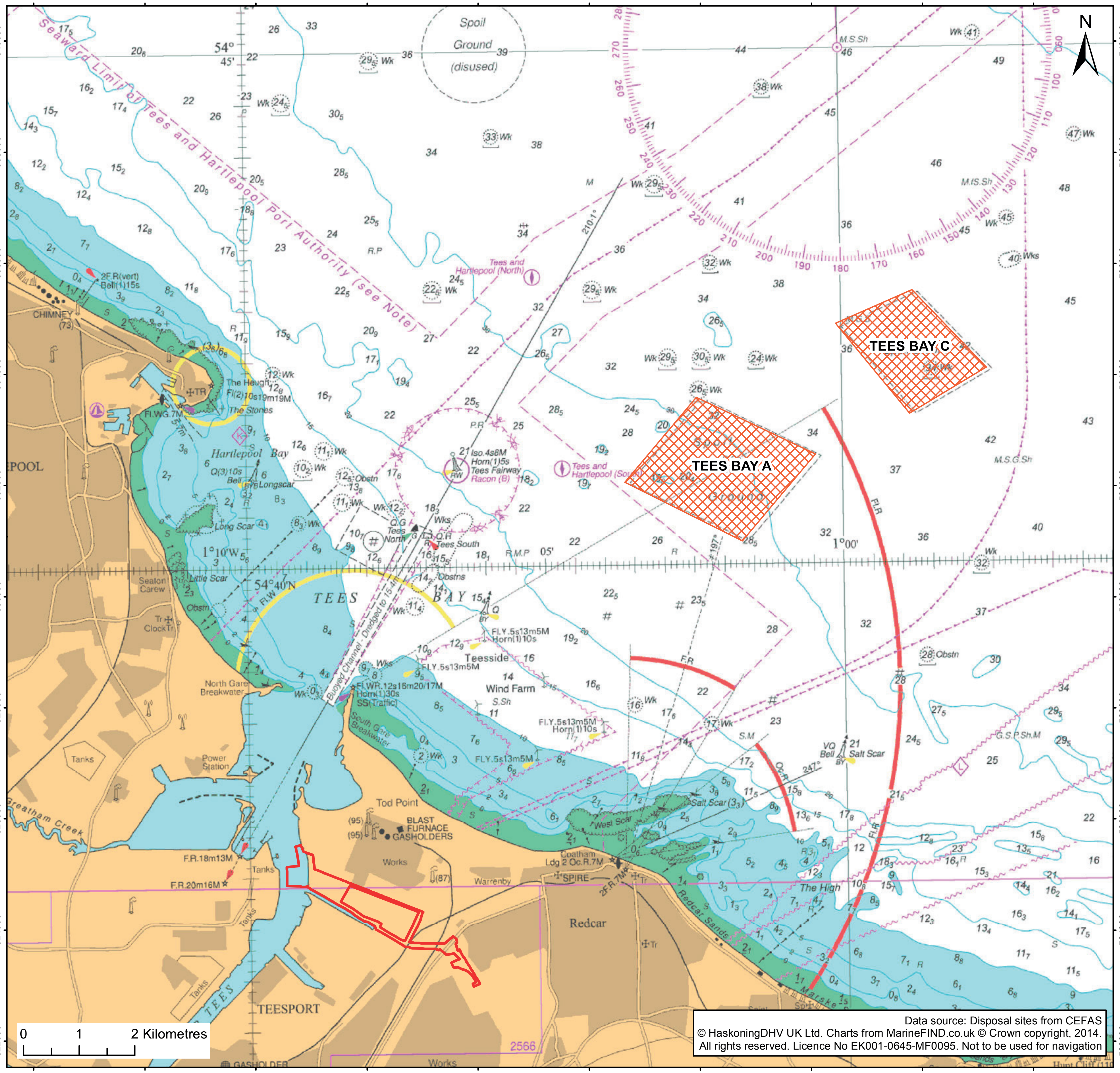

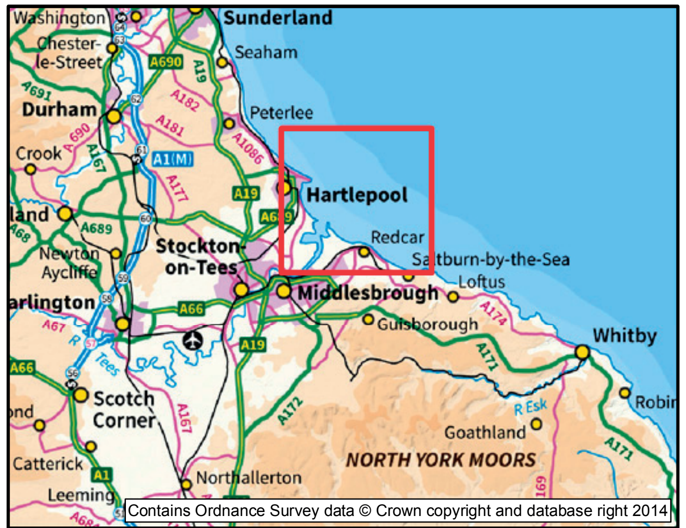

Legend:

- DCO Order Limits
- Licensed Offshore Disposal Sites

DCO Order Limits as of 24/02/15

Client:	Project:
York Potash Limited	York Potash Project Harbour Facilities

Title:

Environmental Statement: Offshore Disposal Sites

Part:	Figure:	Drawing No:
HF	3.1	9Y0989-HF-3-001

Rev:	Date:	Drawn:	Checked:	Size:	Scale:
1	04/03/2015	LB	SR	A3	1:70,000
0	09/12/2014	LB	SR	A3	1:70,000

Co-ordinate system: British National Grid

Royal HaskoningDHV
Enhancing Society Together
ROYAL HASKONINGDHV
INDUSTRY, ENERGY & MINING
RIGHTWELL HOUSE
BRETTON
PETERBOROUGH
PE3 8DW
+44 (0)1733 33 44 55
www.royalhaskoningdhv.com

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Habitat enhancement in Bran Sands lagoon

3.1.54 As part of the scheme, habitat enhancement is proposed within Bran Sands lagoon using capital and maintenance dredged material to create shallow water areas, intertidal margins and islands. The objectives of the proposals are to mitigate for the loss of intertidal foreshore due to the construction of the port terminal and to enhance waterbird feeding, roosting and nesting opportunities within Bran Sands lagoon. The proposed use of dredged material to create the habitat enhancement proposals is described above.

3.1.55 It is proposed that the level of the new shallows would be designed so that a maximum of 30cm water depth is present above the placed dredged material. The placement would have a very gradual profile in order to maximise the intertidal fringe. The objective of the shallows is to enable waders to feed across the area throughout the tidal cycle in the intertidal fringe and shallow water areas.

3.1.56 The islands would be designed to be exposed above the water level within the lagoon at all times. The side slopes of the islands would be determined by the properties of the dredged material, with the islands having a generally flat, level surface but with undulations formed by placement of sands and gravels on their surface.

3.1.57 The existing pipe that connects the lagoon with the Tees estuary would be replaced with a new pipe, with a flow control structure, during the construction of the port terminal. The aim of the control structure would be to maintain the current range of water levels experienced.

3.1.58 Depending on the form that the structure takes and the valve mechanism used, the invert level may be slightly different from that that exists at present. However, the range of water levels would remain consistent and close to those currently experienced, and the nature of water exchange between the lagoon and the Tees estuary would not change (so as not alter the ground water regime currently experienced within Bran Sands landfill). No active control of water levels is proposed; however, the lagoon would be able to be temporarily isolated from the Tees in the event of a pollution incident, for example.

3.1.59 At a meeting on 5 February 2015 with Natural England, the MMO, Cefas and the Environment Agency, it was agreed that having the ability to adjust water levels in the lagoon in the future would be desirable and would provide flexibility in future management. For example, increasing tidal exchange could provide further conservation benefit through increasing food supply and invertebrate colonisation of the new shallows. It is proposed, therefore, that a second flow control structure would be constructed when the existing pipe is replaced. This would not be operational initially, but could become active should this be desirable in the future and if the monitoring demonstrates that alteration of the water level regime would be acceptable (and the limits thereof).

3.1.60 The predicted impact of the habitat enhancement proposals (in terms of the potential ecological effect) is discussed in **Section 9**. **Section 6** discusses the implications of the proposals in the context of the functioning of the Bran Sands landfill.

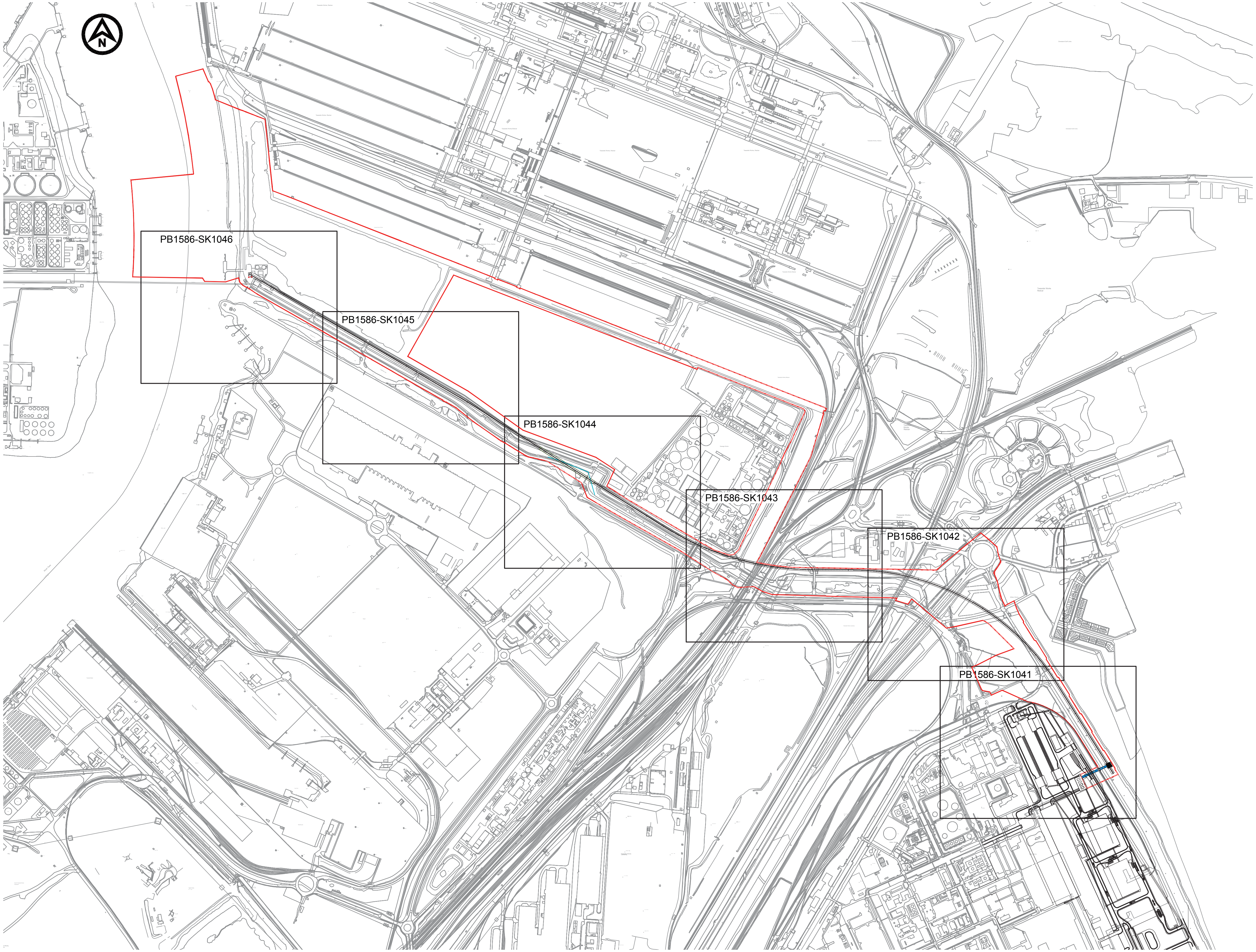
Revetment along river embankment

3.1.61 The open quay structure would require the installation of a revetment on the re-graded slope. The extent of intertidal area that would be affected by the revetment has been minimised to that required to create a stable slope. A revetment would not be required for the solid quay structure option.

Conveyor system

3.1.62 This ES assesses the potential environmental impacts that would arise from the installation of a conveyor system within a conveyor route envelope from the MHF to the port terminal (as shown on **Drawings PB1586-SK1040** to **PB1586-SK1046** (southern conveyor route) and **Drawings PB1586-SK490** to **PB1586-SK497** (northern conveyor route). These drawings also illustrate the locations of the Major Crossings (MCs) and locations of the proposed open and oval enclosed sections of conveyor along the northern and southern routes. They also show the envelope within which the conveyor will be located. **Drawings PB1586-SK420** and **PB1586-SK421** show the vertical limits of deviation of the conveyor route options. Photographic illustrations of the conveyor are shown in **Drawing 2334.P01** to **2334.P04**.

DRG No. PB1586-SK1040



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SOUTHERN ROUTE - KEY PLAN
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HASKONINGDHV UK LTD
MARITIME & WATERWAYS
Marlborough House
Marlborough Crescent
Newcastle upon Tyne NE1 4EE
+44 (0) 191 211 1300 Telephone
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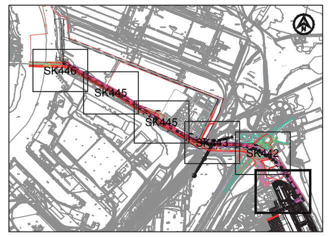
DRG No. PB1586-SK1041

NOTES

MAJOR CROSSINGS

MC 0 : Eastern Boundary Road - Pass over in bridge
MC 1 : Highway A1085 - Pass over in bridge
MC 2 : YPL 1st access road - Pass over in bridge
MC 3 : Hot metal rail - Pass over in bridge
MC 4 : NWL 2nd access road - Pass over in bridge
MC 5 : National power grid lines - Pass under 10 m clearance
MC 6 : SSI road bridge - Pass over in bridge
MC 7 : National rail way - Pass over in bridge
MC 8 : Access NWL W.T.P. - Pass over in bridge
MC 9 : Outfall - Pass over in bridge



KEY PLAN
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LEGEND - CONVEYOR

- TYPE 3 - OPEN CONVEYOR - 2 LEGS
- TYPE 4 - OVAL ENCLOSED CONVEYOR - 2 LEGS
- TRANSFER TOWER
- ACCESS ROADS
- CONVEYOR FOOTINGS
- CONVEYOR AT THE QUAY

LEGEND - EXISTING SERVICES

- EASEMENT ZONES
- GAS - BP CATS
- GAS - GDF SUEZ
- GAS - RWE
- FIBRE OPTIC CABLE
- MISC - DRAINS, CABLES, DUCTS
- FOUL WATER - SEMBCORP
- WATER - NWL
- GAS - ABANDONED
- ABOVEGROUND PIPELINE CORRIDOR
- OVERHEAD POWER CABLES
- CONVEYOR LIMITS OF DEVIATION

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Enhancing Society Together
HASKONINGDHV UK LTD
MARITIME & WATERWAYS
Marlborough House
Marlborough Crescent
Newcastle upon Tyne NE1 4EE
+44 (0) 191 211 1300 Telephone
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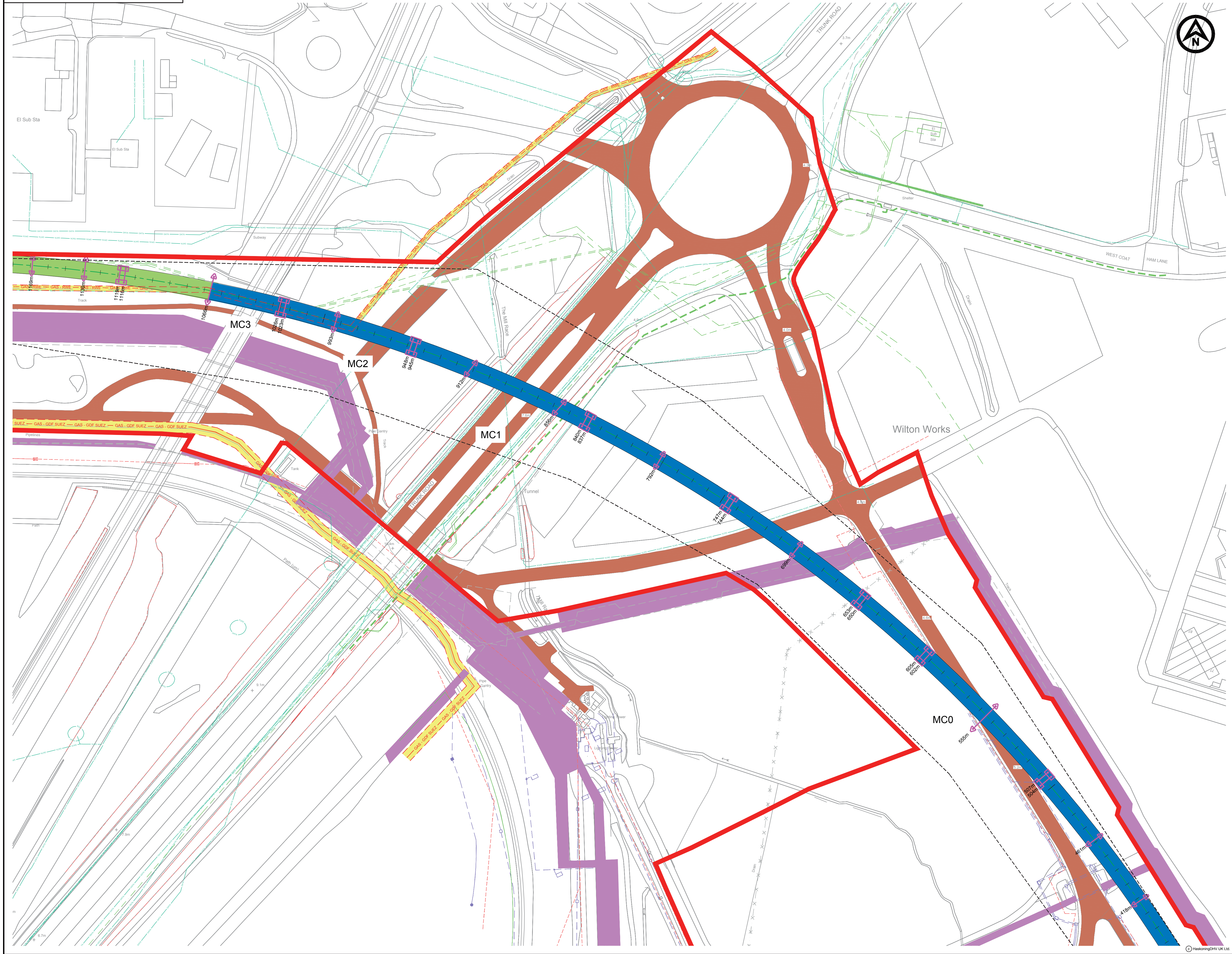
DRAWING No. PB1586-SK1041	REVISION E		

DRG No. PB1586-SK1042



NOTES

MAJOR CROSSINGS

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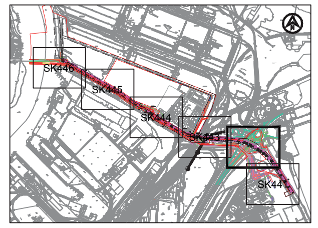
MC 2 : YPL 1st access road	- Pass over in bridge
MC 3 : Hot metal rail	- Pass over in bridge
MC 4 : NWL 2nd access road	- Pass over in bridge
MC 5 : National power grid lines	- Pass under 10 m clearance
MC 6 : SSI road bridge	- Pass over in bridge
MC 7 : National rail way	- Pass over in bridge
MC 8 : Access NWL W.T.P.	- Pass over in bridge
MC 9 : Outfall	- Pass over in bridge



KEY PLAN
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LEGEND - CONVEYOR

TYPE 3 - OPEN CONVEYOR - 2 LEGS
TYPE 4 - OVAL ENCLOSED CONVEYOR - 2 LEGS
TRANSFER TOWER
ACCESS ROADS
CONVEYOR FOOTINGS
CONVEYOR AT THE QUAY

LEGEND - EXISTING SERVICES

EASEMENT ZONES
GAS - BP CATS
GAS - GDF SUEZ
GAS - RWE
FIBRE OPTIC CABLE
MISC - DRAINS, CABLES, DUCTS
FOUL WATER - SEMBCORP
WATER - NWL
GAS - ABANDONED
ABOVEGROUND PIPELINE CORRIDOR
OVERHEAD POWER CABLES
CONVEYOR LIMITS OF DEVIATION

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Enhancing Society Together

HASKONINGDHV UK LTD
MARITIME & WATERWAYS
Marlborough House
Marlborough Crescent
Newcastle upon Tyne NE1 4EE
+44 (0) 191 211 1300 Telephone
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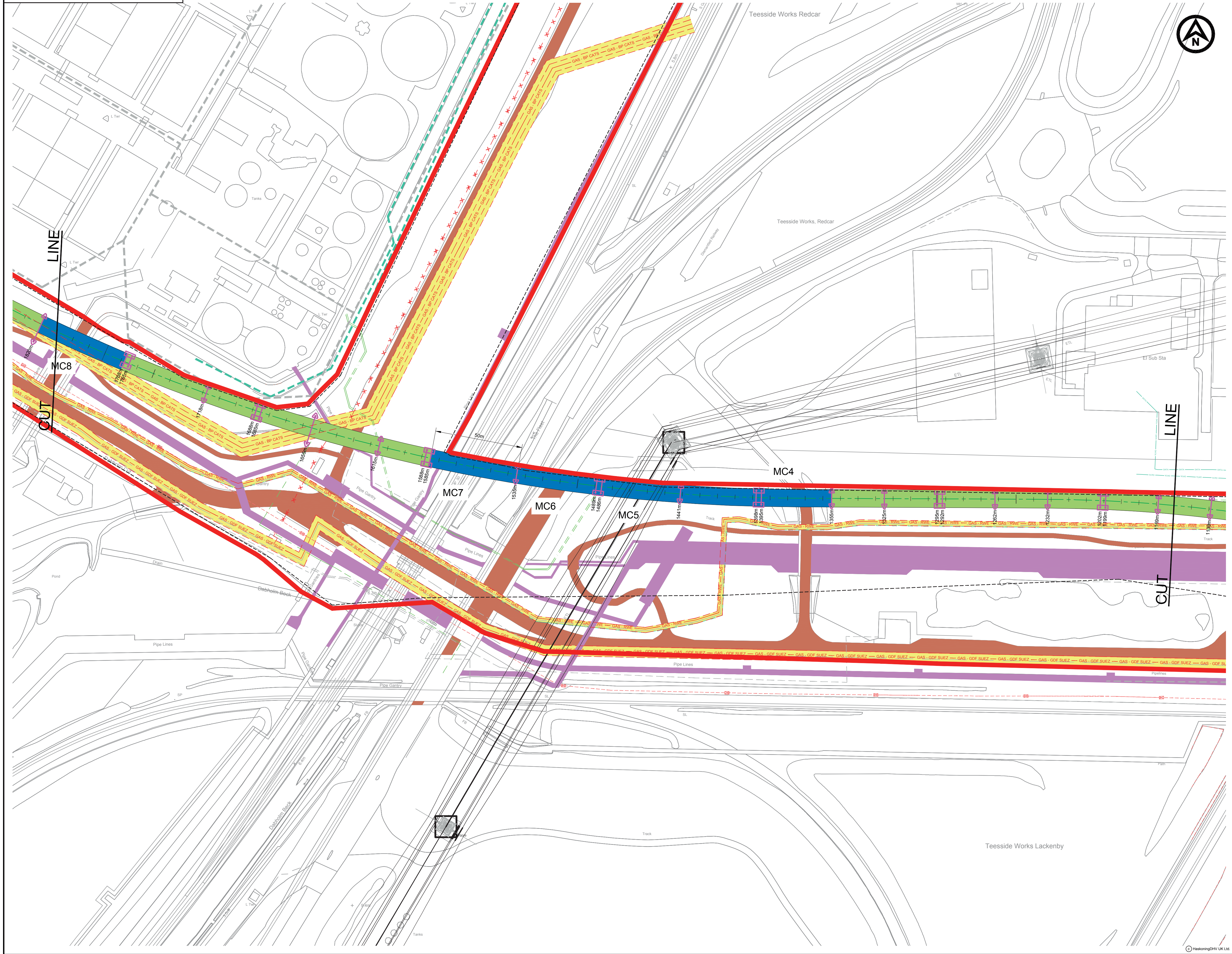

NOTES

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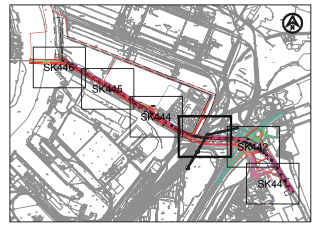
MC 4 : NWL 2nd access road	- Pass over in bridge
MC 5 : National power grid lines	- Pass under 10 m clearance
MC 6 : SSI road bridge	- Pass over in bridge
MC 7 : National rail way	- Pass over in bridge
MC 8 : Access NWL W.T.P.	- Pass over in bridge
MC 9 : Outfall	- Pass over in bridge



KEY PLAN
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LEGEND - CONVEYOR

- TYPE 3 - OPEN CONVEYOR - 2 LEGS
- TYPE 4 - OVAL ENCLOSED CONVEYOR - 2 LEGS
- TRANSFER TOWER
- ACCESS ROADS
- CONVEYOR FOOTINGS
- CONVEYOR AT THE QUAY

