC
54-55	A-B	2	2	2.0	2.0	Exposed rebar
				7.0m²	**7.0m²**	No change since 2017 survey
Parallel Beams: Main Slab						
9-10	Front	1	1	0.0	0	NC
10-11	Front	2	2	1.0	1	NC
11-12	Front	3	3	2.0	2	NC
12-13	Front	3	3	3.0	3	NC
13-14	Front	1	1	0.0	0	NC
14-15						Not applicable, no effective beam due to joint
15-16	Front	2	2	2.0	2	NC
	Rail 1	2	2	1.0	2	Exposed rebar & spalling
	Rail 2	3	3	1.0	2	Exposed rebar & spalling
	Crane 1	3	3	3.0	3	Observed from river side only NC
	Rail 3	2	2	1.0	1	Observed from river side only Exposed rebar
	Rail 4	2	2	1.0	1	Observed from river side only Exposed rebar
	Rail 5	2	2	1.0	1	Observed from river side only & visibiity restricted NC
	Rail 6	2	2	1.0	1	Observed from river side only & visibiity restricted NC
	Rail 7	4	4	3.0	3	Observed from river side only & visibiity restricted NC
	Rail 8	2	2	2.0	2	Observed from river side only & visibiity restricted NC
16-17	Front	2	2	1.0	1	Exposed rebar
	Rail 1	2	2	1.0	1	NC
	Rail 2	1	1	0.0	0	NC
	Crane 1	1	1	0.0	0	Observed from river side only NC
	Rail 3	1	1	0.0	0	Observed from river side only NC
	Rail 4	1	1	0.0	0	Observed from river side only NC
	Rail 5	2	2	1.0	1	Observed from river side only & visibiity restricted Exp Rebar
	Rail 6	2	2	1.0	1	Observed from river side only & visibiity restricted Exp Rebar
	Rail 7	2	2	1.0	1	Observed from river side only & visibiity restricted NC
	Rail 8	2	2	1.0	1	Observed from river side only & visibiity restricted NC

Condition Survey Schedule
Flixborough Wharf - Jetty 2018

Condition

0 Unable to inspect
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3 Extensive repairs required
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Change since 2017

Please note that the extent of repairs scheduled below are based on observations from the berthing face rather than actual measurements and as such are intended to provide an order of magnitude assessment of the overal scale of repairs required and not a precriptive schedule for individual member repair.

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Parallel Beams: Main Slab						
17-18	Front	2	2	2.0	2	NC
	Rail 1	2	2	1.0	1	NC
	Rail 2	1	2	0.0	0.5	Exposed rebar
	Crane 1	1	1	0.0	0	Observed from river side only NC
	Rail 3	2	2	1.0	1	Observed from river side only NC
	Rail 4	4	4	3.0	3	Observed from river side only NC
	Rail 5	2	2	2.0	2	Observed from river side only & visibiity restricted NC
	Rail 6	2	2	1.0	1	Observed from river side only & visibiity restricted Exp Rebar
	Rail 7	3	3	3.0	3	Observed from river side only & visibiity restricted Exp Rebar
	Rail 8	1	1	0.0	0	Observed from river side only & visibiity restricted NC
18-19	Front	2	2	1.0	1	NC
	Rail 1	2	2	2.0	2	NC
	Rail 2	2	2	1.0	1	NC
	Crane 1	2	2	1.0	1	Observed from river side only NC
	Rail 3	1	1	0.0	0	Observed from river side only NC
	Rail 4	2	2	2.0	2	Observed from river side only NC
	Rail 5	1	1	0.0	0	Observed from river side only & visibiity restricted NC
	Rail 6	2	2	1.0	1	Observed from river side only & visibiity restricted NC
	Rial 7	2	2	1.0	1	Observed from river side only & visibiity restricted NC
	Rail 8	1	1	0.0	0	Observed from river side only & visibiity restricted NC
19-20	Front	1	1	0.0	0	NC
	Rail 2	1	1	0.0	0	NC
	Crane 1	2	2	1.0	1	Observed from river side only NC
	Rail 3	2	2	2.0	2	Observed from river side only NC
	Rail 4	1	2	0.0	1	Observed from river side only Exposed rebar
	Rail 5	1	1	0.0	0	Observed from river side only & visibiity restricted NC
	Rail 6	1	1	0.0	0	Observed from river side only & visibiity restricted NC
	Rial 7	1	1	0.0	0	Observed from river side only & visibiity restricted NC
	Rail 8	1	1	0.0	0	Observed from river side only & visibiity restricted NC
20-21	Front	1	1	0.0	0	NC
	Rail 2	3	3	2.0	2	NC
	Crane 1	3	3	2.0	2	Observed from river side only NC
	Rail 3	2	2	1.0	1	Observed from river side only NC
	Rail 4	2	2	1.0	1	Observed from river side only NC
	Rail 5	1	1	0.0	0	Observed from river side only & visibiity restricted NC
	Rail 6	1	1	0.0	0	Observed from river side only & visibiity restricted NC
	Rail 7	2	2	1.0	1	Observed from river side only & visibiity restricted NC
	Rail 8	1	1	0.0	0	Observed from river side only & visibiity restricted NC
21-22	Front	2	2	4.0	4	NC
	Rail 2	2	2	1.0	1	NC
	Crane 1	2	2	3.0	3	Observed from river side only NC
	Rail 3	2	2	1.0	1	Observed from river side only NC
	Rail 4	2	2	1.0	1	Observed from river side only NC
	Rail 5	2	2	2.0	2	Observed from river side only & visibiity restricted NC
	Rail 6	3	3	2.0	2	Observed from river side only & visibiity restricted NC
	Rail 7	1	1	0.0	0	Observed from river side only & visibiity restricted NC
	Rail 8	1	1	0.0	0	Observed from river side only & visibiity restricted NC

Condition Survey Schedule
Flixborough Wharf - Jetty 2018

Condition

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Change since 2017

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Parallel Beams: Main Slab						
22-23	Front	1	1	0.0	0	NC
	Rail 2	2	2	2.0	2	NC
	Crane 1	2	2	2.0	2	Observed from river side only NC
	Rail 3	2	2	3.0	3	Observed from river side only NC
	Rail 4	2	2	3.0	3	Observed from river side only Exposed rebar
	Rail 5	2	2	2.0	2	Observed from river side only & visibiity restricted NC
	Rail 6	2	2	2.0	2	Observed from river side only & visibiity restricted NC
	Rail 7	2	2	2.0	2	Observed from river side only & visibiity restricted NC
	Rail 8	1	1	0.0	0	Observed from river side only & visibiity restricted NC
23-24	Front	2	2	2.0	2	NC
	Rail 2	2	2	1.0	1	NC
	Crane 1	2	2	1.0	1	Observed from river side only NC
	Rail 3	2	2	1.0	1	Observed from river side only NC
	Rail 4	2	2	1.0	1	Observed from river side only NC
	Rail 5	2	2	1.0	1	Observed from river side only & visibiity restricted NC
	Rail 6	2	2	1.0	1	Observed from river side only & visibiity restricted NC
	Rail 7	2	2	1.0	1	Observed from river side only & visibiity restricted NC
	Rail 8	2	2	1.0	1	Observed from river side only & visibiity restricted NC
24-25	Front	2	2	2.0	2	NC
	Rail 2	2	2	3.0	3	Exposed rebar
	Crane 1	3	3	3.0	3	Observed from river side only & cracking at third points NC
	Rail 3	1	1	0.0	0	Observed from river side only NC
	Rail 4	1	1	0.0	0	Observed from river side only NC
	Rail 5	3	3	3.0	3	Observed from river side only & visibiity restricted Exp Rebar
	Rail 6	3	3	3.0	3	Observed from river side only & visibiity restricted Exp Rebar
	Rail 7	2	2	2.0	2	Observed from river side only & visibiity restricted NC
	Rail 8	1	1	0.0	0	Observed from river side only & visibiity restricted NC
25-26	Front	1	1	0.0	0	NC
	Rail 2	2	2	1.0	1	NC
	Crane 1	3	3	3.0	3	Observed from river side only NC
	Rail 3	3	3	2.0	2	Observed from river side only Exposed rebar
	Rail 4	3	3	2.0	2	Observed from river side only Exposed rebar
	Rail 5	3	3	2.0	2	Observed from river side only & visibiity restricted NC
	Rail 6	3	3	1.0	3	Obs from river side only & visibiity restricted 50% Exp Rebar
	Rail 7	3	3	2.0	4	Obs from river side only & visibiity restricted 80% Exp Rebar
	Rail 8	1	1	0.0	0	Observed from river side only & visibiity restricted NC
26-27	Front	2	2	2.0	2	NC
	Rail 2	1	1	0.0	0	NC
	Crane 1	3	3	3.0	3	Observed from river side only & cracking at third points NC
	Rail 3	2	2	2.0	2	Observed from river side only NC
	Rail 4	3	3	2.0	2	Observed from river side only NC
	Rail 5	2	3	1.0	3	Obs from river side only & visibiity restricted 75% Exp Rebar
	Rail 6	2	2	1.0	1	Observed from river side only & visibiity restricted NC
	Rail 7	2	2	1.0	1	Observed from river side only & visibiity restricted NC
	Rail 8	1	1	0.0	0	Observed from river side only & visibiity restricted NC

