THE YORK POTASH HARBOUR FACILITIES ORDER 201X

HABITATS REGULATIONS ASSESSMENT

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YORKPOTASH
A Sirius Minerals Project

Royal HaskoningDHV
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York Potash Project Harbour Facilities Habitats Regulations Assessment

Pursuant to Regulation 5(2)(g) of The Infrastructure Planning (Applications: Prescribed Forms and Procedures) Regulations 2009 (as amended)

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Abbreviations

AA	Appropriate Assessment
AAS	Assessment of Alternative Solutions
bgl	below ground level
bCD	below Chart Datum
CBC	Common Bird Census
CIA	Cumulative Impact Assessment
DCO	Development Consent Order
EMS	European Marine Site
EU	European Union
HRA	Habitats Regulations Assessment
IROPI	Imperative Reasons of Overriding Public Interest
LSE	Likely Significant Effect
MHF	Materials Handling Facility
MMO	Marine Management Organisation
Mtpa	Million tonnes per annum
MTS	Mineral Transport System
NYMNP	North York Moors National Park
NYMNPA	North York Moors National Park Authority
P&R	Park & Ride
PINS	Planning Inspectorate
RCBC	Redcar and Cleveland Borough Council
SAC	Special Area of Conservation
SPA	Special Protection Area
WeBS	Wetland Bird Survey
YPL	York Potash Limited
YPP	York Potash Project
ZOI	Zone of Influence

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1 INTRODUCTION AND BACKGROUND

1.1 Purpose of this Report

1.1.1 This report presents the findings of the Habitats Regulations Assessment (HRA) that has been undertaken for the York Potash Project (YPP) Harbour facilities on behalf of York Potash Limited (YPL), a subsidiary of Sirius Minerals Ltd. It considers the Harbour facilities in the context of the Conservation of Natural Habitats and Species Regulations 2010 (the 'Habitats Regulations') and provides information to enable 'screening' of the Harbour facilities alone and in combination with other plans and projects (including the other elements of the YPP (see Section 1.2)) with respect to its potential to have a Likely Significant Effect (LSE) on European sites (Special Areas of Conservation (SACs) and Special Protection Areas (SPAs)) and Ramsar sites. LSE is, in this context, any effect that may be reasonably predicted as a consequence of the Harbour facilities (alone and in combination) affecting the conservation objectives of the qualifying features for which a site is designated, but excluding trivial or inconsequential effects (also refer to Section 1.5).

1.1.2 Following the provision of information to enable LSE screening, this report provides the information required to enable a conclusion to be drawn with regard to the effect of the Harbour facilities (alone and in combination with other plans and projects) on European and Ramsar site integrity; that is, the information for Appropriate Assessment.

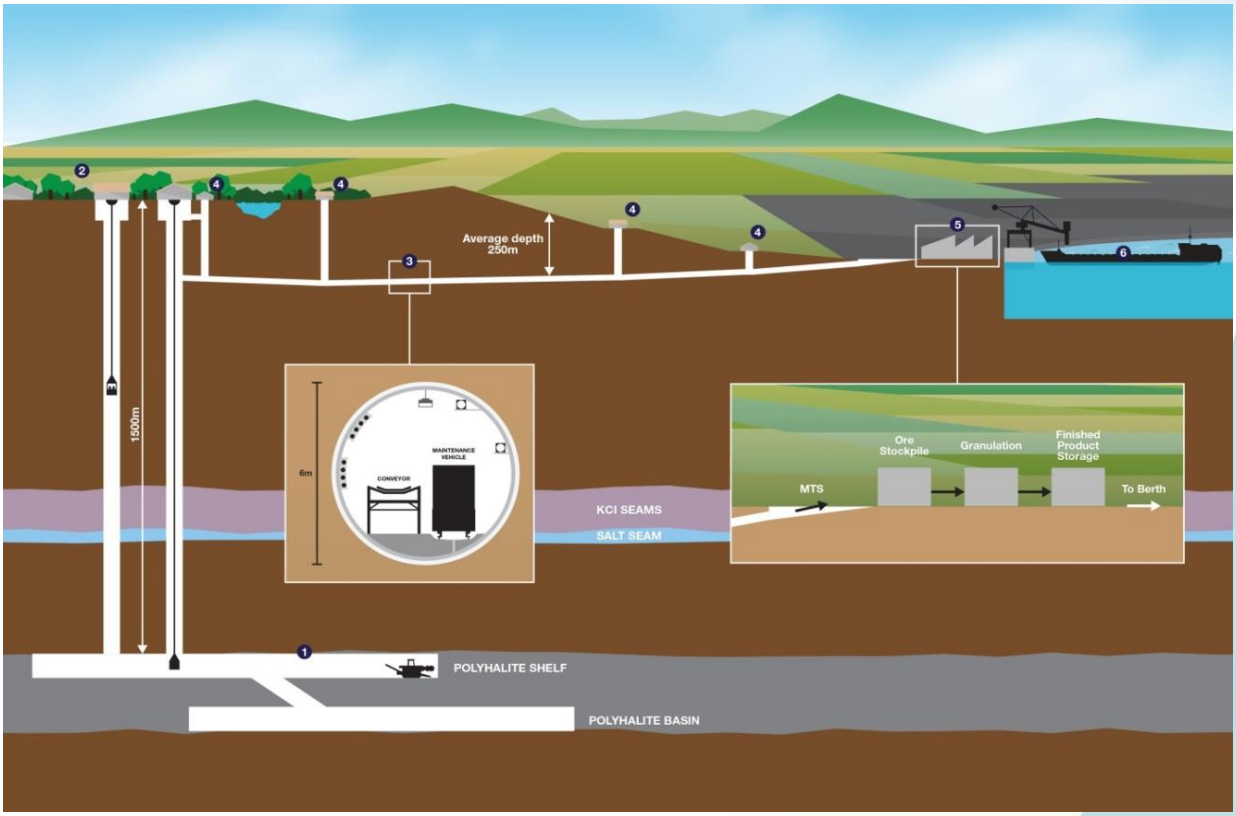
1.1.3 This report, along with data provided in **Sections 5, 7, 8, 9, 11, 13, 14** and **20** (**Appendix 20.4**) of the Harbour facilities Environmental Statement (ES) (**Document 6.4**) (and cross-referenced herein), provides the information required pursuant to Regulation 5(2)(g) of The Infrastructure Planning (Applications: Prescribed Forms and Procedures) Regulations 2009 (as amended). All baseline and survey data that Natural England has advised is required for Appropriate Assessment has been included.

1.2 Background to the York Potash Project

1.2.1 YPL intends to develop a new mine at Dove's Nest Farm, south of Whitby, North Yorkshire (NGR NZ894 051) to extract polyhalite. The Harbour facilities represent one of four distinct project elements that comprise the YPP (**Figure 1-1**), namely:

1. the winning (the process of gaining access to the mineral) and working (the process of extracting the mineral) of polyhalite (the Mine);
2. a mineral transport system (MTS) for the removal and transfer of the resource;
3. a materials handling facility (MHF) for processing the polyhalite into a granulated product; and,
4. Harbour facilities to export the polyhalite.

Figure 1-1 Overview of the key elements of the YPP



1. Conventional underground mining	4. Maintenance, ventilation and emergency access
2. Mine	5. Granulation and storage at the MHF
3. MTS	6. Harbour facility infrastructure

1.2.2 YPL proposes to win and work product from two deep polyhalite seams which lie beneath the North York Moors National Park, one of which extends eastwards beneath the North Sea. A marine licence for this aspect has already been granted by the Marine Management Organisation (MMO). Once extracted, the dry product would be crushed, loaded into hoppers, and transported to the MHF at Wilton through the underground MTS. The product would be granulated within the MHF in preparation for onward distribution via the Harbour facilities. A proportion of the product would be distributed within the UK from the Wilton site (up to 150,000 tonnes of product, per annum, may be exported by road).

1.2.3 The YPP is designed to provide 6.5 million tonnes per annum (Mtpa) of polyhalite when it first becomes fully operational in 2019 (first ore would be produced in 2018), which would increase to 13Mtpa within six years of first production. Some facilities will be designed to provide 13Mtpa at the outset, whilst other facilities will be designed to provide 6.5Mtpa and later duplicated or replaced (see Section 2 for further information).

1.2.4 The YPP has four main geographical locations and the following consenting routes:

- The minehead and other ancillary facilities for the Mine are proposed to be located at Dove's Nest Farm, near Whitby, with a proposed Construction Village and Park and Ride (P&R) to be located approximately 1.6km to the south of Whitby (although the Construction Village remains an option only). An operational phase P&R facility would be located 2km to the east of Whitby (at Cross Butts roundabout); forming part of the Whitby P&R.
- The MTS would extend approximately 36.7km from Doves Nest Farm (where the MTS access shaft would be located) to the MHF at Wilton. The MTS would include three intermediate shafts installed along its route, located approximately 8km, 24km and 29.5km from the Mine.
- An application has been made jointly to the North York Moors National Park Authority (NYMNPA) and Redcar and Cleveland Borough Council (RCBC) for the Mine and MTS; and applications have been submitted to Scarborough Borough Council (SBC) and the NYMNPA for the Construction Village and P&R facilities and Operational P&R respectively.
- The MTS Portal and MHF would be located at Wilton. An application has been made to RCBC for the MHF.
- The Harbour facilities comprise a port terminal which would be located on the Tees estuary and an overland conveyor which would connect the port terminal to the MHF. The Harbour facilities require a Development Consent Order (DCO) from the Secretary of State for Transport.

1.2.5 This HRA supports the application for a DCO and assesses the implications of the Harbour facilities alone and in combination with other plans and projects on European and internationally protected sites. The in combination assessment includes consideration of the other components of the YPP (insofar as they are relevant to the Harbour facilities HRA). A separate HRA has been submitted as part of the applications for planning permission that have been made to NYMNPA and RCBC for the Mine, MTS and MHF.

1.2.6 The competent authority for the Harbour facilities HRA is the Secretary of State for Transport.

1.3 Structure of this Report

1.3.1 This report is structured as follows:

- **Section 1** - (This section) Introduction, background to the project, legislative context and HRA process.
- **Section 2** - Description of the project, including options under consideration.
- **Section 3** - Consultation undertaken to inform the HRA.
- **Section 4** - The approach adopted for screening European and Ramsar sites into the assessment.
- **Section 5** - Plans and projects to be considered in-combination with the Harbour facilities.
- **Section 6** - Identification of the European and Ramsar sites potentially affected.
- **Section 7** - Description of the baseline environment.
- **Section 8** - Screening assessments of the Harbour facilities alone and in combination with other plans or projects for the purposes of identifying any LSEs on European and Ramsar sites.
- **Section 9** - Screening statement.

- **Section 10** - Information for Appropriate Assessment (Harbour facilities alone).
- **Section 11** - Information for Appropriate Assessment (Harbour facilities in combination with other plans and projects).
- **Section 12** - Summary and Conclusions.
- **Section 13** - References.

1.4 Legislative Context

1.4.1 European Union (EU) obligations in respect of habitats and species are met through Council Directive 92/43/EEC (the Habitats Directive) on the conservation of natural habitats and of wild fauna and flora, which requires Member States to schedule important wildlife sites through the European Community as SACs and to give protection to habitats and species listed in the Directive as being threatened or of Community Interest.

1.4.2 The EU meets its obligations for birds through Directive 2009/147/EC (Birds Directive) on the conservation of wild birds. This provides a framework for the conservation and management of wild birds in Europe. Of particular relevance is the requirement to identify and designate SPAs for rare or vulnerable species listed in Annex I of the Directive, as well as for all regularly occurring migratory species, paying particular attention to the protection of wetlands of international importance. Together with SACs, SPAs form a network of protected areas known as *Natura 2000* sites or European sites.

1.4.3 The Habitats Directive is transposed into UK law by the Conservation of Habitats and Species Regulations 2010, as amended by the Conservation of Habitats and Species (Amendment) Regulations 2012.

1.4.4 The HRA process helps meet the requirements of Article 6(3) of the Habitats Directive which states that any plan or project, that is not directly connected with or necessary to the management of an European site, but would be likely to have a significant effect on such a site, either on its own or in-combination with other plans or projects, will be subject to an 'appropriate assessment' of its implications for the European site in view of its conservation objectives. In light of the conclusions of that assessment and subject to the provisions of Article 6(4) of the Habitats Directive, the competent authority will agree to the plan or project only having ascertained that it will not adversely affect the integrity of the site(s) concerned. Article 6(4) provides that if, in spite of a negative assessment of the implications for the site, and in the absence of alternative solutions, the plan or project must nevertheless be undertaken for imperative reasons of overriding public interest (IROPI), the Member State will take all compensatory measures necessary to ensure that the overall *Natura 2000* sites are protected.

1.4.5 As a matter of policy, the UK Government also applies the HRA process to designated Ramsar sites. These are sites which are regarded as being wetlands of international importance as defined following the Convention on Wetlands (Ramsar, Iran, 1971), which is an intergovernmental treaty that embodies the commitments of its member countries to maintain the ecological character of their internationally important wetland habitats.

1.4.6 There is no explicit definition of LSE in the legislation and in the context of HRA it is typically taken as any effect that may reasonably be predicted as a consequence of the project that may significantly adversely affect the conservation or management objectives of the features for which a site was designated, excluding trivial or inconsequential effects (English Nature, 1999). By definition, this assessment is based on the consideration of a number of factors, for example, the spatial extent and duration of an identified effect, and other considerations such as the availability of appropriate mitigation. When considering such effects, a precautionary approach is adopted.

1.4.7 The conservation status of a natural habitat, as defined in the Habitats Directive, means the "sum of the influences acting on a natural habitat and its typical species that may affect its long-term natural distribution, structure and functions as well as the long-term survival of its typical species within the territory referred to in Article 2". The conservation objectives for a SAC or SPA are considered when identifying LSE. The conservation status of a natural habitat is taken as 'favourable' when:

- its natural range and area it covers within that range are stable or increasing.
- the specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future.
- the conservation status of its typical species is favourable as defined in (a).

1.5 HRA Process

1.5.1 The HRA process follows a four staged approach:

1. **Screening**: The process of identifying potentially relevant European and Ramsar sites, and whether the likely impacts of a project upon the qualifying features of the site, either alone or in-combination with other plans and projects, are likely to be significant.

2. **Appropriate Assessment (AA)**: The consideration of the potential impacts on the integrity of the site(s), either alone or in-combination with other plans and projects, with regard to the site's structure and function and its conservation objectives. Where there are adverse impacts, an assessment of mitigation options is carried out to determine adverse effect on the integrity of the site. If these mitigation options cannot avoid adverse effects then development consent can only be given if the tests set out in stages 3 and 4 can be passed.

3. **Assessment of Alternative Solutions (AAS)**: Examining alternative ways of achieving the objectives of the project to establish whether there are solutions that would avoid or have a lesser effect on the site(s).

4. **Imperative reasons of over-riding public interest (IROPI)**: Where no alternative solution exists and where an adverse effect on site integrity remains, the next stage of the process is to assess whether the development is necessary for IROPI and, if so, the identification of compensatory measures needed to maintain site integrity or the overall coherence of the designated site network.

1.5.2 If it is concluded at Stage 1 that there is no potential for LSE, there is no requirement to carry out subsequent stages of the HRA.

2 DESCRIPTION OF THE YORK POTASH HARBOUR FACILITIES

2.1 Introduction

2.1.1 This section of the HRA provides a description of the proposed works required to construct and operate the Harbour facilities. In addition to this description, **Appendix 2.1** includes a description of the other elements of the YPP. The information contained within **Appendix 2.1** is summarised from the HRA undertaken in support of the planning applications for the Mine and MTS, and the MHF. It is considered to be relevant to this HRA for the Harbour facilities given that it considers the potential for interaction between the Harbour facilities and the other elements of the YPP in providing the evidence for scoping the other plans and projects to be included in the in combination assessment for the Harbour.

2.2 Harbour facilities

2.2.1 The Harbour facilities would be developed in two phases to provide the necessary export facilities to mirror the predicted increase in polyhalite production from an initial 6.5Mtpa to 13Mtpa. The site of the Harbour facilities is defined by the DCO application boundary, as shown in **Drawings PB1586-SK1040** to **PB1586-SK1046**, **Drawings PB1586-SK490** to **PB1586-SK497** and **Drawings PB1586-SK91** to **PB1586-SK94**. As illustrated on the Drawings, the Harbour facilities would comprise the following components:

- Quay structure, with two berths to accommodate the throughput requirements of the facility (13Mtpa).
- Berth pocket, to allow vessels to remain alongside the quay during all states of tide[1].
- Ship loaders.
- Conveyor systems between the storage area (at the MHF) and ship loaders, with sufficient capacities to accommodate the throughput requirements of the facilities. Two possible conveyor route envelopes are being considered for the conveyor system between the MHF and the port terminal (to the north and south of Bran Sands lagoon). It should be noted that a conveyor system within only one of these routes would be required.
- Surge bin (storage) facilities, one per conveyor system, which would be 7.5m in diameter and up to 35m high.