LEGEND - EXISTING SERVICES

- EASEMENT ZONES
- GAS - BP CATS
- GAS - GDF SUEZ
- GAS - RWE
- FIBRE OPTIC CABLE
- MISC - DRAINS, CABLES, DUCTS
- FOUL WATER - SEMBCORP
- WATER - NWL
- GAS - ABANDONED
- ABOVEGROUND PIPELINE CORRIDOR
- OVERHEAD POWER CABLES
- CONVEYOR LIMITS OF DEVIATION

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MARITIME & WATERWAYS
Marlborough House
Marlborough Crescent
Newcastle upon Tyne NE1 4EE
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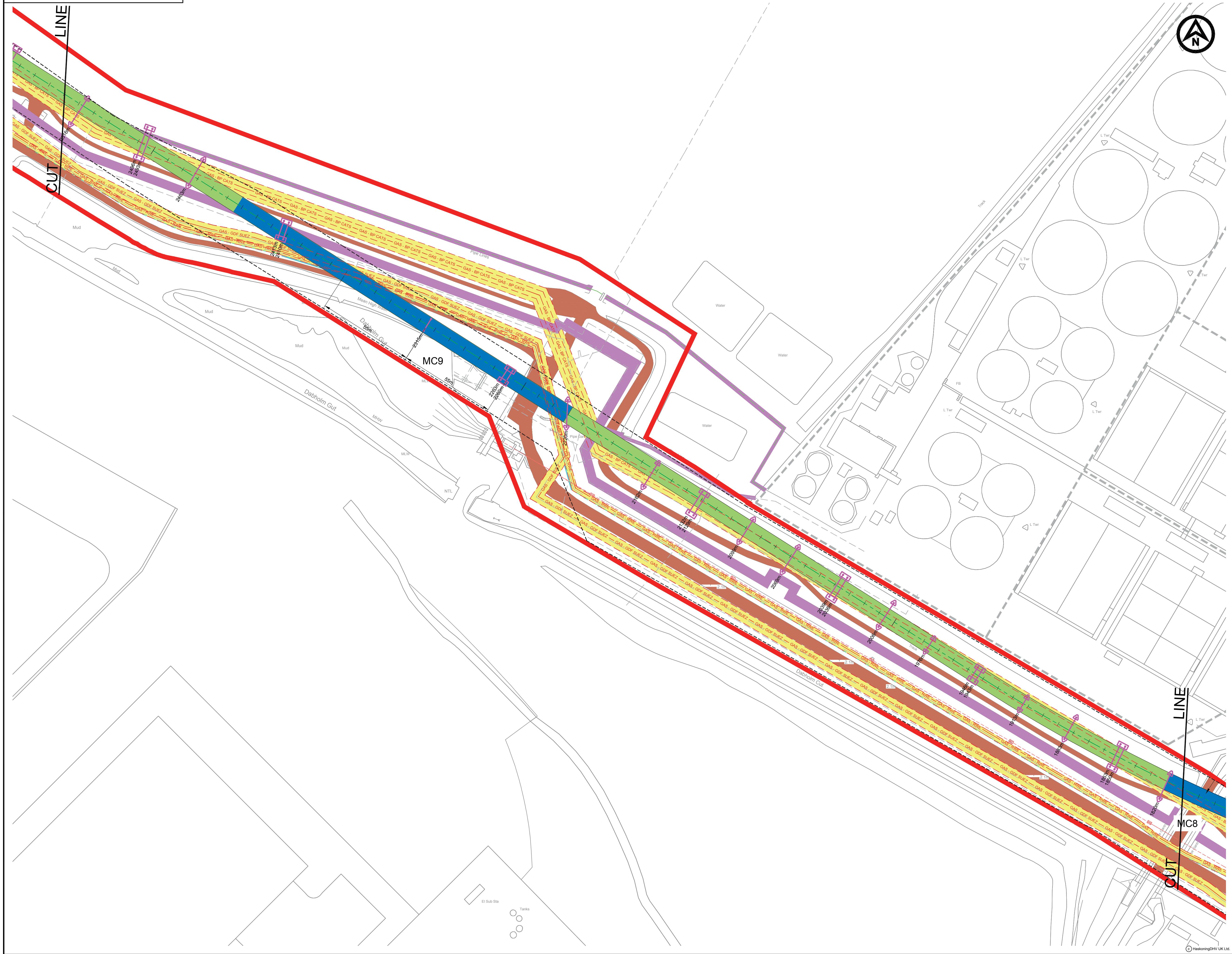

NOTES

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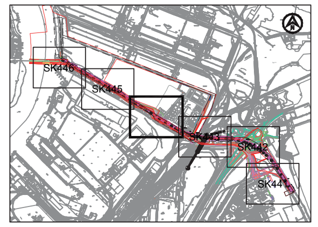

KEY PLAN
SCALE 1:50000

LEGEND - CONVEYOR

TYPE 3 - OPEN CONVEYOR - 2 LEGS
TYPE 4 - OVAL ENCLOSED CONVEYOR - 2 LEGS
TRANSFER TOWER
ACCESS ROADS
CONVEYOR FOOTINGS
CONVEYOR AT THE QUAY

LEGEND - EXISTING SERVICES

EASEMENT ZONES
GAS - BP CATS
GAS - GDF SUEZ
GAS - RWE
FIBRE OPTIC CABLE
MISC - DRAINS, CABLES, DUCTS
FOUL WATER - SEMBCORP
WATER - NWL
GAS - ABANDONED
ABOVEGROUND PIPELINE CORRIDOR
OVERHEAD POWER CABLES
CONVEYOR LIMITS OF DEVIATION

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Marlborough House
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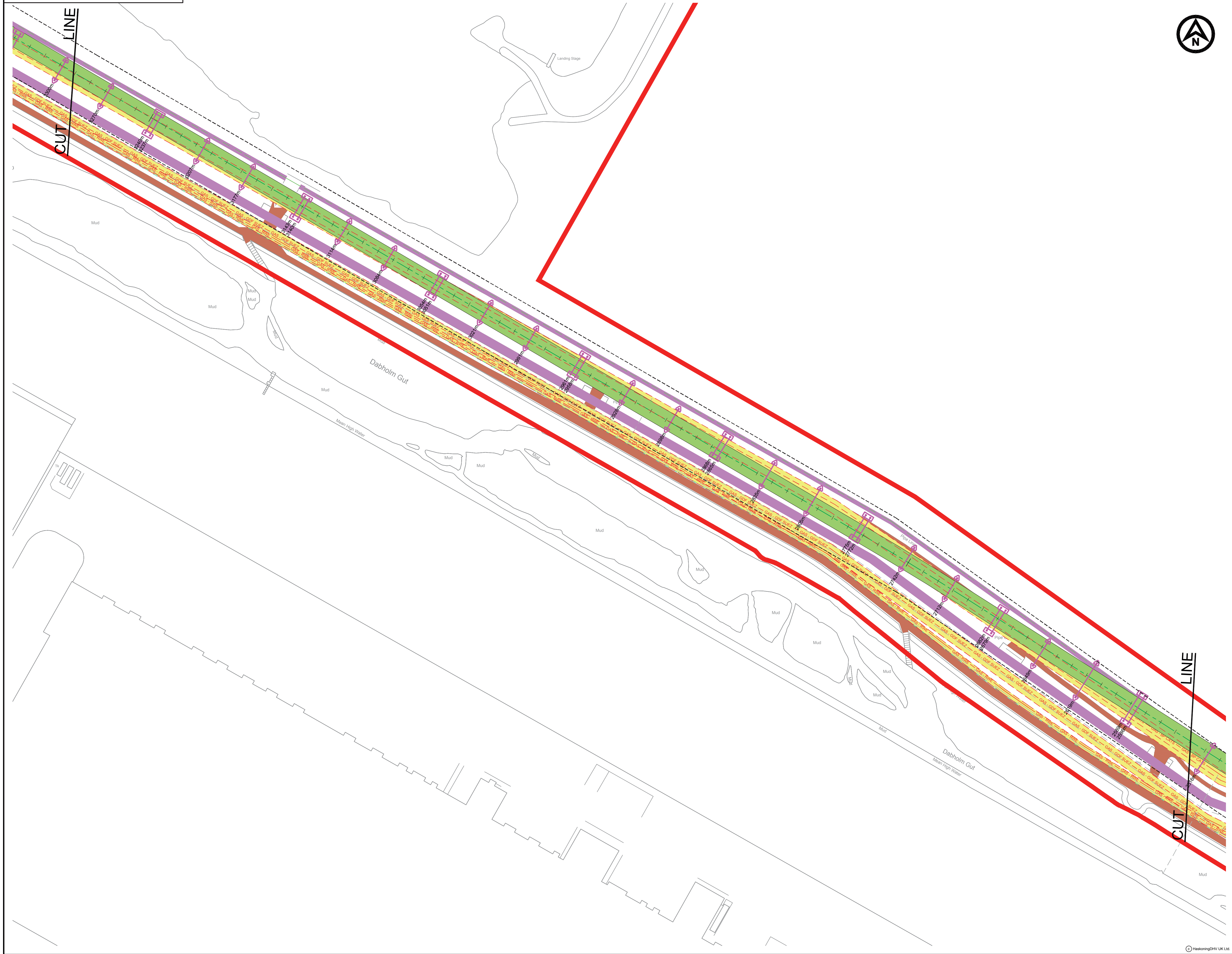

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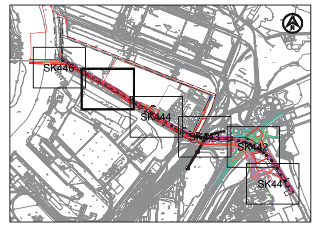

KEY PLAN
SCALE 1:50000

LEGEND - CONVEYOR

- TYPE 3 - OPEN CONVEYOR - 2 LEGS
- TYPE 4 - OVAL ENCLOSED CONVEYOR - 2 LEGS
- TRANSFER TOWER
- ACCESS ROADS
- CONVEYOR FOOTINGS
- CONVEYOR AT THE QUAY

LEGEND - EXISTING SERVICES

- EASEMENT ZONES
- GAS - BP CATS
- GAS - GDF SUEZ
- GAS - RWE
- FIBRE OPTIC CABLE
- MISC - DRAINS, CABLES, DUCTS
- FOUL WATER - SEMBCORP
- WATER - NWL
- GAS - ABANDONED
- ABOVEGROUND PIPELINE CORRIDOR
- OVERHEAD POWER CABLES
- CONVEYOR LIMITS OF DEVIATION

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Marlborough House
Marlborough Crescent
Newcastle upon Tyne NE1 4EE
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DRG No. PB1586-SK1046

NOTES

MAJOR CROSSINGS

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MC 1 : Highway A1085	- Pass over in bridge
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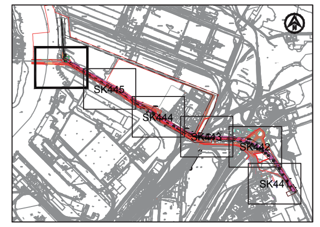
MC 4 : NWL 2nd access road	- Pass over in bridge
MC 5 : National power grid lines	- Pass under 10 m clearance
MC 6 : SSI road bridge	- Pass over in bridge
MC 7 : National rail way	- Pass over in bridge
MC 8 : Access NWL W.T.P.	- Pass over in bridge
MC 9 : Outfall	- Pass over in bridge



KEY PLAN
SCALE 1:50000

LEGEND - CONVEYOR

- TYPE 3 - OPEN CONVEYOR - 2 LEGS
- TYPE 4 - OVAL ENCLOSED CONVEYOR - 2 LEGS
- SURGE BINS
- ACCESS ROADS
- EXISTING BUILDING

LEGEND - EXISTING SERVICES

- EASEMENT ZONES
- GAS - BP CATS
- GAS - GDF SUEZ
- GAS - RWE
- FIBRE OPTIC CABLE
- MISC - DRAINS, CABLES, DUCTS
- FOUL WATER - SEMBCORP
- WATER - NWL
- GAS - ABANDONED
- ABOVEGROUND PIPELINE CORRIDOR
- OVERHEAD POWER CABLES
- CONVEYOR FOOTINGS
- CONVEYOR AT THE QUAY
- CONVEYOR LIMITS OF DEVIATION

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HARBOUR FACILITIES ORDER 201X
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SOUTHERN ROUTE - SHEET 6
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Enhancing Society Together
HASKONINGDHV UK LTD
MARITIME & WATERWAYS
Marlborough House
Marlborough Crescent
Newcastle upon Tyne NE1 4EE
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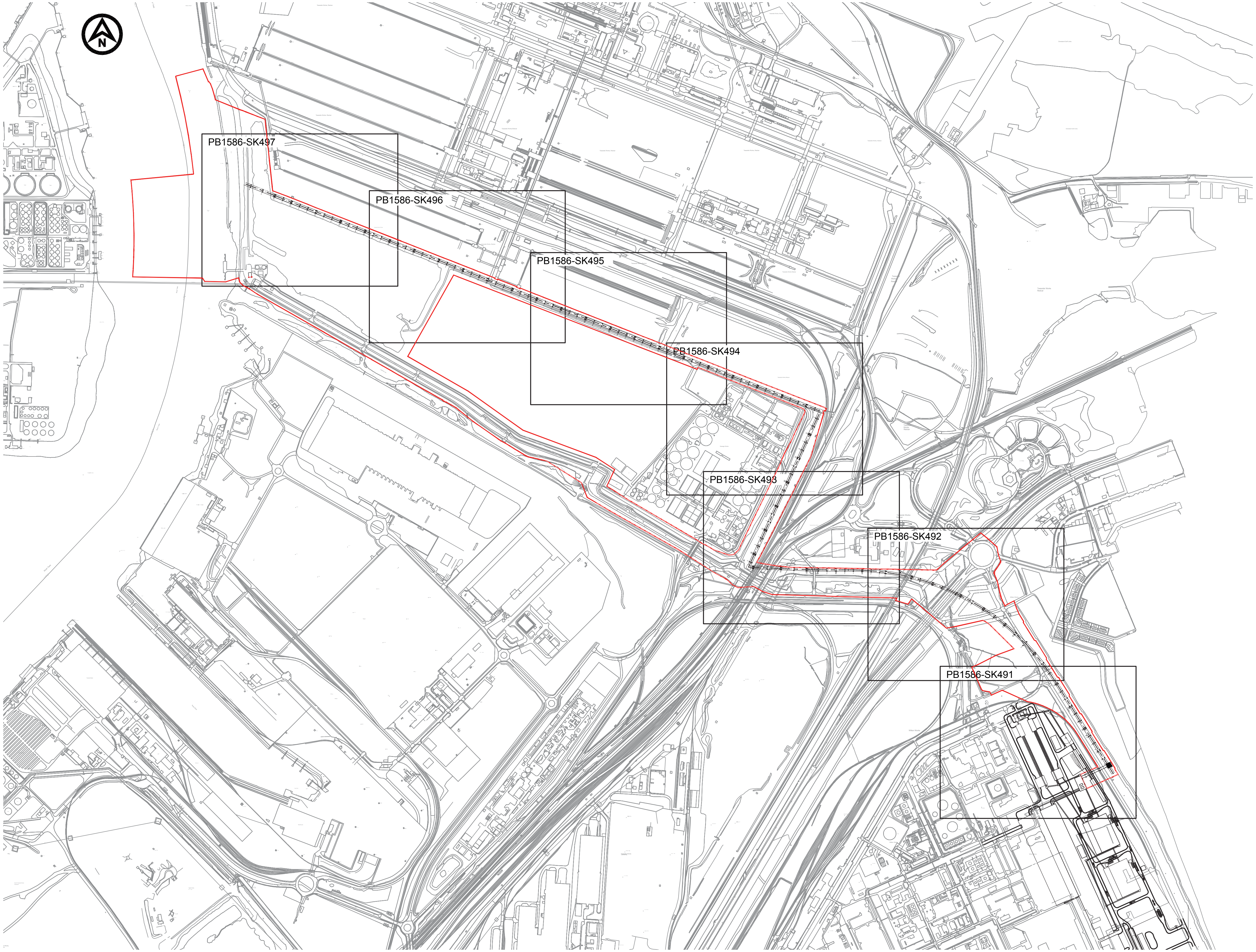

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A	27-02-15	FIRST ISSUE	LW	DGB	RWP

REVISIONS

YORKPOTASH
A Sirius Minerals Project

PROJECT

YORK POTASH

TITLE

THE YORK POTASH
HARBOUR FACILITIES ORDER 201X
CONVEYOR NORTHERN ROUTE - KEY PLAN
REGULATION 5(2)(o)
DOCUMENT 3.3H

Royal HaskoningDHV
Enhancing Society Together

HASKONINGDHV UK LTD
MARITIME & WATERWAYS
Marlborough House
Marlborough Crescent
Newcastle upon Tyne NE1 4EE
+44 (0) 191 211 1300 Telephone
+44 (0) 191 211 1313 Fax
info@newcastle.royalhaskoning.com E-mail
www.royalhaskoningdhv.com Internet

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SCALE AT A1	NTS	AUTOCAD REF.	PB1586-SK490		

DRAWING No. PB1586-SK490

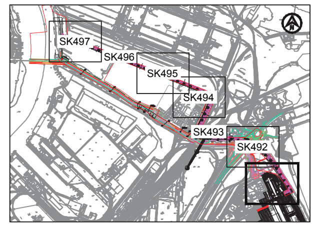
REVISION E

DRG No. PB1586-SK491

NOTES

MAJOR CROSSINGS

MC 0 : Eastern Boundary Road	- Pass over in bridge
MC 1 : Highway A1085	- Pass over in bridge
MC 2 : YPL 1st access road	- Pass over in bridge
MC 3 : Hot metal rail	- Pass over in bridge
MC 4 : NWL 2nd access road	- Pass over in bridge
MC 5 : National power grid lines	- Pass under 10 m clearance
MC 6 : SSI road bridge	- Pass over in bridge
MC 7 : National rail way	- Pass over in bridge
MC 8 : Access NWL W.T.P.	- Pass over in bridge
MC 9 : Outfall	- Pass over in bridge



KEY PLAN
SCALE 1:50000

LEGEND - CONVEYOR

- TYPE 3 - OPEN CONVEYOR - 2 LEGS
- TYPE 4 - OVAL ENCLOSED CONVEYOR - 2 LEGS
- TRANSFER TOWER
- ACCESS ROUTES
- CONVEYOR FOOTINGS
- CONVEYOR AT THE QUAY

LEGEND - EXISTING SERVICES

- EASEMENT ZONES
- GAS - BP CATS
- GAS - GDF SUEZ
- GAS - RWE
- FIBRE OPTIC CABLE
- MISC - DRAINS, CABLES, DUCTS
- FOUL WATER - SEMBCORP
- WATER - NWL
- GAS - ABANDONED
- ABOVEGROUND PIPELINE CORRIDOR
- OVERHEAD POWER CABLES
- CONVEYOR LATERAL LIMITS OF DEVIATION

REV	DATE	DESCRIPTION	BY	CHK	APP
E	19.03.15	PLANNING ISSUE	LW	DGB	MH
D	16.03.15	MINOR REVISIONS	CH	DGB	MH
C	12.03.15	MINOR REVISIONS	LW	DGB	MH
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YORK POTASH

TITLE
THE YORK POTASH
HARBOUR FACILITIES ORDER 201X
CONVEYOR ROUTE PLANS
NORTHERN ROUTE - SHEET 1
REGULATION 5(2)(o) DOCUMENT 3.3I

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Enhancing Society Together

HASKONINGDHV UK LTD
MARITIME & WATERWAYS
Marlborough House
Marlborough Crescent
Newcastle upon Tyne NE1 4EE
+44 (0) 191 211 1300 Telephone
+44 (0) 191 211 1313 Fax
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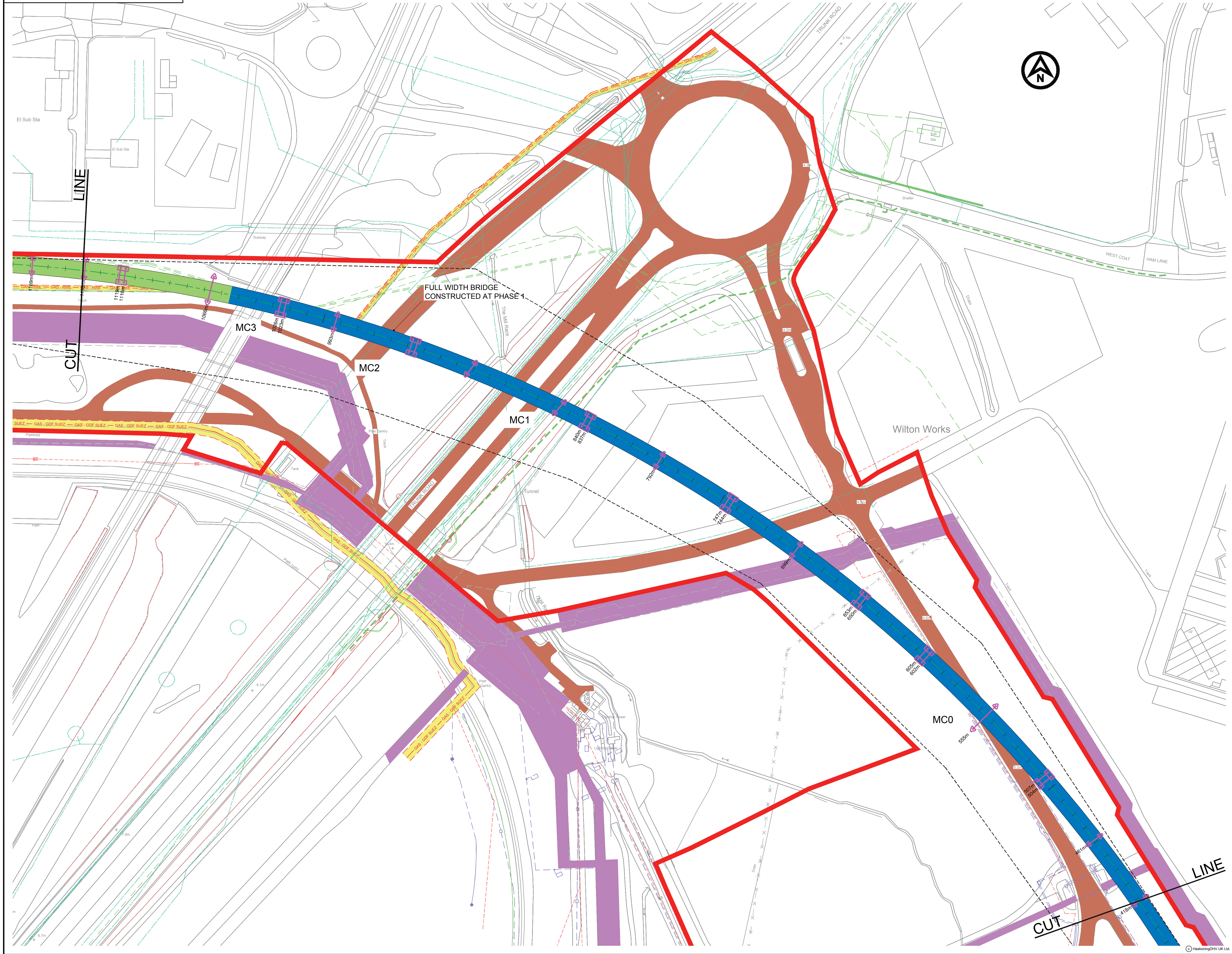
DRAWING No. PB1586-SK491	REVISION E	

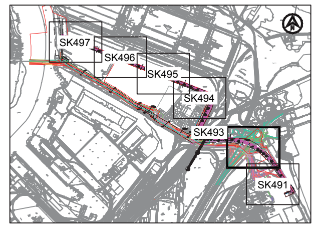
DRG No. PB1586-SK492



NOTES

MAJOR CROSSINGS

MC 0 : Eastern Boundary Road	- Pass over in bridge
MC 1 : Highway A1085	- Pass over in bridge
MC 2 : YPL 1st access road	- Pass over in bridge
MC 3 : Hot metal rail	- Pass over in bridge
MC 4 : NWL 2nd access road	- Pass over in bridge
MC 5 : National power grid lines	- Pass under 10 m clearance
MC 6 : SSI road bridge	- Pass over in bridge
MC 7 : National rail way	- Pass over in bridge
MC 8 : Access NWL W.T.P.	- Pass over in bridge
MC 9 : Outfall	- Pass over in bridge



KEY PLAN
SCALE 1:50000

LEGEND - CONVEYOR

- TYPE 3 - OPEN CONVEYOR - 2 LEGS
- TYPE 4 - OVAL ENCLOSED CONVEYOR - 2 LEGS
- TRANSFER TOWER
- ACCESS ROUTES
- CONVEYOR FOOTINGS
- CONVEYOR AT THE QUAY

LEGEND - EXISTING SERVICES

- EASEMENT ZONES
- GAS - BP CATS
- GAS - GDF SUEZ
- GAS - RWE
- FIBRE OPTIC CABLE
- MISC - DRAINS, CABLES, DUCTS
- FOUL WATER - SEMBCORP
- WATER - NWL
- GAS - ABANDONED
- ABOVEGROUND PIPELINE CORRIDOR
- OVERHEAD POWER CABLES
- CONVEYOR LATERAL LIMITS OF DEVIATION

REV	DATE	DESCRIPTION	BY	CHK	APP
E	19.03.15	PLANNING ISSUE	LW	DGB	MH
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REVISIONS