Condition Survey Schedule
Flixborough Wharf - Jetty 2018

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Parallel Beams: Main Slab						
27-28	Front	2	2	1.0	1	NC
	Rail 2	2	2	1.0	1	NC
	Crane 1	3	3	3.0	3	Observed from river side only & cracking at third points NC
	Rail 3	2	2	1.0	1	Observed from river side only NC
	Rail 4	2	2	1.0	1	Observed from river side only NC
	Rail 5	2	2	1.0	2	Observed from river side only & visibiity restricted Exp Rebar
	Rail 6	3	3	2.0	3	Observed from river side only & visibiity restricted Exp Rebar
	Rail 7	2	2	2.0	2	Observed from river side only & visibiity restricted Exp Rebar
	Rail 8	2	2	2.0	2	Observed from river side only & visibiity restricted NC
28-29	Front	1	1	0.0	0	NC
	Rail 2	2	2	1.0	1	NC
	Crane 1	3	3	3.0	3	Observed from river side only & cracking at third points NC
	Rail 3	2	2	2.0	2	Observed from river side only NC
	Rail 4	2	2	2.0	2	Observed from river side only NC
	Rail 5	2	2	2.0	2	Observed from river side only & visibiity restricted Exp Rebar
	Rail 6	1	3	0.0	2	Observed from river side only & visibiity restricted Exp Rebar
	Rail 7	3	3	2.0	2	Observed from river side only & visibiity restricted Exp Rebar
	Rail 8	1	1	0.0	0	Observed from river side only & visibiity restricted NC
29-30	Front	2	2	1.0	1	NC
	Rail 2	3	3	2.0	2	Exposed rebar and broken rebar links
	Crane 1	3	3	3.0	3	Observed from river side only & cracking at third points NC
	Rail 3	2	2	1.0	1	Observed from river side only NC
	Rail 4	3	3	3.0	3	Observed from river side only Exposed rebar
	Rail 5	3	3	2.0	2	Observed from river side only & visibiity restricted Exp Rebar
	Rail 6	3	3	2.0	2	Observed from river side only & visibiity restricted Exp Rebar
	Rail 7	3	3	2.0	2	Observed from river side only & visibiity restricted Exp Rebar
	Rail 8	2	2	1.0	1	Observed from river side only & visibiity restricted NC
30-31	Front	2	2	2.0	2	NC
	Rail 2	4	4	3.0	3	NC
	Crane 1	1	1	0.0	0	Observed from river side only NC
	Rail 3	1	2	0.0	1	Observed from river side only Exposed rebar
	Rail 4	2	2	2.0	2	Observed from river side only Exposed rebar
	Rail 5	2	2	2.0	2	Observed from river side only & visibiity restricted NC
	Rail 6	2	2	2.0	2	Observed from river side only & visibiity restricted NC
	Rail 7	1	1	0.0	0	Observed from river side only & visibiity restricted NC
	Rail 8	1	1	0.0	0	Observed from river side only & visibiity restricted NC
31-32						Not applicable, no effective beam due to joint
32-33	Front	1	1	0.0	0	NC
	Rail 2	2	2	1.0	1.5	Exposed rebar
	Crane 1	2	2	1.0	1	Observed from river side only NC
	Rail 3	2	2	1.0	1	Observed from river side only NC
	Rail 4	2	2	1.0	1	Observed from river side only NC
	Rail 5	3	3	3.0	3	Observed from river side only & visibiity restricted Exp Rebar
	Rail 6	3	3	3.0	3	Observed from river side only & visibiity restricted Exp Rebar
	Rail 7	1	1	0.0	0	Observed from river side only & visibiity restricted NC
	Rail 8	1	1	0.0	0	Observed from river side only & visibiity restricted NC

Condition Survey Schedule
Flixborough Wharf - Jetty 2018

Condition

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Bay	Grid Area	Condition 2017	Condition 2018	Area to repair 2017	Area to repair 2018	Notes (2018 notes in Red) NC = No change
Parallel Beams: Main Slab						
33-34	Front	3	3	3.0	3	Exposed rebar
	Rail 2	3	3	1.0	1	Exposed & corroded rebar
	Crane 1	3	3	3.0	3	Observed from river side only & cracking at third points NC
	Rail 3	3	3	2.0	2	Observed from river side only NC
	Rail 4	2	2	2.0	2	Observed from river side only NC
	Rail 5	2	2	1.0	1	Observed from river side only & visibiity restricted NC
	Rail 6	1	1	0.0	0	Observed from river side only & visibiity restricted NC
	Rail 7	0	0	0.0	0	Observed from river side only & visibiity restricted NC
	Rail 8	0	0	0.0	0	Observed from river side only & visibiity restricted NC
34-35	Front	3	3	3.0	3	Exposed rebar
	Rail 2	2	2	1.0	1	NC
	Crane 1	3	3	3.0	3	Observed from river side only & cracking at third points NC
	Rail 3	2	2	2.0	2	Observed from river side only NC
	Rail 4	2	2	2.0	2	Observed from river side only NC
	Rail 5	1	1	0.0	0	Observed from river side only & visibiity restricted NC
	Rail 6	3	3	2.0	2	Observed from river side only & visibiity restricted NC
	Rail 7	3	3	2.0	2	Observed from river side only & visibiity restricted NC
	Rail 8	1	1	0.0	0	Observed from river side only & visibiity restricted NC
35-36	Front	3	3	2.0	2	Exposed rebar
	Rail 2	2	2	1.0	1	NC
	Crane 1	3	3	3.0	3	Observed from river side only & cracking at third points NC
	Rail 3	3	3	2.0	2	Observed from river side only NC
	Rail 4	3	3	2.0	2	Observed from river side only NC
	Rail 5	3	3	2.0	2	Observed from river side only & visibiity restricted NC
	Rail 6	3	3	3.0	3	Observed from river side only & visibiity restricted Exp Rebar
	Rail 7	3	3	3.0	3	Observed from river side only & visibiity restricted NC
	Rail 8	1	1	0.0	0	Observed from river side only & visibiity restricted NC
36-37	Front	2	2	3.0	3	NC
	Rail 2	3	3	2.0	2	New spalling & exposed rebar
	Crane 1	3	3	3.0	3	Observed from river side only & cracking at third points NC
	Rail 3	3	3	3.0	3	Observed from river side only NC
	Rail 4	3	3	2.0	2	Observed from river side only NC
	Rail 5	3	3	2.0	2	Observed from river side only & visibiity restricted NC
	Rail 6	2	2	2.0	2	Observed from river side only & visibiity restricted NC
	Rail 7	3	3	2.0	2	Observed from river side only & visibiity restricted Exp Rebar
	Rail 8	1	1	0.0	0	Observed from river side only & visibiity restricted NC
37-38	Front	3	3	3.0	3	NC
	Rail 2	2	2	2.0	2	NC
	Crane 1	3	3	3.0	3	Observed from river side only & cracking at third points NC
	Rail 3	3	3	2.0	2	Observed from river side only NC
	Rail 4	3	3	2.0	2	Observed from river side only Exposed rebar
	Rail 5	3	3	2.0	2	Observed from river side only & visibiity restricted Exp Rebar
	Rail 6	3	3	2.0	2	Observed from river side only & visibiity restricted Exp Rebar
	Rail 7	1	1	0.0	0	Observed from river side only & visibiity restricted NC
	Rail 8	1	1	0.0	0	Observed from river side only & visibiity restricted NC