[1] This would require capital dredging to create the berth pocket in order to allow access to the port terminal for the maximum design vessels expected to arrive and deepening of a section of the approach channel adjacent to the proposed berth pocket (for the same reason).

2.2.2 As noted above, two conveyor route envelopes are currently being considered (see **Drawings PB1586-SK1040-1046** and **Drawings PB1586-SK490-497**). One is proposed to run in a northerly direction parallel to the Northumbria Water Ltd (NWL) Sewage Treatment Plant on its eastern side, before heading in a north-westerly direction along the north boundary of the Bran Sands site. This route would bridge the narrow finger of the lagoon at its western end; and it is envisaged that one support (consisting of two foundations) would be required in the lagoon to support the conveyor. The other route is proposed to run along the southern boundary of the Bran Sands site before heading north, parallel to the southern bank of the Tees estuary. Conveyor bridge supports would be required at the upstream end of Dabholm Gut for the southern conveyor.

2.2.3 Two options are also currently being considered for the quay construction – an open quay structure and a solid quay structure (**Drawings PB1586-SK91** to **Drawings PB1586-SK94**).

2.2.4 Key parameters of the proposed quay structure (with a capacity for 13Mtpa) include:

- Quay length of 486m.
- Quay and quayside of up to 87m in width.
- Deck level of +8.45m Chart Datum (CD) (+5.6m Ordnance Datum).

2.2.5 Where design options form part of the application, the HRA assesses the worst case scenario. Different worst case scenarios are defined, where necessary, with respect to the potential worst case impact on particular environmental parameters. The worst case scenario that has been assumed for the HRA is defined where relevant in this report.

2.2.6 For the open quay option, the quay and access bridge structures would be suspended deck structures comprising a reinforced concrete deck supported by approximately 400 steel tubular piles. It is anticipated that the piles would be in the order of 0.9m diameter. The piles would support the concrete deck onto which the ship loader rails and supports for the conveyor would be fixed.

2.2.7 Access to the quay would be via approach bridge platform structures.

2.2.8 For the solid quay option, the quay structure would be a combi-pile wall comprising a line of steel tubular king piles linked by pairs of steel sheet piles. The king piles would be connected via tie rods to a steel sheet pile anchor wall approximately 30-40m behind the berth line. The king piles would support a reinforced concrete cope beam onto which the waterside ship loader rails would be fixed. A piled beam would be required, parallel to the cope beam to support the landside ship loader rails. The remaining area would be covered by a ground bearing concrete slab that would form the foundation for the conveying system.

2.2.9 Approximately 210 king piles (approximately 2m in diameter) and intermediate sheet piles would be required for the combi-wall, with steel sheet piles, required for the anchor wall. A total of 75 piles (approximately 660mm diameter) would be required for the cope beam to support the landside shiploader rails.

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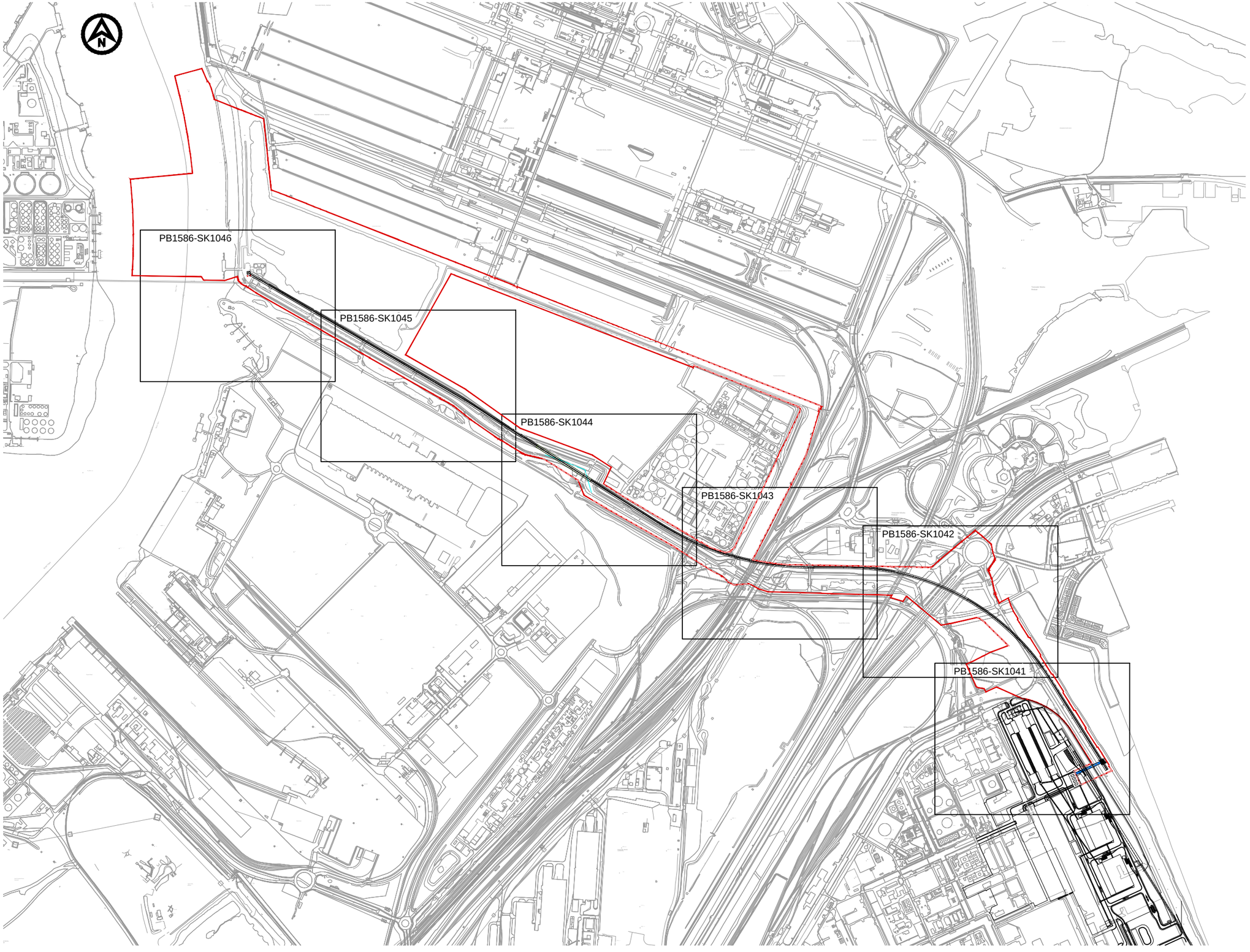

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B	05.03.15	ISSUED FOR INFORMATION	TF	DGB	MH
A	03-02-15	ISSUED FOR INFORMATION	LW	DGB	SM

REVISIONS

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PROJECT

YORK POTASH

TITLE

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

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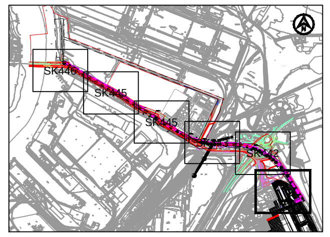
DRG No. PB1586-SK1041

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
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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CONVEYOR ROUTE PLANS
SOUTHERN ROUTE - SHEET 1
REGULATION 5(2)(o) DOCUMENT 3.3B

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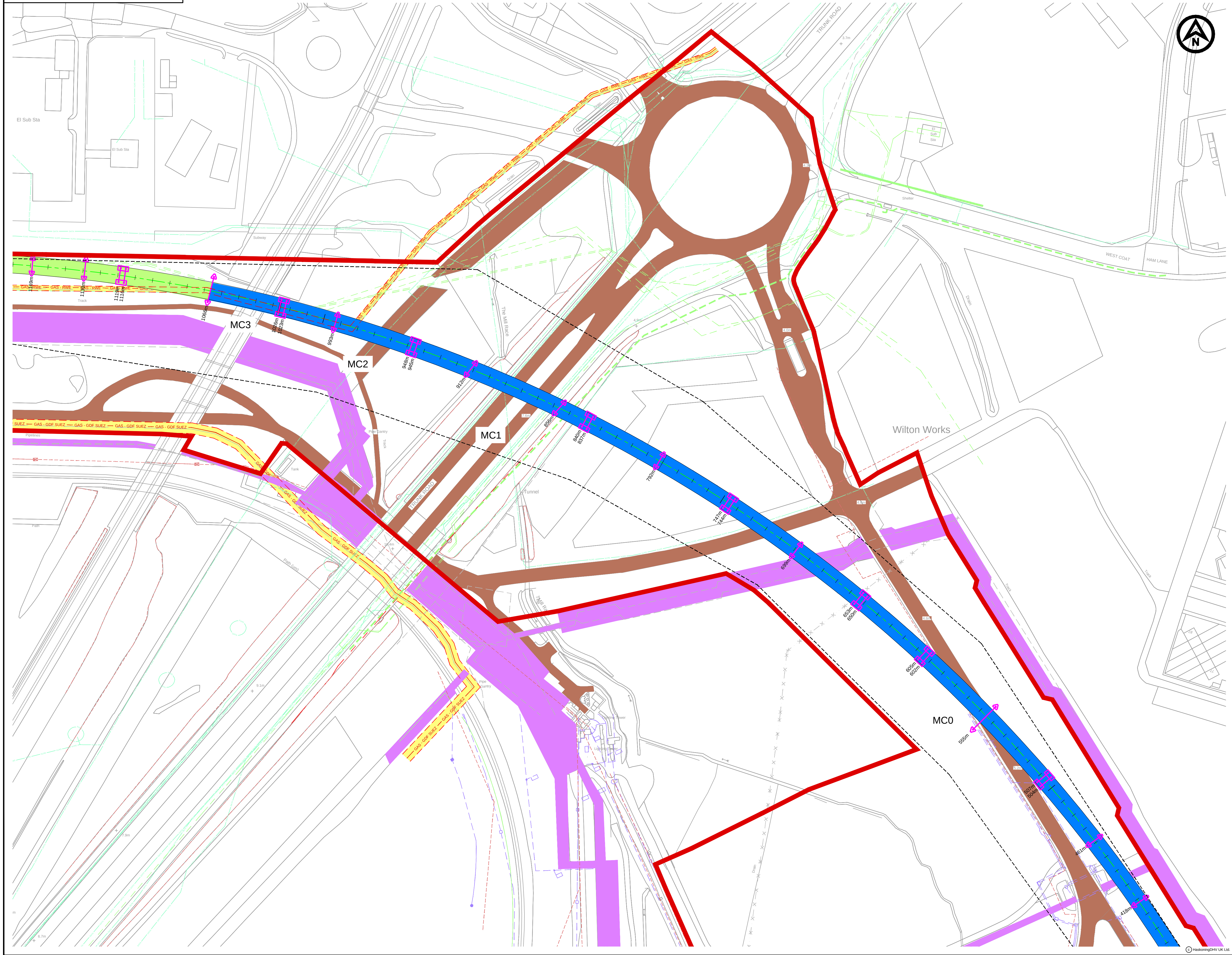

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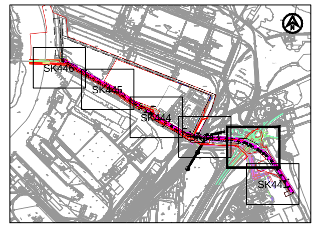

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SOUTHERN ROUTE - SHEET 2
REGULATION 5(2)(o) DOCUMENT 3.3C

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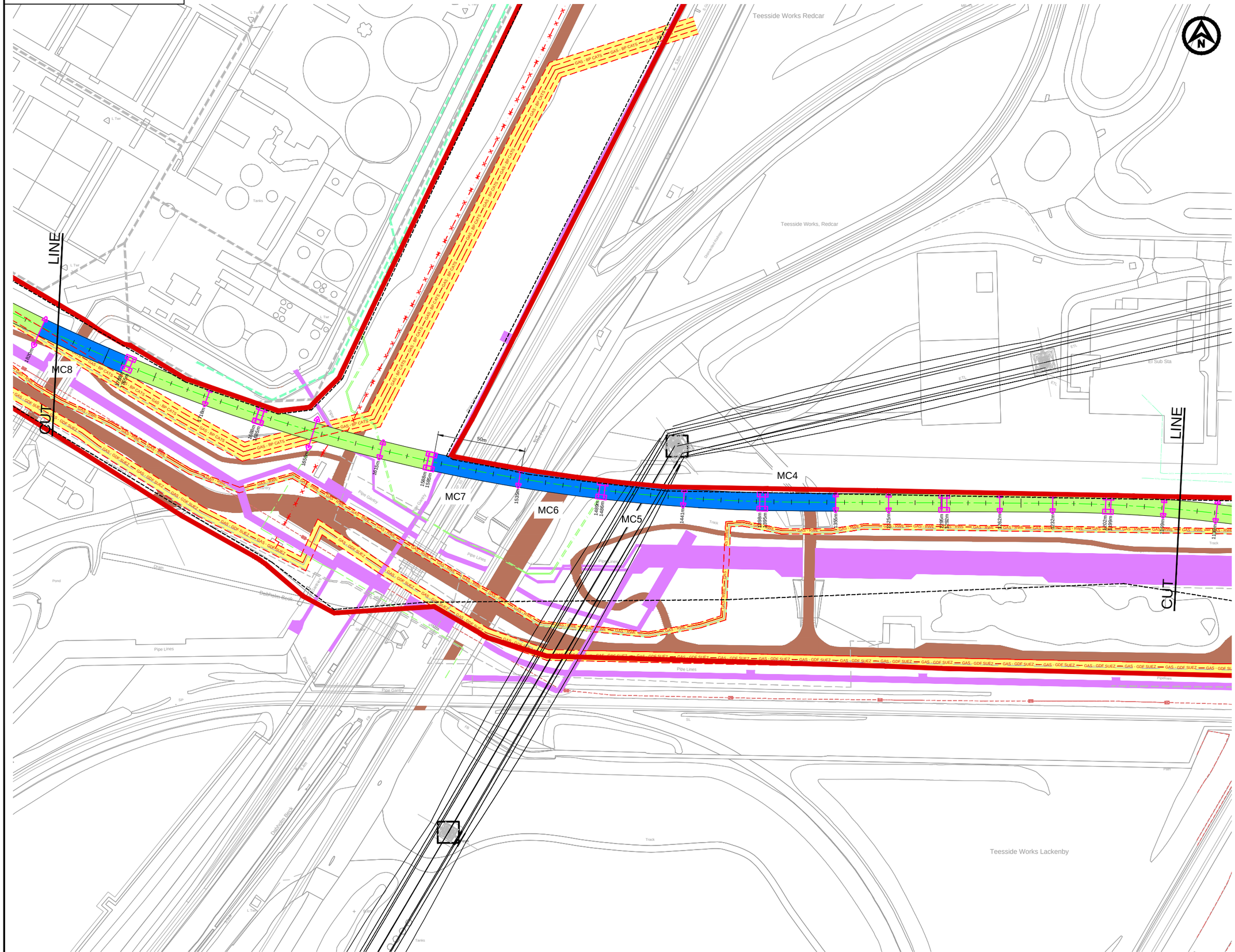

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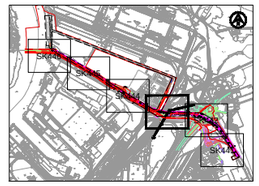

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C	11.03.15	MINOR REVISIONS	LW	DGB	MH
B	05.03.15	ISSUED FOR INFORMATION	TF	DGB	MH
A	03-02-15	ISSUED FOR INFORMATION	LW	DGB	SM