YORKPOTASH
A Sirius Minerals Project

PROJECT

YORK POTASH

TITLE

THE YORK POTASH
HARBOUR FACILITIES ORDER 201X
CONVEYOR ROUTE PLANS
NORTHERN ROUTE - SHEET 2
REGULATION 5(2)(o) DOCUMENT 3.3J

Royal HaskoningDHV
Enhancing Society Together

HASKONINGDHV UK LTD
MARITIME & WATERWAYS
Marlborough House
Marlborough Crescent
Newcastle upon Tyne NE1 4EE
+44 (0) 191 211 1300 Telephone
+44 (0) 191 211 1313 Fax
info@newcastle.royalhaskoning.com E-mail
www.royalhaskoningdhv.com Internet

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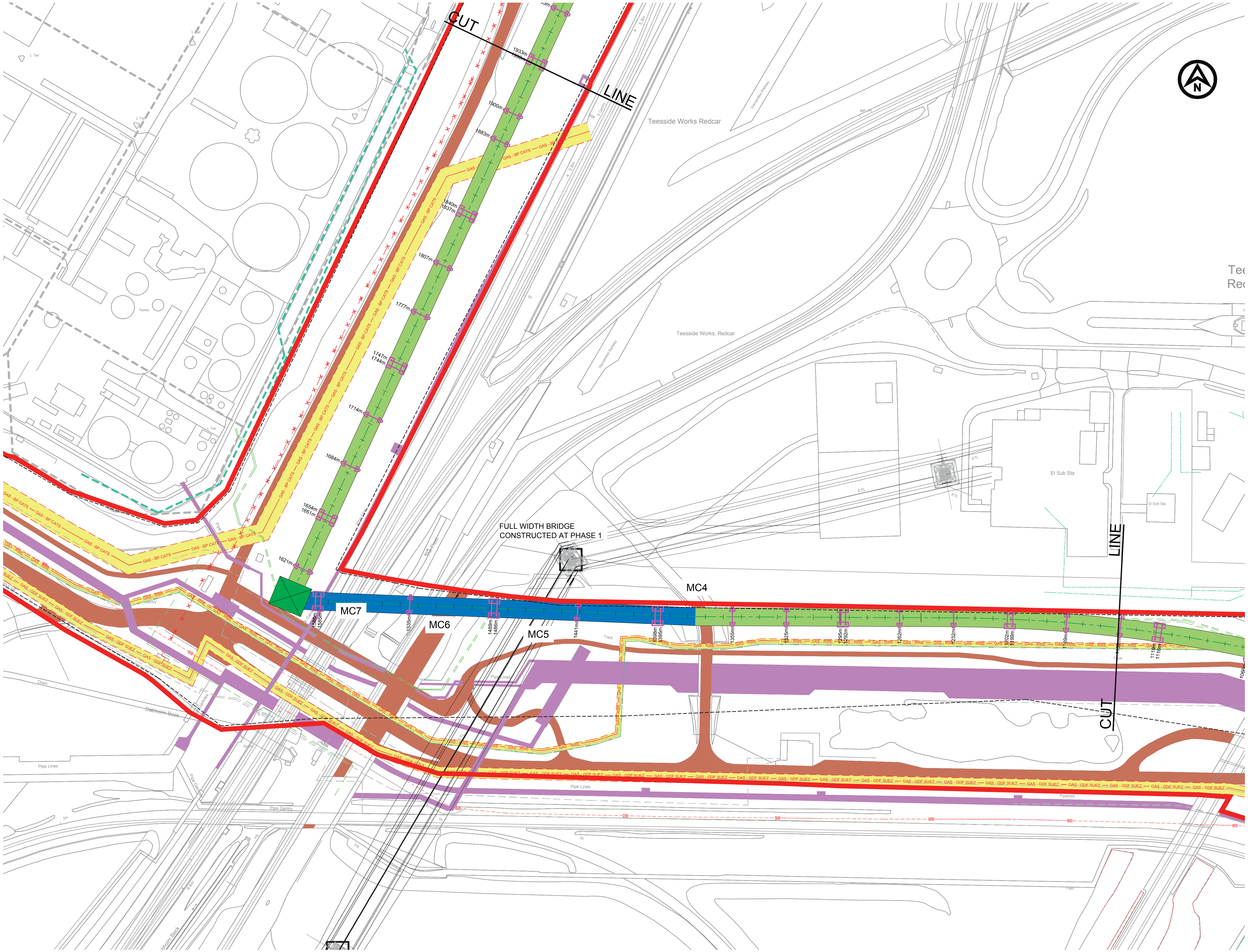
SCALE AT A1	1:1000	AUTOCAD REF.	PB1586-SK492		

DRAWING No. PB1586-SK492

REVISION E

DRG No. PB1586-SK493



NOTES

MAJOR CROSSINGS

MC 0 : Eastern Boundary Road	- Pass over in bridge
MC 1 : Highway A1085	- Pass over in bridge
MC 2 : YPL 1st access road	- Pass over in bridge
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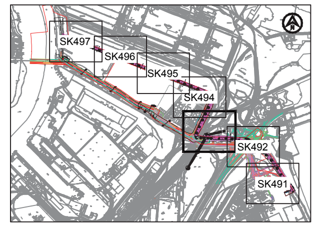
MC 6 : SSI road bridge	- Pass over in bridge
MC 7 : National rail way	- Pass over in bridge
MC 8 : Access NWL W.T.P.	- Pass over in bridge
MC 9 : Outfall	- Pass over in bridge



KEY PLAN
SCALE 1:50000

LEGEND - CONVEYOR

- TYPE 3 - OPEN CONVEYOR - 2 LEGS
- TYPE 4 - OVAL ENCLOSED CONVEYOR - 2 LEGS
- TRANSFER TOWER
- ACCESS ROUTES
- CONVEYOR FOOTINGS
- CONVEYOR AT THE QUAY

LEGEND - EXISTING SERVICES

- EASEMENT ZONES
- GAS - BP CATS
- GAS - GDF SUEZ
- GAS - RWE
- FIBRE OPTIC CABLE
- MISC - DRAINS, CABLES, DUCTS
- FOUL WATER - SEMBCORP
- WATER - NWL
- GAS - ABANDONED
- ABOVEGROUND PIPELINE CORRIDOR
- OVERHEAD POWER CABLES
- CONVEYOR LATERAL LIMITS OF DEVIATION

REV	DATE	DESCRIPTION	BY	CHK	APP
E	19.03.15	PLANNING ISSUE	LW	DGB	MH
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YORKPOTASH
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PROJECT
YORK POTASH

TITLE
THE YORK POTASH
HARBOUR FACILITIES ORDER 201X
CONVEYOR ROUTE PLANS
NORTHERN ROUTE - SHEET 3
REGULATION 5(2)(o) DOCUMENT 3.3K

Royal HaskoningDHV
Enhancing Society Together
HASKONINGDHV UK LTD
MARITIME & WATERWAYS
Marlborough House
Marlborough Crescent
Newcastle upon Tyne NE1 4EE
+44 (0) 191 211 1300 Telephone
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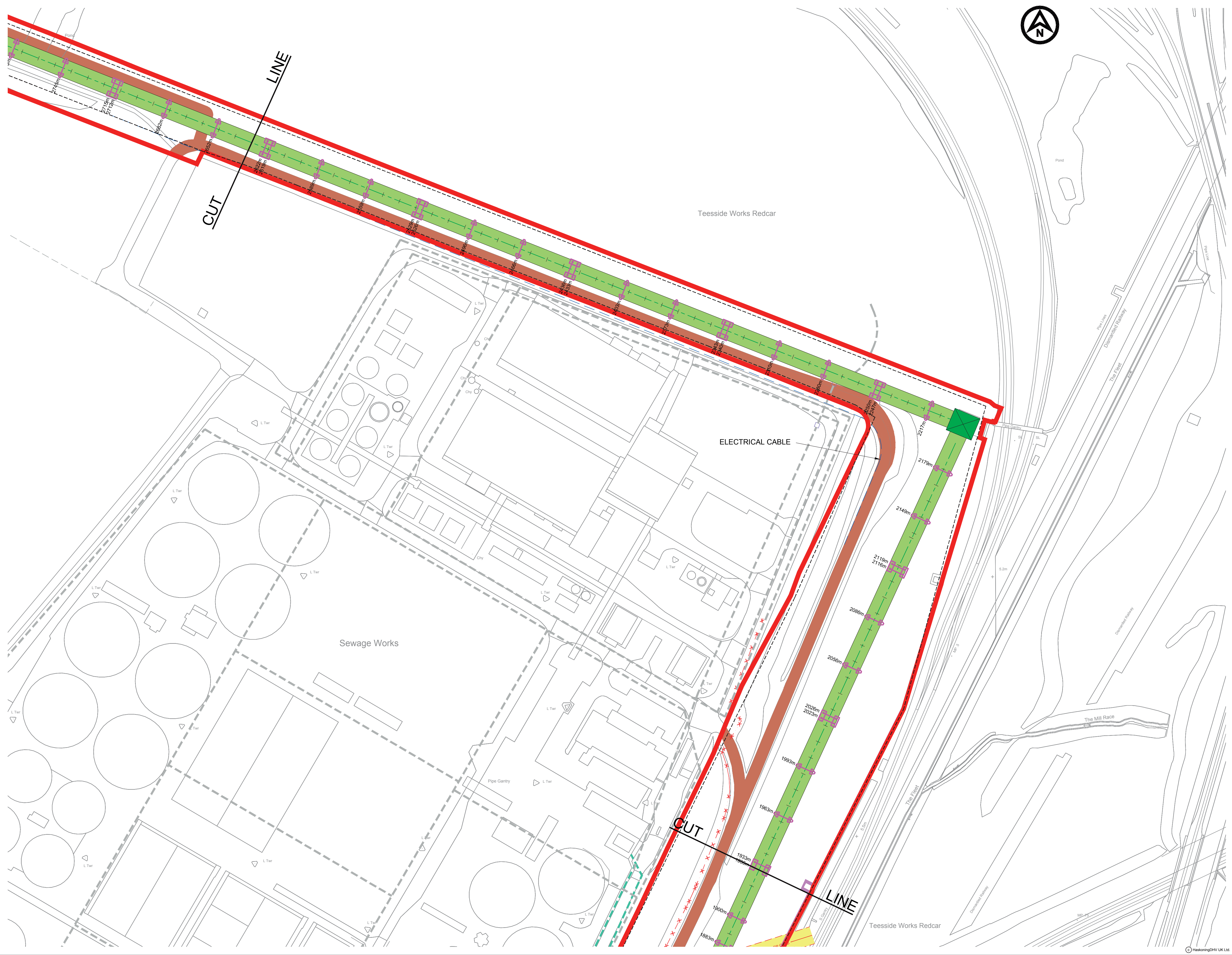
DRG No. PB1586-SK494



NOTES

1. FOR QUAY PLAN DETAILS REFER TO DRAWINGS NO. PB1586-SK91, SK93, SK122 & SK123.

MAJOR CROSSINGS

MC 0 : Eastern Boundary Road	- Pass over in bridge
MC 1 : Highway A1085	- Pass over in bridge
MC 2 : YPL 1st access road	- Pass over in bridge
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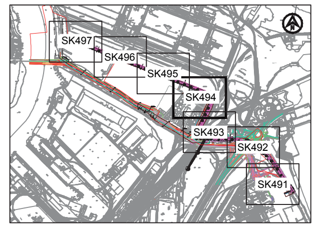
MC 9 : Outfall	- Pass over in bridge



KEY PLAN
SCALE 1:50000

LEGEND - CONVEYOR

- TYPE 3 - OPEN CONVEYOR - 2 LEGS
- TYPE 4 - OVAL ENCLOSED CONVEYOR - 2 LEGS
- TRANSFER TOWER
- ACCESS ROUTES
- CONVEYOR FOOTINGS
- CONVEYOR AT THE QUAY

LEGEND - EXISTING SERVICES

- EASEMENT ZONES
- GAS - BP CATS
- GAS - GDF SUEZ
- GAS - RWE
- FIBRE OPTIC CABLE
- MISC - DRAINS, CABLES, DUCTS
- FOUL WATER - SEMBCORP
- WATER - NWL
- GAS - ABANDONED
- ABOVEGROUND PIPELINE CORRIDOR
- OVERHEAD POWER CABLES
- CONVEYOR LATERAL LIMITS OF DEVIATION
- ELECTRICAL CABLE

REV	DATE	DESCRIPTION	BY	CHK	APP
E	19.03.15	PLANNING ISSUE	LW	DGB	MH
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YORKPOTASH
A Sirius Minerals Project

PROJECT

YORK POTASH

TITLE

THE YORK POTASH
HARBOUR FACILITIES ORDER 201X
CONVEYOR ROUTE PLANS
NORTHERN ROUTE - SHEET 4
REGULATION 5(2)(o) DOCUMENT 3.3L

Royal HaskoningDHV
Enhancing Society Together

HASKONINGDHV UK LTD
MARITIME & WATERWAYS
Marlborough House
Marlborough Crescent
Newcastle upon Tyne NE1 4EE
+44 (0) 191 211 1300 Telephone
+44 (0) 191 211 1313 Fax
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SCALE AT A1	1:1000	AUTOCAD REF.	PB1586-SK494		

DRAWING No. PB1586-SK494

REVISION E

DRG No. PB1586-SK495

NOTES

MAJOR CROSSINGS

MC 0 : Eastern Boundary Road - Pass over in bridge
MC 1 : Highway A1085 - Pass over in bridge
MC 2 : YPL 1st access road - Pass over in bridge
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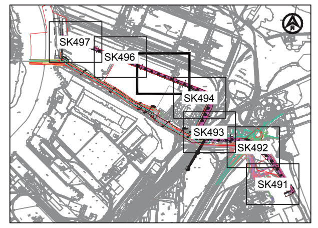

KEY PLAN
SCALE 1:50000

LEGEND - CONVEYOR

TYPE 3 - OPEN CONVEYOR - 2 LEGS
TYPE 4 - OVAL ENCLOSED CONVEYOR - 2 LEGS
TRANSFER TOWER
ACCESS ROUTES
CONVEYOR FOOTINGS
CONVEYOR AT THE QUAY

LEGEND - EXISTING SERVICES

EASEMENT ZONES
GAS - BP CATS
GAS - GDF SUEZ
GAS - RWE
FIBRE OPTIC CABLE
MISC - DRAINS, CABLES, DUCTS
FOUL WATER - SEMBCORP
WATER - NWL
GAS - ABANDONED
ABOVEGROUND PIPELINE CORRIDOR
OVERHEAD POWER CABLES
CONVEYOR LATERAL LIMITS OF DEVIATION

REV	DATE	DESCRIPTION	BY	CHK	APP
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YORKPOTASH
A Sirius Minerals Project

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YORK POTASH

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THE YORK POTASH
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CONVEYOR ROUTE PLANS
NORTHERN ROUTE - SHEET 5
REGULATION 5(2)(o) DOCUMENT 3.3M

Royal HaskoningDHV
Enhancing Society Together
HASKONINGDHV UK LTD
MARITIME & WATERWAYS
Marlborough House
Marlborough Crescent
Newcastle upon Tyne NE1 4EE
+44 (0) 191 211 1300 Telephone
+44 (0) 191 211 1313 Fax
info@newcastle.royalhaskoning.com E-mail
www.royalhaskoningdhv.com Internet

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DATE FEB'15	CLIENT'S REF.	
SCALE AT A1 1:1000	AUTOCAD REF. PB1586-SK495	

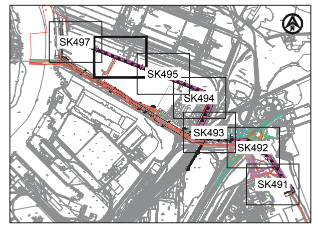
DRAWING No. PB1586-SK495
REVISION E

DRG No. PB1586-SK496

NOTES

MAJOR CROSSINGS

MC 0 : Eastern Boundary Road	- Pass over in bridge
MC 1 : Highway A1085	- Pass over in bridge
MC 2 : YPL 1st access road	- Pass over in bridge
MC 3 : Hot metal rail	- Pass over in bridge
MC 4 : NWL 2nd access road	- Pass over in bridge
MC 5 : National power grid lines	- Pass under 10 m clearance
MC 6 : SSI road bridge	- Pass over in bridge
MC 7 : National rail way	- Pass over in bridge
MC 8 : Access NWL W.T.P.	- Pass over in bridge
MC 9 : Outfall	- Pass over in bridge



KEY PLAN
SCALE 1:50000

LEGEND - CONVEYOR

- TYPE 3 - OPEN CONVEYOR - 2 LEGS
- TYPE 4 - OVAL ENCLOSED CONVEYOR - 2 LEGS
- TRANSFER TOWER
- ACCESS ROUTES
- CONVEYOR FOOTINGS
- CONVEYOR AT THE QUAY

LEGEND - EXISTING SERVICES

- EASEMENT ZONES
- GAS - BP CATS
- GAS - GDF SUEZ
- GAS - RWE
- FIBRE OPTIC CABLE
- MISC - DRAINS, CABLES, DUCTS
- FOUL WATER - SEMBCORP
- WATER - NWL
- GAS - ABANDONED
- ABOVEGROUND PIPELINE CORRIDOR
- OVERHEAD POWER CABLES
- CONVEYOR LATERAL LIMITS OF DEVIATION

REV	DATE	DESCRIPTION	BY	CHK	APP
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REVISIONS

YORKPOTASH
A Sirius Minerals Project

PROJECT

YORK POTASH

TITLE

THE YORK POTASH
HARBOUR FACILITIES ORDER 201X
CONVEYOR ROUTE PLANS
NORTHERN ROUTE - SHEET 6
REGULATION 5(2)(o) DOCUMENT 3.3N

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Enhancing Society Together

HASKONINGDHV UK LTD
MARITIME & WATERWAYS
Marlborough House
Marlborough Crescent
Newcastle upon Tyne NE1 4EE
+44 (0) 191 211 1300 Telephone
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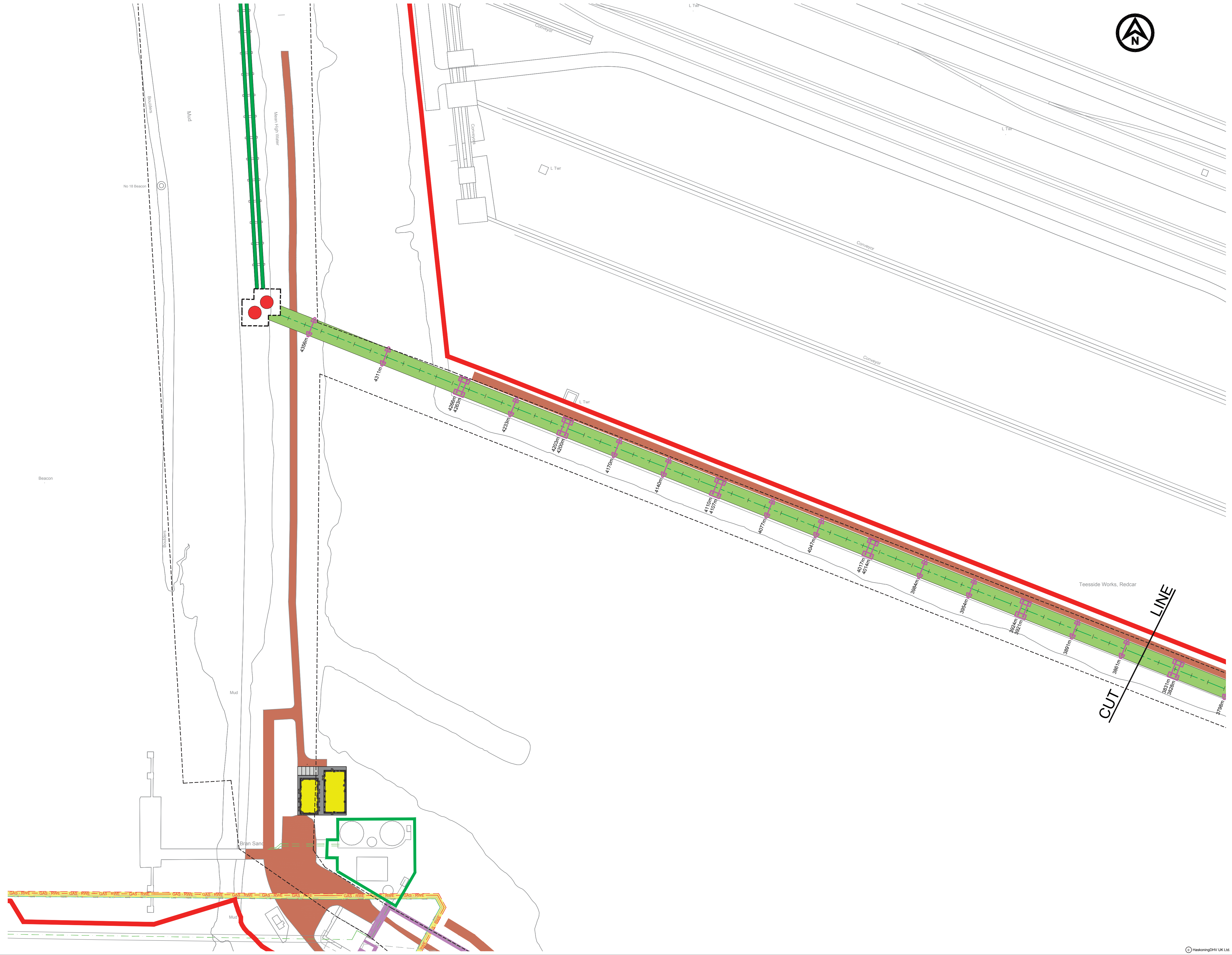
DRAWING No. PB1586-SK496

REVISION E

DRG No. PB1586-SK497



NOTES

MAJOR CROSSINGS

MC 0 : Eastern Boundary Road - Pass over in bridge
MC 1 : Highway A1085 - Pass over in bridge
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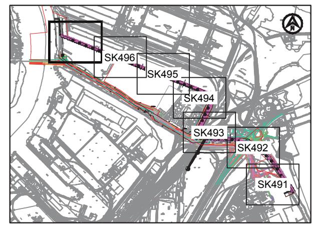
MC 3 : Hot metal rail - Pass over in bridge
MC 4 : NWL 2nd access road - Pass over in bridge
MC 5 : National power grid lines - Pass under 10 m clearance
MC 6 : SSI road bridge - Pass over in bridge
MC 7 : National rail way - Pass over in bridge
MC 8 : Access NWL W.T.P. - Pass over in bridge
MC 9 : Outfall - Pass over in bridge



KEY PLAN
SCALE 1:50000

LEGEND - CONVEYOR

TYPE 3 - OPEN CONVEYOR - 2 LEGS
TYPE 4 - OVAL ENCLOSED CONVEYOR - 2 LEGS
TRANSFER TOWER
ACCESS ROUTES
CONVEYOR FOOTINGS
CONVEYOR AT THE QUAY

LEGEND - EXISTING SERVICES

EASEMENT ZONES
GAS - BP CATS
GAS - GDF SUEZ
GAS - RWE
FIBRE OPTIC CABLE
MISC - DRAINS, CABLES, DUCTS
FOUL WATER - SEMBCORP
WATER - NWL
GAS - ABANDONED
ABOVEGROUND PIPELINE CORRIDOR
OVERHEAD POWER CABLES
CONVEYOR LATERAL LIMITS OF DEVIATION

REV	DATE	DESCRIPTION	BY	CHK	APP
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REVISIONS

YORKPOTASH
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PROJECT
YORK POTASH

TITLE
THE YORK POTASH
HARBOUR FACILITIES ORDER 201X
CONVEYOR ROUTE PLANS
NORTHERN ROUTE - SHEET 7
REGULATION 5(2)(o) DOCUMENT 3.3O