Condition Survey Schedule
Flixborough Wharf - Jetty 2018

Condition

0 Unable to inspect
1 No work required
2 Repairs required
3 Extensive repairs required
4 Replacement required

No Change since 2017

Change since 2017

Please note that the extent of repairs scheduled below are based on observations from the berthing face rather than actual measurements and as such are intended to provide an order of magnitude assessment of the overal scale of repairs required and not a precriptive schedule for individual member repair.

Bay	Grid Area	Condition 2017	Condition 2018	Area to repair 2017	Area to repair 2018	Notes (2018 notes in Red) NC = No change
Parallel Beams: Main Slab						
38-39	Front	3	3	3.0	3	Exposed & corroded rebar
	Rail 2	3	3	2.0	2	NC
	Crane 1	3	3	3.0	3	Observed from river side only & cracking at third points NC
	Rail 3	3	3	2.0	2	Observed from river side only NC
	Rail 4	2	2	1.0	1	Observed from river side only NC
	Rail 5	3	3	1.0	2	Observed from river side only & visibiity restricted Exp Rebar
	Rail 6	3	3	2.0	2	Observed from river side only & visibiity restricted NC
	Rail 7	3	3	3.0	3	Observed from river side only & visibiity restricted NC
	Rail 8	2	2	1.0	1	Observed from river side only & visibiity restricted NC
39-40	Front	3	3	3.0	3	Exposed & corroded rebar
	Rail 2	3	3	3.0	3	NC
	Crane 1	3	3	3.0	3	Observed from river side only & cracking at third points NC
	Rail 3	3	3	2.0	2	Observed from river side only NC
	Rail 4	3	3	1.0	1	Observed from river side only NC
	Rail 5	3	3	3.0	3	Observed from river side only & visibiity restricted NC
	Rail 6	3	3	3.0	3	Observed from river side only & visibiity restricted NC
	Rail 7	3	3	3.0	3	Observed from river side only & visibiity restricted Exp Rebar
	Rail 8	2	2	1.0	1	Observed from river side only & visibiity restricted NC
40-41	Front	2	2	3.0	3	Exposed rebar
	Rail 2	2	2	1.0	1	NC
	Crane 1	2	2	3.0	3	Observed from river side only & cracking at third points NC
	Rail 3	2	2	1.0	1	Observed from river side only NC
	Rail 4	2	2	1.0	1	Observed from river side only NC
	Rail 5	3	3	3.0	3	Observed from river side only & visibiity restricted NC
	Rail 6	3	3	3.0	3	Observed from river side only & visibiity restricted NC
	Rail 7	3	3	1.0	1	Observed from river side only & visibiity restricted NC
	Rail 8	1	1	0.0	0	Observed from river side only & visibiity restricted NC
41-42	Front	3	3	3.0	3	NC
	Rail 2	3	3	2.0	2	NC
	Crane 1	3	3	3.0	3	Observed from river side only & cracking at third points NC
	Rail 3	2	2	1.0	1	Observed from river side only NC
	Rail 4	2	2	1.0	1	Observed from river side only NC
	Rail 5	2	2	2.0	2	Observed from river side only & visibiity restricted NC
	Rail 6	2	2	2.0	3	Observed from river side only & visibiity restricted Exp Rebar
	Rail 7	0	2	0.0	2	Observed from river side only & visibiity restricted Exp Rebar
	Rail 8	0	0	0.0	0	Observed from river side only & visibiity restricted NC
42-43	Front	1	1	0.0	0	NC
	Rail 2	1	1	0.0	0	NC
	Crane 1	3	3	3.0	3	Observed from river side only & cracking at third points NC
	Rail 3	2	2	2.0	2	Observed from river side only NC
	Rail 4	2	2	2.0	2	Observed from river side only NC
	Rail 5	2	2	2.0	2	Observed from river side only & visibiity restricted NC
	Rail 6	3	3	3.0	3.5	Observed from river side only & visibiity restricted Exp Rebar
	Rail 7	2	2	2.0	2	Observed from river side only & visibiity restricted NC
	Rail 8	1	1	0.0	0	Observed from river side only & visibiity restricted NC

Condition Survey Schedule
Flixborough Wharf - Jetty 2018

Condition

0 Unable to inspect
1 No work required
2 Repairs required
3 Extensive repairs required
4 Replacement required

No Change since 2017

Change since 2017

Please note that the extent of repairs scheduled below are based on observations from the berthing face rather than actual measurements and as such are intended to provide an order of magnitude assessment of the overal scale of repairs required and not a precriptive schedule for individual member repair.