REVISIONS

YORKPOTASH
A Sirius Minerals Project

PROJECT

YORK POTASH

TITLE

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

Royal HaskoningDHV
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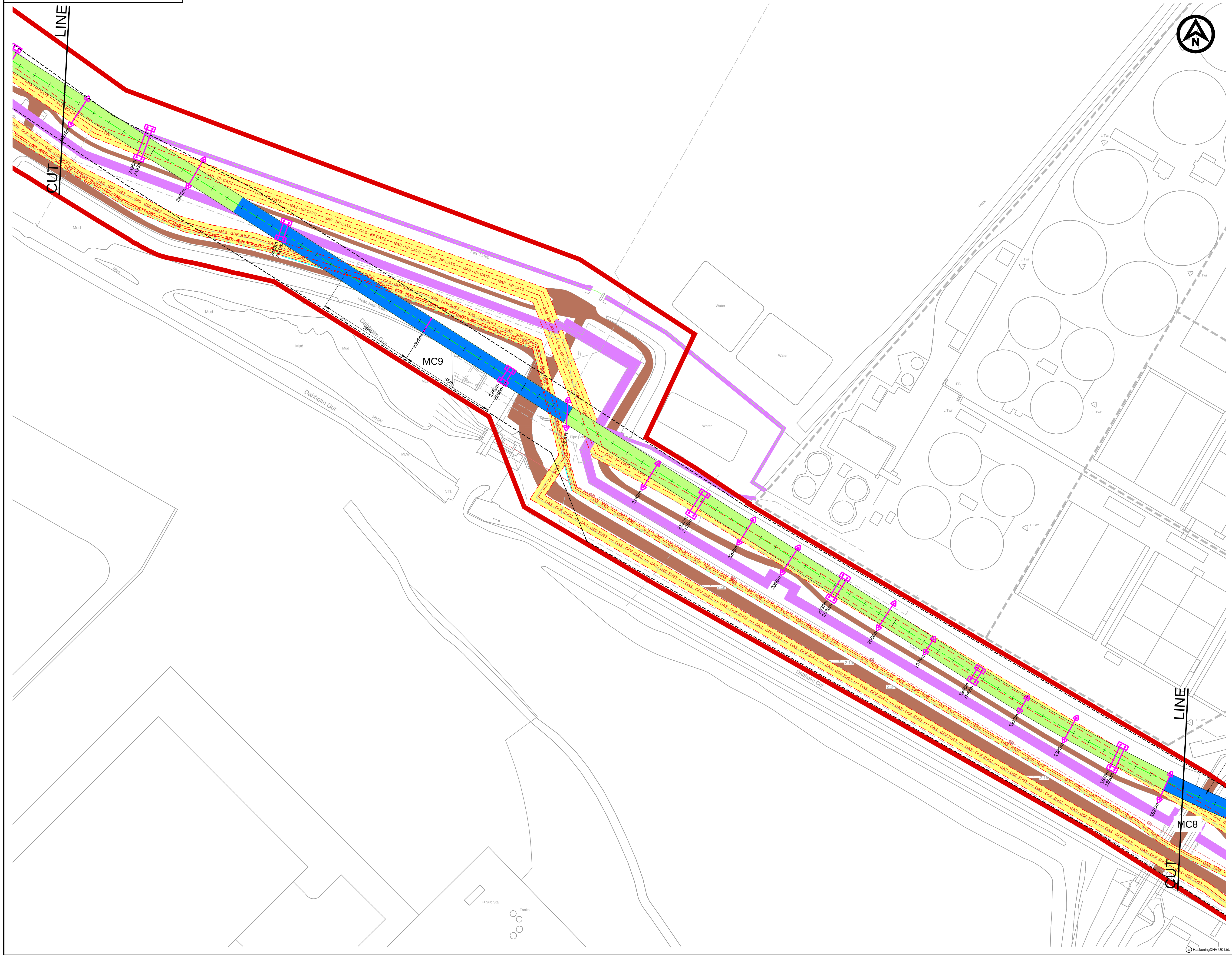
DATE	JAN'15	PASSED	SM
SCALE AT A1	1:1000	CLIENT'S REF.	
		AUTOCAD REF.	PB1586-SK1043

DRAWING No. PB1586-SK1043

REVISION E

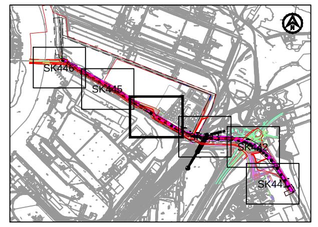
DRG No. PB1586-SK1044



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 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

REV	DATE	DESCRIPTION	BY	CHK	APP
E	19.03.15	PLANNING ISSUE	LW	DGB	MH
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C	11.03.15	MINOR REVISIONS	LW	DGB	MH
B	05.03.15	ISSUED FOR INFORMATION	TF	DGB	MH
A	03-02-15	ISSUED FOR INFORMATION	LW	DGB	SM

REVISIONS

YORKPOTASH
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PROJECT

YORK POTASH

TITLE

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

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DATE	JAN'15	CLIENT'S REF.			
SCALE AT A1	1:1000	AUTOCAD REF.	PB1586-SK1044		

DRAWING No. PB1586-SK1044

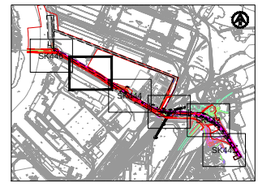
REVISION E

DRG No. PB1586-SK1045

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 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

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	11.03.15	MINOR REVISIONS	LW	DGB	MH
B	06.03.15	ISSUED FOR INFORMATION	TF	DGB	MH
A	03-02-15	ISSUED FOR INFORMATION	LW	DGB	SM

REVISIONS

YORKPOTASH
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PROJECT

YORK POTASH

TITLE

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

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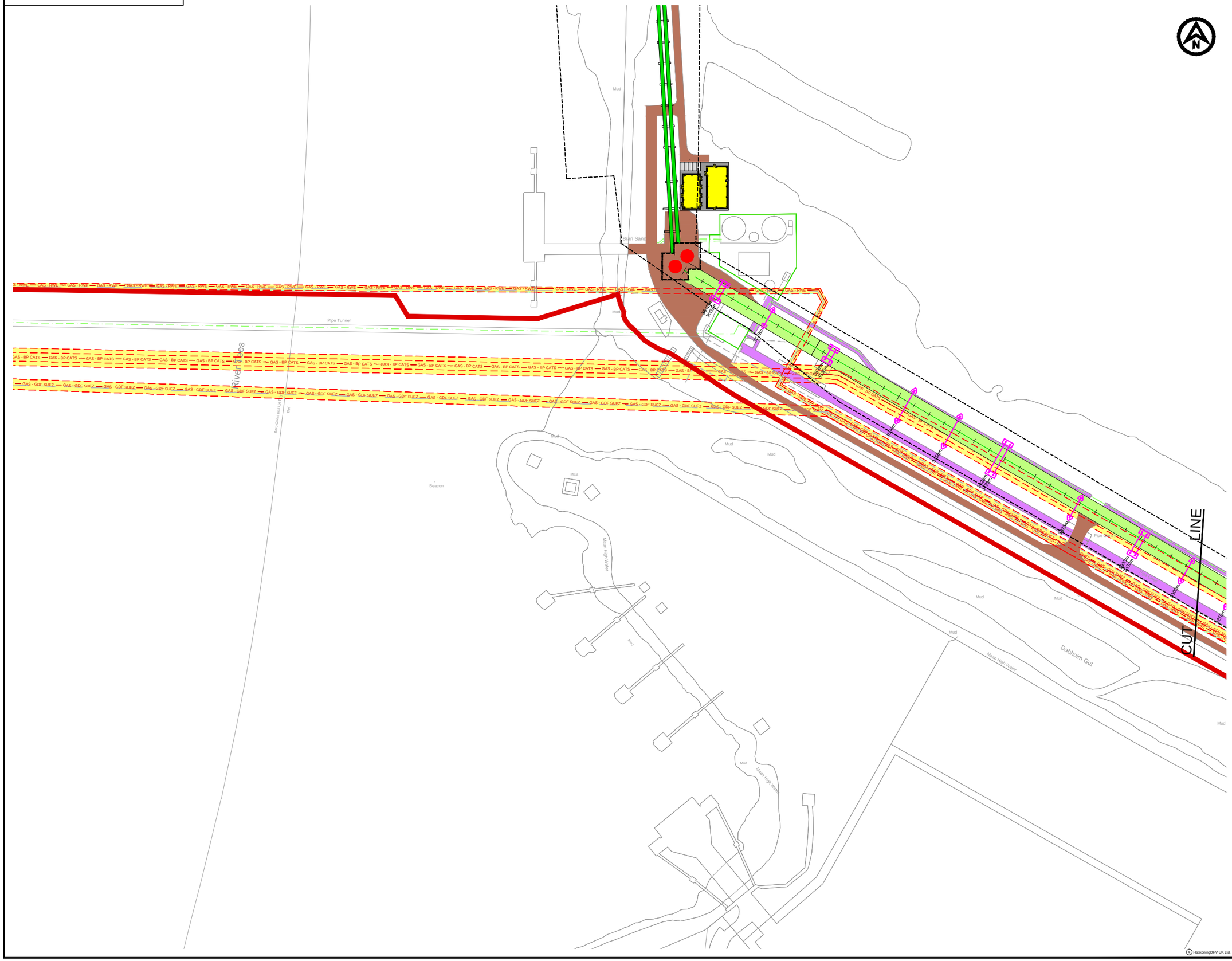
DATE	JAN'15	CLIENT'S REF.	
SCALE AT A1	1:1000	AUTOCAD REF.	PB1586-SK1045

DRAWING No. PB1586-SK1045

REVISION E

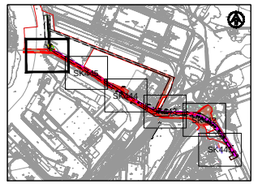
DRG No. PB1586-SK1046



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
- 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

REV	DATE	DESCRIPTION	BY	CHK	APP
E	16.03.15	PLANNING ISSUE	LW	DGB	MH
D	16.03.15	MINOR REVISIONS	CH	DGB	MH
C	12.03.15	MINOR REVISIONS	LW	DGB	MH
B	05.03.15	ISSUED FOR INFORMATION	TF	DGB	MH
A	03-02-15	ISSUED FOR INFORMATION	LW	DGB	SM

REVISIONS

YORKPOTASH
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YORK POTASH

TITLE

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

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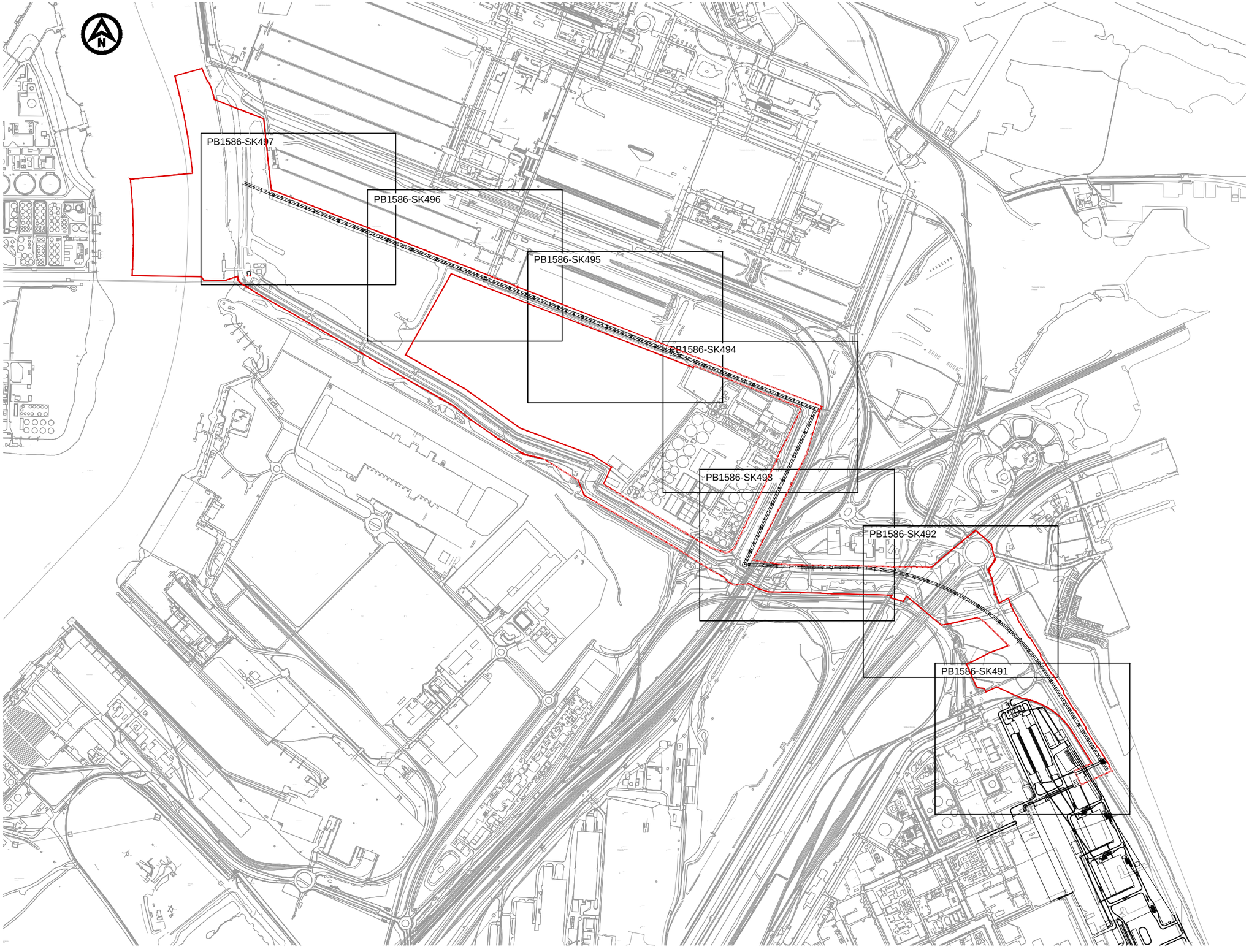
DATE	JAN'15	CLIENT'S REF.	
SCALE AT A1	1:1000	AUTOCAD REF.	PB1586-SK1046

DRAWING No. PB1586-SK1046

REVISION E

DRG No. PB1586-SK490



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REV	DATE	DESCRIPTION	BY	CHK	APP
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D	16.03.15	MINOR REVISIONS	CH	DGB	MH
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B	05.03.15	ISSUED FOR INFORMATION	TF	DGB	MH
A	27-02-15	FIRST ISSUE	LW	DGB	RWP

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YORK POTASH

TITLE

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

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DATE FEB'15	CLIENT'S REF.		
SCALE AT A1 NTS	AUTOCAD REF: PB1586-SK490		

DRAWING No. PB1586-SK490

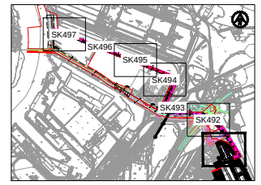
REVISION E

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	16.03.15	PLANNING ISSUE	LW	DGB	MH
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C	12.03.15	MINOR REVISIONS	LW	DGB	MH
B	05.03.15	ISSUED FOR APPROVAL	TF	DGB	MH
A	27-02-15	FIRST ISSUE	LW	DGB	RWP

REVISIONS

YORKPOTASH
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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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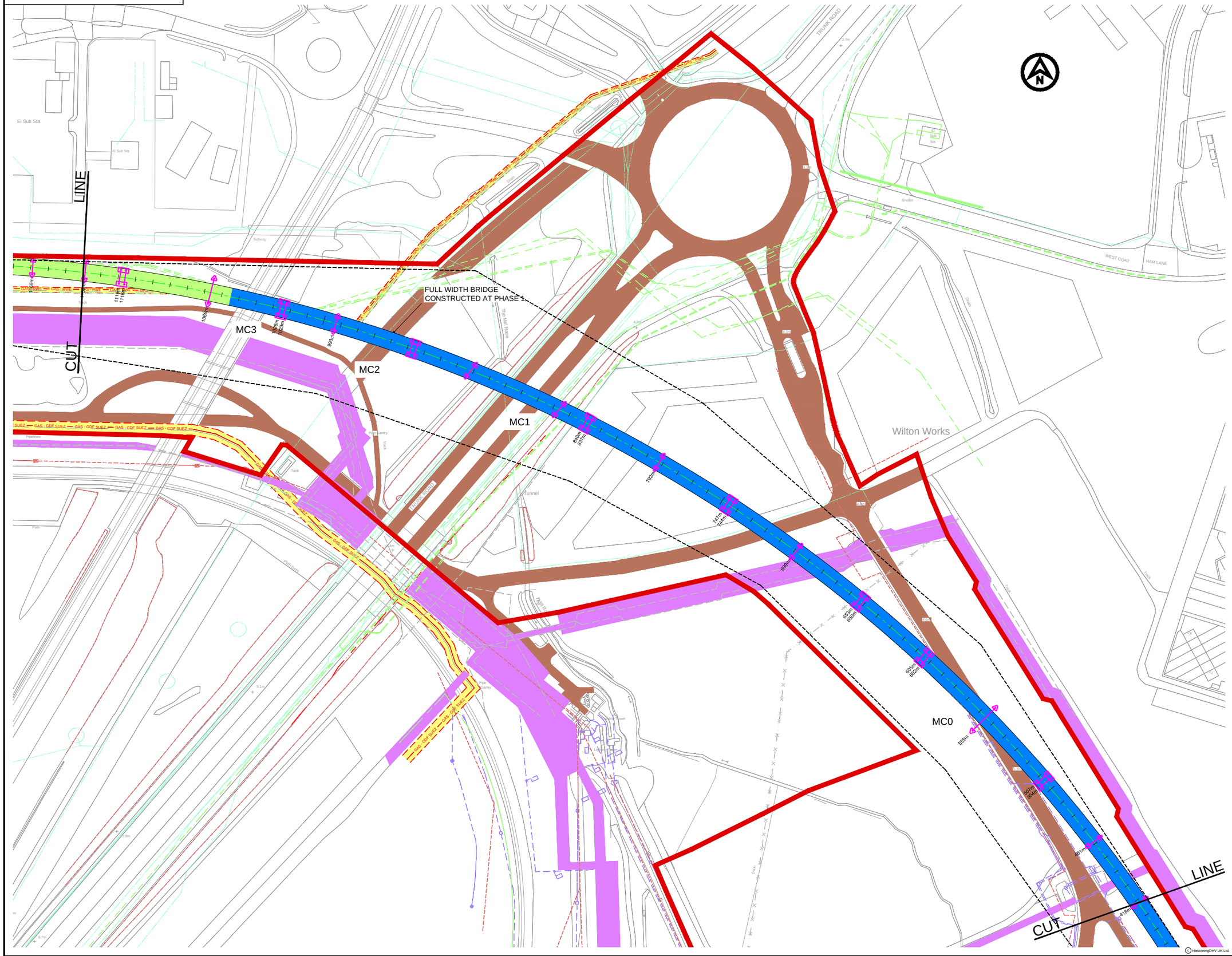
DATE	FEB'15	CLIENT'S REF.	
SCALE AT A1	1:1000	AUTOCAD REF.	PB1586-SK491