HASKONINGDHV UK LTD
MARITIME & WATERWAYS
Marlborough House
Marlborough Crescent
Newcastle upon Tyne NE1 4EE
+44 (0) 191 211 1300 Telephone
+44 (0) 191 211 1313 Fax
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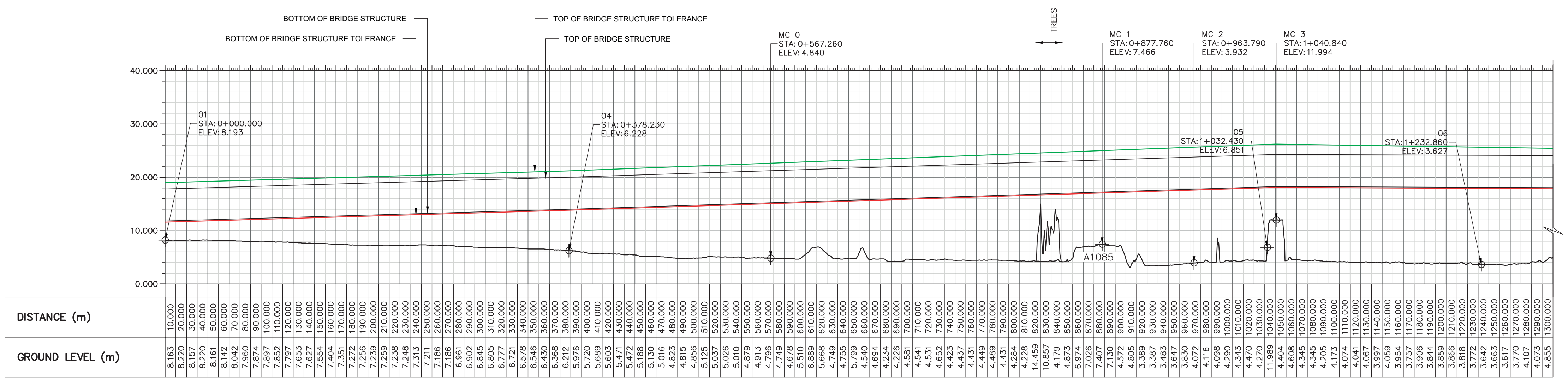
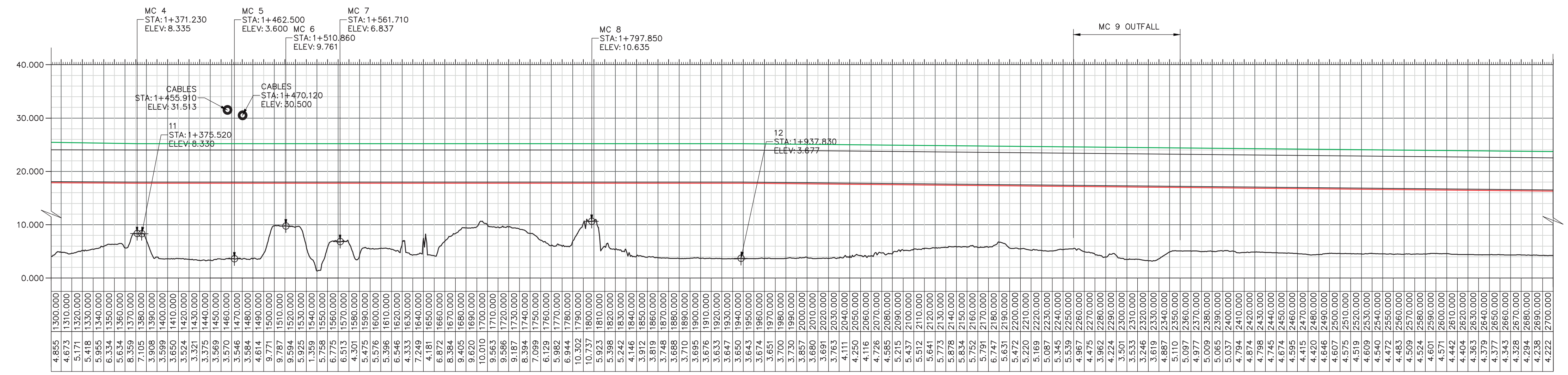
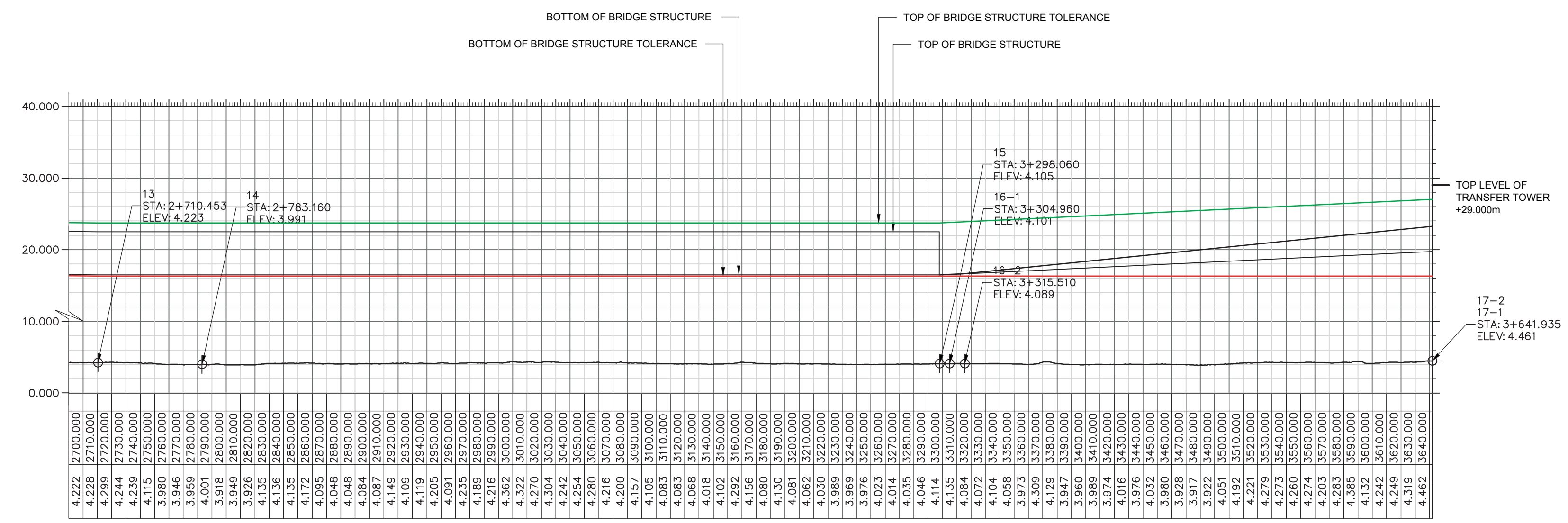
DRAWING No. PB1586-SK497
REVISION E

DRG No. PB1586-SK420







CONVEYOR CLEARANCE AT MAJOR CROSSINGS			
MC	GROUND LEVEL (m) (APPROX.)	SOFFIT LEVEL (m)	NOMINAL * CLEARANCE (m)
MC 0	4.84	15.238	10.4
MC 1	7.47	17.239	9.8
MC 2	3.93	17.793	13.9
MC 3	11.99	19.840	7.85 ◊
MC 4	8.34	18.000	9.7
MC 5 (CABLES)	30.5 †	24.000 ⌂	5.3 □
MC 6	9.76	18.000	8.24 +
MC 7	6.84	18.000	11.2
MC 8	10.64	18.000	7.4
MC 9	3.50	17.200	13.7

* BASED ON ELLIPTICAL CLADDING, INCLUDES 200mm LIDAR TOLERANCE
⌂ CONVEYOR ROOF LEVEL
□ CLEARANCE UNDER LOWEST CABLE ALLOWING FOR RAISING STRUCTURE
† LOWEST CABLE LEVEL
+ INCREASES TO 9.4m FOR RAISED STRUCTURE
◊ CLEARANCE ABOVE TOP OF SLEEPER LEVEL

NOTES
1. ALL LEVELS ARE IN METRES RELATIVE TO ORDNANCE DATUM NEWLYN.
2. TOPOGRAPHICAL SURVEY IS BASED ON LIDAR DATA ACCURATE TO +/- 200mm.
3. THE TOP AND BOTTOM TOLERANCE LINE INCLUDES THE ABOVE 200mm MARGIN.
4. SEE DRAWINGS PB1585-SK490 TO PB1586-SK497 FOR ALIGNMENT.

Major Crossings

MC 1 : Highway A1085 - Pass over in bridge
MC 2 : YPL 1st access road - Pass over in bridge
MC 3 : Hot metal rail - Pass over in bridge
MC 4 : NWL 2nd access road - Pass over in bridge
MC 5 : National Grid powerlines - Pass under
MC 6 : SSI road embankment - Pass over in bridge
MC 7 : Network Rail - Pass over in bridge
MC 8 : ACCESS NWL W.T.P - Pass over in bridge
MC 9 :Outfall - Pass over in bridge

KEY :

TOP OF BRIDGE STRUCTURE TOLERANCE (VERTICAL LIMIT OF DEVIATION)
BOTTOM OF BRIDGE STRUCTURE TOLERANCE (VERTICAL LIMIT OF DEVIATION)
LIDAR GENERATED TOPOGRAPHY LEVEL

REV	DATE	DESCRIPTION	BY	CHK	APP
6	23-03-15	PLANNING ISSUE	LW	DGB	RWP
5	19-03-15	PLANNING ISSUE	LW	DGB	RWP
4	16-03-15	PLANNING ISSUE	LW	DGB	RWP
3	12-03-15	PLANNING ISSUE	LW	DGB	RWP
2	27-02-15	UPPER LIMIT OF DEVIATION RAISED AT MC3	LW	DGB	RWP
1	14-12-14	KEY AND DRAWING TITLE AMENDED	PAW	DGB	RWP
0	12-12-14	PLANNING ISSUE	PAW	DGB	RWP

REVISIONS

YORKPOTASH
A Sirius Minerals Project

PROJECT
YORK POTASH

TITLE
THE YORK POTASH
HARBOUR FACILITIES ORDER 201X
SOUTHERN OPTION - CONVEYOR
VERTICAL LIMITS OF DEVIATION PLANS
LONG SECTION
REGULATION 5(2)(o) DOCUMENT 3.11A

Royal HaskoningDHV
Enhancing Society Together
HASKONINGDHV UK LTD
MARITIME & WATERWAYS
Marlborough House
Marlborough Crescent
Newcastle upon Tyne NE1 4EE
+44 (0) 191 211 1300 Telephone
+44 (0) 191 211 1313 Fax
info@newcastle.royalhaskoning.com E-mail
www.royalhaskoningdhv.com Internet

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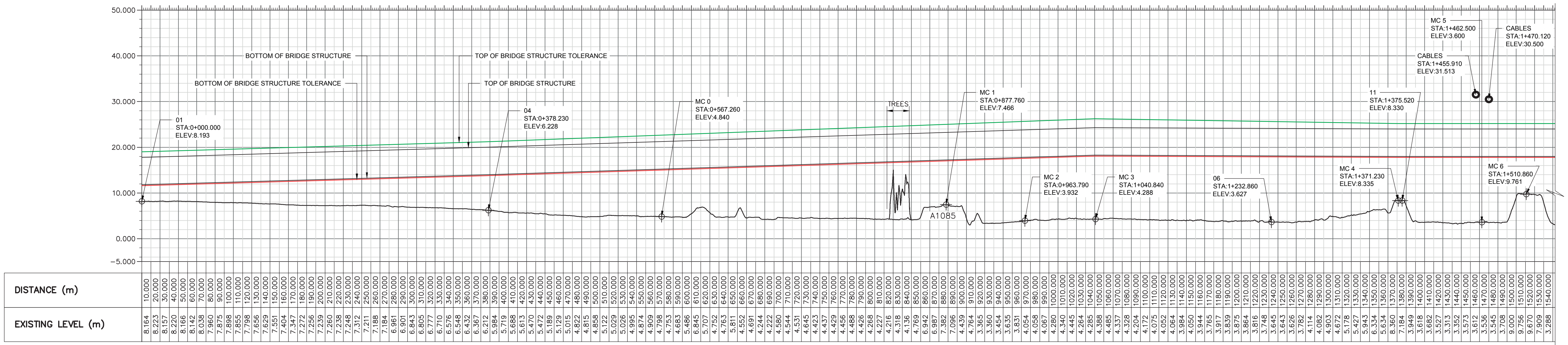
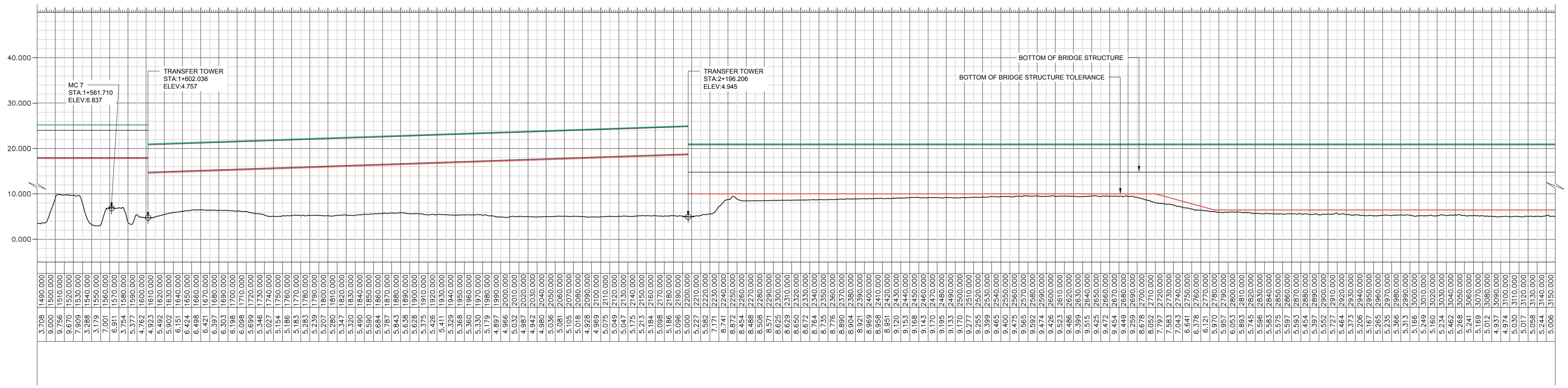
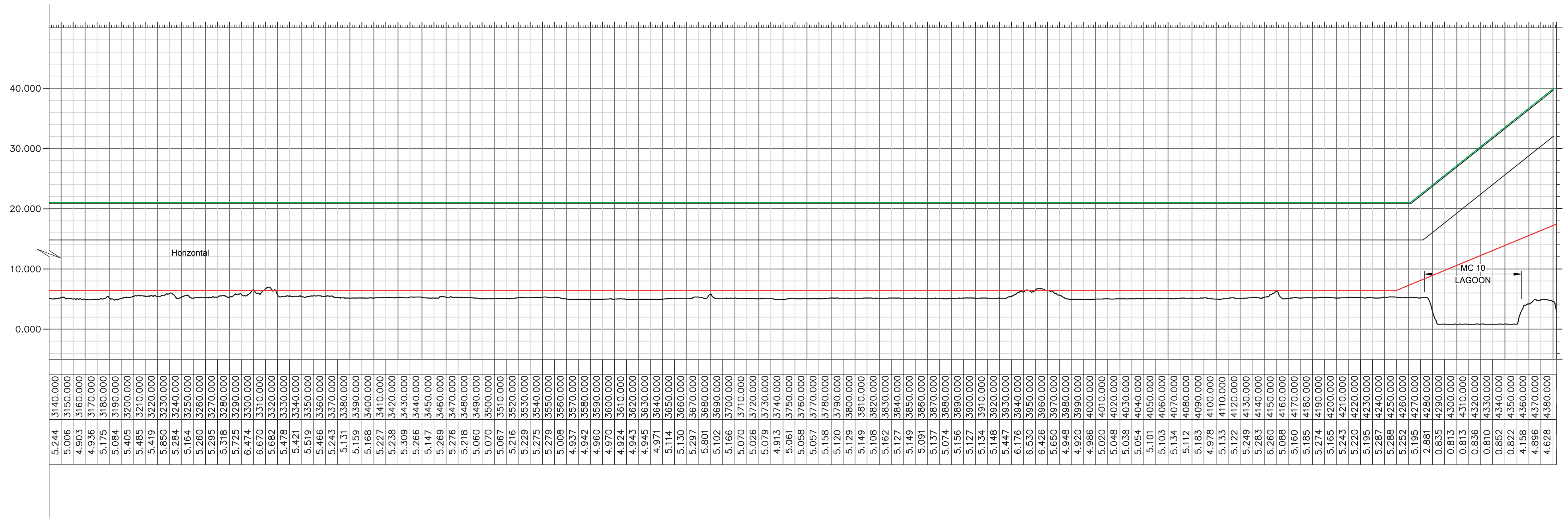
DATE	FEB'15	CLIENT'S REF.			
SCALE AT A1	H 1:2500 V 1:500	AUTOCAD REF.	PB1586-SK420		
DRAWING No.	PB1586-SK420	REVISION	6		

DRG No. PB1586-SK421







NOTES

1. ALL LEVELS ARE IN METRES RELATIVE TO ORDNANCE DATUM NEWLYN.
2. TOPOGRAPHICAL SURVEY IS BASED ON LIDAR DATA ACCURATE TO +/- 200mm.
3. THE TOP AND BOTTOM TOLERANCE LINE INCLUDES THE ABOVE 200mm MARGIN.
4. SEE DRAWINGS PB1585-SK490 TO PB1586-SK497 FOR ALIGNMENT.

Major Crossings

MC 1 : Highway A1085 - Pass over in bridge
MC 2 : YPL 1st access road - Pass over in bridge
MC 3 : Hot metal rail - Pass over in bridge
MC 4 : NWL 2nd access road - Pass over in bridge
MC 5 : National Grid powerlines - Pass under
MC 6 : SSI road embankment - Pass over in bridge
MC 7 : Network Rail - Pass over in bridge
MC 10 : Lagoon - Pass over in bridge

KEY :

TOP OF BRIDGE STRUCTURE TOLERANCE (VERTICAL LIMIT OF DEVIATION)

BOTTOM OF BRIDGE STRUCTURE TOLERANCE (VERTICAL LIMIT OF DEVIATION)

LIDAR GENERATED TOPOGRAPHY LEVEL

REV	DATE	DESCRIPTION	BY	CHK	APP
6	19.03.15	PLANNING ISSUE	LW	DGB	MH
5	16.03.15	PLANNING ISSUE	LW	DGB	MH
4	12.03.15	PLANNING ISSUE	LW	DGB	MH
3	05.03.15	ISSUED FOR INFORMATION	TF	DGB	MH
2	27-02-15	UPPER LIMIT OF DEVIATION RAISED AT MC3	LW	DGB	RWP
1	15-12-14	KEY AND DRAWING TITLE AMENDED	PAW	DGB	RWP
0	12-12-14	FOR PLANNING	PAW	DGB	RWP

REVISIONS

CONVEYOR CLEARANCE AT MAJOR CROSSINGS

MC	GROUND LEVEL (m) (APPROX.)	SOFFIT LEVEL (m)	NOMINAL * CLEARANCE (m)
MC 0	4.84	15.238	10.4
MC 1	7.47	17.239	9.8
MC 2	3.93	17.793	13.9
MC 3	11.99	19.840	7.85◊
MC 4	8.34	18.000	9.7
MC 5 (CABLES)	30.5 †	24.000 ⌂	5.3 □
MC 6	9.76	18.000	8.24 +
MC 7	6.84	18.000	11.2
MC 10	0.80	VARIES	VARIES

* BASED ON ELLIPTICAL CLADDING, INCLUDES 200mm LIDAR TOLERANCE
⌂ CONVEYOR ROOF LEVEL
□ CLEARANCE UNDER LOWEST CABLE ALLOWING FOR RAISING STRUCTURE
† LOWEST CABLE LEVEL
\+ INCREASES TO 9.4m FOR RAISED STRUCTURE
◊ CLEARANCE ABOVE TOP OF SLEEPER LEVEL

YORKPOTASH
A Sirius Minerals Project

PROJECT

YORK POTASH

TITLE

THE YORK POTASH
HARBOUR FACILITIES ORDER 201X
NORTHERN OPTION - CONVEYOR
VERTICAL LIMITS OF DEVIATION PLANS
LONG SECTION
REGULATION 5(2)(o) DOCUMENT 3.11B

Royal HaskoningDHV
Enhancing Society Together

HASKONINGDHV UK LTD
MARITIME & WATERWAYS
Marlborough House
Marlborough Crescent
Newcastle upon Tyne NE1 4EE
+44 (0) 191 211 1300 Telephone
+44 (0) 191 211 1313 Fax
info@newcastle.royalhaskoning.com E-mail
www.royalhaskoningdhv.com Internet

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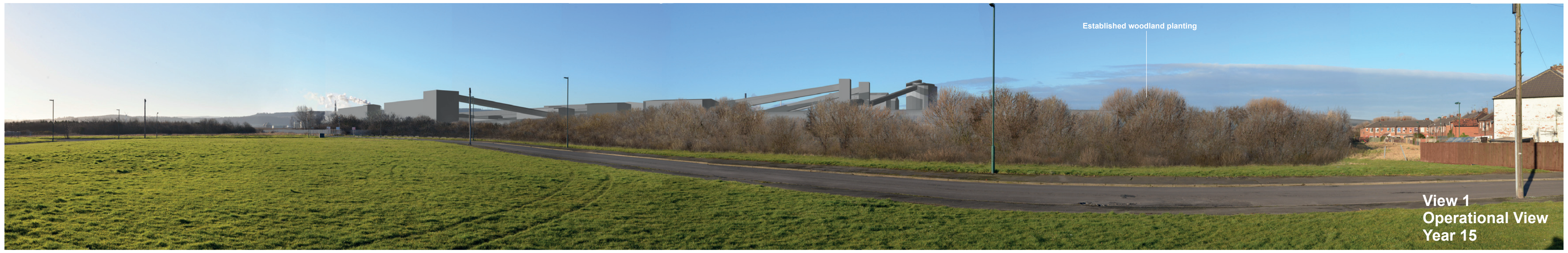
DATE DEC '14	CLIENT'S REF.	
SCALE AT A1 H 1:2500 V 1:500	AUTOCAD REF. PB1586-SK421	

DRAWING No. PB1586-SK421

REVISION 6

VIEW 1: Existing view looking south west from recreational area along Hobson Avenue, Dormanstown

VIEW 1: Photographic illustration of Wilton MHF & MTS Portal development and export conveyor at stage 2 (complete structure)



VIEW 1: Photographic illustration of Wilton MHF & MTS Portal development and export conveyor with foreground woodland planting established

View 1
Grid reference: E458045 N523452
Elevation: 7.29m AOD
Camera height above ground level: 1.6m

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YORKPOTASH
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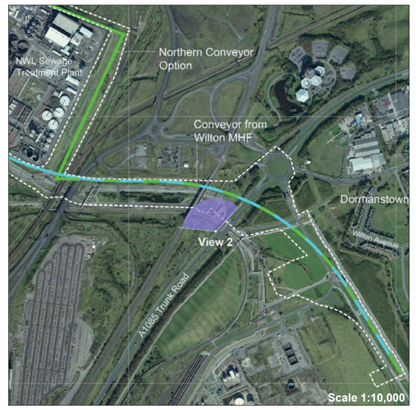
Project: **YORK POTASH - PORT**	
Drawing Title: **VIEW 1 PHOTOGRAPHIC ILLUSTRATION OF WILTON MHF & MTS DEVELOPMENT & STAGE 2 CONVEYOR**	
Date: **FEB 2015**	Drawing Number: **2334.P01**

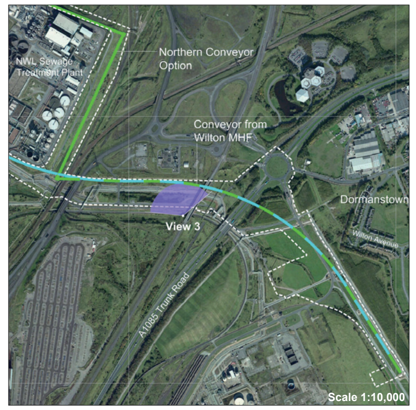
VIEW 2: Existing view looking north from cycleway along A1085 Trunk Road towards Hot Metal Rail Bridge



View 2
Grid reference: E457325 N523569
Elevation: 9.76m AOD
Camera height above ground level: 1.6m

VIEW 2: Photographic illustration of southern conveyor option at stage 2 (complete structure). Conveyor 'gateway' bridge structure crossing A1085 Trunk Road not illustrated.

VIEW 3: Existing view looking north west from embankment of Hot Metal Rail Bridge



View 3
Grid reference: E457203 N523627
Elevation: 10.58m AOD
Camera height above ground level: 1.6m

VIEW 3: Photographic illustration of southern conveyor option at stage 2 (complete structure)

Estell Warren
Landscape Architecture

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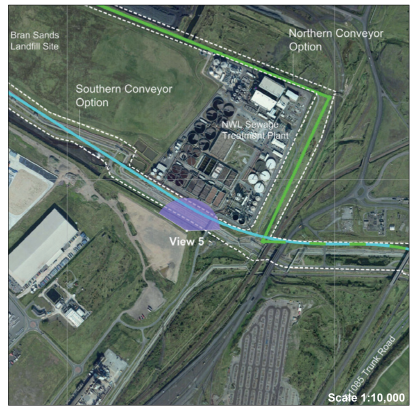
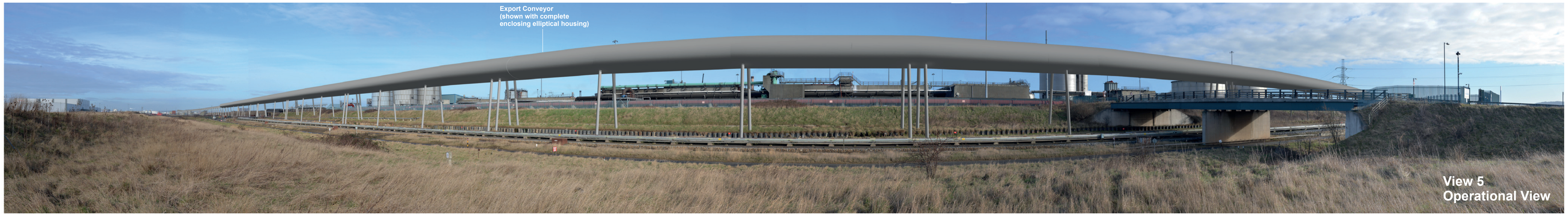
Project	YORK POTASH - PORT
Drawing Title	VIEW 2 & VIEW 3 PHOTOGRAPHIC ILLUSTRATION OF STAGE 2 CONVEYOR STRUCTURES
Date: FEB 2015	Drawing Number: 2334.P02

VIEW 5: Existing view looking north west from footpath 116/31/2



View 5
Grid reference: E456447 N523807
Elevation: 6.39m AOD
Camera height above ground level: 1.6m



VIEW 5: Photographic illustration of southern conveyor option at stage 2 (complete structure)

VIEW 7b: Existing view looking north east across Bran Sands Lagoon towards SSI Steelworks site

View 7b
Grid reference: E454978 N524934
Elevation: 4.50m AOD
Camera height above ground level: 1.6m

VIEW 7b: Photographic illustration of northern conveyor option at stage 2 (complete structure). Port facility and quayside structures not illustrated.