Bay	Grid Area	Condition 2017	Condition 2018	Area to repair 2017	Area to repair 2018	Notes (2018 notes in Red) NC = No change
Parallel Beams: Main Slab						
43-44	Front	1	1	0.0	0	NC
	Rail 2	1	1	0.0	0	NC
	Crane 1	3	3	3.0	3	Observed from river side only & cracking at third points NC
	Rail 3	2	2	2.0	2	Observed from river side only NC
	Rail 4	2	2	2.0	2	Observed from river side only NC
	Rail 5	1	1	0.0	0	Observed from river side only & visibiity restricted NC
	Rail 6	3	3	3.0	3	Observed from river side only & visibiity restricted NC
	Rail 7	1	1	0.0	0	Observed from river side only & visibiity restricted NC
	Rail 8	0	0	0.0	0	Observed from river side only & visibiity restricted NC
44-45	Front	1	1	1.0	1	NC
	Rail 1	1	1	0.0	0	NC
	Rail 2	1	1	0.0	0	NC
	Crane 1	1	1	0.0	0	Observed from river side only NC
	Rail 3	2	2	1.0	1	Observed from river side only NC
	Rail 4	2	2	1.0	1	Observed from river side only NC
	Rail 5	3	3	3.0	3	Observed from river side only & visibiity restricted Exp Rebar
	Rail 6	2	3	1.0	3	Observed from river side only & visibiity restricted Exp Rebar
	Rail 7	3	3	3.0	3	Observed from river side only & visibiity restricted Exp Rebar
	Rail 8	0	0	0.0	0	Observed from river side only & visibiity restricted NC
45-46	Front	1	1	0.0	0	NC
	Rail 1	1	1	0.0	0	NC
	Rail 2	2	2	1.0	1	NC
	Crane 1	1	1	0.0	0	Observed from river side only NC
	Rail 3	2	2	2.0	2	Observed from river side only NC
	Rail 4	2	2	1.0	1	Observed from river side only NC
	Rail 5	3	3	1.0	1	Observed from river side only & visibiity restricted Exp Rebar
	Rail 6	3	3	1.0	1	Observed from river side only & visibiity restricted Exp Rebar
	Rail 7	2	2	1.0	1	Observed from river side only & visibiity restricted NC
	Rail 8	0	0	0.0	0	Observed from river side only & visibiity restricted NC
46-47	Front	1	1	0.0	0	NC
	Rail 1	1	1	0.0	0	NC
	Rail 2	1	1	0.0	0	NC
	Crane 1	2	2	2.0	2	Observed from river side only NC
	Rail 3	2	2	1.0	1	Observed from river side only NC
	Rail 4	2	2	2.0	2	Observed from river side only NC
	Rail 5	2	2	1.0	1	Observed from river side only & visibiity restricted NC
	Rail 6	3	3	2.0	2	Observed from river side only & visibiity restricted Exp Rebar
	Rail 7	2	2	1.0	1	Observed from river side only & visibiity restricted NC
	Rail 8	0	0	0.0	0	Observed from river side only & visibiity restricted NC
47-48	Front	1	1	0.0	0	NC
	Rail 1	1	1	0.0	0	NC
	Rail 2	1	1	0.0	0	NC
	Crane 1	3	3	3.0	3	Observed from river side only & cracking at third points NC
	Rail 3	1	1	0.0	0	Observed from river side only NC
	Rail 4	1	1	0.0	0	Observed from river side only NC
	Rail 5	1	1	0.0	0	Observed from river side only & visibiity restricted NC
	Rail 6	1	1	0.0	0	Observed from river side only & visibiity restricted NC
	Rail 7	1	1	0.0	0	Observed from river side only & visibiity restricted NC
	Rail 8	0	0	0.0	0	Observed from river side only & visibiity restricted NC

Condition Survey Schedule
Flixborough Wharf - Jetty 2018

Condition

0 Unable to inspect
1 No work required
2 Repairs required
3 Extensive repairs required
4 Replacement required

No Change since 2017

Change since 2017

Please note that the extent of repairs scheduled below are based on observations from the berthing face rather than actual measurements and as such are intended to provide an order of magnitude assessment of the overal scale of repairs required and not a precriptive schedule for individual member repair.

Bay	Grid Area	Condition 2017	Condition 2018	Area to repair 2017	Area to repair 2018	Notes (2018 notes in Red) NC = No change
Parallel Beams: Main Slab						
48-49						Not applicable, no effective beam due to joint
49-50	Front	1	1	0.0	0	NC
	Crane 1	2	2	2.0	2	Observed from river side only NC
	GL-D	0	1	0.0	0	Observed from river side only NC
50-51	Front	1	1	0.0	0	NC
	Crane 1	2	2	1.0	1	Observed from river side only NC
	GL-D	0	1	0.0	0	Observed from river side only NC
51-52	Front	2	2	1.0	1	NC
	Crane 1	2	2	1.0	1	Observed from river side only NC
	GL-D	0	1	0.0	0	Observed from river side only NC
52-53	Front	2	2	1.0	1	NC
53-54	Front	1	1	0.0	0	NC
54-55	Front	1	1	0.0	0	NC
						NC
55-56	Front	1	1	0.0	0	NC
56-57	Front	1	1	0.0	0	NC
57-58	Front	2	2	2.0	2	Cracking at midspan with water ingress NC
58-59	Front	2	2	2.0	2	Cracking at midspan with water ingress NC
				418.0m	**439.5m**	Additional 21.5m^2 repairs required since 2017 survey

Parallel Beams: Southern Extension						
49-50	Front	1	1	0.0	0	NC
50-51	Front	1	1	0.0	0	NC
	Back	1	1	0.0	0	NC
51-52	Front	1	1	0.0	0	NC
	Back	1	1	0.0	0	NC
52-53	Front	1	1	0.0	0	NC
	Back	1	1	0.0	0	NC
53-54	Front	1	1	0.0	0	NC
	Back	1	1	0.0	0	NC
54-55	Front	1	1	0.0	0	NC
	Back	1	1	0.0	0	NC
				0.0m	**0.0m**	No additional repairs required since 2017 survey

Condition Survey Schedule
Flixborough Wharf - Jetty 2018

Condition

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Change since 2017

Please note that the extent of repairs scheduled below are based on observations from the berthing face rather than actual measurements and as such are intended to provide an order of magnitude assessment of the overal scale of repairs required and not a precriptive schedule for individual member repair.

Bay	Grid Area	Condition 2017	Condition 2018	Area to repair 2017	Area to repair 2018	Notes (2018 notes in Red) NC = No change
Perpendicular Beams: Main Slab						
1-8	C-E	0	0	0.0	0	Unable to inspect NC
9	B-C	1	1	0.0	0	NC
	C-D	1	1	0.0	0	Unable to inspect NC
	D-E	1	1	0.0	0	Unable to inspect NC
10	B-C	1	1	0.0	0	NC
	C-D	1	1	0.0	0	Unable to inspect NC
	D-E	1	1	0.0	0	Unable to inspect NC
11	B-C	1	1	0.0	0	NC
	C-D	1	1	0.0	0	Unable to inspect NC
	D-E	1	1	0.0	0	Unable to inspect NC
12	A-B	1	1	0.0	0	NC
	B-C	1	1	0.0	0	NC
	C-D	1	1	0.0	0	Unable to inspect NC
	D-E	1	1	0.0	0	Unable to inspect NC
13	A-B	1	1	0.0	0	NC
	B-C	1	1	0.0	0	NC
	C-D	1	1	0.0	0	Unable to inspect NC
	D-E	1	1	0.0	0	Unable to inspect NC
14	A-B	2	2	2.0	2	NC
	B-C	1	1	0.0	0	NC
	C-D	0	0	0.0	0	NC
	D-E	0	0	0.0	0	NC
15	A-B	4	4	5.0	5	Exposed and significantly coroded rebar
	B-C	1	1	0.0	0	NC
	C-D	0	0	0.0	0	NC
	D-E	0	0	0.0	0	NC
16	A-B	3	3→4	5.0	5	Exposed and significantly coroded rebar
	B-C	1	1	0.0	0	NC
	C-D	0	0	0.0	0	NC
	D-E	0	0	0.0	0	NC
17	A-B	3	3	5.0	5	NC
	B-C	1	1	0.0	0	NC
	C-D	0	0	0.0	0	NC
	D-E	0	0	0.0	0	NC
18	A-B	3	3→4	5.0	5	Exposed and significantly coroded rebar
	B-C	1	1	0.0	0	NC
	C-D	0	0	0.0	0	NC
	D-E	0	0	0.0	0	NC