DRAWING No. PB1586-SK491
REVISION E

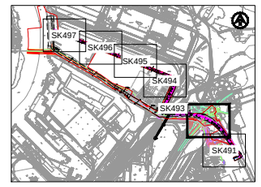
DRG No. PB1586-SK492



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	18.03.15	PLANNING ISSUE	LW	DGB	MH
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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 2
REGULATION 5(2)(o) DOCUMENT 3.3J

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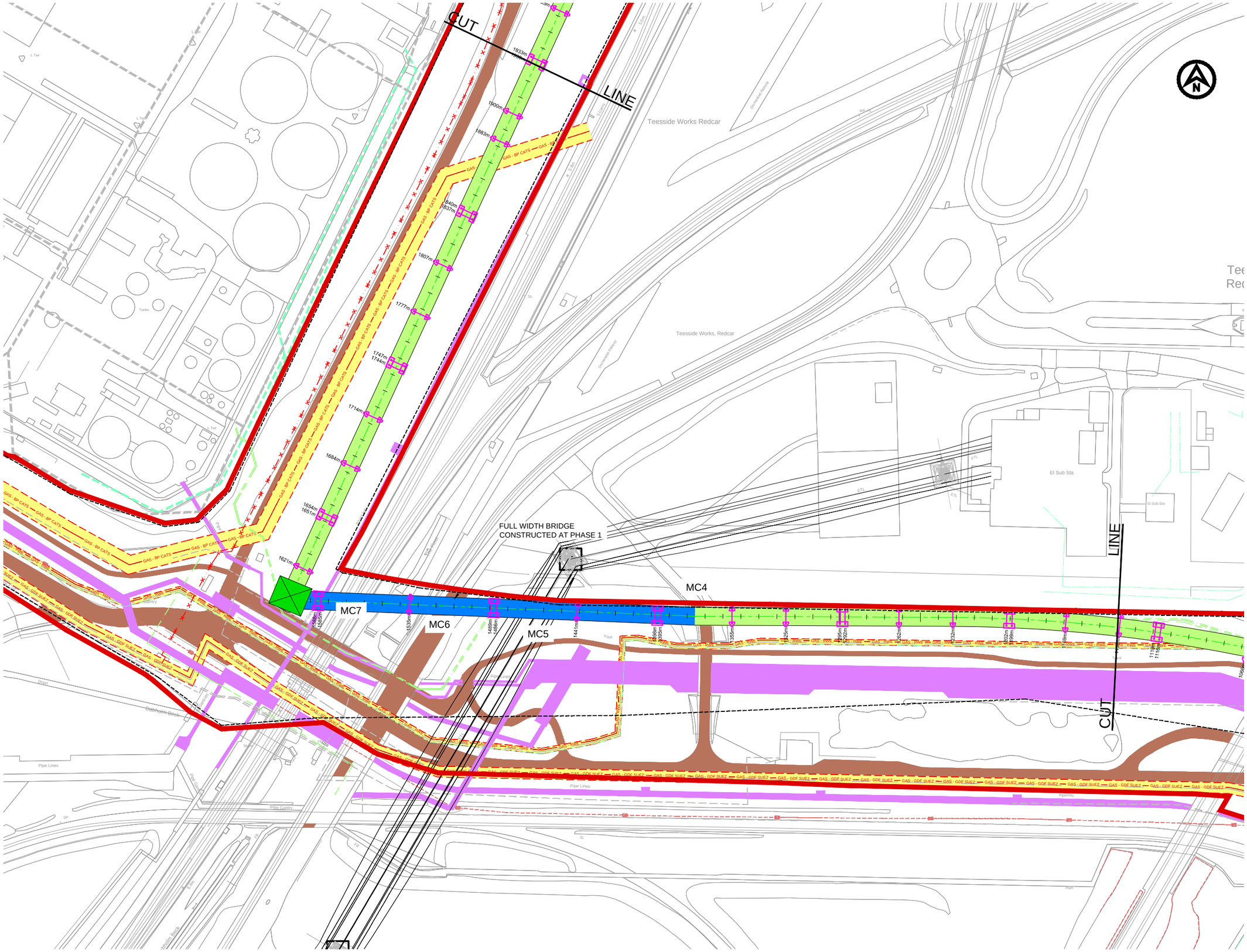
DATE	FEB'15	CLIENT'S REF.	
SCALE AT A1	1:1000	AUTOCAD REF.	PB1586-SK492

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
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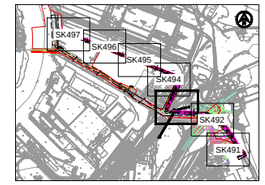
MC 7 : National rail way	- Pass over in bridge
MC 8 : Access NWL W.T.P.	- Pass over in bridge
MC 9 : Outfall	- Pass over in bridge



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	16.03.15	PLANNING ISSUE	LW	DGB	MH
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A	27-02-15	FIRST ISSUE	LW	DGB	RWP

REVISIONS

YORKPOTASH
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YORK POTASH

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

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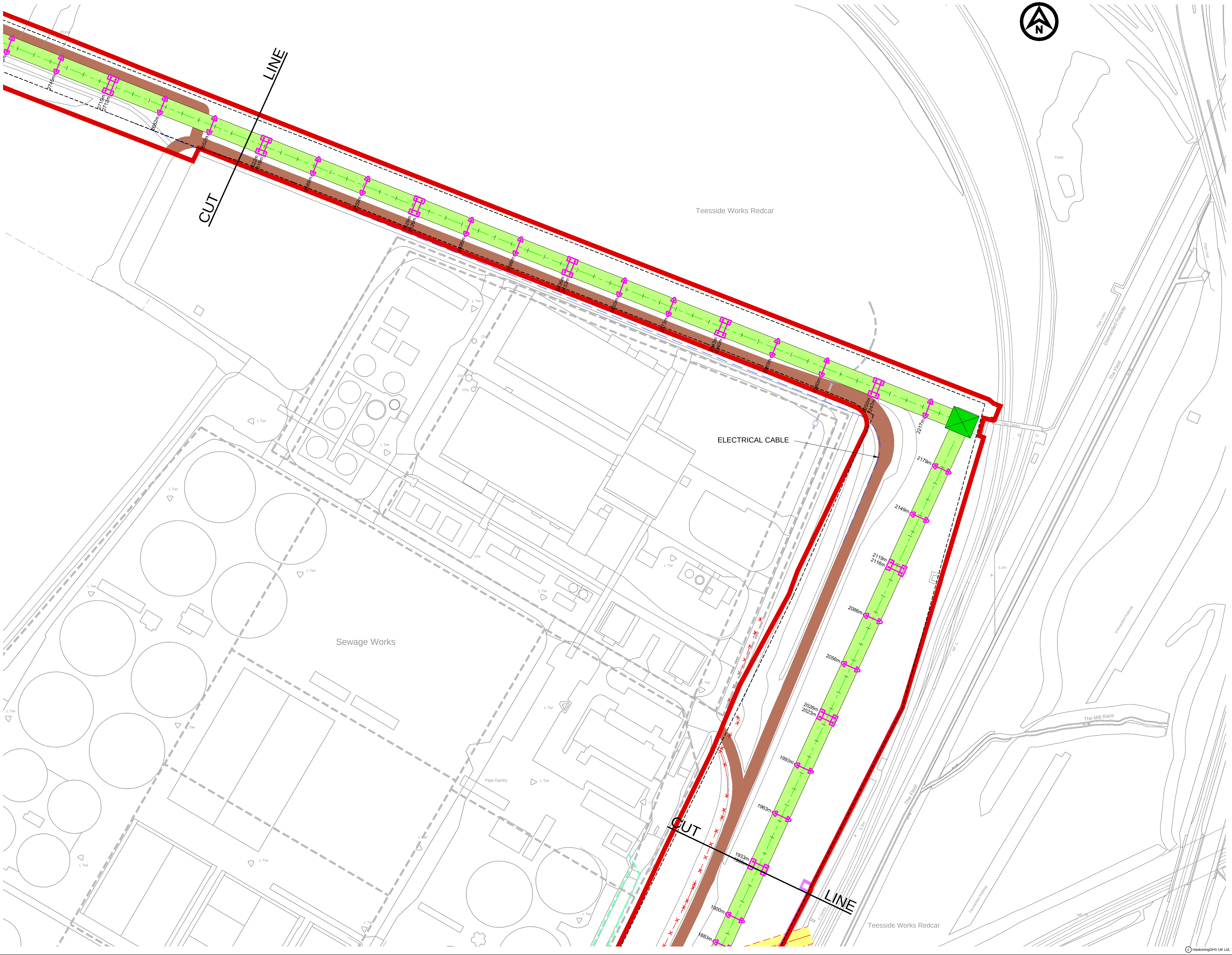
DATE	FEB'15	CLIENT'S REF.	
SCALE AT A1	1:1000	AUTOCAD REF.	PB1586-SK493

DRAWING No. PB1586-SK493

REVISION E

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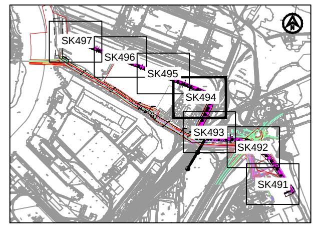
MC 4 : NWL 2nd access road	- Pass over in bridge
MC 5 : National power grid lines	- Pass under 10 m clearance
MC 6 : SSI road bridge	- Pass over in bridge
MC 7 : National rail way	- Pass over in bridge
MC 8 : Access NWL W.T.P.	- Pass over in bridge
MC 9 : Outfall	- Pass over in bridge



KEY PLAN
SCALE 1:50000

LEGEND - CONVEYOR

- TYPE 3 - OPEN CONVEYOR - 2 LEGS
- TYPE 4 - OVAL ENCLOSED CONVEYOR - 2 LEGS
- 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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REVISIONS

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YORK POTASH

TITLE

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

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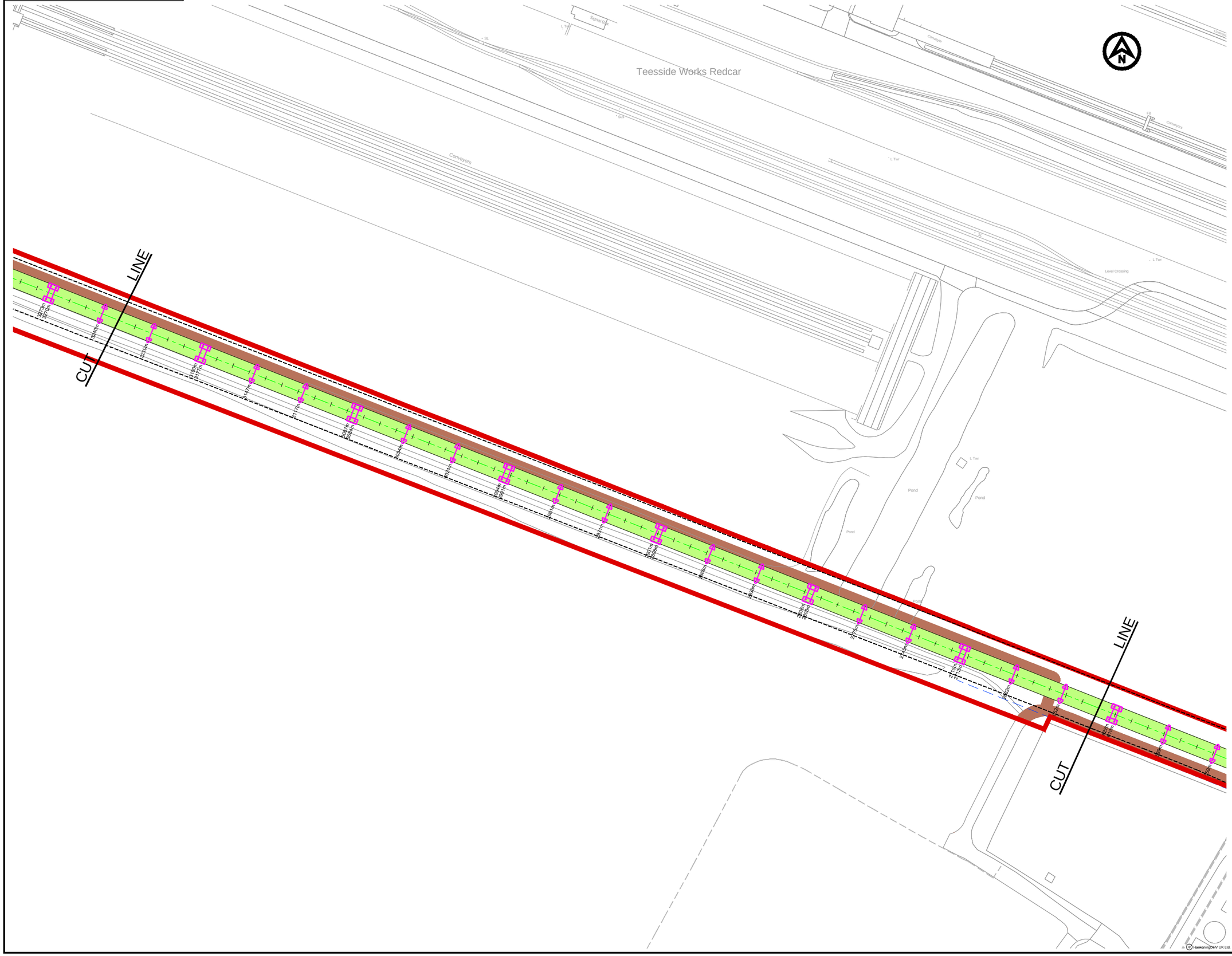
DRAWING No. PB1586-SK494 REVISION E

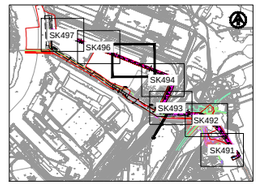
DRG No. PB1586-SK495



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
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	16.03.15	PLANNING ISSUE	LW	DGB	MH
D	16.03.15	MINOR REVISIONS	CH	DGB	MH
C	11.03.15	MINOR REVISIONS	LW	DGB	MH
B	05.03.15	ISSUED FOR APPROVAL	TF	DGB	MH
A	27-02-15	FIRST ISSUE	LW	DGB	RWP

REVISIONS

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PROJECT

YORK POTASH

TITLE

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

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SCALE AT A1	1:1000	AUTOCAD REF.	PB1586-SK495

DRAWING No. PB1586-SK495

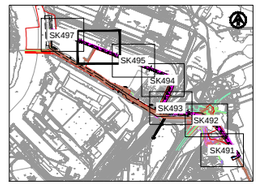
REVISION E

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
E	16.03.15	PLANNING ISSUE	LW	DGB	MH
D	16.03.15	MINOR REVISIONS	CH	DGB	MH
C	11.03.15	MINOR REVISIONS	LW	DGB	MH
B	06.03.15	ISSUED FOR APPROVAL	TF	DGB	MH
A	27-02-15	FIRST ISSUE	LW	DGB	RWP