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Landscape Architecture

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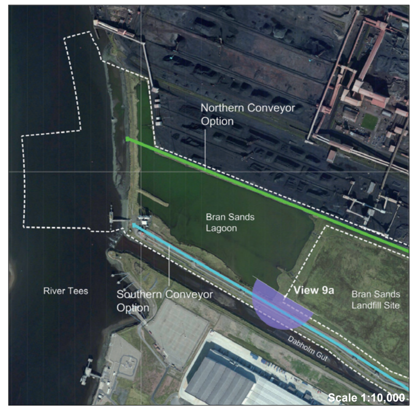
Project
YORK POTASH - PORT

Drawing Title
VIEW 5 & VIEW 7b
PHOTOGRAPHIC ILLUSTRATION OF STAGE 2
CONVEYOR STRUCTURES

Date:	Drawing Number:
FEB 2015	2334.P03

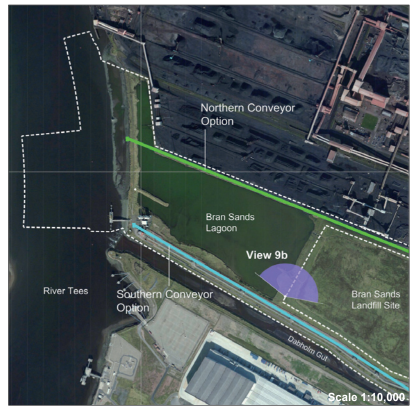
VIEW 9a: Existing view looking south west from Bran Sands Landfill site towards Tesco distribution centre



View 9a
Grid reference: E455539 N524532
Elevation: 10.50m AOD
Camera height above ground level: 1.6m

VIEW 9a: Photographic illustration of southern conveyor option at stage 2 (complete structure). Port facility and quayside structures not illustrated.

VIEW 9b: Existing view looking north from Bran Sands Landfill site towards SSI Steelworks site and Bran Sands Lagoon



View 9b
Grid reference: E455539 N524532
Elevation: 10.50m AOD
Camera height above ground level: 1.6m

VIEW 9b: Photographic illustration of northern conveyor route at stage 2 (complete structure). Port facility and quayside structures not illustrated.

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Landscape Architecture

YORKPOTASH
A Sirius Minerals Project

Project	YORK POTASH - PORT
Drawing Title	VIEW 9a & VIEW 9b PHOTOGRAPHIC ILLUSTRATION OF STAGE 2 CONVEYOR STRUCTURES
Date: FEB 2015	Drawing Number: 2334.P04

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3.1.63 The conveyor system is proposed to consist of two parallel belt conveyors running in a single elevated conveyor bridge. The conveyor bridge housing, which would be a maximum of 6m in height, is proposed to be enclosed from the MHF at Wilton until just beyond the Hot Metal rail bridge (MC3).. From this point to MC4 (YPL access road), the conveyors would run on an open trestle structure. From MC4 to beyond the Network Rail national rail line (MC7), the conveyor would be enclosed. From MC7 to the river frontage, the conveyor structure would be open, except where it crosses the access road to the NWL water treatment plant (MC8) and the outfall into Dabholm Gut (MC9). It should be noted that the polyhalite product would not directly be exposed to the atmosphere at any point along the conveyor system as it is important that the product remains dry; the references to open and enclosed structures above relate to the support structure for the conveyors (and not the conveyors themselves).

3.1.64 The elevated conveyor bridge would pass over all existing infrastructure between the MHF and the port terminal, excluding the National Grid power lines, which are proposed to be under-passed. The proposed envelope of the conveyor route is described below.

3.1.65 The conveyor system would exit the MHF at Wilton and cross the boundary road to a transfer tower (located to the east of the MHF) and head in a north-westerly direction in the conveyor bridge. The conveyor system would be inclined to gain a maximum height of approximately 22m above ground level (at the top of the conveyor bridge) as it passes over the Hot Metal rail bridge.

3.1.66 It is proposed that the conveyor bridge would continue westwards, parallel to, and to the north of, the existing pipe infrastructure. At a maximum height of 22m above ground level, the conveyor bridge would pass under the National Grid power lines, over the SSI road embankment and the Network Rail embankment.

3.1.67 Two alternative options are proposed for the alignment of the conveyor route at the south-eastern corner of the Bran Sands landfill site; resulting in a study area envelope (two corridors) which runs either along the northern or southern boundary of the landfill site. Only one conveyor route is ultimately required and the option that would be implemented is dependent on detailed ground investigation and topographical surveys and the outcome of discussions with owners of the infrastructure that is present in these corridors (that is, only one conveyor system in one of the two corridors under consideration would be adopted). The northern route for the conveyor bridge would require a transfer tower (at a maximum height of 30m above ground level) after it crosses the Network Rail embankment; it is not envisaged that a transfer tower would be required at this location for the southern route. The decision regarding whether to progress the northern or southern option will largely be influenced by the issues discussed within **Section 18** of this ES.

3.1.68 The southern route would continue in a north-westerly direction at a maximum height of 22m above ground level for the majority of length towards a surge bin at Bran Sands of 35m maximum height at the southern end of the proposed port terminal. Consequently, the conveyor system would rise to a maximum height of 35m. Up to three supports for the conveyor bridge would be required within the upstream section of Dabholm Gut for the southern route.

3.1.69 The northern route would depart from the transfer tower in a northerly direction at a maximum height of 20m above ground level, rising to a maximum height of 30m above ground level at a transfer tower north-east of the NWL sewage treatment works. From this transfer tower (maximum height of 30m above ground level) the conveyor bridge would start with a maximum height of 17m above ground level and continue westward at the same height to a surge bin (with a maximum height of 35m) in approximately the centre of the proposed port terminal and then a transfer tower (with a maximum height of 30m) at the northern end of the port terminal. The northern route would require a crossing over the Bran Sands lagoon 'finger', the span would be bridged through the use of a support within the lagoon itself. The support would consist of a pair of supporting legs, each with its own foundation.

3.1.70 The transfer towers and surge bins would feed a short cross conveyor which would in turn feed the ship loader system.

3.1.71 Given the significant amount of overland and buried infrastructure that is present within both the northern and southern conveyor corridors, the use of percussive piling techniques for the construction of the conveyor would not be possible due to the risk of damaging the infrastructure. It is proposed, therefore, that bored concrete piles would be used for the conveyor support foundations. However, the piled supports in the upper reaches of Dabholm Gut (up to three supports) may be driven.

3.1.72 Following receipt of comments during consultation under Section 42 of the Planning Act 2008 on initial options for the crossing of the A1085, additional options have been developed. **Drawings PB1586-SK411**, **PB1586-SK412**, **PB1586-SK414** and **PB1586-SK417** to **PB1586-SK419** illustrate a range of updated options, but it should be noted that the detail of the design will be agreed with RCBC.

Personnel

3.1.73 It is anticipated that construction phase employment for the proposed scheme would peak at 175 employees per day during months 29 and 30 of the construction period.

DRG No. PB1586-SK411

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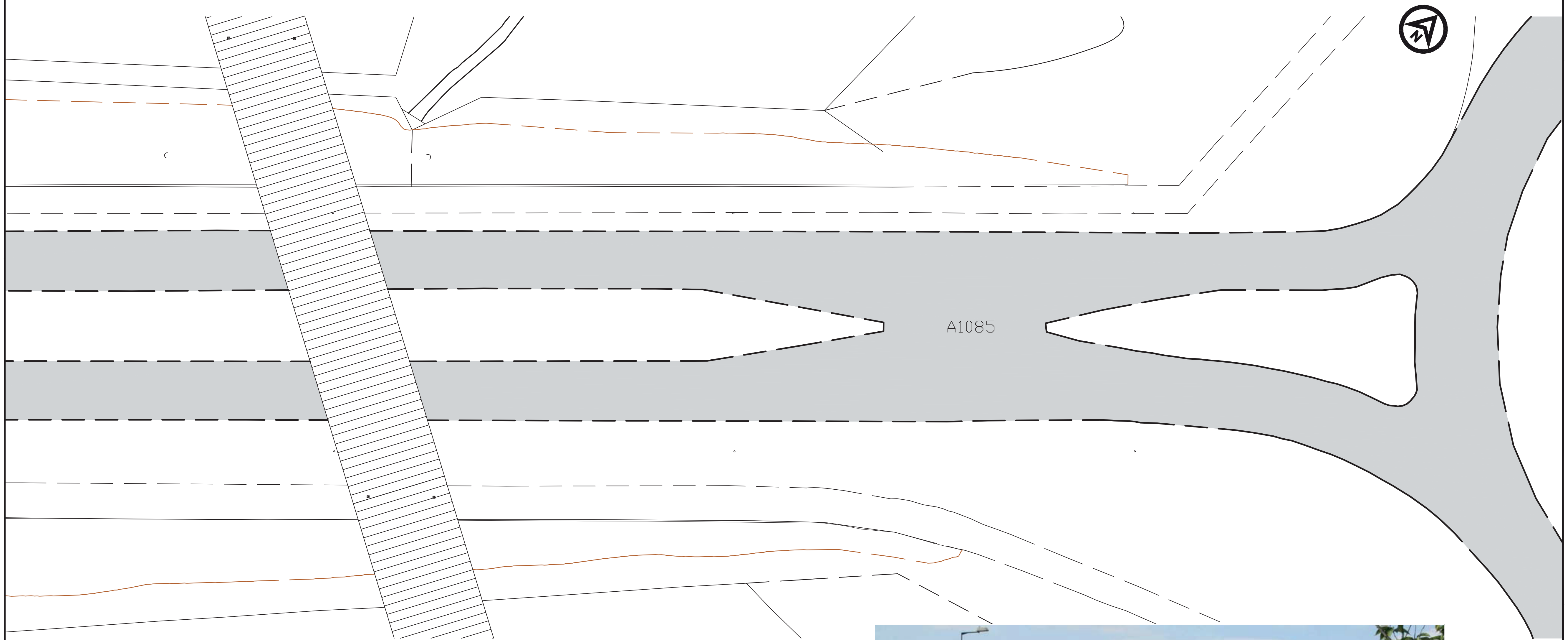

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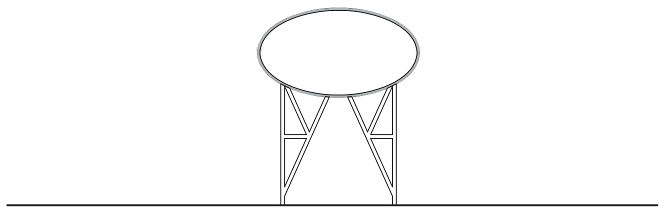
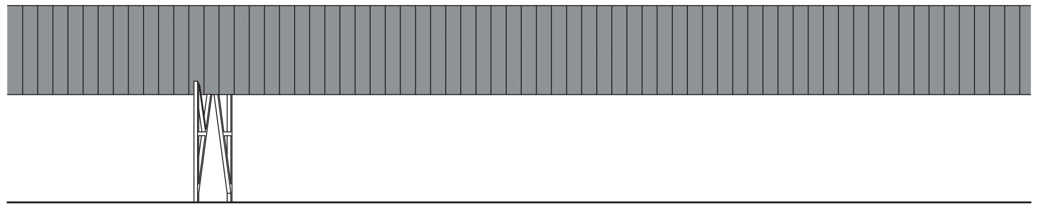


SECTION / VIEW THROUGH CONVEYOR

IN CONTEXT



ELEVATION PARALLEL TO CONVEYOR

NOTES

REV	DATE	DESCRIPTION	BY	CHK	APP
0	12-12-14	PLANNING ISSUE	PAW	DGB	RWP

REVISIONS

PROJECT

YORK POTASH
CONCEPT OPTIONS DEVELOPMENT REPORT

TITLE

OVERLAND CONVEYOR
PROPOSED A1085 CROSSING
OPTION D1

HASKONINGDHV UK LTD
MARITIME & WATERWAYS
Marlborough House
Marlborough Crescent
Newcastle upon Tyne NE1 4EE
+44 (0) 191 211 1300 Telephone
+44 (0) 191 211 1313 Fax
info@newcastle.royalhaskoning.com E-mail
www.royalhaskoningdhv.com Internet

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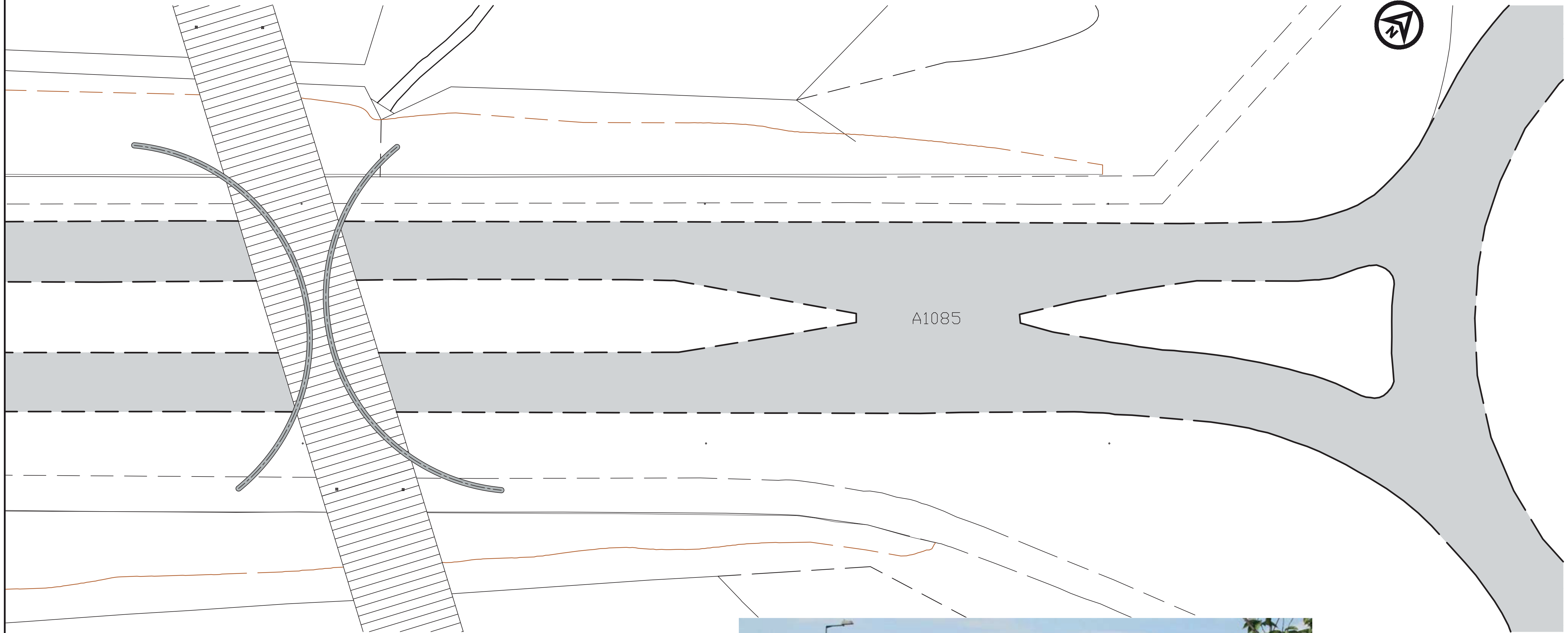

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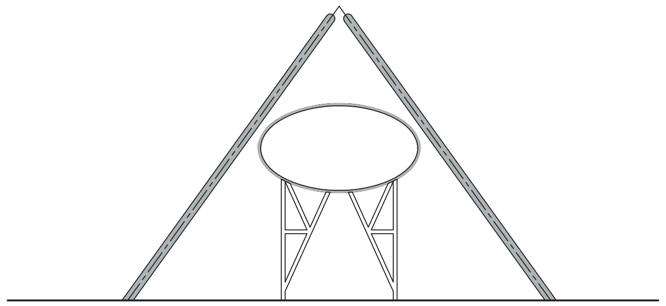

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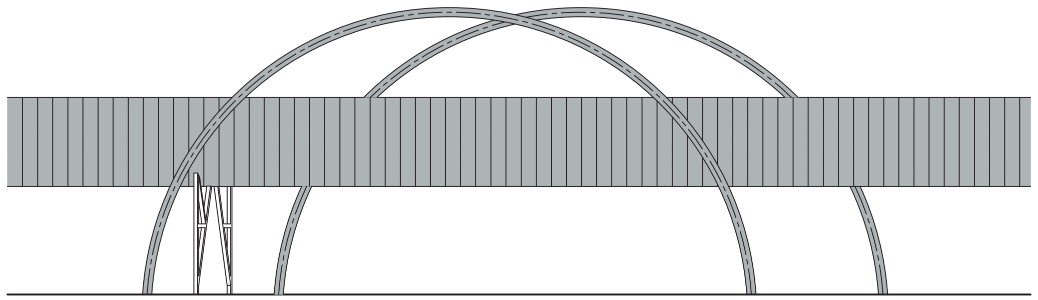

ELEVATION PARALLEL TO CONVEYOR

IN CONTEXT

DESIGN INTENT

NOTES

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0	12-12-14	PLANNING ISSUE	PAW	DGB	RWP

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YORKPOTASH
A Sirius Minerals Project

PROJECT
YORK POTASH
CONCEPT OPTIONS DEVELOPMENT REPORT

TITLE
OVERLAND CONVEYOR
PROPOSED A1085 CROSSING
OPTION D2

Royal HaskoningDHV
Enhancing Society Together

HASKONINGDHV UK LTD
MARITIME & WATERWAYS
Marlborough House
Marlborough Crescent
Newcastle upon Tyne NE1 4EE
+44 (0) 191 211 1300 Telephone
+44 (0) 191 211 1313 Fax
info@newcastle.royalhaskoning.com E-mail
www.royalhaskoningdhv.com Internet

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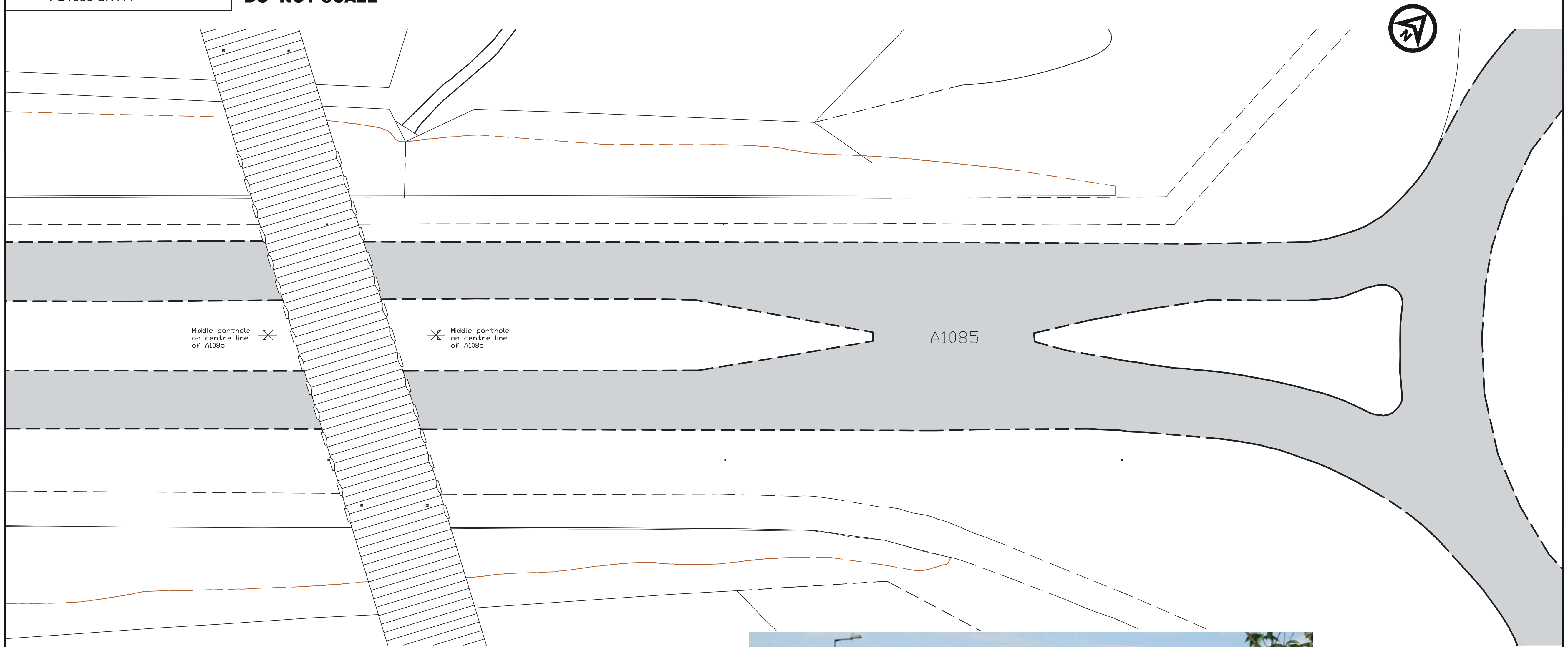

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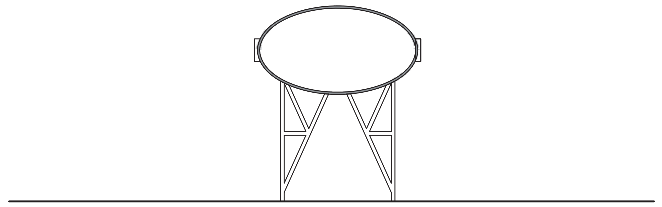

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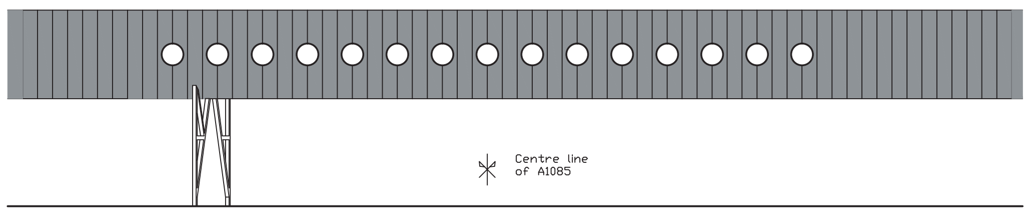

ELEVATION PARALLEL TO CONVEYOR

IN CONTEXT

NOTES

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YORKPOTASH
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PROJECT
YORK POTASH
CONCEPT OPTIONS DEVELOPMENT REPORT

TITLE
OVERLAND CONVEYOR
PROPOSED A1085 CROSSING
OPTION D3

HASKONINGDHV UK LTD
MARITIME & WATERWAYS
Marlborough House
Marlborough Crescent
Newcastle upon Tyne NE1 4EE
+44 (0) 191 211 1300 Telephone
+44 (0) 191 211 1313 Fax
info@newcastle.royalhaskoning.com E-mail
www.royalhaskoningdhv.com Internet

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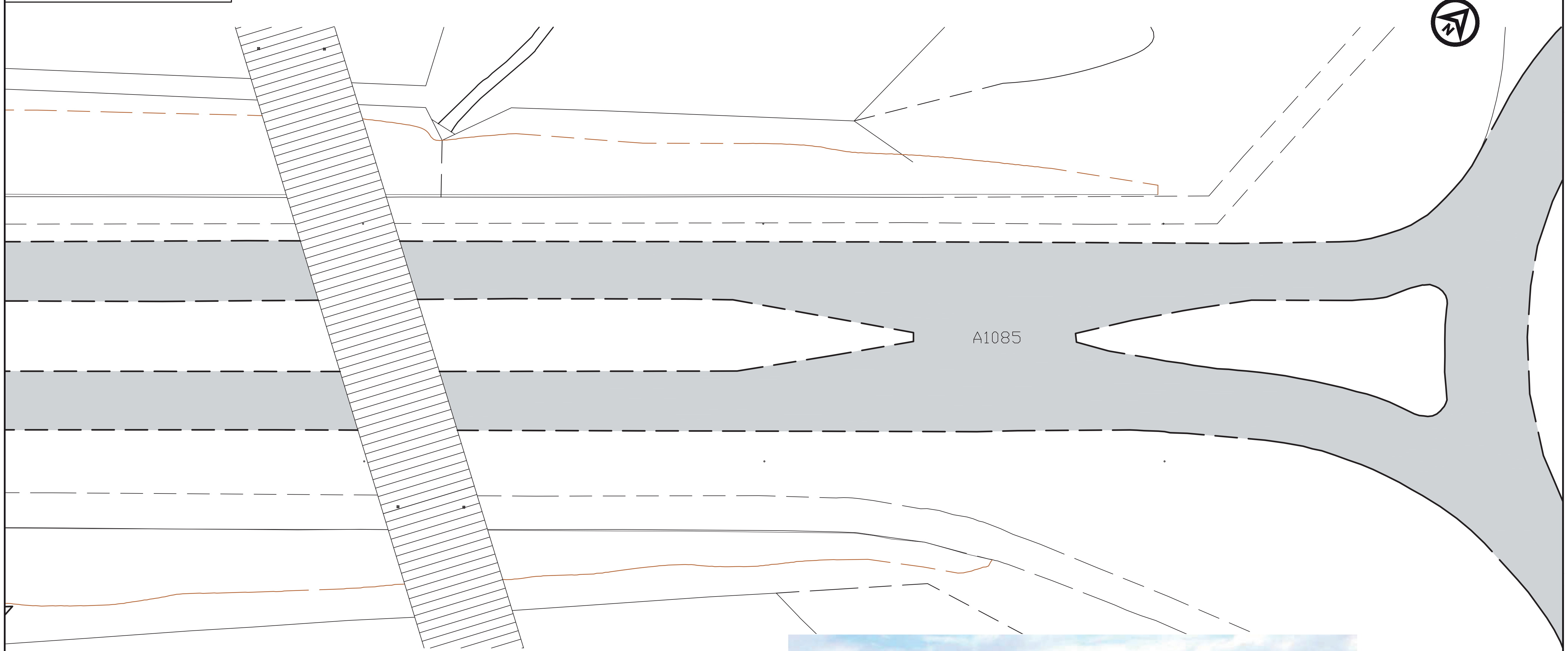