Condition Survey Schedule
Flixborough Wharf - Jetty 2018

Condition

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Change since 2017

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Bay	Grid Area	Condition 2017	Condition 2018	Area to repair 2017	Area to repair 2018	Notes (2018 notes in Red) NC = No change
Perpendicular Beams: Main Slab						
19	A-B	3	3	5.0	5	NC
	B-C	1	1	0.0	0	NC
	C-D	0	0	0.0	0	NC
	D-E	0	0	0.0	0	NC
20	A-B	3	3	5.0	5	NC
	B-C	2	2	2.0	2	NC
	C-D	0	0	0.0	0	NC
	D-E	0	0	0.0	0	NC
21	A-B	4	4	5.0	5	Exposed and significantly coroded rebar witrh links failing
	B-C	2	2	1.0	1	NC
	C-D	0	0	0.0	0	NC
	D-E	0	0	0.0	0	NC
22	A-B	2	2	1.0	1	NC (Typo correction to 2017 report)
	B-C	1	1	0.0	0	NC
	C-D	0	0	0.0	0	NC
	D-E	0	0	0.0	0	NC
23	A-B	3	3	5.0	5	Significant spalling to side of beam
	B-C	1	1	0.0	0	NC
	C-D	0	0	0.0	0	NC
	D-E	0	0	0.0	0	NC
24	A-B	3	3	5.0	5	NC
	B-C	2	2	2.0	2	NC
	C-D	0	0	0.0	0	NC
	D-E	0	0	0.0	0	NC
25	A-B	3	3	5.0	5	Exposed rebar
	B-C	2	2	2.0	2	NC
	C-D	0	0	0.0	0	NC
	D-E	0	0	0.0	0	NC
26	A-B	3	3	5.0	5	Exposed rebar
	B-C	2	2	2.0	2	NC
	C-D	0	0	0.0	0	NC
	D-E	0	0	0.0	0	NC
27	A-B	3	3	5.0	5	Exposed & corroded rebar
	B-C	2	2	2.0	2	NC
	C-D	0	0	0.0	0	NC
	D-E	0	0	0.0	0	NC
28	A-B	3	3	5.0	5	Exposed rebar & spalling to soffit
	B-C	2	2	2.0	2	NC
	C-D	0	0	0.0	0	NC
	D-E	0	0	0.0	0	NC
29	A-B	3	3	5.0	5	Exposed & corroded rebar
	B-C	2	2	2.0	2	NC
	C-D	0	0	0.0	0	NC
	D-E	0	0	0.0	0	NC

Condition Survey Schedule
Flixborough Wharf - Jetty 2018

Condition

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No Change since 2017

Change since 2017

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Bay	Grid Area	Condition 2017	Condition 2018	Area to repair 2017	Area to repair 2018	Notes (2018 notes in Red) NC = No change
Perpendicular Beams: Main Slab						
30	A-B	3	3	5.0	5	Previous repair cracking & exposed rebar
	B-C	2	2	2.0	2	NC
	C-D	0	0	0.0	0	NC
	D-E	0	0	0.0	0	NC
31	A-B	1	1	0.0	0	NC
	B-C	1	1	0.0	0	NC
	C-D	0	0	0.0	0	NC
	D-E	0	0	0.0	0	NC
32	A-B	1	1	0.0	0	NC
	B-C	1	1	0.0	0	NC
	C-D	0	0	0.0	0	NC
	D-E	0	0	0.0	0	NC
33	A-B	3	3	5.0	5	Exposed rebar
	B-C	2	2	2.0	2	NC
	C-D	0	0	0.0	0	NC
	D-E	0	0	0.0	0	NC
34	A-B	2	2	2.0	2	Previous repair cracking & exposed rebar
	B-C	1	1	0.0	0	NC
	C-D	0	0	0.0	0	NC
	D-E	0	0	0.0	0	NC
35	A-B	2	2	1.0	1	NC
	B-C	2	2	2.0	2	NC
	C-D	0	0	0.0	0	NC
	D-E	0	0	0.0	0	NC
36	A-B	4	4	5.0	5	Complete loss of cover & section loss
	B-C	3	3	5.0	5	NC
	C-D	0	0	0.0	0	NC
	D-E	0	0	0.0	0	NC
37	A-B	2	2	1.0	1	NC
	B-C	2	2	2.0	2	NC
	C-D	0	0	0.0	0	NC
	D-E	0	0	0.0	0	NC
38	A-B	3	3	5.0	5	Spalling & cracking to beam sides
	B-C	2	2	1.0	1	NC
	C-D	0	0	0.0	0	NC
	D-E	0	0	0.0	0	NC
39	A-B	4	4	5.0	5	Exposed reber and major loss of section performance
	B-C	2	2	1.0	1	NC
	C-D	0	0	0.0	0	NC
	D-E	0	0	0.0	0	NC
40	A-B	3	3	5.0	5	Exposed reber and major loss of section performance
	B-C	1	1	0.0	0	NC
	C-D	0	0	0.0	0	NC
	D-E	0	0	0.0	0	NC

Condition Survey Schedule
Flixborough Wharf - Jetty 2018

Condition

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Perpendicular Beams: Main Slab						
41	A-B	2	3	2.0	3	Water penetration obs Exposed rebar and side cover cracking
	B-C	2	2	2.0	2	NC
	C-D	0	0	0.0	0	NC
	D-E	0	0	0.0	0	NC
42	A-B	2	2	2.0	2	Exposed rebar
	B-C	1	1	0.0	0	Previous spray concrete repair NC
	C-D	0	0	0.0	0	NC
	D-E	0	0	0.0	0	NC
43	A-B	1	1	0.0	0	NC
	B-C	1	1	0.0	0	NC
	C-D	0	0	0.0	0	NC
	D-E	0	0	0.0	0	NC
44	A-B	1	1	0.0	0	NC
	B-C	1	1	0.0	0	NC
	C-D	0	0	0.0	0	NC
	D-E	0	0	0.0	0	NC
45	A-B	3	3	5.0	5	Exposed & corroded rebar
	B-C	2	2	2.0	2	NC
	C-D	0	0	0.0	0	NC
	D-E	0	0	0.0	0	NC
46	A-B	3	3	5.0	5	Exposed & corroded rebar
	B-C	2	2	2.0	2	NC
	C-D	0	0	0.0	0	NC
	D-E	0	0	0.0	0	NC
47	A-B	3	3	5.0	5	Exposed & corroded rebar
	B-C	1	1	0.0	0	NC
	C-D	0	0	0.0	0	NC
	D-E	0	0	0.0	0	NC
48	A-B	2	2	2.0	2	Exposed & corroded rebar
	B-C	2	2	2.0	2	NC
	C-D	0	0	0.0	0	NC
	D-E	0	0	0.0	0	NC
49	A-B	2	2	3.0	3	Exposed & corroded rebar - section loss on beam
	B-C	2	2	1.0	1	NC
	C-D	0	0	0.0	0	NC
	D-E	0	0	0.0	0	NC
50	A-B	2	2	3.0	3	Exposed rebar
	B-C	2	2	1.0	1	NC
	C-D	2	2	1.0	1	NC
	D-E	0	0	0.0	0	NC
51	B-C	2	2	1.0	1	NC
	C-D	2	2	1.0	1	NC
	D-E	0	0	0.0	0	NC

Condition Survey Schedule
Flixborough Wharf - Jetty 2018

Condition

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Change since 2017

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Bay	Grid Area	Condition 2017	Condition 2018	Area to repair 2017	Area to repair 2018	Notes (2018 notes in Red) NC = No change
Perpendicular Beams: Main Slab						
52	B-C	2	2	1.0	1	NC
	C-D	2	2	1.0	1	NC
	D-E	0	0	0.0	0	NC
53	B-C	2	2	1.0	1	NC
	C-D	0	0	0.0	0	NC
	D-E	0	0	0.0	0	NC
54	B-C	2	2	1.0	1	NC
	C-D	2	2	1.0	1	Visibility restricted. NC
	D-E	0	0	0.0	0	NC
55	C-D	1	1	1.0	1	Visibility restricted. NC
	D-E	0	0	0.0	0	NC
56	C-D	1	1	1.0	1	Visibility restricted. NC
	D-E	0	0	0.0	0	NC
57	C-D	1	1	1.0	1	Visibility restricted. NC
	D-E	0	0	0.0	0	NC
58	C-D	1	1	1.0	1	Visibility restricted. NC
	D-E	0	0	0.0	0	NC
59	C-D	1	1	1.0	1	Visibility restricted. NC
	D-E	0	0	0.0	0	NC
				187.0m	**188.0m**	Additional 1.0m^2 repairs required since 2017 survey

Perpendicular Beams: Southern Extension						
51	A-B	1	1	0.0	0	NC
52	A-B	1	1	0.0	0	NC
53	A-B	1	1	0.0	0	NC
54	A-B	1	1	0.0	0	NC
55	A-B	1	1	0.0	0	NC
				0.0m	**0.0m**	No additional repairs required since 2017 survey

Condition Survey Schedule **19/9/18**

Gunness Wharf - Main Jetty 2018

Condition

0 Unable to inspect
1 No work required
2 Repairs required
3 Extensive repairs required
4 Replacement required

No Change since 2017

Change since 2017

Please note that the extent of repairs scheduled below are based on observations from the berthing face rather than actual measurements and as such are intended to provide an order of magnitude assessment of the overal scale of repairs required and not a precriptive schedule for individual member repair.