REVISIONS

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TITLE

THE YORK POTASH
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CONVEYOR ROUTE PLANS
NORTHERN ROUTE - SHEET 6
REGULATION 5(2)(o) DOCUMENT 3.3N

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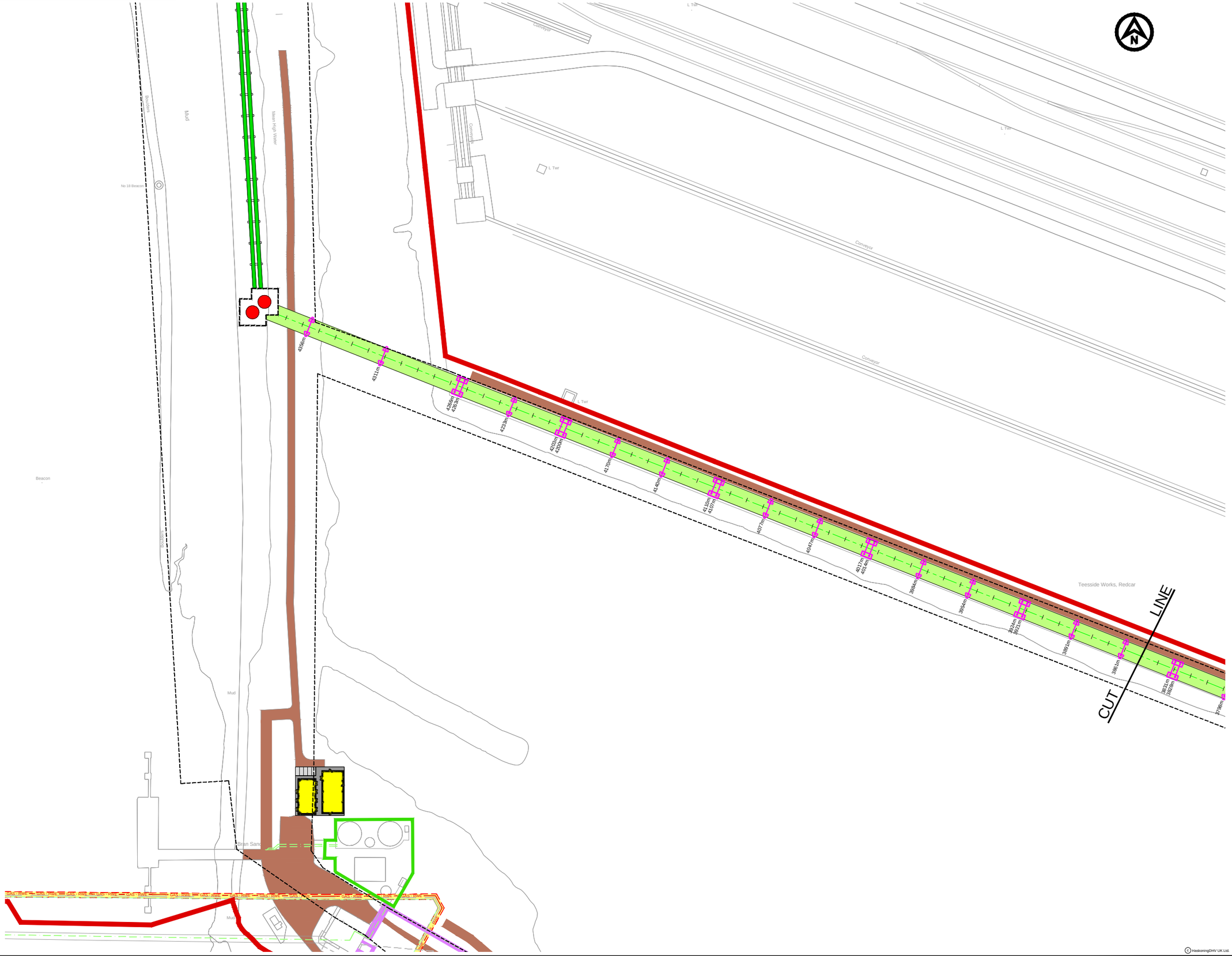
DRAWING No. PB1586-SK496

REVISION E

DRG No. PB1586-SK497



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MC 8 : Access NWL W.T.P.	- Pass over in bridge
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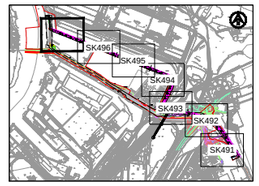

KEY PLAN
SCALE 1:50000

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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C	11.03.15	MINOR REVISIONS	LW	DGB	MH
B	05.03.15	ISSUED FOR APPROVAL	TF	DGB	MH
A	27-02-15	FIRST ISSUE	LW	DGB	RWP

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YORK POTASH

TITLE

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

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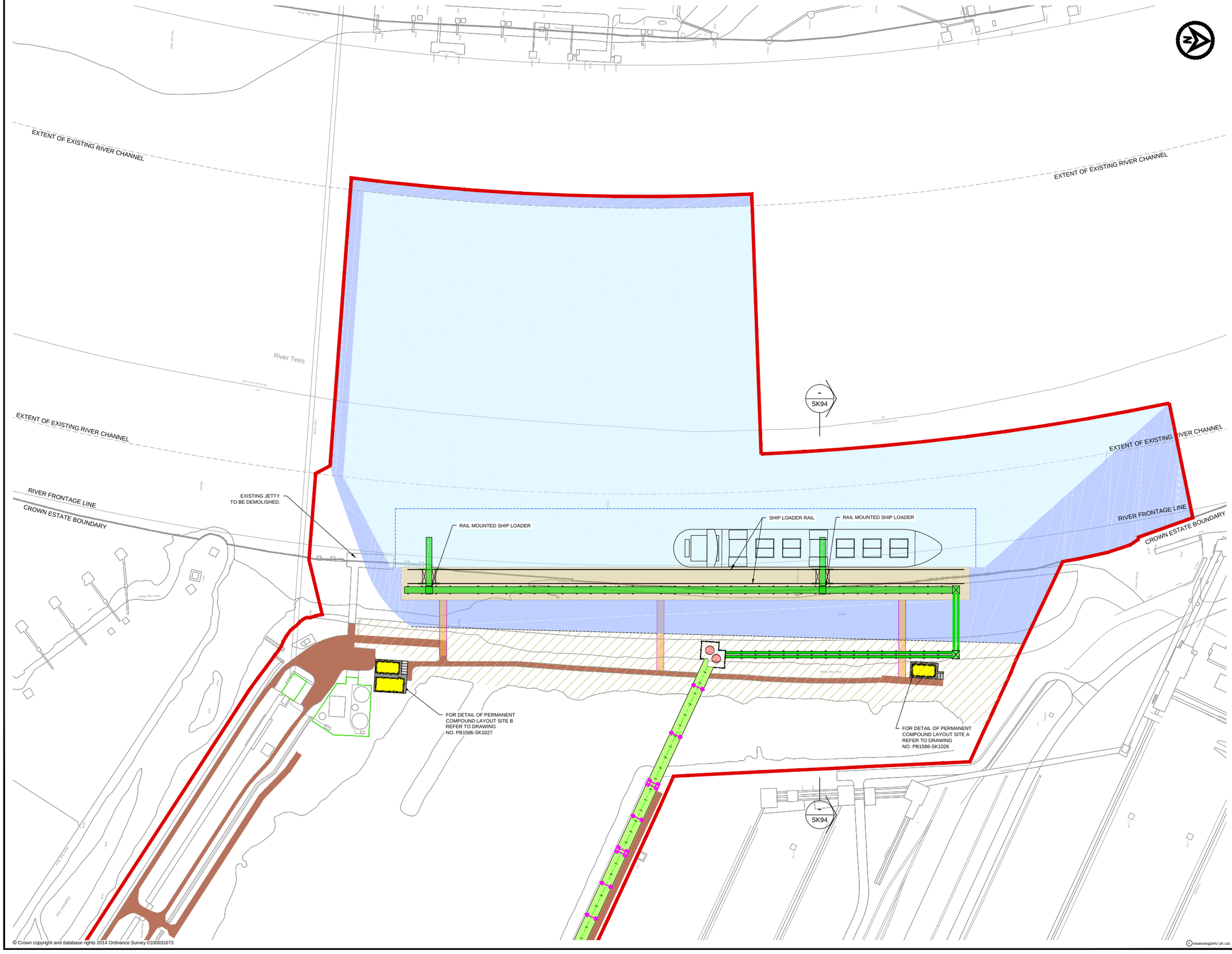
DRAWING No. PB1586-SK497

REVISION E

DRG No. PB1586-SK93



NOTES

1. THIS DRAWING IS ONLY INTENDED TO BE ILLUSTRATIVE OF A POTENTIAL LAYOUT OF A SOLID QUAY CONSTRUCTION. FINAL LENGTHS AND POSITIONS OF THE VARIOUS ELEMENTS MAY BE SUBJECT TO CHANGE.
2. FOR SECTION REFER TO DRAWING NO. PB1586-SK94. SECTION SHOWS DETAIL INTERSECTING LINE OF SECTION ONLY.

LEGEND

- ORDER LIMITS
- QUAYSIDE (ENGINEERING FILL)
- DREDGED AREA
- DREDGED SIDE SLOPES
- EXTENT OF BERTH POCKET
- TRANSFER TOWER
- SURGE BINS
- CONVEYORS AT THE QUAY
- QUAY STRUCTURE
- SECTION MARKER
- ROADS
- ADMINISTRATIVE AREAS ETC.
- TYPE 3 - OPEN CONVEYOR - 2 LEGS
- TYPE 4 - OVAL ENCLOSED CONVEYOR - 2 LEGS
- HARDSTAND AREA
- WALKWAYS
- CONVEYOR FOUNDATION LOCATIONS INDICATIVE ONLY
- EXISTING BUILDING
- CROWN ESTATES LANDOWNERSHIP BOUNDARY

REV	DATE	DESCRIPTION	BY	CHK	APP
12	19/03/15	PLANNING ISSUE	LW	DGB	RWP
11	17/03/15	PLANNING ISSUE	LW	DGB	RWP
10	11/03/15	PLANNING ISSUE	CH	SRS	RWP
9	09/03/15	PLANNING ISSUE	CH	SRS	RWP
8	05/03/15	PLANNING ISSUE	JLR	SRS	RWP
7	04/03/15	PLANNING ISSUE	NAT	SRS	RWP
6	27/02/15	PLANNING ISSUE	NAT	SRS	RWP
5	12/12/14	PLANNING ISSUE	TF	RWP	RWP
4	11/12/14	PLANNING ISSUE	TF	RWB	RWB
3	9/12/14	PLANNING ISSUE	TF		
2	1/12/14	UPDATED RLB	TF	RWP	RWP
1	1/12/14	UPDATED RLB	TF	RWP	RWP
0	29/08/14	DRAFT FOR CONSULTATION	IT	TJR	RP

REVISIONS

YORKPOTASH
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PROJECT

YORK POTASH

TITLE

THE YORK POTASH
HARBOUR FACILITIES ORDER 201X
INDICATIVE LAYOUT - OPEN QUAY
NORTHERN ROUTE
REGULATION 5 (2) (o) DOCUMENT 3.9A

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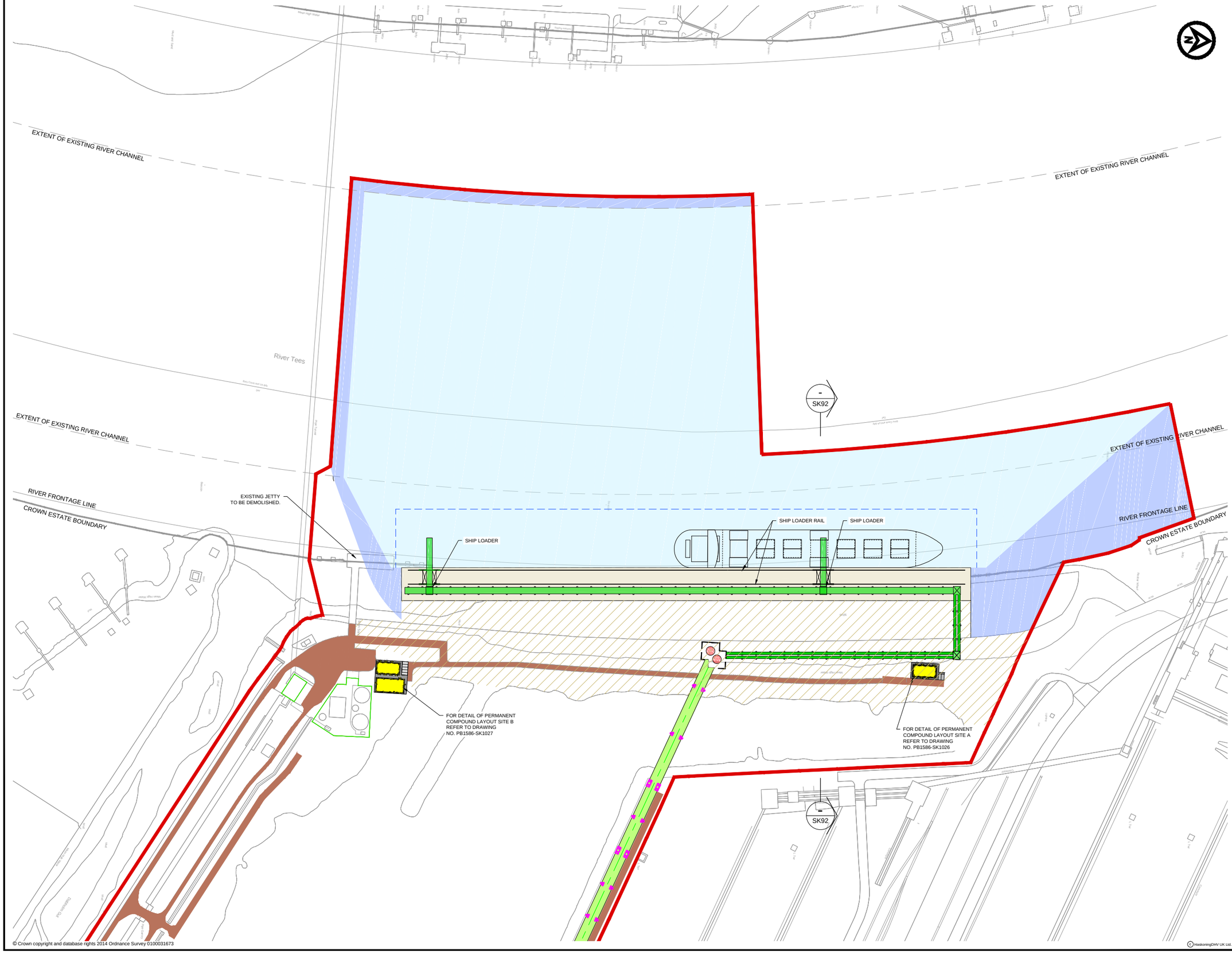
DATE	JUL '14	CLIENT'S REF.	
SCALE AT A1	1:1500	AUTOCAD REF.	PB1586-SK93

DRAWING No. PB1586-SK93

REVISION 12

DRG No. PB1586-SK91



NOTES

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2. FOR SECTION REFER TO DRAWING NO. PB1586-SK92. SECTION SHOWS DETAIL INTERSECTING LINE OF SECTION ONLY.