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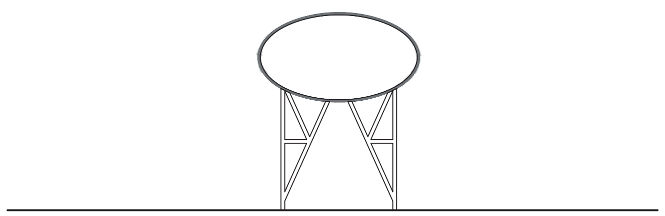

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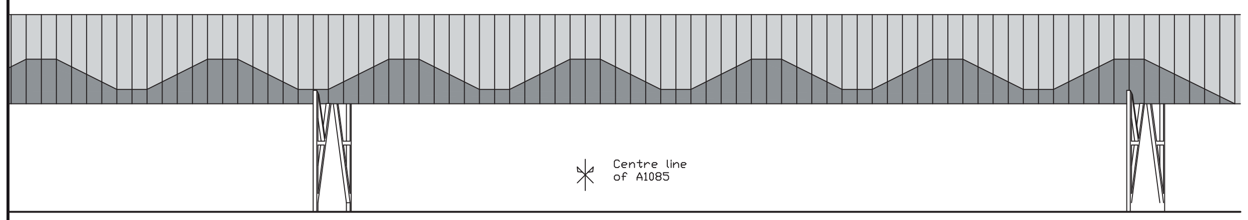

ELEVATION PARALLEL TO CONVEYOR

IN CONTEXT

NOTES

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REVISIONS

PROJECT

YORK POTASH
CONCEPT OPTIONS DEVELOPMENT REPORT

TITLE

OVERLAND CONVEYOR
PROPOSED A1085 CROSSING
OPTION D4

HASKONINGDHV UK LTD
MARITIME & WATERWAYS
Marlborough House
Marlborough Crescent
Newcastle upon Tyne NE1 4EE
+44 (0) 191 211 1300 Telephone
+44 (0) 191 211 1313 Fax
info@newcastle.royalhaskoning.com E-mail
www.royalhaskoningdhv.com Internet

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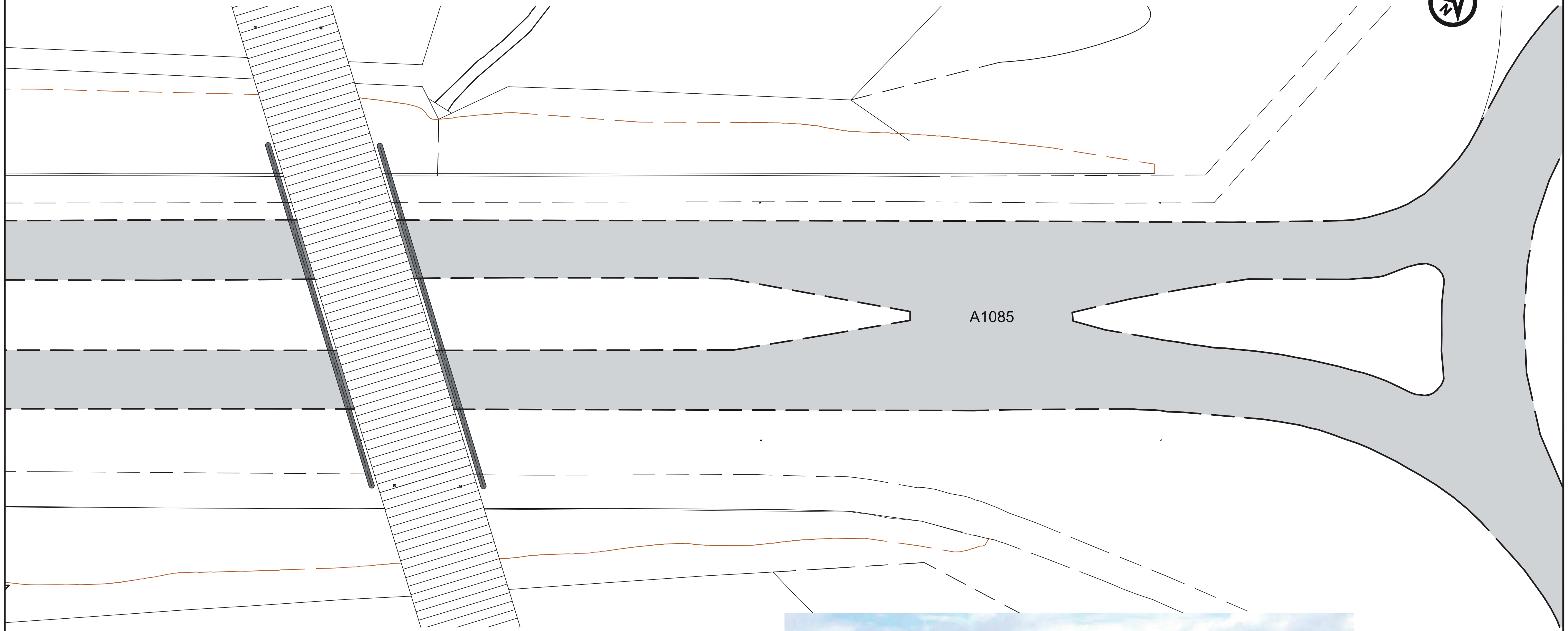

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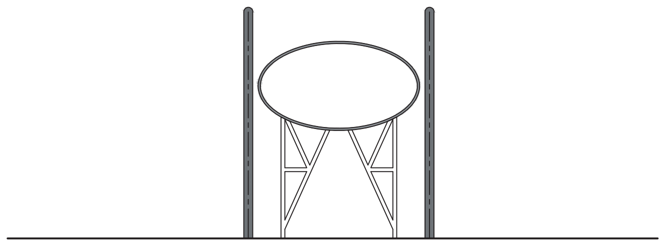

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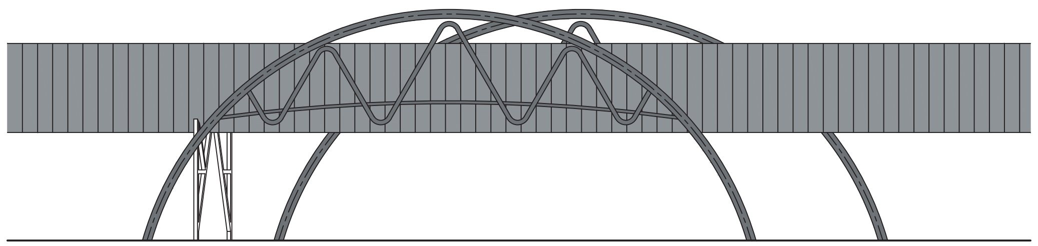

ELEVATION PARALLEL TO CONVEYOR

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YORK POTASH
CONCEPT OPTIONS DEVELOPMENT REPORT

TITLE
OVERLAND CONVEYOR
PROPOSED A1085 CROSSING
OPTION D5

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HASKONINGDHV UK LTD
MARITIME & WATERWAYS
Marlborough House
Marlborough Crescent
Newcastle upon Tyne NE1 4EE
+44 (0) 191 211 1300 Telephone
+44 (0) 191 211 1313 Fax
info@newcastle.royalhaskoning.com E-mail
www.royalhaskoningdhv.com Internet

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REVISION 0

DRG No. PB1585-SK419

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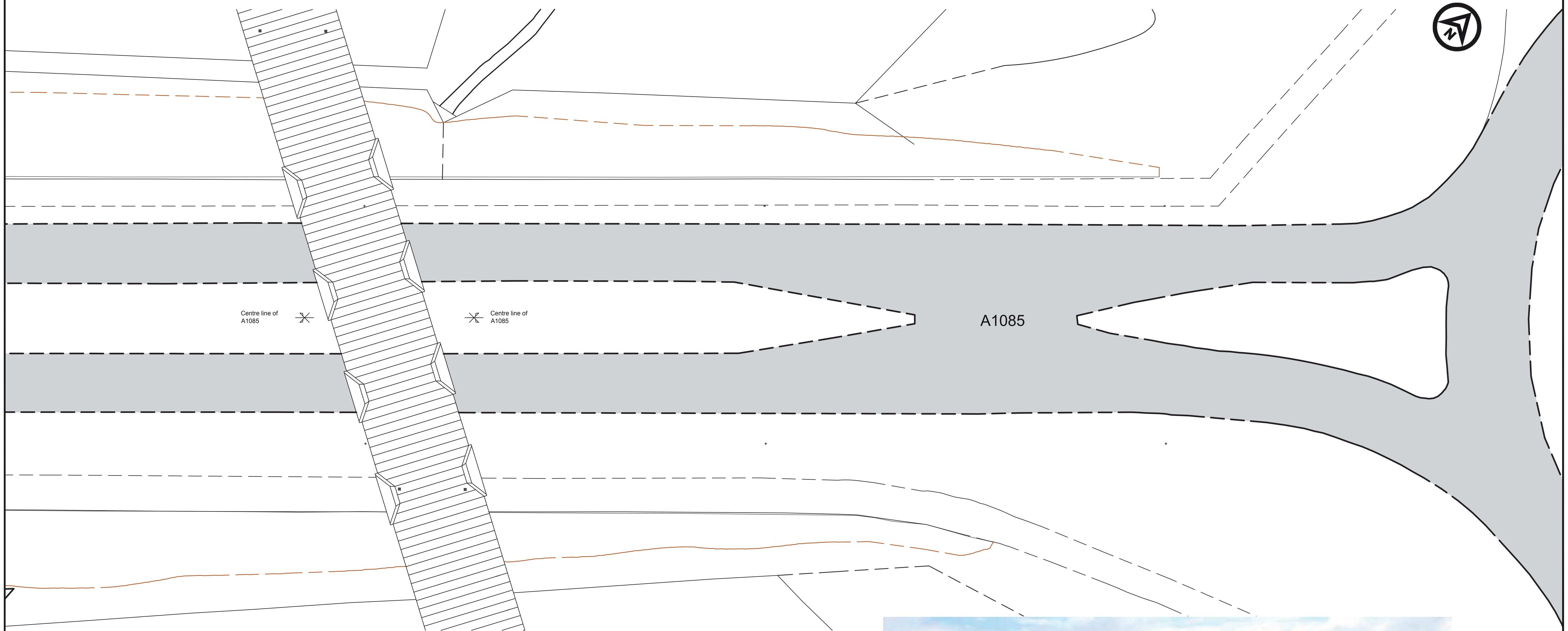

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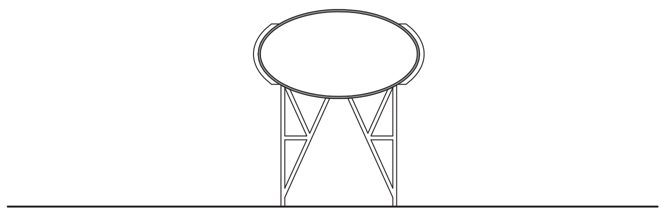
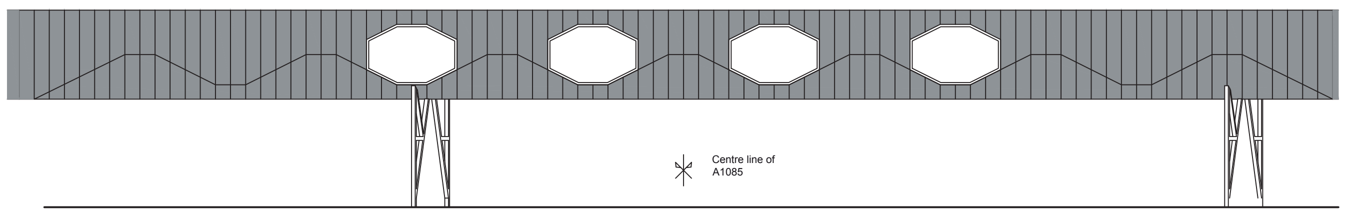


SECTION / VIEW THROUGH CONVEYOR



ELEVATION PARALLEL TO CONVEYOR

IN CONTEXT

NOTES

REV	DATE	DESCRIPTION	BY	CHK	APP
0	12-12-14	PLANNING ISSUE	PAW	DGB	RWP

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PROJECT

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CONCEPT OPTIONS DEVELOPMENT REPORT

TITLE

OVERLAND CONVEYOR
PROPOSED A1085 CROSSING
OPTION D6

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HASKONINGDHV UK LTD
MARITIME & WATERWAYS
Marlborough House
Marlborough Crescent
Newcastle upon Tyne NE1 4EE
+44 (0) 191 211 1300 Telephone
+44 (0) 191 211 1313 Fax
info@newcastle.royalhaskoning.com E-mail
www.royalhaskoningdhv.com Internet

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PB1586-SK419	0

Predicted plant and vehicle requirements

3.1.74 The following plant is envisaged to be required for the construction works:

- ready mix wagons;
- barges;
- low loaders;
- articulated flat beds;
- articulated bulk materials;
- private vehicles;
- piling machines;
- earth moving equipment and lorries; and,
- cranes.

3.1.75 A summary of the construction related traffic movements per month for Phase 1 and Phase 2 for the open quay structure is provided below within **Table 3-4** and **Table 3-5** respectively. Traffic movements for the solid quay structure would be less than those associated with the construction of the open quay structure and, therefore, only these movements are presented as they represent a worse case.

Site access, transport of materials to site and parking

Site access and transportation of construction materials

3.1.76 A review of the potential supply chain within the study area indicates that Teesside is the most likely source for all materials. As such, the primary haul route is expected to utilise the A66 assuming that all HGV trips would have an origin and destination in that region. From the A66, the route continues onto the A1085 trunk road. Beyond the major road network, access to the construction areas for the port terminal, conveyor system and surge bins would be via the A1085 roundabout.

3.1.77 As shown on **Drawing 9Y0989 HCA GA-01**, the proposed scheme requires construction works to the existing A1085 roundabout in order to install a formal exit lane 4.5m wide and an entry lane 7m wide for construction vehicles. In order to install the exit and entry lanes, it is proposed that the existing kerb to the carriageway would be removed, with subsequent resurfacing of the carriageway. The exit and entry lanes would intercept the route of the footpath and cycle route which follows the route of the A1085 (discussed further within **Section 21**). A splitter island is, therefore, proposed to the immediate west of the A1085 roundabout, in-between the proposed exit and entry lanes to provide a refuge point for pedestrians and cyclists. Upon completion of the construction phase, the access and exit lanes from the A1085 roundabout would be closed off and the highway restored.

3.1.78 The A1085 roundabout would be used to access the roads/tracks to enable construction of the port terminal and conveyor system along the southern length of Bran Sands lagoon. Vehicular access to the northern section of Bran Sands lagoon would be via the access road to the immediate south-east of the NWL sewage treatment works. This would enable construction of the conveyor system within the northern section of the conveyor route envelope. There would be a security gate to prevent public access to the Sembcorp site.

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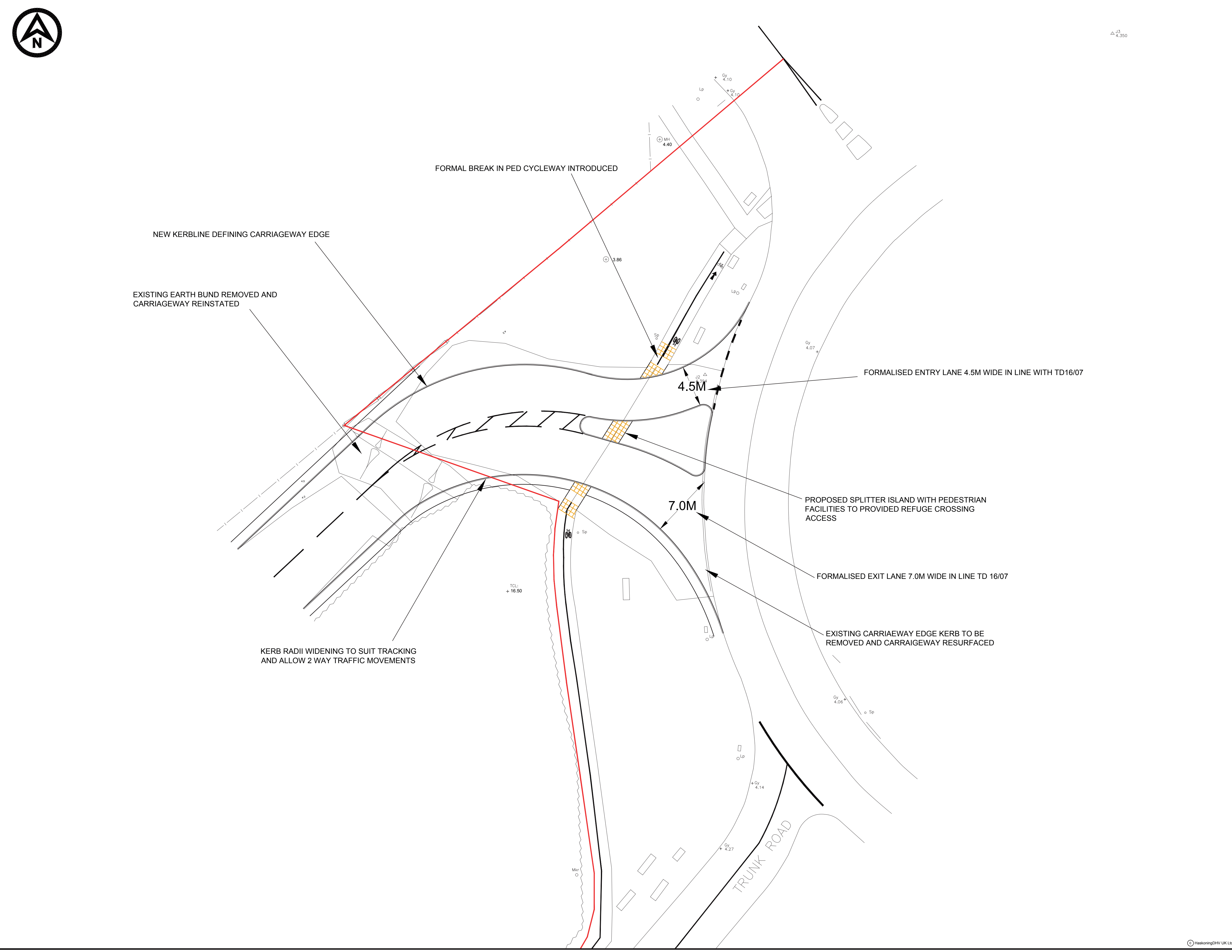

NOTES

1. THE PROPOSED ACCESS ALTERATIONS HAVE BEEN DESIGNED IN ACCORDANCE WITH DESIGN MANUAL FOR ROADS AND BRIDGES TD19/06 VOLUME 6, SECTION 2, PART 3

KEY

EXISTING HIGHWAY BOUNDARY

REV	DATE	DESCRIPTION	BY	CHK	APP
4	12.12.14	DOCUMENT NO AMENDED TO 3.14	RO	DJ	DJ
3	03.12.14	DOCUMENT NO AMENDED TO 3.11	RO	DJ	DJ
2	25.11.14	NOTES AND TITLE AMENDED	RO	DJ	DJ
1	20.11.14	HIGHWAY BOUNDARY ADDED	RO	DJ	DJ

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PROJECT
YORK POTASH
GENERAL ARRANGEMENT DRAWING

TITLE
THE YORK POTASH HARBOUR
FACILITES ORDER 201X
HARBOUR CONSTRUCTION
ROUTE ACCESS.
REGULATION 5 (2) (o)
DOCUMENT 3.14

Royal HaskoningDHV
Enhancing Society Together
HASKONINGDHV UK LTD
MARITIME & WATERWAYS
Marlborough House
Marlborough Crescent
Newcastle upon Tyne NE1 4EE
+44 (0) 191 211 1300 Telephone
+44 (0) 191 211 1313 Fax
info@newcastle.royalhaskoning.com E-mail
www.royalhaskoningdhv.com Internet

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Table 3-4 Summary of maximum daily two-way vehicle movements proposed during construction of Phase 1 of the proposed scheme

Vehicle class	Month																		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Harbour HGV movements	0	0	20	20	80	383	589	589	393	395	179	179	29	29	29	29	17	0	0
Conveyor HGV movements	114	230	300	300	520	406	406	290	290	290	290	0	0	0	0	0	0	0	0
Abnormal loads	0	0	0	0	0	0	0	0	0	2	2	2	0	0	0	0	0	0	0
Total HGVs per month	114	230	320	320	600	789	995	879	683	687	471	181	29	29	29	29	17	0	0
Total HGV's per day*	7	14	19	19	36	47	60	53	41	41	28	11	2	2	2	2	1	0	0
Total car movements per month**	0	0	320	1280	1520	2320	2800	2800	2400	2640	2640	2640	2160	2160	2160	2160	1840	960	320
Total cars per day	0	0	16	64	76	116	140	140	120	132	132	132	108	108	108	108	92	48	16

*assumes 20 days per month and a 20% contingency on daily movements

**assumes an application of car share ratio of 2.5 employees per vehicle

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Table 3-5 Summary of maximum daily two-way vehicle movements proposed during construction of Phase 2 of the proposed scheme

Vehicle class	Month																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Harbour HGV movements	20	20	80	361	401	601	435	209	209	18	22	22	4	4	4	0	0
Abnormal loads	0	0	0	0	0	0	0	2	2	2	0	0	0	0	0	0	0
Total HGVs per month*	20	20	80	361	401	601	435	211	211	20	22	22	4	4	4	0	0
Total HGV's per day	1	1	5	22	24	36	26	13	13	1	1	1	0	0	0	0	0
Total car movements per month**	320	1040	1280	2240	2560	2560	2160	2400	2400	1440	1760	1760	1520	1360	1200	560	160
Total cars per day	16	52	64	112	128	128	108	120	120	72	88	88	76	68	60	28	8

*assumes 20 days per month and a 20% contingency on daily movements
**assumes an application of car share ratio of 2.5 employees per vehicle

3.1.79 The combi-piles required for the solid quay structure are expected to be delivered by ship (or barge) rather than vehicles using the existing road network. They would then be loaded onto trucks for delivery to their point of use. It is anticipated that less than five shipments would be required to transport the combi-piles. It may be the case that other construction materials would also be delivered by barge, but for the purposes of assessment it has been assumed that all construction materials would be delivered by road (i.e. in order to present a worst case scenario for the road traffic assessment).

3.1.80 A load out facility complete with a land based crane in close proximity to the location of the proposed scheme would be required to transport construction equipment to the site. Potential locations include:

- Teesport Estate
  - Riverside Ro-Ro;
  - Container Terminal;
  - Bulk Terminal; and,
  - Ferry Terminal.
- Teesport Commerce Park
  - Heavy Lift Quay;
  - East West Quay; and,
  - Cargo Fleet Wharf.

Parking

3.1.81 During the construction works for Phase 1 and 2, a local parking capacity for up to 112 cars (excluding provision for visitors and disabled parking which will be provided in addition) would be required, depending on the sequencing of the works, as well as the availability of project transport and public transport. Parking provision during Phases 1 and 2 would be within the site compound areas (**Drawings PB1586-SK56** and **PB1586-SK57**).

Site compounds and laydown area

3.1.82 As shown on **Drawings PB1586-SK56** and **PB1586-SK57**, a number of site compound/temporary storage areas of variable size are proposed throughout the proposed scheme footprint. The combined footprint of the site compound/temporary storage areas is approximately 50,000m^2. The site compound locations would be the same for Phases 1 and 2.

3.1.83 The site compounds would be underlain by crushed rock / stone and rain water would percolate into the ground. A mobile bowser is likely to be used for refuelling.