Bay	Grid Area	Condition 2017	Condition 2018	Area to repair 2017	Area to repair 2018	Notes (2018 notes in Red) NC = No change
Jetty Deck: Main Slab						
A-B	1-2	1	2	0.0	1.0	4 new areas of spalling
	2-3	1	2	0.0	1.0	2 new areas of spalling
	3-4	2	2	0.5	0.5	NC
	4-5	2	2	1.0	1.0	NC
	5-6	2	2	1.5	1.5	Spalling developing
	6-7	0	0	0.0	0.0	Timber formwork obscuring view NC
	7-8	2	2	2.5	3.0	Area increasing
	8-9	2	2	3.5	3.5	Water penetration seen NC
	9-10	2	2	1.5	1.5	Water penetration seen NC
	10-11	3	3	3.0	3.0	Steel delamination seen along gridline 10 NC
	11-12	3	3	1.5	1.5	Steel delamination seen along gridline 11 NC
B-E	2-3	1	2	0.0	0.5	New spall
	3-4	2	2	0.5	0.5	NC
	4-5	2	2	2.0	2.0	NC
	5-6	2	2	2.0	2.0	Spalled concrete alongside gridline 6 NC
	6-7	1	1	0.0	0.0	NC
	7-8	2	2	4.0	4.0	Extensive spalled concrete alongside gridline E NC
	8-9	2	2	2.0	2.0	NC
E-F	2-3	1	2	0.0	0.5	New spall in bankseat backspan
	3-4	1	1	0.0	0.0	NC
	4-5	2	2	4.0	4.0	Extensive spalled concrete alongside gridline E NC
	5-6	1	2	0.0	1.0	New cracking along GL 6
	6-7	2	2	0.5	0.5	NC
	7-8	1	2	0.0	0.5	New spall
	8-9	2	2	4.0	4.0	Spalled concrete alongside gridline 9 NC
			34.0m²		**39.0m²**	Additional 5.0m² repairs required since 2017 survey

Jetty Deck: Infill Slab						
C-D	9a-10a	1	1	0.0	0.0	NC
	10a-11a	1	1	0.0	0.0	NC
	11a-12a	1	1	0.0	0.0	NC
D-F	9a-10a	1	1	0.0	0.0	NC
	10a-11a	1	1	0.0	0.0	NC
	11a-12a	1	1	0.0	0.0	NC
	12a-13	1	1	0.0	0.0	NC
			0.0m²		**0.0m²**	No change since 2017 survey

Condition Survey Schedule

19/9/18

Gunness Wharf - Main Jetty 2018

Condition

0 Unable to inspect
1 No work required
2 Repairs required
3 Extensive repairs required
4 Replacement required

No Change since 2017

Change since 2017

Please note that the extent of repairs scheduled below are based on observations from the berthing face rather than actual measurements and as such are intended to provide an order of magnitude assessment of the overal scale of repairs required and not a precriptive schedule for individual member repair.

Bay	Grid Area	Condition 2017	Condition 2018	Area to repair 2017	Area to repair 2018	Notes (2018 notes in Red) NC = No change
Parallel Beams: Main Slab						
A	1-2	2	2	1.0	1.0	Beam has previously been repaired NC
	2-3	2	2	1.0	1.0	Beam has previously been repaired NC
	3-4	1	1	0.0	0.0	Beam has previously been repaired NC
	4-5	1	1	0.0	0.0	Beam has previously been repaired NC
	5-6	1	1	0.0	0.0	Beam has previously been repaired NC
	6-7	1	1	0.0	0.0	Beam has previously been repaired NC
	7-8	1	1	0.0	0.0	Beam has previously been repaired NC
	8-9	1	1	0.0	0.0	Beam has previously been repaired NC
	9-10	2	2	2.0	2.0	Beam has prev been repaired, loose sections - piece hanging
	10-11	1	1	0.0	0.0	Beam has previously been repaired NC
	11-12	2	2	3.0	3.0	Beam has previously been repaired NC
B	1-2	1	1	0.0	0.0	NC
	2-3	2	2	1.0	1.0	NC
	3-4	2	2	1.0	1.0	Beam has previously been repaired NC
	4-5	2	2	1.0	1.0	Beam has previously been repaired NC
	5-6	1	1	0.0	0.0	Beam has previously been repaired NC
	6-7	2	2	2.0	2.0	NC
	7-8	2	2	2.0	2.5	Exposed rebar Further delamination to soffit
	8-9	2	2	2.0	2.0	Local repair to pile head Exposed rebar
	9-10	2	2	0.5	0.5	Cracking and water staining NC
	10-11	2	2	0.5	0.5	Cracking and water staining NC
	11-12	2	2	0.5	0.5	Cracking and corrosion staining NC
E	2-3	1	1	0.0	0.0	Beam has previously been repaired NC
	3-4	1	1	0.0	0.0	Beam has previously been repaired NC
	4-5	1	1	0.0	0.0	Beam has previously been repaired NC
	5-6	1	1	0.0	0.0	Beam has previously been repaired Water staining
	6-7	2	2	1.0	1.0	Water penetration seen NC
	7-8	2	2	3.0	3.0	Beam has prev repair, overcoat in poor condition NC
	8-9	1	1	0.0	0.0	Beam has previously been repaired NC
F	4-5	1	2	0.0	0.5	Exposed link
	5-6	1	2	0.0	0.5	Cracking to soffit
	6-7	1	1	0.0	0.0	NC
	7-8	2	2	3.0	3.0	Beam has prev repair, overcoat in poor condition NC
	8-9	2	2	1.0	1.0	Exposed rebar
				25.5m	**27.0m**	Additional 2.0m^2 repairs required since 2017 survey

Condition Survey Schedule

19/9/18

Gunness Wharf - Main Jetty 2018

Condition

0 Unable to inspect
1 No work required
2 Repairs required
3 Extensive repairs required
4 Replacement required

No Change since 2017

Change since 2017

Please note that the extent of repairs scheduled below are based on observations from the berthing face rather than actual measurements and as such are intended to provide an order of magnitude assessment of the overal scale of repairs required and not a precriptive schedule for individual member repair.