LEGEND

- ORDER LIMITS
- QUAYSIDE (ENGINEERING FILL)
- DREDGED AREA
- DREDGED SIDE SLOPES
- EXTENT OF BERTH POCKET
- TRANSFER TOWER
- SURGE BINS
- CONVEYORS AT THE QUAY
- QUAY STRUCTURE
- SECTION MARKER
- ROADS
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REV	DATE	DESCRIPTION	BY	CHK	APP
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8	05/03/15	PLANNING ISSUE	JLR	SRS	RWP
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5	12/12/14	PLANNING ISSUE	TF	RWP	RWP
4	11/12/14	PLANNING ISSUE	TF	RWP	RWP
3	9/12/14	PLANNING ISSUE	TF		
2	1/12/14	UPDATED RLB	TF	RWP	RWP
1	1/12/14	UPDATED RLB	TF	RWP	RWP
0	29/08/14	DRAFT FOR CONSULTATION	IT	TJR	RP

REVISIONS

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YORK POTASH

TITLE

THE YORK POTASH
HARBOUR FACILITIES ORDER 201X
INDICATIVE LAYOUT - SOLID QUAY
CONSTRUCTION - NORTHERN ROUTE
REGULATION 5(2)(o) DOCUMENT 3.8A

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DATE	JUL '14	PASSED	RWP
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		AUTOCAD REF.	PB1586-SK91

DRAWING No. PB1586-SK91

REVISION 12

DRG No. PB1586-SK94

SECTION KEYPLAN
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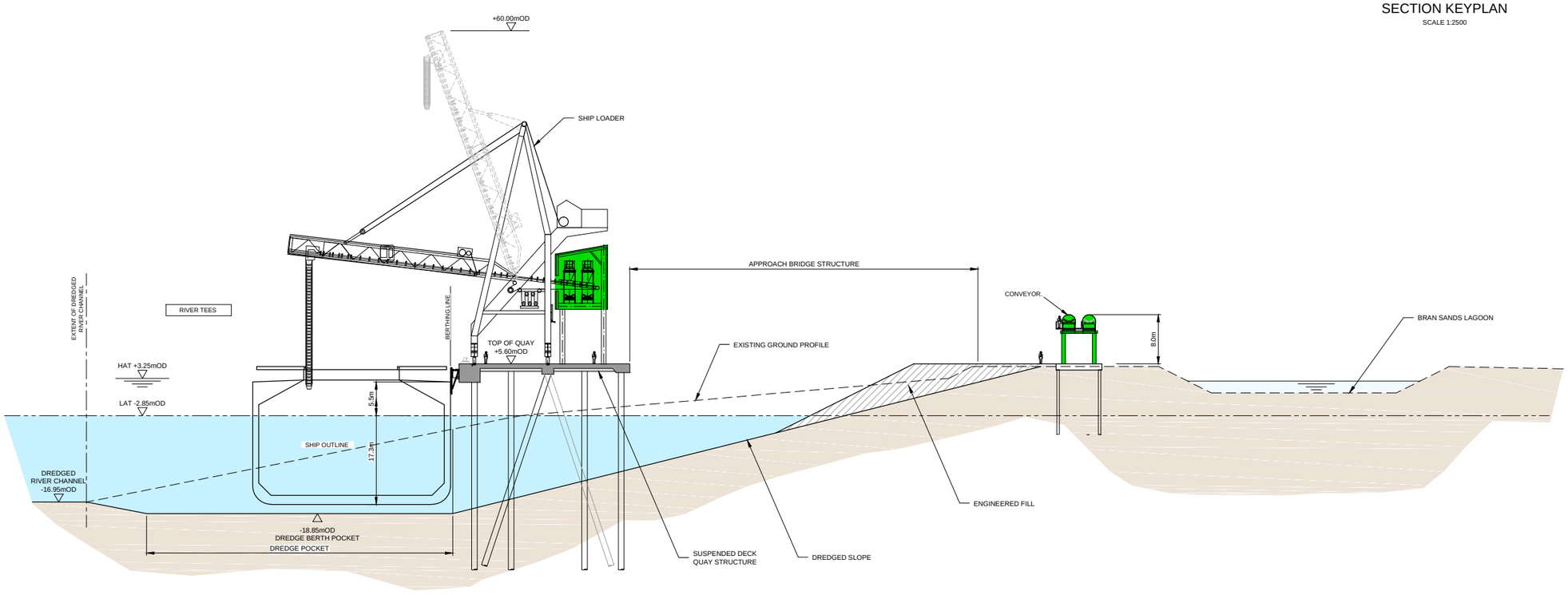

CROSS SECTION OF OPEN QUAY
(SEE SK93)

NOTES

1. THIS IS A CROSS SECTION WHICH DOESN'T SHOW FULL VISUAL BACKGROUND.

LEGEND

EXISTING GROUND PROFILE

CONVEYORS

REV	DATE	DESCRIPTION	BY	CHK	APP
9	19/03/15	PLANNING ISSUE	LW	DGB	RWP
8	17/03/15	PLANNING ISSUE	LW	DGB	RWP
7	11/03/15	PLANNING ISSUE	CH	SRS	RWP
6	09/03/15	PLANNING ISSUE	CH	SRS	RWP
5	03/03/15	PLANNING ISSUE	NAT	SRS	RWP
4	27/02/15	PLANNING ISSUE	NAT	SRS	RWP
3	12/12/14	PLANNING ISSUE	TF	RWP	RWP
2	9/12/14	PLANNING ISSUE	TF		
1	1/12/14	MINOR AMENDMENTS	TF	RWP	RWP
0	29/08/14	DRAFT FOR CONSULTATION	IT	TJR	TJR

REVISIONS

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PROJECT

YORK POTASH

TITLE

THE YORK POTASH
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INDICATIVE SECTION
OPEN QUAY CONSTRUCTION
REGULATION 5 (2)(o)
DOCUMENT 3.9C

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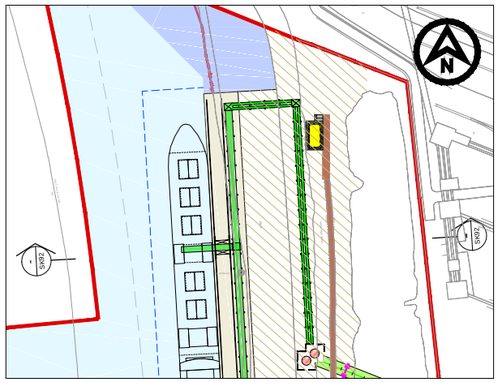
SCALE AT A1	1:400	AUTOCAD REF.	PB1586-SK94

DRAWING No. PB1586-SK94

REVISION 9

DRG No. PB1586-SK92



SECTION KEYPLAN
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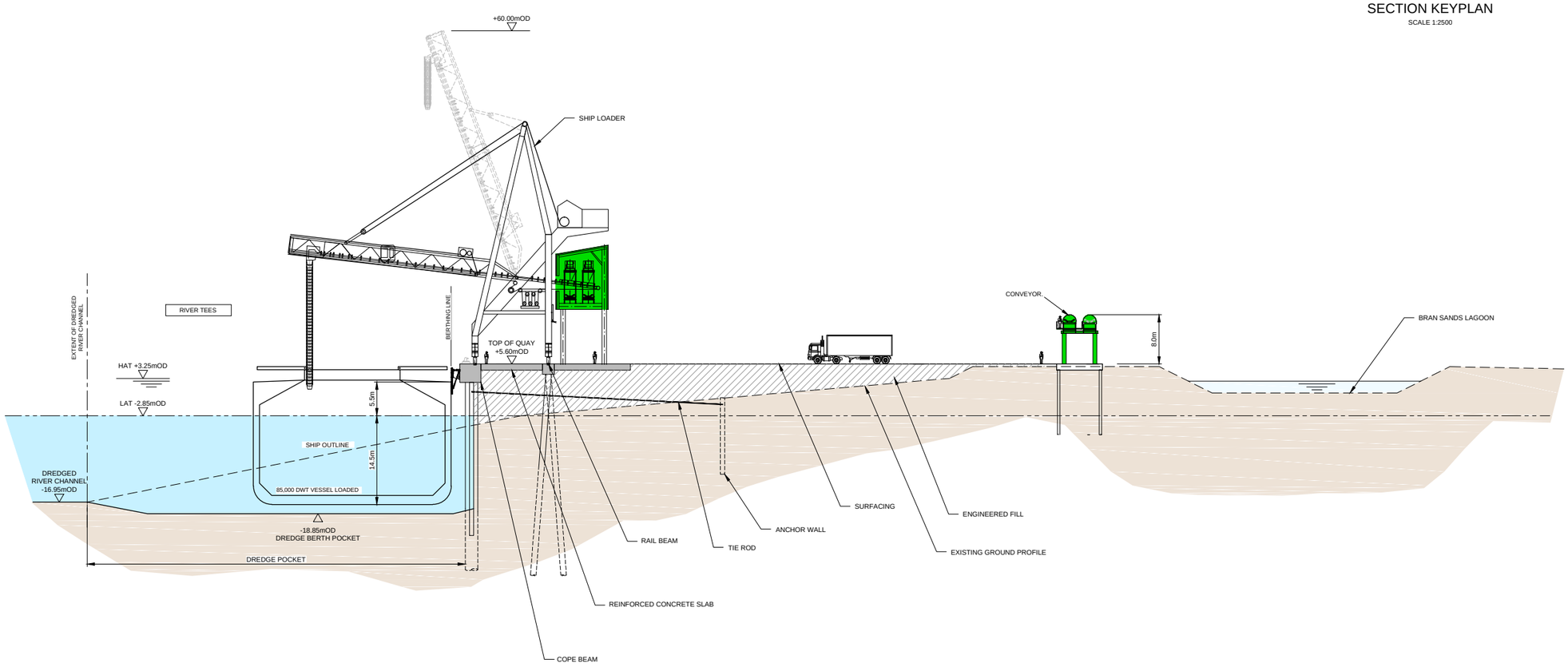

CROSS SECTION OF SOLID QUAY
(SEE SK91)

NOTES

1. THIS IS A CROSS SECTION WHICH DOESN'T SHOW FULL VISUAL BACKGROUND.

LEGEND

- – – – – EXISTING GROUND PROFILE
- CONVEYORS

REV	DATE	DESCRIPTION	BY	CHK	APP
8	17/03/15	PLANNING ISSUE	LW	DGB	RWP
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3	10/12/14	PLANNING ISSUE	TF	RWP	RWP
2	9/12/14	PLANNING ISSUE	TF		
1	1/12/14	MINOR AMENDMENTS	TF	RWP	RWP
0	26/08/14	DRAFT FOR CONSULTATION	IT	TJR	TJR

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DRAWING No. PB1586-SK92
REVISION 8

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2.2.10 Capital dredging of the berth pocket (and adjacent approaches to the pocket) would be required in order to allow the maximum design vessels proposed access to the port terminal. This dredging would be undertaken in two phases and is linked to the phased construction of the quay. Dredging would also be required to create the stable slope beneath the quay for the open suspended deck option. As part of the Phase 2 dredging, capital dredging would be required within the approach channel in order to provide the required access for vessels in addition to the Phase 2 dredging of the berthing pocket.

2.2.11 Within the area that would require dredging in the current approach channel, the existing depth of the channel is 10.4m below CD (bCD) (-13.25mOD). It is proposed that the approach channel in this area would be deepened to 14.1m bCD (-16.95mOD) to match the depth of the remainder of the approach channel downstream of this point to the mouth of the Tees. The approach channel dredging required would be the same for both the open quay structure and solid quay structure. It is proposed that dredging to 16m bCD (-18.85mOD) would be undertaken to create the berth pocket.

2.2.12 The total volume of material to be dredged is estimated at up to approximately 1,122,000m^3 to create the berth pocket and stable slope beneath the quay for the open suspended deck option. For the solid quay option, there is no requirement to create a stable slope and the dredge volume would be approximately 814,000m^3.

2.2.13 The Harbour facilities project also includes mitigation and habitat enhancement proposals in Bran Sands lagoon for waterbirds and their supporting habitats. The proposals comprise the use of dredged material within the lagoon to create and enhance feeding, roosting, loafing and nesting habitat for waterbirds. They also represent mitigation for the predicted impact of the quay construction on intertidal habitat. Details of the proposals are included in Section 3 of the Harbour facilities ES (**Document 6.4**), and are referred to within this HRA as appropriate. A summary is provided below.

2.2.14 The habitat enhancement proposals would comprise the placement of capital dredged material (clay/mudstone) within Bran Sands lagoon to raise the bed level in order to create both a new shallow area of water, islands and intertidal margins and, therefore, provide feeding, roosting, loafing and nesting habitat for waterbirds. To create the new shallows, maintenance dredged material (mud), of up to 20cm in depth, would be placed over the capital dredged material to enhance the value of the area for feeding waterbirds. To prevent the migration of the placed maintenance dredged material from the deposition area across Bran Sands lagoon, a bund of capital dredged clay or mudstone would be placed within the lagoon, with the maintenance dredged material to be placed behind the bund.

2.2.15 It is also proposed that a connection between the River Tees and Bran Sands lagoon would be maintained in order that the range of water levels remains consistent and close to those currently experienced, and the nature of water exchange between the lagoon and the Tees estuary does not change. However, the connection would be designed to allow future changes to water level management in the lagoon if this was considered beneficial to the habitat enhancement measures.

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3 CONSULTATION

3.1 Introduction

3.1.1 Consultation has been ongoing with Natural England, RCBC and NYMNPA (and others) since 2012 regarding the potential requirement for Appropriate Assessment, and consequently HRA, for different elements of the YPP, including the Harbour facilities.

3.2 Consultation to determine LSE

3.2.1 A formal Environmental Impact Assessment (EIA) Scoping Opinion has been received for the Harbour facilities (from the Planning Inspectorate). This included advice on the need for Appropriate Assessment and the preparation of an HRA in compliance with the Habitats Regulations. This advice has been used to assist in the preparation of this HRA. Through the consultation process, Natural England suggested that YPL's HRA should apply to the whole of the YPP.

3.2.2 Natural England has advised that the proposed Harbour facilities have the potential to result in a LSE on interest features of European and internationally designated sites (specifically the Teesmouth and Cleveland and Coast SPA and Ramsar site). This is because habitats in the vicinity of the Harbour facilities (Bran Sands lagoon and Dabholm Gut) are considered to be functionally linked to the SPA. For example, through the Scoping Opinion for the Harbour facilities Natural England advised that consideration should be given to:

> *"the loss of roosting and foraging habitat for SPA/Ramsar waterbirds (both on the intertidal and terrestrial), disturbance to SPA/Ramsar birds both within and outside the designated site boundary during construction and operation and impacts to any additional features of SSSIs in close proximity."*

3.2.3 As such, an Appropriate Assessment will need to be undertaken by the Secretary of State for the Harbour facilities. In this context, The Planning Inspectorate (PINS) advised (through the Harbour facilities Scoping Opinion) that:

> *"it would be preferable for the applicant to produce a standalone report for the purposes of the Habitat Regulations, containing the information identified with the latest version of PINS's Advice Note 10: HRA, including the appended screening and if appropriate, integrity matrices, which cross-refer to the ES as appropriate."*

3.2.4 PINS provided further written advice on the HRA (dated 28 October 2014) under Section 51 of the Planning Act 2008. This advice confirmed that the HRA should clearly consider the Harbour facilities (alone) and in combination with other plans and projects, including the other components of the YPP.

3.2.5 The two approaches advocated by Natural England and PINS described above differ in that the 'project' under consideration is defined differently (i.e. the YPP as a whole or the Harbour facilities respectively). The approach advocated by PINS does not necessarily enable an understanding of the whole YPP to be gained because some YPP components have (with justification, i.e. where no interaction between

the different YPP components would arise) been screened out from consideration within the Harbour facilities in combination assessment (see **Section 8**). Consequently, to enable an understanding of the implications of the components of the YPP that have been screened out of this HRA on European and internationally protected sites to be obtained, the HRA that was submitted with the planning applications for the Mine and MTS and MHF accompanies the DCO application (as Appendix 3 to **Document 7.3** – Project Position Statement).

3.2.6 The intention of the above approach is that this HRA enables the implications of the project for which consent is being sought (in this case the Harbour facilities) to be assessed alone and in combination under the Habitats Regulations (as required by PINS), while also providing information to enable a wider understanding of the effects of the whole YPP on European and international designated sites (as requested by Natural England).

3.3 Consultation to identify plans and projects to be considered in-combination

3.3.1 Consultation has been undertaken to identify and confirm the plans and projects to be considered by the in combination assessment. This consultation was undertaken as part of the Cumulative Impact Assessment (CIA) undertaken for the Mine, MTS and MHF applications, which included all components of the YPP. The consultation included engagement with the following organisations relating to recent or proposed plans and projects within their areas of jurisdiction:

- NYMNPA.
- RCBC.
- MMO.
- North Yorkshire County Council.
- Hambleton District Council.
- Ryedale District Council.
- Middlesbrough Council.
- Stockton-On-Tees Borough Council.
- Scarborough Borough Council.
- East Riding of Yorkshire Council.
- Hartlepool Borough Council
- The Highways Authority.
- PD Ports (as Harbour Authority).

3.3.2 In addition, consultation with PINS on the draft HRA (see **Section 3.4**) revealed a further project for consideration in combination with the Harbour facilities – Dogger Bank Teesside A and B.

3.4 Consultation on the HRA Screening report, draft HRA and development of a Mitigation and Monitoring Strategy

3.4.1 An HRA Screening Report was issued to Natural England and the NYMNPA for comment in July and August 2014. Comments were received and taken forward into the development of the HRA.

3.4.2 Consultation on a draft Harbour facilities HRA was undertaken in September 2014 as part of the Section 42 consultation on 'preliminary environmental information' and the draft DCO. The draft HRA was also issued directly to PINS on 6 October 2014. The comments received through the above consultation were considered and, where appropriate, have been addressed within this HRA.