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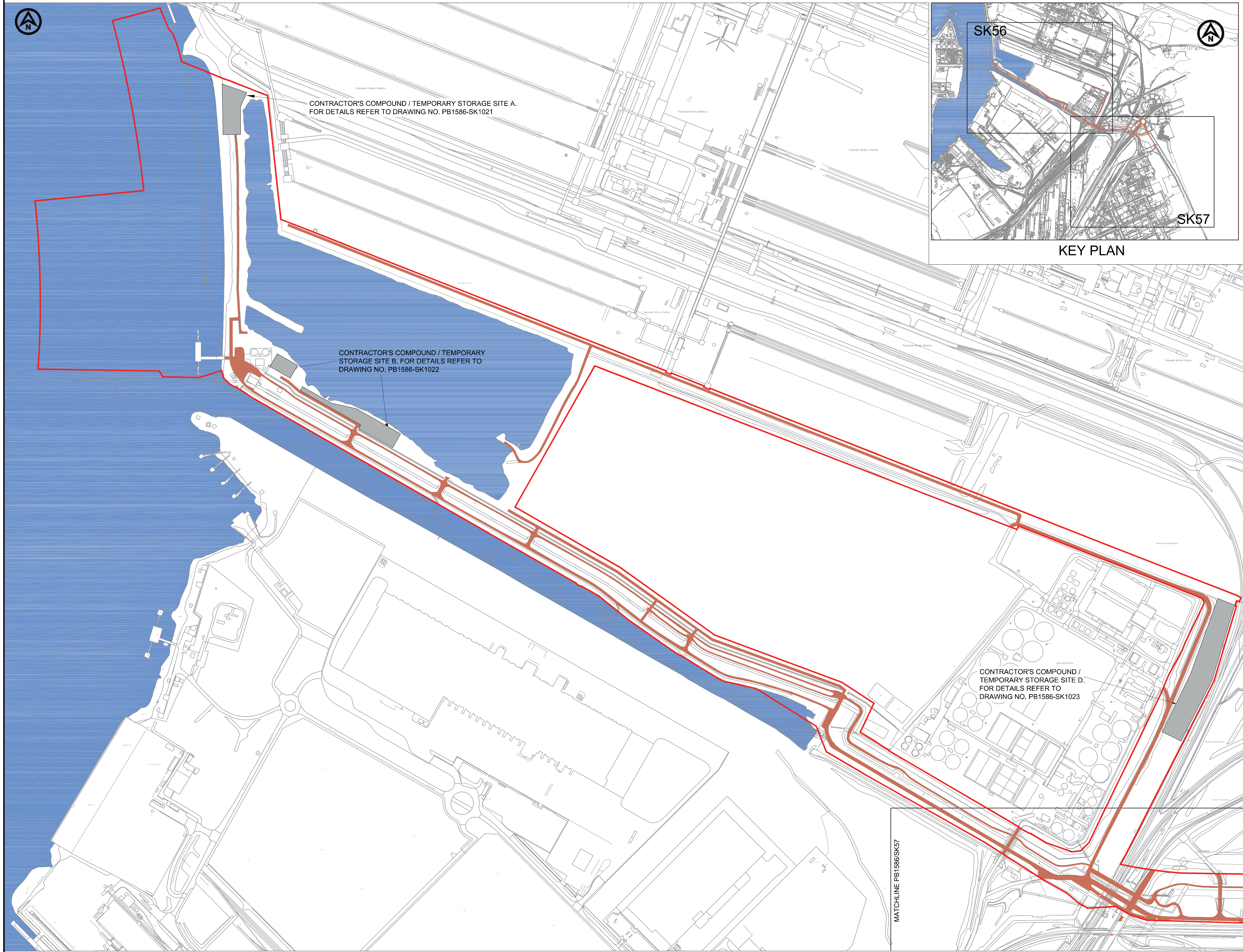

KEY PLAN

NOTES

LEGEND

- ORDER LIMITS
- INDICATIVE ACCESS ROUTES
- LOCATION OF TEMPORARY COMPOUNDS

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9	11/03/15	PLANNING ISSUE	CH	RWP	RWP
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1	21/08/14	PLANNING ISSUE	IT	TJR	TJR
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PROJECT
YORK POTASH

TITLE
THE YORK POTASH
HARBOUR FACILITIES ORDER 201X
LOCATION OF TEMPORARY
COMPOUNDS (SHEET 1 OF 2)
REGULATION 5 (2)(o)
DOCUMENT 3.4A

Royal HaskoningDHV
Enhancing Society Together
HASKONINGDHV UK LTD
MARITIME & WATERWAYS
Marlborough House
Marlborough Crescent
Newcastle upon Tyne NE1 4EE
+44 (0) 191 211 1300 Telephone
+44 (0) 191 211 1313 Fax
info@newcastle.royalhaskoning.com E-mail
www.royalhaskoningdhv.com Internet

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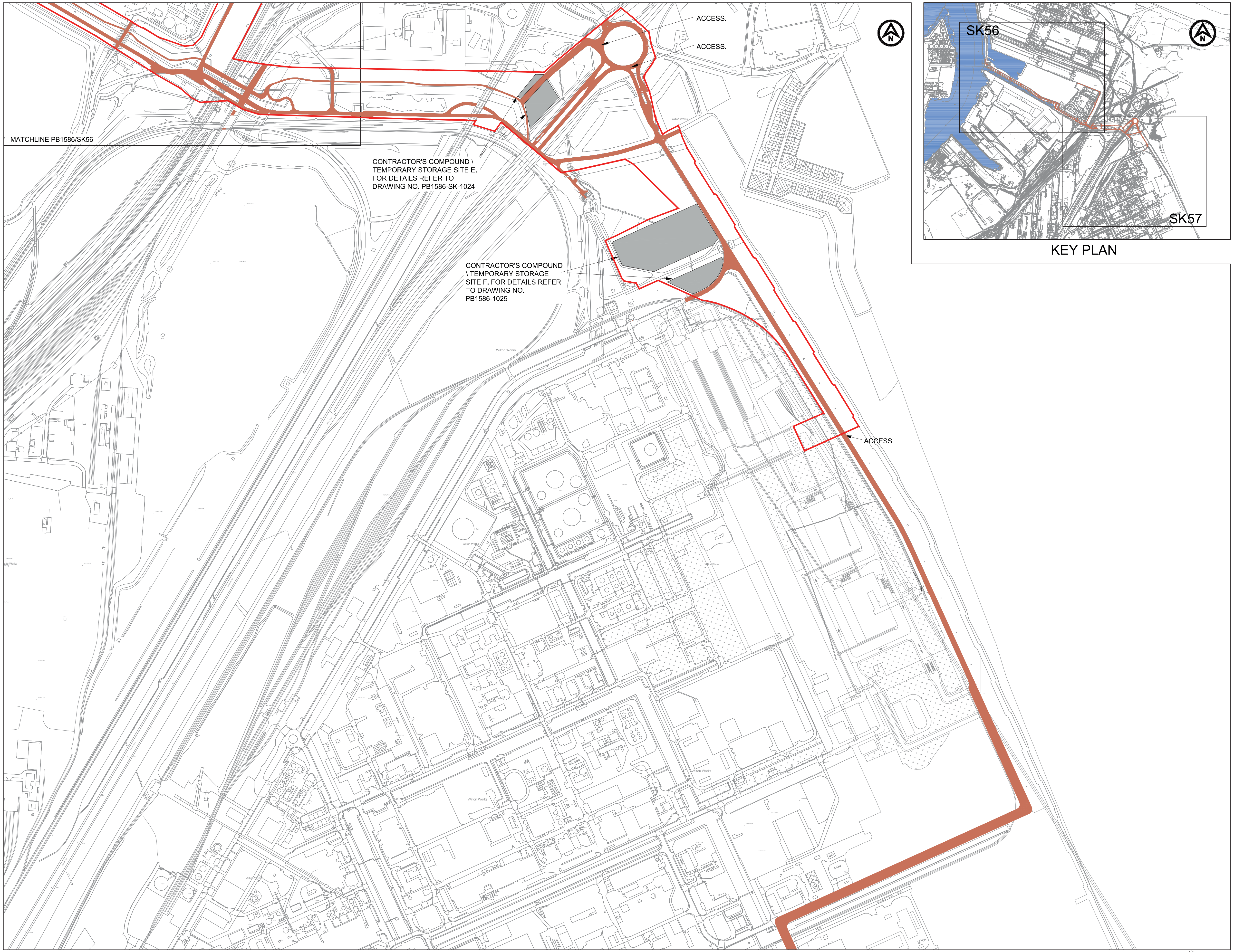

NOTES

LEGEND

- ORDER LIMITS
- INDICATIVE ACCESS ROUTES
- LOCATION OF TEMPORARY COMPONDS

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TITLE

THE YORK POTASH
HARBOUR FACILITIES ORDER 201X
LOCATION OF TEMPORARY
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REGULATION 5 (2)(o)
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HASKONINGDHV UK LTD
MARITIME & WATERWAYS
Marlborough House
Marlborough Crescent
Newcastle upon Tyne NE1 4EE
+44 (0) 191 211 1300 Telephone
+44 (0) 191 211 1313 Fax
info@newcastle.royalhaskoning.com E-mail
www.royalhaskoningdhv.com Internet

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3.1.84 The temporary site compounds will provide the following:

- office facilities;
- car parking;
- materials, preparation and plant areas;
- equipment storage in containers; and,
- plant storage.

3.1.85 The office and welfare facilities would be housed in portable cabins. Typically, these buildings would be installed onto pre-prepared levelled concrete footings. The layouts of the temporary compounds are shown on **Drawings PB1586-SK1021-1025**. All compounds will have security chain link fencing of a maximum of 2m high.

Construction phasing

3.1.86 The construction phase of the proposed scheme would be undertaken in two phases (namely Phase 1 and Phase 2). Details of the proposed works required during Phase 1 and Phase 2 are provided within the **Section 3.1** (above). However, in summary, Phase 1 of the proposed scheme would involve:

- establishment of site compounds;
- construction of a quay 28m wide and 280m in length, including shiploader and shiploader rails;
- dredging of up to 750,000m^3 of material from the approach channel and berth pocket;
- placement of dredged material within Bran Sands lagoon (habitat enhancement proposals);
- installation of a surge bin with a capacity of 1000 tonnes of product;
- installation of the conveyor system and transfer towers;
- construction of buildings and parking area;
- erection of security fencing; and,
- installation of ancillary infrastructure.

3.1.87 In summary, Phase 2 of the proposed scheme would involve:

- extension of the existing quay to provide a total quay length of 486m, including shiploader and shiploader rails;
- dredging of up to 372,000m^3 of material from the approach channel and berth pocket;
- installation of a second surge bin to provide a total storage capacity of 2,000 tonnes of product at the port; and,
- installation of a second conveyor within the conveyor housing installed during Phase 1;
- erection of security fencing; and,
- installation of ancillary infrastructure.

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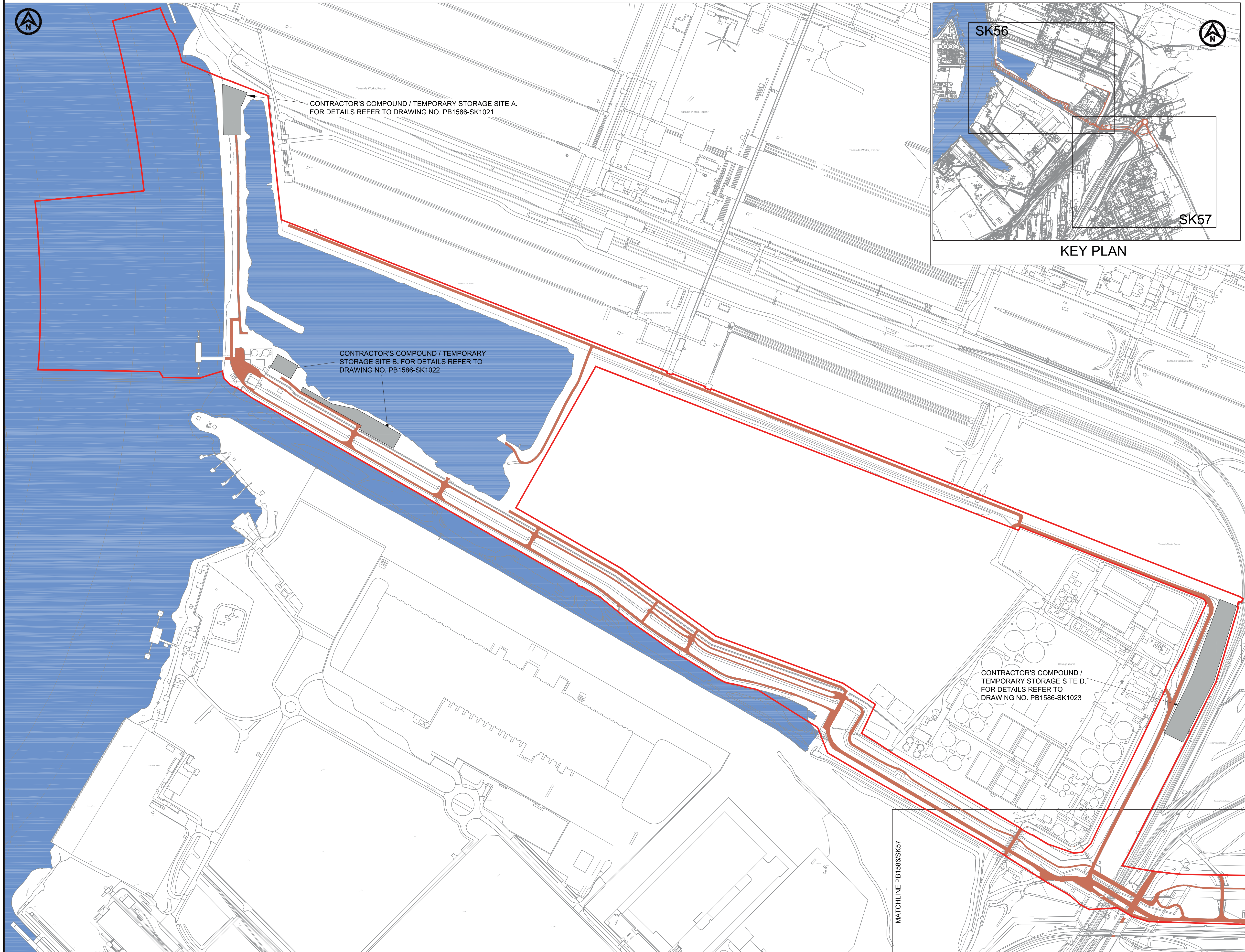

NOTES

LEGEND

- ORDER LIMITS
- INDICATIVE ACCESS ROUTES
- LOCATION OF TEMPORARY COMPOUNDS

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LOCATION OF TEMPORARY
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REGULATION 5 (2)(o)
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Royal HaskoningDHV
Enhancing Society Together

HASKONINGDHV UK LTD
MARITIME & WATERWAYS
Marlborough House
Marlborough Crescent
Newcastle upon Tyne NE1 4EE
+44 (0) 191 211 1300 Telephone
+44 (0) 191 211 1313 Fax
info@newcastle.royalhaskoning.com E-mail
www.royalhaskoningdhv.com Internet

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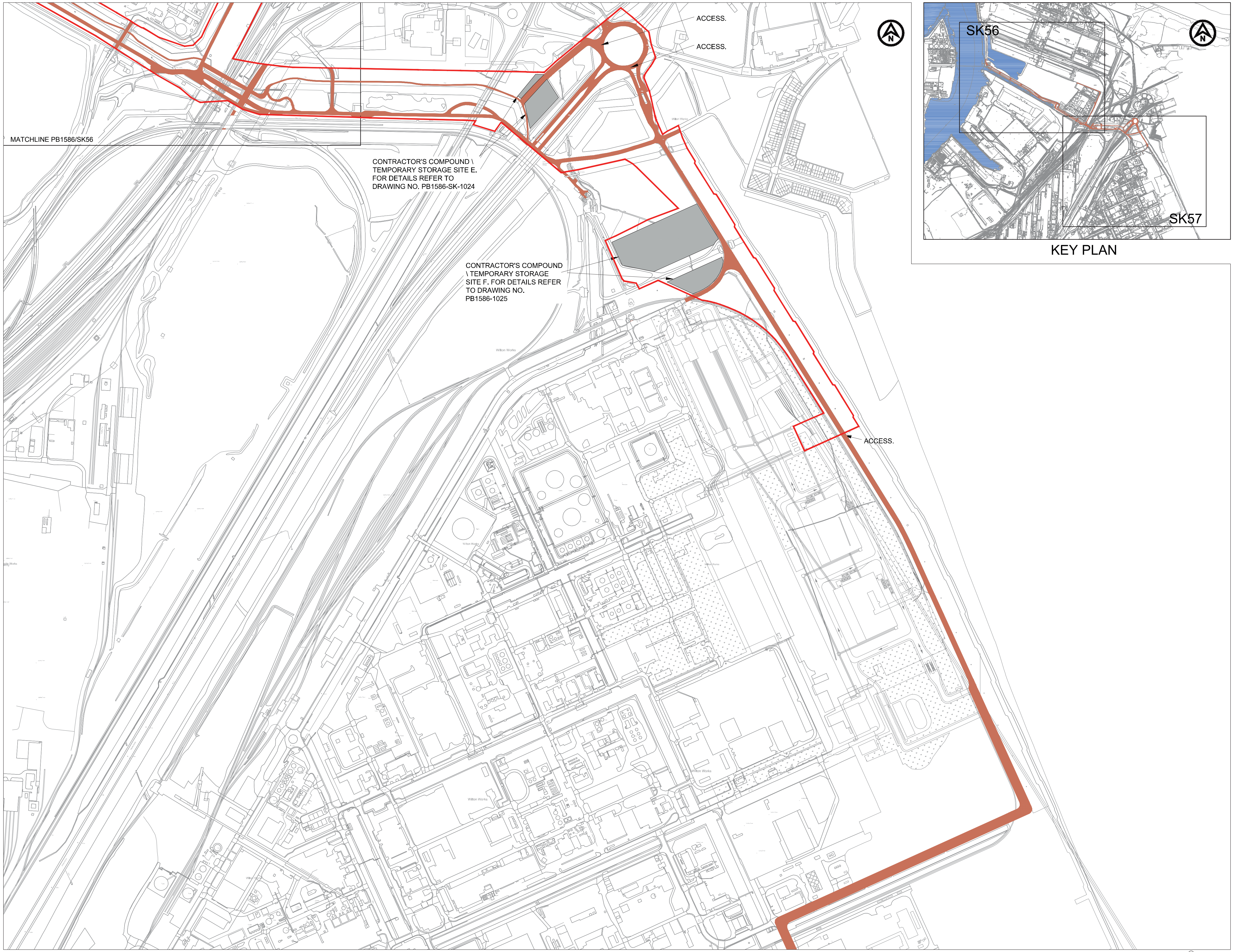

KEY PLAN

NOTES

LEGEND

- ORDER LIMITS
- INDICATIVE ACCESS ROUTES
- LOCATION OF TEMPORARY COMPONDS

REV	DATE	DESCRIPTION	BY	CHK	APP
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HARBOUR FACILITIES ORDER 201X
LOCATION OF TEMPORARY
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HASKONINGDHV UK LTD
MARITIME & WATERWAYS
Marlborough House
Marlborough Crescent
Newcastle upon Tyne NE1 4EE
+44 (0) 191 211 1300 Telephone
+44 (0) 191 211 1313 Fax
info@newcastle.royalhaskoning.com E-mail
www.royalhaskoningdhv.com Internet

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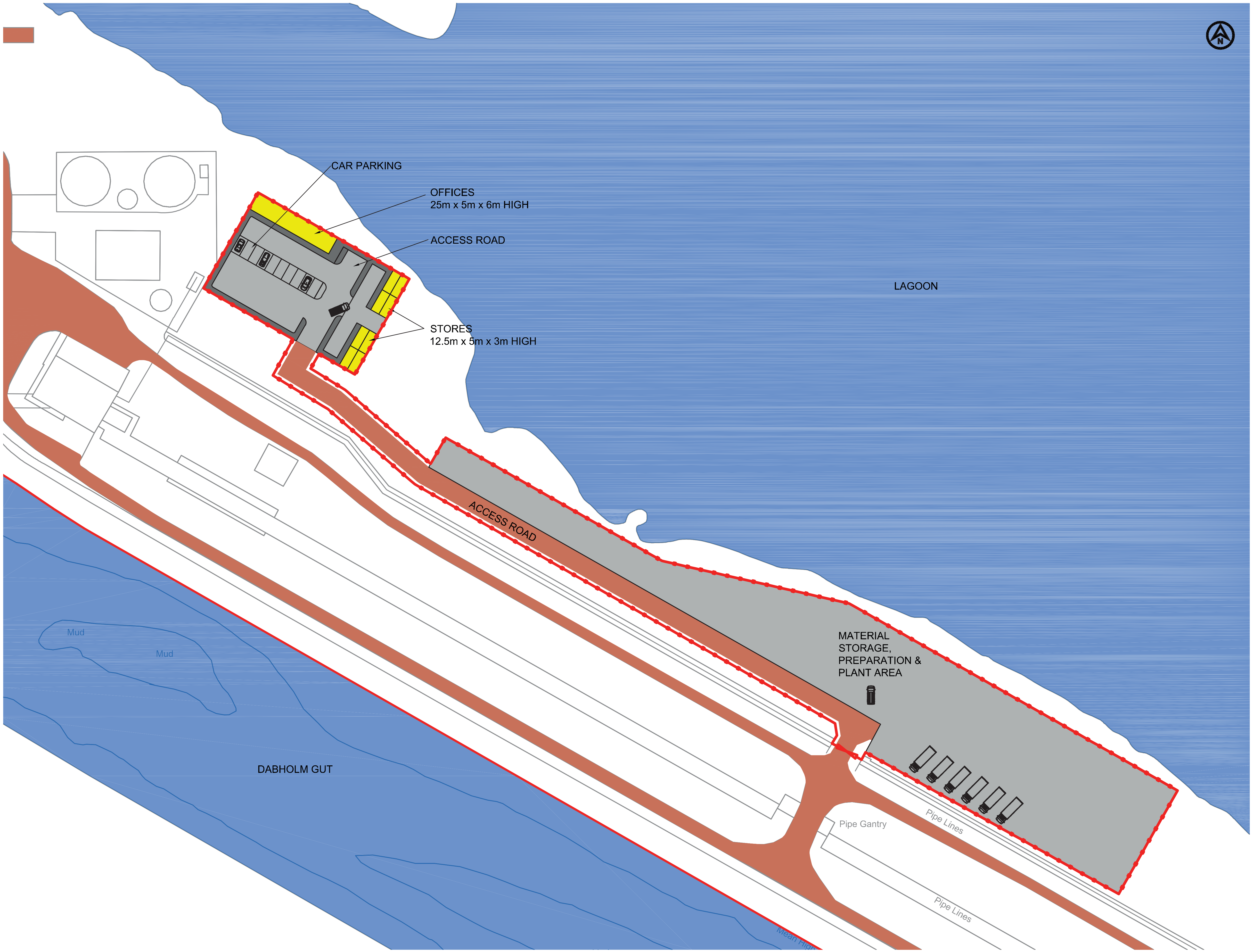

NOTES

LEGEND

- ORDER LIMITS
- PEDESTRIAN WALKWAY
- ACCESS ROAD
- HARDSTANDING
- BUILDINGS/CONTAINER STORAGE
- SECURITY GATE
- SECURITY FENCE

REV	DATE	DESCRIPTION	BY	CHK	APP
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Enhancing Society Together

HASKONINGDHV UK LTD
MARITIME & WATERWAYS
Marlborough House
Marlborough Crescent
Newcastle upon Tyne NE1 4EE
+44 (0) 191 211 1300 Telephone
+44 (0) 191 211 1313 Fax
info@newcastle.royalhaskoning.com E-mail
www.royalhaskoningdhv.com Internet

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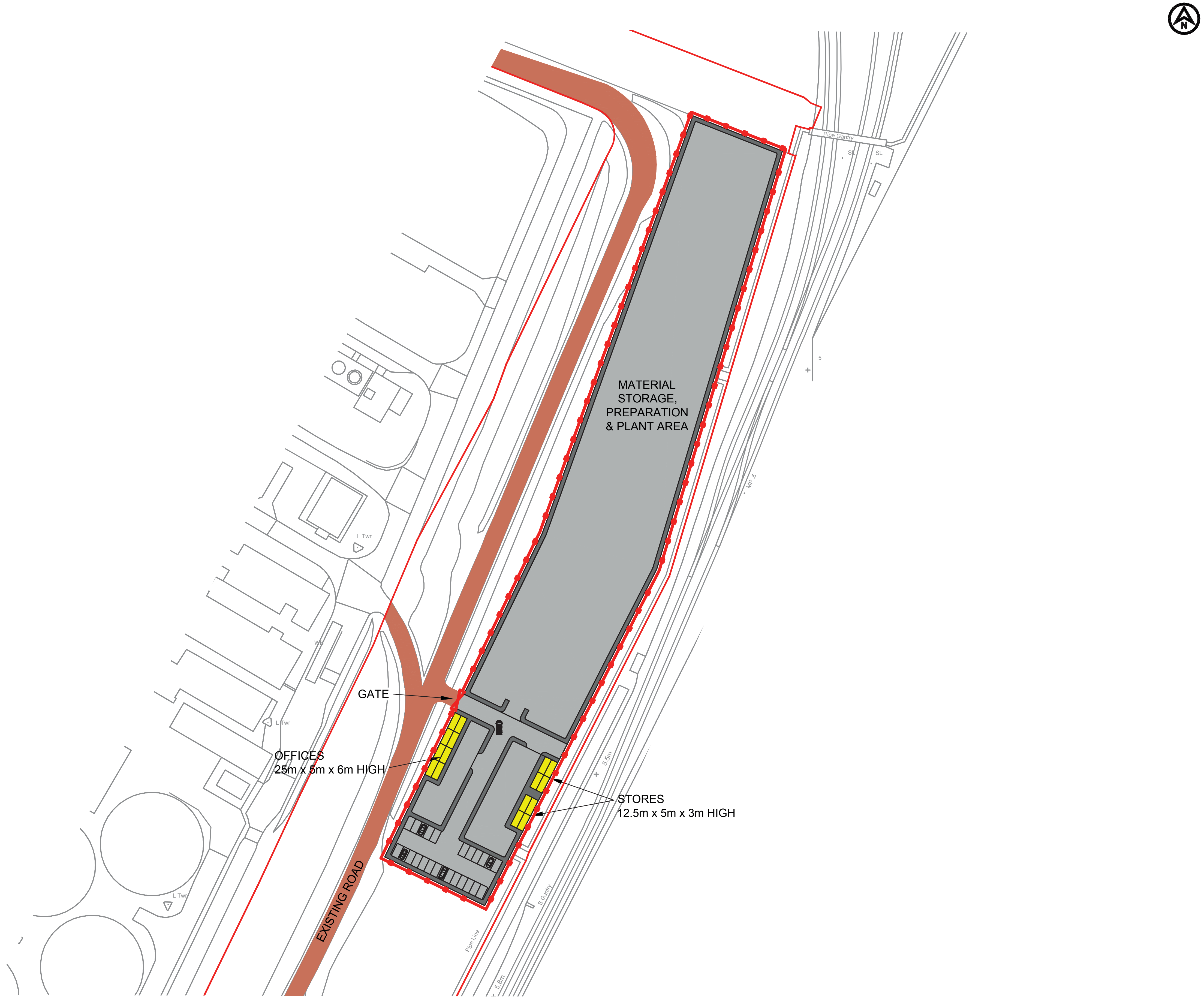