Bay	Grid Area	Condition 2017	Condition 2018	Area to repair 2017	Area to repair 2018	Notes (2018 notes in Red) NC = No change
Parallel Beams: Infill Slab						
Bay	**Grid Area**	**Condition**		**Repair Length**		**Notes**
C	9a-10a	1	1	0.0	0.0	NC
	10a-11a	1	1	0.0	0.0	NC
	11a-12a	1	1	0.0	0.0	NC
D	9a-10a	1	1	0.0	0.0	NC
	10a-11a	1	1	0.0	0.0	NC
	11a-12a	1	1	0.0	0.0	NC
	12a-13	1	1	0.0	0.0	NC
F	9a-10a	1	1	0.0	0.0	NC
	10a-11a	1	1	0.0	0.0	NC
	11a-12a	1	1	0.0	0.0	NC
	12a-13	1	1	0.0	0.0	NC
				0.0m	**0.0m**	No change since 2017 survey
Perpendicular Beams: Main Slab						
Bay	**Grid Area**	**Condition**		**Repair Length**		**Notes**
1	A-B	1	1	0.0	0.0	NC
2	B-E	1	1	0.0	0.0	NC
3	E	1	1	0.0	0.0	NC
4	E-F	1	2	0.0	0.5	New spalling to bottom corner
5	A-B	1	1	0.0	0.0	NC
	B-E	1	1	0.0	0.0	NC
	E-F	1	2	0.0	0.5	New spalling to bottom corner
6	A-B	2	2	1.0	1.0	Exposed rebar
	B-E	1	1	0.0	0.0	NC
	E-F	1	1	0.0	0.0	NC
7	A-B	1	1	0.0	0.0	NC
	B-E	3	3	3.0	3.0	Extensive cracking and spalling to either side of beam NC
	E-F	1	1	0.0	0.0	NC
9	B-E	1	1	0.0	0.0	Beam has previously been repaired NC
	E-F	1	1	0.0	0.0	Beam has previously been repaired NC
12	A-B	2	2	2.0	2.0	NC
				4.0m	**5.0m**	Additional 1.0m^2 repairs required since 2017 survey

Condition Survey Schedule
Gunness Wharf - Main Jetty 2018

Condition

0 Unable to inspect
1 No work required
2 Repairs required
3 Extensive repairs required
4 Replacement required

No Change since 2017

Change since 2017

Please note that the extent of repairs scheduled below are based on observations from the berthing face rather than actual measurements and as such are intended to provide an order of magnitude assessment of the overal scale of repairs required and not a precriptive schedule for individual member repair.

Bay	Grid Area	Condition 2017	Condition 2018	Area to repair 2017	Area to repair 2018	Notes (2018 notes in Red) NC = No change
Perpendicular Beams: Infill Slab						
Bay	**Grid Area**	**Condition**		**Repair Length**		**Notes**
9a	C-D	1	1	0.0	0.0	NC
	D-F	1	1	0.0	0.0	NC
10a	C-D	1	1	0.0	0.0	NC
	D-F	1	1	0.0	0.0	NC
11a	C-D	1	1	0.0	0.0	NC
	D-F	1	1	0.0	0.0	NC
12a	C-D	1	1	0.0	0.0	NC - Formwork hanging adjacent to pile 12aD
	D-F	1	1	0.0	0.0	NC
13	C-D	1	1	0.0	0.0	NC
	D-F	2	2	0.5	0.5	NC - Fractured corner at 13F
				0.5m	**0.5m**	No change since 2017 survey

Condition Survey Schedule

19/9/18

Gunness Wharf - Fina Oil Jetty 2018

Condition

0 Unable to inspect
1 No work required
2 Repairs required
3 Extensive repairs required
4 Replacement required

No Change since 2017

Change since 2017

Please note that the extent of repairs scheduled below are based on observations from the berthing face rather than actual measurements and as such are intended to provide an order of magnitude assessment of the overal scale of repairs required and not a precriptive schedule for individual member repair.

Bay	Grid Area	Condition 2017	Condition 2018	Area to repair 2017	Area to repair 2018	Notes (2018 notes in Red) NC = No change
Jetty Deck: Zone A						
A-B	1-2	1	1	0.0	0.0	NC Loose timber around piles
	2-3	2	2	1.0	1.0	Repair around heads of remedial piles NC
	3-4	0	0	0.0	0.0	Infill section of slab, obscured by formwork NC
	4-5	2	2	0.5	0.5	NC
	5-6	0	0	0.0	0.0	Infill section of slab, obscured by formwork NC
	6-7	2	2	1.0	1.0	NC
	7-8	1	1	0.0	0.0	NC
B-C	1-2	1	1	0.0	0.0	NC
	2-3	2	2	0.5	0.5	NC
	3-4	0	0	0.0	0.0	Infill section of slab, obscured by formwork NC
	4-5	2	2	1.0	1.0	Repair around heads of remedial piles NC
	5-6	0	0	0.0	0.0	Infill section of slab, obscured by formwork NC
	6-7	2	2	1.0	1.0	NC
	7-8	1	1	0.0	0.0	NC
D-E	4-5	1	1	0.0	0.0	NC
E-F	4-5	2	2	0.5	0.5	Repair around heads of remedial piles NC
F-G	4-5	1	1	0.0	0.0	NC
G-H	4-5	1	1	0.0	0.0	NC
				5.5m²	**5.5m²**	No change since 2017 survey
Jetty Deck: Zone B						
D-F	1-2a	2	2	1.0	1.0	NC 2 Spalled areas
	2a-3a	2	2	1.0	1.0	NC Spalling to overhang beyond GL4a
	5a-6a	2	2	1.0	1.0	NC
	6a-8a	1	1	0.0	0.0	NC
				3.0m²	**3.0m²**	No change since 2017 survey
Jetty Deck: Zone C						
A-C	9-10	1	1	0.0	0.0	NC
	10-11	2	2	0.5	0.5	NC Exposed rebar
	11-12	2	2	1.0	1.0	NC
C-E	9-10	1	1	0.0	0.0	NC
	10-11	2	2	0.5	0.5	NC Exposed rebar
	11-12	2	2	1.0	1.0	NC
				3.0m²	**3.0m²**	No change since 2017 survey
Jetty Deck: Zone D						
F-G	11-12	1	1	0.0	0.0	NC
G-H	11-12	1	1	0.0	0.0	NC
				0.0m²	**0.0m²**	No change since 2017 survey

Condition Survey Schedule
Gunness Wharf - Fina Oil Jetty 2018

Condition

0 Unable to inspect
1 No work required
2 Repairs required
3 Extensive repairs required
4 Replacement required

No Change since 2017

Change since 2017

Please note that the extent of repairs scheduled below are based on observations from the berthing face rather than actual measurements and as such are intended to provide an order of magnitude assessment of the overal scale of repairs required and not a precriptive schedule for individual member repair.

Bay	Grid Area	Condition 2017	Condition 2018	Area to repair 2017	Area to repair 2018	Notes (2018 notes in Red) NC = No change
Jetty Deck: Zone E						
F-G	9-10	2	2	1.0	1.0	Cracking along gridline G NC
	10-11	2	2	1.0	1.0	Cracking along gridline G NC
G-H	9-10	2	2	1.0	1.0	Cracking along gridline G NC
	10-11	2	2	1.0	1.0	Cracking along gridline G NC
				4.0m²	**4.0m²**	No change since 2017 survey
Parallel Beams: Zone A						
A	1-2	2	2	2.0	2.0	NC
	2-3	1	1	0.0	0.0	NC
	4-5	1	1	0.0	0.0	NC
	6-7	1	1	0.0	0.0	NC
	7-8	1	1	0.0	0.0	NC
B	1-2	1	1	0.0	0.0	NC
	2-3	1	1	0.0	0.0	NC
	4-5	1	1	0.0	0.0	NC
	6-7	1	1	0.0	0.0	NC
	7-8	1	1	0.0	0.0	NC
		1				
C	1-2	1	1	0.0	0.0	NC
	2-3	1	1	0.0	0.0	NC
	4-5	1	1	0.0	0.0	NC
	6-7	1	1	0.0	0.0	NC
	7-8	1	1	0.0	0.0	NC
D	4-5	1	1	0.0	0.0	NC
E	4-5	1	1	0.0	0.0	NC
F	4-5	1	1	0.0	0.0	NC
G	4-5	1	1	0.0	0.0	NC
H	4-5	1	1	0.0	0.0	NC
				2.0m²	**2.0m²**	No change since 2017 survey
Parallel Beams: Zone B						
D	1-2a	1	1	0.0	0.0	NC
	2a-3a	1	1	0.0	0.0	NC
	5a-6a	1	1	0.0	0.0	NC
	6a-8a	1	1	0.0	0.0	NC
F	1-2a	1	1	0.0	0.0	NC
	2a-3a	1	1	0.0	0.0	NC
	5a-6a	1	1	0.0	0.0	NC
	6a-8a	1	1	0.0	0.0	NC
				0.0m²	**0.0m²**	No change since 2017 survey

Condition Survey Schedule
Gunness Wharf - Fina Oil Jetty 2018

Condition

0 Unable to inspect
1 No work required
2 Repairs required
3 Extensive repairs required
4 Replacement required

No Change since 2017

Change since 2017

Please note that the extent of repairs scheduled below are based on observations from the berthing face rather than actual measurements and as such are intended to provide an order of magnitude assessment of the overal scale of repairs required and not a precriptive schedule for individual member repair.