3.4.3 A further iteration of the draft Harbour facilities HRA was issued to Natural England and the Environment Agency in December 2014. Subsequent consultation was undertaken with Natural England which focussed on the habitat enhancement and mitigation proposals for Bran Sands lagoon outlined within the draft HRA, and led to the production of a Mitigation and Monitoring Strategy (MMS) (included in **Appendix 3.1**). The consultation comprised a telephone meeting on 15 January 2015 (meeting notes are included as an appendix to the MMS) and a subsequent advice letter from Natural England (dated 21 January 2015) that set out Natural England's expectation of the MMS (also appended to the MMS). On the basis of this consultation, a first draft of the MMS was produced.

3.4.4 Subsequently, a site visit to Bran Sands lagoon and meeting was held on 5 February 2015 with Natural England, the Environment Agency, the MMO, Cefas and YPL to discuss the first draft of the MMS and the deliverability of the habitat enhancement proposals for Bran Sands lagoon. Comments made at the meeting (and subsequently in a letter from Natural England dated 9 February 2015 (see Appendix A of the MMS)) were incorporated into the MMS, and are reflected in the conclusions drawn in this HRA.

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4 SITE SCREENING METHODOLOGY

4.1.1 The approach adopted in this section has been development based on guidance provided in The Planning Inspectorate (2013) Advice note 10, as well as English Nature HRGN 1 and 3 (1997; 1999).

4.1.2 In order to identify the European and Ramsar sites that have the potential to be affected by the proposed Harbour facilities (as opposed to other relevant plans and projects to be included in the in combination assessment (see **Section 5**)); initially a 5km buffer was applied around the DCO application boundary (see **Figure 4.1**). The definition of this buffer considered the geographical features of the study area, the features and reasons for designation of the relevant European and Ramsar sites and the mechanisms by which the proposed works could affect designated features.

4.1.3 The same approach was adopted for the other components of the YPP as part of the HRA that accompanied the planning applications for the Mine and MTS, and the MHF. The HRA that was submitted with the planning applications for the Mine and MTS and MHF accompanies the DCO application (as Appendix 3 to **Document 7.3** - Project Position Statement)

4.1.4 In addition to the designated sites within 5km of the boundary of the DCO application, European and Ramsar sites adjacent to the existing road network considered in the assessment of the potential impact of the Harbour facilities on road traffic have also been identified (these designated sites are included in **Figure 4-1** and are detailed in **Section 6**).

4.1.5 The road traffic assessment undertaken for the EIA of the Harbour facilities predicted the potential impact of (a) the Harbour facilities and (b) the whole YPP (and other committed development) on the road network shown in **Figure 4-1**. This approach enabled screening of the potential effect of road traffic on designated sites to be undertaken for the Harbour facilities alone and in combination with other plans and projects, including the wider YPP. Further detail is provided in **Section 6**.

4.1.6 It is acknowledged that different effects associated with the Harbour facilities have the potential to have different areas of influence. Hence the predicted zones of influence (ZOI) of the Harbour facilities are set out in **Table 4.1**. Consultation with Natural England during July 2014 assisted with the identification of ZOIs for the topics considered in **Table 4.1**.

4.1.7 The assessment of LSE in the context of the designated sites included in the HRA comprised assessment of the potential effects of the construction, operational and decommissioning phases. This included analysis of the extent to which potential impacts could occur (the ZOI) for specific environmental parameters (see **Table 4.1**). The assessment was informed by the detailed surveys, data collection and technical studies undertaken as part of the EIA for the Harbour facilities, as reported in the ES.

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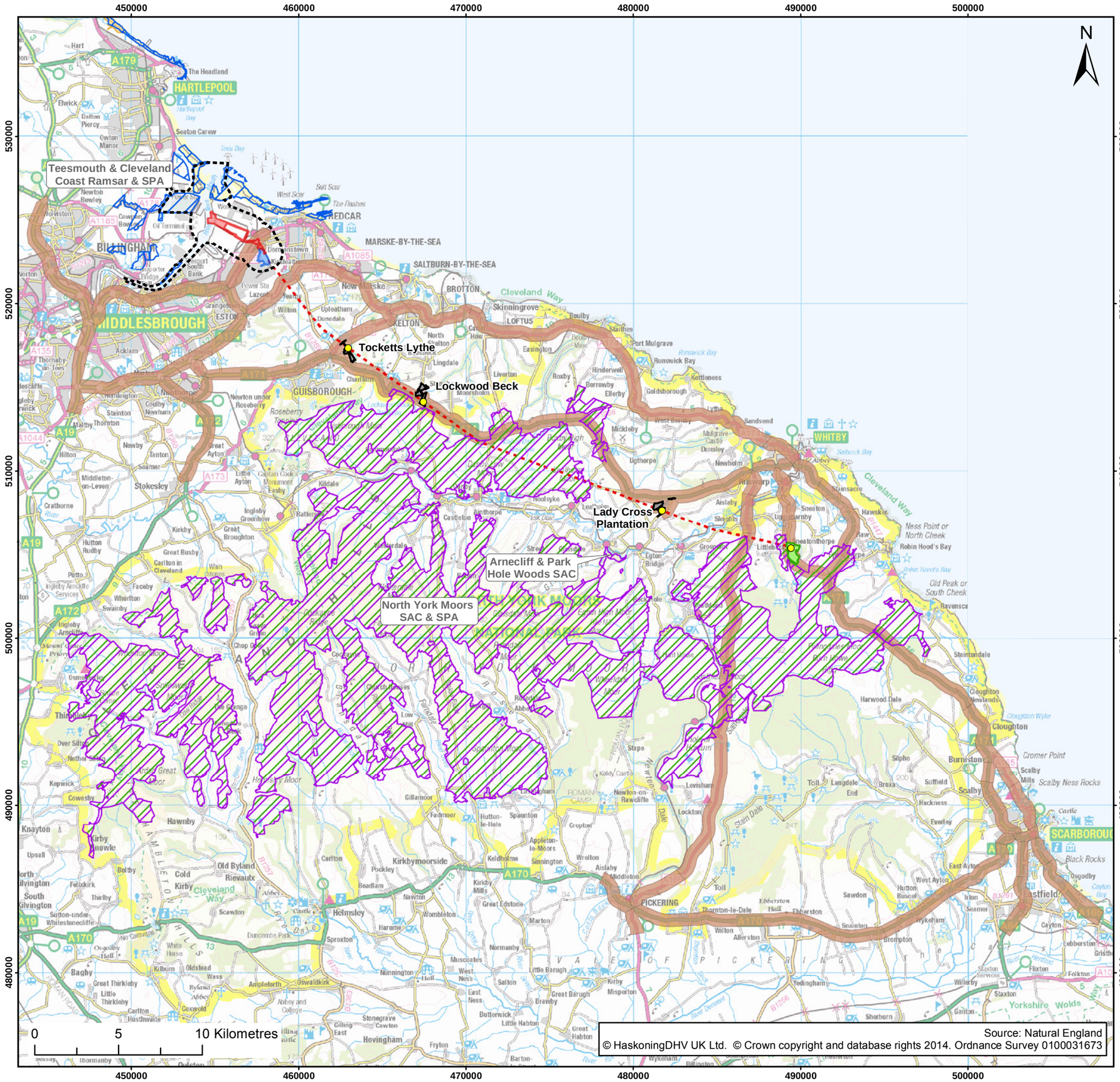

Legend:

- Harbour Facilities - DCO Order Limits
- MHF and MTS Portal – Extent of Works
- Minehead – Extent of Works
- Intermediate Shaft and Spoil Site – Extent of Works
- Transportation Route
- Harbour Facilities Buffer
- MTS Tunnel Alignment
- Shaft Location
- Site of Special Scientific Interest (SSSI)
- Ramsar
- Special Area of Conservation (SAC)
- Special Protection Area (SPA)

DCO Order Limits as of 24/02/15

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

Title: Plans and Projects to be Considered In-Combination

Part:	Figure:	Drawing No:
HF	5.1	9Y0989-HRA-1-001

Rev:	Date:	Drawn:	Checked:	Size:	Scale:
1	06/03/2015	LB	MS	A3	1:230,000
0	11/12/2014	LB	MS	A3	1:250,000

Co-ordinate system: British National Grid

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Table 4.1 The 'zone of influence' of potential impacts for relevant environmental parameters

Environmental Parameter	Zone of influence of potential effect
Ecology	The direct footprint of the works for the Harbour facilities and the ZOI of noise, air quality, lighting, visual, hydrological and groundwater effects (as detailed below).
Transport	All routes included in the Transport Model for the YPP Transport Assessments (see **Figure 4.1**).
Noise	1km from the boundary of the Harbour facilities. 50m either side of all highways used by the YPP traffic (i.e. all routes included in the Transport Model for the YPP Transport Assessments (see **Figure 4.1**)). With regard to underwater noise generated by the construction of the Harbour facilities, the results of noise modelling undertaken predicts that audible noise would extend up to 4.9km from the noise source. A precautionary maximum ZOI of 5km has, therefore, been assumed.
Air quality	A ZOI of 200m has been applied around the MHF and Harbour facility with regard to project emissions. Human receptors within 350m of the site boundary and 50m of routes used by construction vehicles up to 500m from the site access. 200m either side of all highways used by the YPP traffic for road traffic emissions (**Figure 4.1**). 50m from either side of all highways used by the YPP traffic for construction dust. 700m radius from the boundary of the YPP components for construction dust.
Light	In general, 50m from the boundary of the Harbour facilities; the zone of potential (controlled) light spill. With respect to bats, Natural England stated that impacts could be experienced up to 5km from the light source. However, as bats are not a designated interest feature of the Teesmouth and Cleveland Coast SPA or Ramsar site (see **Section 6**), the implementation of this buffer around the Harbour facilities is not deemed to be necessary.
Visual disturbance	500m from the Harbour facilities.
Geology and land quality	500m from the Harbour facilities.

Environmental Parameter	Zone of influence of potential effect
Groundwater and Hydrology	1km radius from the boundary of the Harbour facilities.
Marine sediment and water quality / coastal hydrodynamics	The tidal Tees estuary between Teesmouth and the Tees Barrage and Tees Bay (an area of approximately 10.5km^2, incorporating the existing dredged material disposal sites).

5 DESIGNATED SITES POTENTIALLY AFFECTED

5.1 European and Ramsar sites included in the screening assessment

5.1.1 Based on the ZOIs defined in **Section 4**, the Harbour facilities (alone and in combination with other plans and projects) have the potential to affect one European site and one Ramsar site (the Teesmouth and Cleveland Coast SPA and Ramsar site (see **Figure 4.1**)). These designated sites are, therefore, screened into this HRA.

5.1.2 With regard to the potential effect of emissions from road traffic during the construction and operation phases, the traffic and transport assessment undertaken for the Harbour facilities (**ES Section 12**) concludes that the Harbour facilities would make an insignificant contribution to the traffic flows generated by the YPP as a whole. Moreover, the traffic predicted to be generated by the Harbour facilities would not result in any effects that would extend into the North York Moors National Park (NYMNP) or influence the North York Moors SAC or SPA (see **Section 8** herein).

5.1.3 The air quality effects of the YPP that are predicted to cause exceedences of Objective levels for ecology within the NYMNP, prior to mitigation (refer to the HRA that was submitted with the planning applications for the Mine and MTS; Appendix 3 to **Document 7.3** - Project Position Statement), are predicted to arise due to a combination of the influence of traffic emissions and the contributions from construction phase generators at the minehead and Lockwood Beck Intermediate Shaft Site. It is not traffic alone that would cause exceedence of the Objectives. Consequently, the North York Moors SPA and SAC and the Arnecliffe Park and Hole Woods SAC were screened out of the HRA for the Harbour facilities.

5.1.4 The designated sites proposed for inclusion within the HRA (for the whole YPP) were presented to Natural England within the HRA Screening Report and the draft HRA, and through this process it was agreed that the sites to be considered were appropriate. For the Harbour facilities, Natural England confirmed to PINS during a meeting held on 11 November 2014 that the correct designated sites have been identified for inclusion in the HRA. (They have also confirmed that the conservation objectives included in **Appendix 5.1** herein are current.)

5.1.5 Details of each of the designated sites screened into the HRA are provided below.

5.2 Teesmouth and Cleveland Coast SPA

5.2.1 The Teesmouth and Cleveland Coast SPA includes a range of coastal habitats, including sand-and mudflats, rocky shore, saltmarsh, freshwater marsh and sand dunes. Together these habitats provide feeding and roosting opportunities for important numbers of waterbirds in winter and during passage periods. In summer little tern *Sterna albifrons* breed on beaches within the site, while sandwich tern *Sterna sandvicensis* are abundant on passage.

5.2.2 The Teesmouth and Cleveland Coast SPA is of European importance because it is used regularly by at least 1% of the Great Britain population of the following species listed on Annex I of the Birds Directive (79/409/EC), as illustrated in **Table 5.1**.

Table 5.1 Annex I species of the Teesmouth and Cleveland Coast SPA

Annex I species	5 year peak mean	% of GB population
Little tern *Sterna albifrons*	40 pairs (1995-1998)	1.7
Sandwich tern *Sterna sandvicensis*	1,900 birds (1988-1992)	6.8

5.2.3 In addition, the SPA is used regularly by 1% or more of the biogeographical population of the migratory species (other than those listed in Annex I) in any season, as presented in **Table 5.2**.

Table 5.2 Non-Annex I migratory species

Non-Annex I migratory species	5 year peak mean	% of population
Knot *Calidris canutus*	5,509 (1991/92-1995/96)	1.6 (NE Canada/Greenland/Iceland/ UK)
Redshank *Tringa totanus*	1,648 (1987-1991)	1.1 (Eastern Atlantic wintering)

5.2.4 The SPA also qualifies as it is used regularly by over 20,000 waterbirds or 20,000 seabirds in any season; the SPA supported a peak mean of 21,312 individuals over the period 1991/92 to 1995/96.

5.2.5 Furthermore, the SPA supports nationally important populations of cormorant *Phalacrocorax carbo*, shelduck *Tadorna tadorna*, teal *Anas crecca*, shoveler *Anas clypeata*, ringed plover *Charadrius hiaticula* and sanderling *Calidris alba*.

5.2.6 In addition to the SPA features cited above, (non-breeding) ringed plover were identified in the 2001 SPA Review as being present in numbers which would qualify them for further consideration as a new and additional feature of the SPA. An extension to encompass little tern and, potentially, common tern foraging is also being considered. Natural England has advised that through this review process, the SPA boundaries may also be proposed for extension to encompass the wintering waterbird assemblage that uses habitats within and adjacent to the DCO application site. The entire lagoon at Bran Sands and the adjacent Dabholm Gut are being considered in the proposed SPA Review in the context of supporting habitat for the SPA wintering waterbird assemblage.

5.2.7 Natural England has also advised that it is currently drafting advice for Government which proposes that these additional features and boundary extensions are formally added to the SPA (public consultation on this has not yet commenced). However, as a matter of law and Government policy, ringed plover are not currently protected as an SPA feature.

5.2.8 Given that advice to Government on the designation of these features is being prepared, with regard to the consideration of likely impacts on these additional features and boundary extension, Natural England has recommended that the best way to take account of this would be to follow the same assessment process for them as if they were SPA interest features. Natural England has further advised that having particular regard to these species, boundaries and any likely effects on them would also be in accordance with the broad objectives of the Wild Birds Directive and help the competent authority to fulfil their duty under regulation 9A(8) of the 2010 Habitats Regulations (as amended) to use all reasonable endeavours (so far as they lie within their powers) to avoid any pollution or deterioration of wild bird habitat when exercising statutory functions.

5.2.9 The above advice on the approach to the assessment has been reflected in the approach taken to the HRA.

5.2.10 Natural England has developed conservation objectives for the SPA which aim to maintain, in favourable condition, the quality, distribution and extent of the designated habitats which support the cited bird species. Details of these conservation objectives are provided in **Appendix 5.1**, which also contains the citation for the SPA.

5.3 Teesmouth and Cleveland Coast Ramsar Site

5.3.1 This site comprises a range of habitats (sand and mudflats, rocky shore, saltmarsh, freshwater marsh and sand dunes) which support internationally important numbers of waterbirds. The Ramsar Criteria for the Teesmouth and Cleveland Coast Ramsar site are Criteria 5 and 6. The justifications for the site meeting these criteria are as follows:

Ramsar Criterion 5

5.3.2 The site has assemblages of international importance (peak counts in winter) of 9,528 waterfowl (5 year peak mean 1998/99 – 2002/03).