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LEGEND

- ORDER LIMITS
- PEDESTRIAN WALKWAY
- ACCESS ROAD
- HARDSTANDING
- BUILDINGS/CONTAINER STORAGE
- SECURITY GATE
- SECURITY FENCE

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B	05-03-15	ISSUED FOR INFORMATION	LW	DGB	MH
A	13-02-15	ISSUED FOR INFORMATION	LW	DGB	RWP

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HARBOUR FACILITIES ORDER 201X
TEMPORARY COMPOUND SITE D
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Enhancing Society Together

HASKONINGDHV UK LTD
MARITIME & WATERWAYS
Marlborough House
Marlborough Crescent
Newcastle upon Tyne NE1 4EE
+44 (0) 191 211 1300 Telephone
+44 (0) 191 211 1313 Fax
info@newcastle.royalhaskoning.com E-mail
www.royalhaskoningdhv.com Internet

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DRG No. PB1586-SK1024

NOTES

LEGEND
- ORDER LIMITS
- EXISTING FENCE LINE
- PEDESTRIAN WALKWAY
- EXISTING ACCESS ROAD
- HARDSTANDING
- BUILDINGS/CONTAINER STORAGE
- SECURITY GATE
- SECURITY FENCE
- SECURITY CONTROL

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YORK POTASH

TITLE

THE YORK POTASH
HARBOUR FACILITIES ORDER 201X
TEMPORARY COMPOUND SITE E
REGULATION 5 (2)(o)
DOCUMENT 3.4F

Royal HaskoningDHV
Enhancing Society Together

HASKONINGDHV UK LTD
MARITIME & WATERWAYS
Marlborough House
Marlborough Crescent
Newcastle upon Tyne NE1 4EE
+44 (0) 191 211 1300 Telephone
+44 (0) 191 211 1313 Fax
info@newcastle.royalhaskoning.com E-mail
www.royalhaskoningdhv.com Internet

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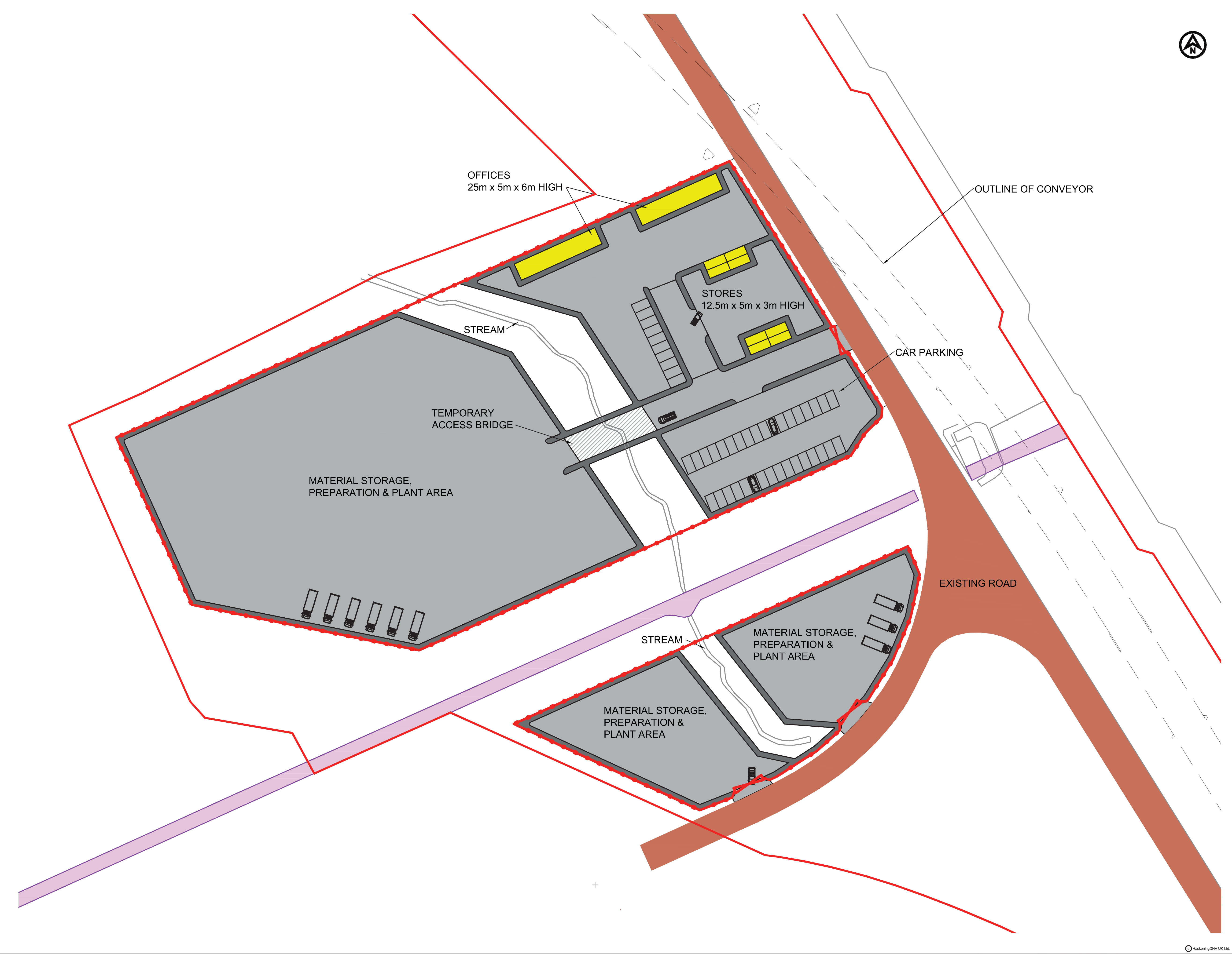
DRG No. PB1586-SK1025



NOTES

LEGEND

- ORDER LIMITS
- EXISTING ABOVE PIPE RACKS
- TEMPORARY ACCESS BRIDGE
- PEDESTRIAN WALKWAY
- ACCESS ROAD
- HARDSTANDING
- BUILDINGS/CONTAINER STORAGE
- SECURITY GATE
- SECURITY FENCE

REV	DATE	DESCRIPTION	BY	CHK	APP
F	19-03-15	PLANNING ISSUE	LW	DGB	MH
E	12-03-15	MINOR REVISIONS	LW	DGB	MH
D	11-03-15	MINOR REVISIONS	LW	DGB	MH
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REVISIONS

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TEMPORARY COMPOUND SITE F
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Enhancing Society Together
HASKONINGDHV UK LTD
MARITIME & WATERWAYS
Marlborough House
Marlborough Crescent
Newcastle upon Tyne NE1 4EE
+44 (0) 191 211 1300 Telephone
+44 (0) 191 211 1313 Fax
info@newcastle.royalhaskoning.com E-mail
www.royalhaskoningdhv.com Internet

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DRAWING No. PB1586-SK1025 | REVISION F

3.1.88 It is envisaged that the construction sequence for the open quay structure, solid quay structure and installation of storage surge bins would comprise the following elements:

a) Open quay structure (sequence to be undertaken during both Phase 1 and Phase 2)

- mobilisation (including dredgers);
- demolitions and site preparation;
- dredging of the river berths;
- installation of the piles using floating plant;
- revetment of the river embankment;
- construction of the concrete deck;
- installation of fixtures and fittings;
- installation of mechanical and electrical services;
- installation of materials handling plant on the quay;
- commissioning; and,
- demobilisation.

b) Solid quay structure (sequence to be undertaken during both Phase 1 and Phase 2)

- mobilisation (including dredgers);
- demolitions and site preparation;
- installation of the combi-pile wall using floating plant;
- partial reclamation;
- installation of anchor wall and crane beam using landside plant;
- remaining reclamation behind combi-wall;
- dredging of the river berths;
- construction of the concrete deck;
- installation of fixtures and fittings;
- installation of Mechanical and Electrical services;
- installation of materials handling plant on the quay;
- commissioning; and,
- demobilisation.

c) Storage surge bins at the port terminal (sequence to be undertaken during both Phase 1 and Phase 2)

- mobilisation;
- demolitions and site preparation;
- raise and improve ground;
- installation of the piled foundation;
- construction of the storage surge bins;
- fitting out of the storage surge bins;
- commissioning; and,
- demobilisation.

d) Conveyor system (sequence to be undertaken during Phase 1 and Phase 2 unless stated otherwise)

- mobilisation;
- demolitions and site preparations;
- piling, shallow excavation for pile caps and construction of pile caps (Phase 1 only);
- erection of transfer towers and major support structures for conveyor bridges and galleries (Phase 1 only);
- erection of conveyor bridge supports;
- pre-assembly of conveyor bridges;
- installation of assembled conveyor bridge and gallery sections;
- installation of walkways and access platforms;
- installation of drives, idler frames, idlers, pulleys, tension stations and instrumentation and control components;
- installation of instrument and control cables;
- pulling and splicing/vulcanisation stations;

- commissioning; and,
- demobilisation.

3.1.89 The housing for various sections of the conveyor (including the section between the MHF and A1085 bridge crossing, the Middlesbrough to Redcar railway crossing section, the section above the sewage works access road crossing and the Dabholm gut crossing) would be installed using a complete enclosing, elliptical housing in Phase 1. The Phase 2 construction works along these sections of the conveyor route would comprise installation of a second conveyor within the existing housing installed during Phase 1.

3.1.90 The remaining lengths of the conveyor system would be 'open' structures, with the Phase 2 conveyor being installed adjacent to the Phase 1 conveyor. These are as indicated on **Drawings PB1586-SK1040** to **1046** and **Drawings PB1586-SK490** to **497**.

Construction programme

3.1.91 The current programme of works proposes that mobilisation of construction plant, machinery and personnel to site is to commence in January 2017 for a period of 2 months. Phase 2 works are programmed to commence within 6 years of completion of Phase 1.

3.1.92 The construction period for Phase 1 works is envisaged to be 17 months for both forms of quay structure. The construction period for Phase 2 works is also envisaged to be 17 months for both forms of quay structure. A breakdown of the durations of key construction elements for both the open and solid quay structure is provided in **Table 3-6** and **Table 3-7.**

Table 3-6 Summary of durations for each key construction activity required as part of the proposed open quay structure

Activity	Phase 1	Phase 2
Piling works (Marine)	13 weeks	12 weeks
Deck construction	29 weeks	26 weeks
Dredging works	14 weeks	12 weeks

Table 3-7 Summary of durations for each key construction activity required as part of the proposed solid quay structure

Activity	Phase 1	Phase 2
Piling works (Marine)	19 weeks	17 weeks
Deck (paving / pavement) construction	10 weeks	8 weeks
Dredging works	13 weeks	10 weeks

3.2 Description of the operational phase

Throughput and vessel mix

3.2.1 The port terminal has been designed for the throughputs shown in **Table 3-8** over the time periods indicated.

Table 3-8 Proposed throughputs of the port terminal during Phase 1 and Phase 2 of the proposed scheme

Operational phase	Operation period following end of construction	Throughput
Phase 1	0 to 6 years	6.5mtpa
Phase 2	6 to 50 years	13mtpa

3.2.2 Vessels using the port terminal would be bulk carriers up to 85,000DWT. **Table 3-9** summarises the anticipated vessel numbers required to achieve the Phase 1 and Phase 2 product throughput. It can be seen that during Phase 2, it is estimated that there would be approximately 191 vessel calls per year at the port terminal.

Table 3-9 Vessel numbers required to transport the anticipated volumes of product from the port terminal during Phase 1 and Phase 2 of the proposed scheme

Vessel size (DWT)	Vessel numbers anticipated in Phase 1 (per year)	Vessel numbers anticipated in Phase 2 (per year)
55,000	30	59
65,000	25	50
75,000	22	44
85,000	19	38

Permanent compounds

3.2.3 There would be two permanent compounds areas, as shown on **Drawings PB1586-SK1026** (Area A) and **PB1586-SK1027** (Area C). Both of these areas accommodate a substation, and Area C accommodates General Services Building (this is the only permanent office/welfare facility).

Personnel

3.2.4 YPL predicts an operational staff of six per shift during Phase 1, with a total of 26 operational staff over the duration of one day. It is predicted that there would be eight operational staff per shift during Phase 2, with a total of 34 operational staff over the duration of one day.

Access and parking

3.2.5 During the operational phase, local parking capacity for up to 7 cars is envisaged. The required parking provision is to be located in the permanent compound areas shown on **Drawing PB1586-SK1026** and **Drawing PB1586-SK1027**.

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NOTES

FOR DETAILS OF THE BUILDINGS PLEASE REFER TO 25900-RHD-C00-4100-10003.

LEGEND

- DCO ORDER LIMITS
- PEDESTRIAN WALKWAY
- HARDSTANDING
- ACCESS ROAD
- BUILDINGS/CONTAINER STORAGE

NOTE: THIS PLAN SHOWS THE 'OPEN QUAY' OPTION

REV	DATE	DESCRIPTION	BY	CHK	APP
D	19-03-15	PLANNING ISSUE	LW	DGB	MH
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TITLE
THE YORK POTASH
HARBOUR FACILITIES ORDER 201X
PERMANENT COMPOUND SITE A
REGULATION 5 (2)(o)
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Royal HaskoningDHV
Enhancing Society Together

HASKONINGDHV UK LTD
MARITIME & WATERWAYS
Marlborough House
Marlborough Crescent
Newcastle upon Tyne NE1 4EE
+44 (0) 191 211 1300 Telephone
+44 (0) 191 211 1313 Fax
info@newcastle.royalhaskoning.com E-mail
www.royalhaskoningdhv.com Internet

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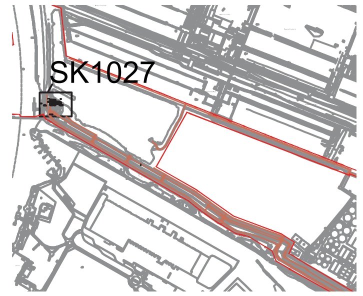
NOTES



KEY PLAN

LEGEND

- DCO ORDER LIMITS
- PEDESTRIAN WALKWAY
- HARDSTANDING
- ACCESS ROAD
- BUILDINGS/CONTAINER STORAGE

NOTE: THIS PLAN SHOWS THE 'OPEN QUAY' OPTION AND THE NORTHERN ROUTE

REV	DATE	DESCRIPTION	BY	CHK	APP
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B	05-03-15	ISSUED FOR INFORMATION	LW	DGB	MH
A	20.02.15	ISSUED FOR INFORMATION	LW	DGB	RWP

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PERMANENT COMPOUND
SITE C - REGULATION 5 (2)(o)
DOCUMENT 3.5B

Royal HaskoningDHV
Enhancing Society Together
HASKONINGDHV UK LTD
MARITIME & WATERWAYS
Marlborough House
Marlborough Crescent
Newcastle upon Tyne NE1 4EE
+44 (0) 191 211 1300 Telephone
+44 (0) 191 211 1313 Fax
info@newcastle.royalhaskoning.com E-mail
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3.2.6 Operational phase access to the harbour facility would be gained from the existing access roads/tracks.

Maintenance dredging

3.2.7 There is an existing requirement for maintenance dredging of the approach channel and various berth pockets in the Tees estuary. The existing maintenance dredging regime is implemented and managed by PD Ports and the locations, volumes and frequency of dredging are well recorded.

3.2.8 As a result of the proposed scheme it is envisaged that the newly deepened sections of berth pocket and channel would need to be incorporated into the existing maintenance dredging strategy. The material from maintenance dredging would be disposed of at the existing disposal site within Tees Bay, as currently occurs.

Waste water management

3.2.9 Waste water will be collected in a storage tank located under the car parking spaces. The tank will be periodically pumped out. .

Security

3.2.10 Site security during the operational phase of the proposed scheme would be provided by Sembcorp. Enhancements to the Wilton Industrial Complex security systems may be developed as a result of later security assessments. No specific security measures are proposed at this time although all the compounds (temporary and permanent) will be fenced.

Power requirements for the proposed scheme

3.2.11 The power supply to the Harbour facility is proposed to be provided from the MHF via an 11kV power supply cable. The cable would be suitable for Phase 1 only; a second power supply cable would be required for Phase 2. It is proposed that the power supply cable for both phases of the proposed scheme would run along the overhead bridges of the overland conveyor.

Description of the decommissioning phase

3.2.12 The proposed port terminal would be a long term infrastructure proposal and there are currently no plans to decommission the terminal. As such, decommissioning of the port terminal has not been considered further.

3.2.13 The decommissioning of the conveyor system would comprise the complete removal of site infrastructure (including site wide utilities, concrete / steel structures, platforms, foundations and drainage systems) and remedial works in order to allow the site surfaces to blend into the surrounding environment. Materials would be kept on site and used within the restoration works, where possible. Materials which are taken off-site would be recycled if suitable. The surge bins and shiploaders are likely to be decommissioned and removed off site.

3.2.14 The information within **Table 3-10** provides a summary of the decommissioning works anticipated to be required for the conveyor system.

Table 3-10 **Summary of decommissioning works for the conveyor system**

Element of conveyor system	Decommissioning works
Conveyors	Making safe power supplies to the mechanical conveyors. Removal of any potential contaminants (e.g. gearbox oil) from site. Disconnecting and removing electrical and control cables and removing from site. Dismantling of mechanical conveyor motors and components and removal from site.
Conveyor platform and structure	Removal of the conveyor belt. De-connect walkways, conveyor bridges and support and lift by crane onto lorries for recycling off-site. Breaking and crushing of concrete superstructure elements for re-use on or offsite or recycling.
Conveyor foundations	Excavating the ground surface to expose the foundations. Breaking foundations using a mechanical breaker (or cutting them off at ground level) prior to crushing for either on or offsite re-use or recycling.
Earthworks	Filling voids from the conveyor platform foundations with appropriate backfill material. Reinstatement of the ground surface to its previous condition.
Ancillary buildings	Removing all buildings and foundations up to 2m below ground level or to rock head. Any demolition material suitable for backfilling will be crushed and re-used.
Utilities	Removing all utility apparatus and utility service trenches. Reinstating service trenches.
Fencing	Removing security fencing and transporting off-site for potential re-use. Agricultural boundary fencing demarking the site boundary will be maintained.

3.3 Consideration of alternative options

3.3.1 As discussed above, there are elements of the proposed scheme for which options are being considered (that is, the port terminal form of construction (open or solid quay) and the routing of the conveyor system along either the northern or southern sides of Bran Sands Lagoon). Where design options are available, the worst case potential impact for each environmental parameter has been assessed or, in the case of the conveyor routing, both options under consideration have been assessed.

3.3.2 In addition, YPL considered the use of alternative ports along the eastern and north-eastern coast of England, prior to determining that a port in the Tees estuary would be the most suitable export facility, as well as considering alternative frontage locations and layouts in the Tees estuary.

3.3.3 As set out above, alternative options for the use of the dredged arisings have also been considered. Each of these alternatives are discussed below.

Alternative ports for the marine terminal

3.3.4 The port at Hull was considered as an alternative solution; however, this would involve the MTS transporting the product approximately three times the distance from the Mine to the export facility as that required to export from Teesside (with greater associated disruption). The MTS would also be required to cross the Humber which would be a significant constraint.

3.3.5 The port at Whitby was also considered for the export of product. However, this port is too small to accommodate the facilities required to export the planned volumes of polyhalite product. Whitby port can only accommodate fishing trawlers rather than large shipping vessels required as part of the proposed schemes and any facility constructed in the near shore area could impact on the Yorkshire Heritage Coast.

3.3.6 Given this high level assessment, the Tees estuary was selected as the preferred location for the export facility.

Alternative frontages considered within the Tees estuary to construct the marine terminal

3.3.7 Once the Tees estuary was confirmed as the preferred export location, YPL considered a number of different frontages within the Tees estuary for the port terminal. Other potential locations which were considered prior to selecting Bran Sands as the preferred location comprised the Northern Gateway Container Terminal (NGCT), Queen Elizabeth II Berth (QEII) and No.1 Quay within Tees Dock.

3.3.8 The consented (but not yet constructed) NGCT is a proposed container terminal on the southern bank of the Tees estuary. YPL has determined that the use of containers as a means of export of the product is not economically sustainable as a business case for the proposed export volumes. As such, this option was ruled out from further consideration.

3.3.9 No.1 Quay (owned by PD Teesport) has also been discounted as a potential option as PD Ports has indicated that it has other aspirations for the quay. The QEII Berth was discounted on technical grounds by YPL, as it is not possible to extend the berth to a size which would enable the export of 13mtpa of product.

Alternative designs and layouts for the storage of product at the port terminal

3.3.10 YPL initially considered the use of a flat storage shed immediately landward of the proposed port terminal to cater for hatch changes and other ship loading interruptions, prior to selecting the use of surge bins for this purpose. The proposed use of surge bins means that there is no requirement for the partial reclamation of Bran Sands lagoon, which would have been the case for a storage shed, incurring a significantly larger footprint than the surge bins.

Alternative forms of transport to the construction site

3.3.11 Sea routes present a realistic alternative (to road) by which to transport construction materials and equipment to the construction site. As noted above, it has been assumed that combi-piles for the solid quay structure would be delivered by ship.

3.3.12 The method for transporting construction materials and plant is largely dependent on the contractor's preferred methodology. Hence other plant and materials could also be transported to the site by sea. However, the assessment presented within this ES has been based on transporting all construction material to the proposed scheme footprint using the existing road network, with the exception of the combi-piles that would be required for the solid quay structure option, on a precautionary basis.

Alternative alignments for the conveyor system

3.3.13 A total of 10 alignments for the overland conveyor were considered by YPL through an Option Study Report (**Appendix 3.2**) prior to selecting the preferred route. The Option Study Report was produced to summarise the work that has been undertaken with regard to the proposed conveyor route envelope and to provide the reasoning behind the decision making process (which took the form of a combination of evidence based assessments and professional judgement from technical experts). The information below provides a summary of the information presented in the Option Study Report.

3.3.14 During the development of the conveyor route envelope, a total of 10 routes were considered (**Appendix 3.2**). To assist in the determination of a preferred route (within an overall conveyor route envelope), an options evaluation exercise was undertaken which took account of a number of factors, including:

- visual impact;
- buried services;
- above ground services and support structures
- above ground road and rail bridges and embankments
- overhead lines
- engineering properties of the ground
- contamination
- safe constructability
- mechanical handling design; and,
- operation and maintenance.

3.3.15 A total of three vertical alignment options were considered, namely:

- At grade – the route would be at existing ground level passing under bridges where possible.
- Elevated above ground level and existing infrastructure.
- Tunnel from Wilton to Bran Sands.

3.3.16 The option of passing the conveyor under the A1085 was also assessed.

3.3.17 Some of the routes considered straight sections with 25m tall transfer towers, and others large radius curves.

Horizontal alignment

3.3.18 The most reliable method of conveying the material to the Harbour facilities would be to have a continuous conveyor from the MHF at Wilton, with a transfer tower at either end. The preference for a continuous conveyor, therefore, ruled out seven of the nine options considered. Of the remaining two options, one was rejected as this was located at ground level, leaving only one possible option (referred to as Option IX with **Appendix 3.2**). The option of constructing the conveyor at grade was rejected on technical grounds, given the existing high number of above ground services and support structures already present under existing bridges, thereby obstructing the route required for the conveyor.

Vertical alignment

3.3.19 The information within **Table 3-11** summarises the positive and negative aspects of the four vertical alignment options considered.

Table 3-11 Positive and negative aspects of the various vertical alignment options considered

Option	Positive aspects	Negative aspects
At grade	• Straightforward construction • No elevated sections • Minimal visual impact • Relatively low amounts of excavation and contaminated waste disposal	• Obstructs internal roads and bridges • Insufficient clearance to existing structure • Route would require protection from flooding along most of its length
Elevated above ground level and existing infrastructure	• Minimal construction in the flood plain. • Avoids link lines and buried services / easements • Avoids obstructing internal roads • Avoids tree removal • Installation of a span over the A1085 would typically be undertaken in a single night • Little or no disruption to traffic or services on the A1085	• Elevated construction • Supports required • Foundations to be located outside of easements • Clearances over structures and under power lines required
Cut and cover tunnel from Wilton to Bran Sands	• Lowest visual impact.	• Control of groundwater required. • Contamination risk. • Spoil disposal requirements. • Damage to roads and railways due to box jacking and open cut excavation. • Flood risk. • Disruption to the area.

3.3.20 The recommended solution within the Option Study Report is the elevated option (with both a northern and southern conveyor route option within the overall conveyor route envelope). In this option, the impact on buried services and bridges would be minimised. There would also be no risk of flooding to the conveyor and nominal encroachment into the floodplain. This option has therefore been proposed, and an elevated conveyor route along either the northern or southern route (within the overall conveyor route envelope presented in **Drawings PB1586-SK1040** to **PB1586-SK1046** and **Drawings PB1586-SK490** to **PB1586-SK497**) has been assessed within this ES.

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