Bay	Grid Area	Condition 2017	Condition 2018	Area to repair 2017	Area to repair 2018	Notes (2018 notes in Red) NC = No change
Parallel Beams: Zone C						
Bay	Grid Area	Condition		Repair Length		Notes
A	9-10	3	3	4.6	4.6	Crack running full length, potential delamination to rebar NC
	10-11	3	3	4.6	4.6	Crack running full length, potential delamination to rebar NC
	11-12	3	3	4.6	4.6	Crack running full length, delamination to rebar
C	9-10	2	2	2.0	2.0	NC
	10-11	2	2	2.0	2.0	NC
	11-12	3	3	2.0	2.0	Crack at midspan indicating possible early signs of weakness NC
E	9-10	2	2	2.0	2.0	NC
	10-11	2	2	2.0	2.0	NC
	11-12	2	2	1.0	1.0	NC
				24.8m²	**24.8m²**	No change since 2017 survey

Parallel Beams: Zone D						
Bay	Grid Area	Condition	Repair Length			Notes
F	11-12	2	2	2.0	2.0	NC
G	11-12	2	2	2.0	2.0	NC
H	11-12	2	2	2.0	2.0	NC
				6.0m²	**6.0m²**	No change since 2017 survey

Parallel Beams: Zone E

No beams present

Condition Survey Schedule
Gunness Wharf - Fina Oil Jetty 2018

Condition

0 Unable to inspect
1 No work required
2 Repairs required
3 Extensive repairs required
4 Replacement required

No Change since 2017

Change since 2017

Please note that the extent of repairs scheduled below are based on observations from the berthing face rather than actual measurements and as such are intended to provide an order of magnitude assessment of the overal scale of repairs required and not a precriptive schedule for individual member repair.

Bay	Grid Area	Condition 2017	Condition 2018	Area to repair 2017	Area to repair 2018	Notes (2018 notes in Red) NC = No change
Perpendicular Beams: Zone A						
1	A-B	1	1	0.0	0.0	NC
	B-C	1	1	0.0	0.0	NC
2	A-B	1	1	0.0	0.0	NC
	B-C	1	1	0.0	0.0	NC
3	A-B	2	2	0.5	0.5	NC
	B-C	2	2	1.0	1.0	NC
4	A-B	1	1	0.0	0.0	NC
	B-C	1	1	0.0	0.0	NC
	D-E	1	1	0.0	0.0	NC
	E-F	2	2	1.0	1.0	NC
	F-G	1	1	0.0	0.0	NC
	G-H	1	1	0.0	0.0	NC
5	A-B	1	1	0.0	0.0	NC
	B-C	1	1	0.0	0.0	NC
	D-E	1	1	0.0	0.0	NC
	E-F	1	1	0.0	0.0	NC
	F-G	1	1	0.0	0.0	NC
	G-H	1	1	0.0	0.0	NC
6	A-B	2	2	0.5	0.5	NC Spalling around pile head
	B-C	1	1	0.0	0.0	NC
7	A-B	1	1	0.0	0.0	NC
	B-C	1	1	0.0	0.0	NC
8	A-B	2	2	2.0	2.0	NC
	B-C	2	2	1.0	1.0	NC Spalling to bottom corner of beam
9	A-B	1	1	0.0	0.0	NC
	B-C	1	1	0.0	0.0	NC
				6.0m	**6.0m**	No change since 2017 survey
Perpendicular Beams: Zone B						
1	D-F	1	1	0.0	0.0	NC
2a	D-F	1	1	0.0	0.0	NC
3a	D-F	1	1	0.0	0.0	NC
5a	D-F	2	2	2.0	2.0	NC Damage around pile head & spalling to beam soffit
6a	D-F	1	1	0.0	0.0	NC
8a	D-F	1	1	0.0	0.0	NC
				2.0m	**2.0m**	No change since 2017 survey

Condition Survey Schedule

19/9/18

Gunness Wharf - Fina Oil Jetty 2018

Condition

0 Unable to inspect
1 No work required
2 Repairs required
3 Extensive repairs required
4 Replacement required

No Change since 2017

Change since 2017

Please note that the extent of repairs scheduled below are based on observations from the berthing face rather than actual measurements and as such are intended to provide an order of magnitude assessment of the overal scale of repairs required and not a precriptive schedule for individual member repair.

Bay	Grid Area	Condition 2017	Condition 2018	Area to repair 2017	Area to repair 2018	Notes (2018 notes in Red) NC = No change
Perpendicular Beams: Zone C						
9	A-C	3	3	4.8	4.8	Extensive cracking and spalling to underside NC
	C-E	3	3	4.8	4.8	NC Spalling to soffit
10	A-C	2	2	1.0	1.0	NC
	C-E	2	2	1.0	1.0	NC
11	A-C	2	2	1.0	1.0	NC
	C-E	2	2	1.0	1.0	NC
12	A-C	4	4	4.8	4.8	Extensive cracking and spalling to underside NC
	C-E	4	4	4.8	4.8	NC
				23.2m	**23.2m**	No change since 2017 survey
Perpendicular Beams: Zone D						
11	F-G	2	2	1.0	1.0	NC
	G-H	2	2	1.0	1.0	NC
12	F-G	2	2	1.0	1.0	NC
	G-H	2	2	1.0	1.0	NC
				4.0m	**4.0m**	No change since 2017 survey
Perpendicular Beams: Zone E						
No beams present						
Timber Piles: Zone A						
A	1	3	3	30%	30.0	NC
	2	3	3	20%	20.0	NC
	3	3	3	15%	15.0	NC
	4	4	4	60%	60.0	NC
	5	4	4	60%	60.0	NC
	6	3	3	30%	30.0	NC
	7	4	4	60%	60.0	NC
	8	3	3	30%	30.0	NC

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Our Services

BIM Processes
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Boundary Disputes
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Building Regulations Applications
Building & Structural Surveyors
CDM – Principal Designer
Civil Engineering
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Demolition
Disabled Access Consultants
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Expert Witness Services
Form Finding
Flood Risk Assessments
Foundation Design
Geo-technical Investigations & Design
Geo-environmental Investigations
Historic Building Services
Highway Design
Land Remediation Advice
Land Surveying
Marine Works
Mining Investigations
Modular Design
Parametric Modelling
Party Wall Surveyors
Planning Applications
Project Managers
Renewable Energy
Risk Assessments & Remediation
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Site Investigations
Site Supervision
Structural Engineering
Sulphate Attack Specialists
Temporary Works
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Certificate no. GB.02/07

Environmental Accreditation
ISO 14001Registered firm
Certificate no. GB.09/277b

Alan Wood & Partners