Ramsar Criterion 6

5.3.3 The site has species occurring at levels of international importance, as set out in **Table 5.3**.

Table 5.3 Species occurring at levels of international importance

Species	Population
Species with peak counts in spring/autumn	
Common Redshank	883 individuals, representing an average of 0.7% of the GB population (5 year peak mean 1998/9-2002/3)
Species with peak counts in winter	
Red Knot	2579 individuals, representing an average of 0.9% of the GB population (5 year peak mean 1998/9-2002/3)
In addition, several species occur at levels of national importance including Little Tern, Northern Shoveler, and Common Greenshank, *Tringa nebularia.*	

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6 PLANS AND PROJECTS TO BE CONSIDERED IN COMBINATION

6.1 Introduction

6.1.1 Under the Habitats Regulations it is necessary to assess the potential for in combination effects to arise with respect to the project under consideration (in this case the Harbour facilities) and other plans or projects when considering the implications of development on a European site. The plans and projects that have been identified as having the potential to result in in combination effects with the Harbour facilities are identified in this section, and the LSE screening assessment with respect to these plans and projects is included in **Section 8.4**.

6.2 Relevant plans and projects

6.2.1 Relevant plans and projects to be considered by the in combination assessment were identified from those considered by the CIA undertaken as part of the EIA for the Harbour facilities. The CIA identified the maximum geographical area around the DCO boundary for the Harbour facilities where there is the potential for impacts to occur. As set out in **Section 4**, the ZOI can differ for each environmental topic and potentially for different types of impact associated with the same topic. Hence an amalgamated ZOI (defined primarily by the large ZOIs for transport and coastal processes) formed the search area for other plans and projects.

6.2.2 A review of relevant Development Plans (and emerging Development Plans - with an appropriate weighting being given as they move closer to adoption), non-statutory plans (such as Shoreline Management Plans and River Basin Management Plans) and strategies (such as Flood Risk Management and Coastal Strategies) was undertaken. In addition, consultation with the relevant Planning Authorities (see **Section 3.3**) and an independent search of their planning registers was undertaken to produce a 'long list' of plans and projects to be considered by the CIA. In accordance with the Scoping Opinion issued by PINS for the Harbour facilities, this list took account of:

- projects that are under construction;
- permitted application(s) not yet implemented;
- submitted application(s) not yet determined;
- all refusals subject to appeal procedures not yet determined;
- projects on the National Infrastructure's programme of projects;
- projects identified in the relevant development plans, recognising that much information on any relevant proposals will be limited; and,
- proposals in the area currently at the scoping stage.

6.2.3 The planning search encompassed a five year period, which took into account projects that received planning consent over three years ago and which have been implemented, thereby ensuring that the consent remains valid after the three year expiry date, but are not yet complete.

6.2.4 In addition to the above, a search of the MMO's Public Register (which lists Harbour Revision Order (HRO) and marine licence applications) was undertaken to identify those projects with the potential to result in significant environmental impacts that require consideration within the CIA and HRA.

6.2.5 A high level screening exercise was then undertaken to remove certain types of development that are considered to be insignificant in nature and scale (e.g. change of use or conversions to existing buildings and erection of agricultural buildings) and, as such, unlikely to have the potential to contribute to significant cumulative impacts.

6.2.6 As the extent of the combined ZOI was predominately led by Transport, a further scoping exercise was undertaken to determine whether the plans or projects in question had the potential to have a significant impact on the transport network. This exercise was based on expert judgement and projects that were predicted to have a negligible impact on transport, and which were outside the ZOI of all other topics, were also scoped out of the CIA; further reducing the number of plans and projects to be considered.

6.2.7 The search of the MMO's Public Register identified two significant projects to be included in the CIA (the Northern Gateway Container Terminal (NGCT) and QEII Berth Development).

6.2.8 From this filtered list of projects, relevant plans and projects to be considered in the in combination assessment were identified using the ZOIs of potential effects described in **Table 4.1**. These ZOIs have been applied in two ways:

1. To identify proposals whose potential environmental effects could interact with those of the Harbour facilities and affect a European site (interactive effects are only considered to have the potential to occur where the ZOI of both the Harbour facilities and other plan or project overlap within a European site or an area that supports qualifying features for the site) (see **Table 6.1**).
2. To identify proposals that have the potential to affect the same European site, or qualifying feature of the designated site, as the Harbour facilities (irrespective of its location), resulting in a potential additive effect (see **Table 6.2**).

Potential interactive effects

6.2.9 Plans and projects that are considered to have the potential to result in interactive effects on a European site or Ramsar site (in this case the Teesmouth and Cleveland Coast SPA and Ramsar site, as set out in **Section 5**) with the Harbour facilities are listed below in **Table 6.1** (and shown on **Figure 6.1**). The 'Project ID's' presented in **Tables 6.1** and **6.2** relate to the number of the project within the master list of projects prepared for the CIA.

Table 6.1 Plans and projects with the potential to have interactive effects on the Teesmouth and Cleveland Coast SPA and Ramsar site with the Harbour facilities

Project ID	Plan or Project	Distance from Harbour facilities (DCO boundary) (m)
172	Maintenance dredging within the Tees Estuary	0
173	Northern Gateway Container Terminal (terminal and capital dredging)	0
174	QEII Berth Development	1,200
130	Proposed anaerobic digestion and combined heat and power plant	0
169	Dogger Bank Teesside A and B	0

Project ID	Plan or Project	Distance from Harbour facilities (DCO boundary) (m)
-	MHF (part of the YPP)	0

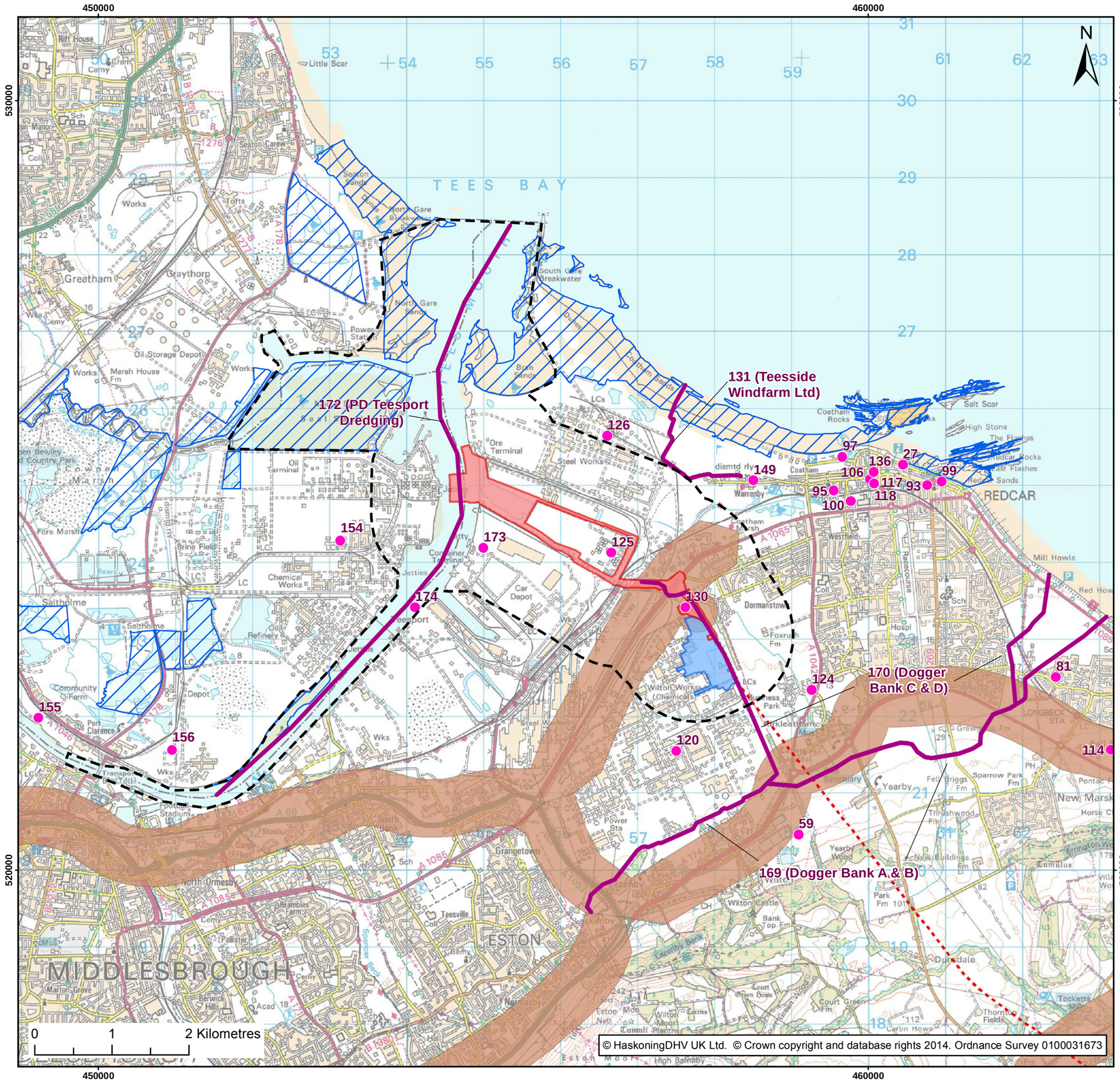
Potential additive effects

6.2.10 Plans and projects that have the potential to result in additive effects on the Teesmouth and Cleveland Coast SPA and Ramsar site in-combination with the Harbour facilities are described below (in **Table 6.2**) and shown on **Figure 6.1**.

Table 6.2 Plans and projects with the potential to have additive effects on the Teesmouth and Cleveland Coast SPA and Ramsar site with the Harbour facilities

Project ID	Description	Distance from Teesmouth and Cleveland Coast SPA and Ramsar site (m)
27	Demolition of existing buildings and creation of 4/5 storey buildings	55
59	Installation of 2 wind turbines (140m maximum height to tip; rotor diameter 112m; generating capacity 19.68gwh per annum) including substation; control building and new vehicular access onto a174	7,126
81	Outline application for 23 no. Dwellings with private garages and associated roads	2,694
87	Residential development comprising of 14 two storey detached dwellings with new access and landscaping	3,531
93	Two storey residential care home	180
95	Three storey 72 bed care home	500
97	Proposed arts and media centre (this has now been constructed – the Tuned In! facility at Redcar).	110
99	Four storey residential care home	80
100	Two storey teaching block and 300 seat lecture theatre	760
106	Demolition of health centre and erection of new three storey health centre	480
114	Outline application for up to 1000 dwellings together with ancillary uses and a neighbourhood centre, park- and-ride car park; petrol filling station; drive-thru; public house/restaurant and 60 bed hotel with details of access	3,834
117	Demolition of existing building and outline application for re-development of site for leisure use	580
118	Leisure centre, business, civic and community buildings	580
120	Construction of a poly ethylene terephthalate (PET) chemical plant	760
124	Erection of 14 industrial units in 4 blocks (classes B1, B2 & B8) with associated service area and 76 space car park (phase 2)	999

Project ID	Description	Distance from Teesmouth and Cleveland Coast SPA and Ramsar site (m)
125	Erection of 2No centrifuges	613
126	Erection of pulverised coal injection plant	600
131	Provision of underground cables along South Gare access road and Coatham Sands to serve offshore wind farm	65
136	Erection of two storey community and education centre	385
149	Erection of 10 industrial units	360
155	Retrospective revised application for change of use to waste transfer system	810



Legend:

- Zone of Influence
- Harbour Facilities - DCO Order Limits
- MHF and MTS Portal – Extent of Works
- Transportation Route
- MTS Tunnel Alignment
- Teesmouth & Cleveland Coast Ramsar & Special Protection Area (SPA)
- Site of Special Scientific Interest (SSSI)
- Project Location
- Project Location

DCO Order Limits as of 24/02/15

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

Title:

Plans and Projects to be Considered In-Combination

Part:	Figure:	Drawing No:
HF	6.1	9Y0989-HRA-1-001

Rev:	Date:	Drawn:	Checked:	Size:	Scale:
1	06/03/2015	LB	MS	A3	1:50,000
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Co-ordinate system: British National Grid

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7 DESCRIPTION OF THE BASELINE ENVIRONMENT

7.1 Overview of waterbird data used to inform the HRA

7.1.1 Baseline data used to inform this HRA comprises Wetlands Bird Survey (WeBS) counts for the Tees estuary for the most recent five years available from the BTO (i.e. 2008/09 to 2012/13) and monthly bird counts undertaken by INCA from 2009 to 2014 at Bran Sands lagoon, Dabholm Gut on the intertidal area at the site of the proposed port terminal.

7.1.2 Bird distribution plots have been produced by INCA based on the data from surveys undertaken between January 2012 and March 2014. These plots capture data from all surveys undertaken over this period and represent a comprehensive understanding of the recent (since January 2012) use of these areas by waterbirds, including more than two complete winter periods. The bird data collected has been used to determine the significance of these areas as supporting habitat for waterbirds, by comparing the data with that of the corresponding monthly WeBS count data for the Tees WeBS site.

7.1.3 The bird use of the foreshore along the Vopak land (approximately 650m from the footprint of the proposed port terminal, on the opposite bank of the estuary) was monitored from June 2013 to March 2014 inclusive. The location, species, behaviour and number of birds was recorded onto maps approximately every two weeks throughout that period.

7.1.4 A full description of all waterbird data used to inform the HRA (and EIA) is provided in **Section 9** of the ES (specifically **Section 9.4** and **Appendices 9.1** and **9.2**).

7.2 Bird distribution plots

7.2.1 The bird distribution plots (appended to the MMS (**Appendix 3.1**) and included in **ES Appendix 9.1**) show that Bran Sands lagoon, Dabholm Gut and the intertidal area at the location of the proposed port terminal are used by a range of bird species, including common tern, curlew, goldeneye, lapwing, redshank, sandwich tern, shelduck, teal and turnstone. The plots demonstrate that Bran Sands lagoon and Dabholm Gut have a high level of waterbird usage relative to the foreshore.

7.3 WeBS core count data

7.3.1 Core Count data was obtained for the most recent five available years (i.e. 2008/09 to 2012/13) for the following sites:

- Tees estuary (sector 52901); and,
- Bran Sands South (sector 52427, in which the proposed scheme is located).

7.3.2 Five year peak means for waterbird species within the Tees estuary and the Bran Sands South sector are presented in **Table 7.1** and **Table 7.2** respectively.

Table 7.1 Summary of peak monthly totals and seasonal peaks in waterbird populations in the Tees estuary (sector 52901) over the period 2008/09 to 2012/13

Year	Month	Tees estuary (sector 52901)			
		Peak monthly total[1]	Seasonal peak[2]		
			Autumn	Winter	Spring
2008/09	December	17,396	16,237	22,218	6,820
2009/10	December	20,802	19,873	28,157	7,403
2010/11	December	18,033	18,422	25,969	8,283
2011/12	January	16,669	15,216	23,905	6,659
2012/13	January	17,593	15,439	22,541	8,523
MEAN		18,099	17,037	24,558	7,538

1 Peak monthly total = maximum of the sum of the counts of all species within each month
2 Seasonal peak = sum of the maximum counts of all species within each season

Table 7.2 Summary of peak monthly totals and seasonal peaks in waterbird populations in the Bran Sands South sector (sector 52427) over the period 2008/09 to 2012/13

Year	Month	Bran Sands South (sector 52427)			
		Peak monthly total[1]	Seasonal peak[2]		
			Autumn	Winter	Spring
2008/09	January	832	794	1,256	330
2009/10	February	725	560	944	496
2010/11	February	906	752	1,352	429
2011/12	March	583	480	941	232
2012/13	December	890	460	1,489	432
MEAN		787	609	1,196	384

1 Peak monthly total = maximum of the sum of the counts of all species within each month
2 Seasonal peak = sum of the maximum counts of all species within each season

7.4 WeBS low tide count data

7.4.1 Consultation with the British Trust for Ornithology (BTO) during November 2014 identified that the most recent WeBS low water count data for the count sector in which the proposed scheme is located (section DT021) was gathered during 1996/97. It was, therefore, considered that this data would not be representative of the present day usage of the area given its age, and was not used to inform this section of the ES. In the absence of WeBS low water count data, the results of INCA's bird surveys and distribution plots have been used to describe low water usage of the area; this data is of significantly greater value to the impact assessment given it is highly site-specific and spans several years.

7.5 Bird survey data from Dabholm Gut, Bran Sands lagoon and the river frontage area

7.5.1 This section summarises the waterbird data for Dabholm Gut, Bran Sands lagoon and the river frontage (including intertidal area). **ES Appendix 9.2** contains the raw data on which the summary data is based.

7.5.2 **Tables 7.3 to 7.5** present the annual peak counts for waterbirds within Bran Sands lagoon and Dabholm Gut and on the intertidal frontage proposed for the port terminal from 2009 to 2013. These data have been used to calculate a five year average of usage for these areas, which has been compared to the WeBS five year average data for the Tees WeBS site..

Table 7.3 Peak counts and five year averages from 2009 to 2013 within Bran Sands lagoon, compared against five year average data for the Tees WeBS site

Species	Peak Counts					5-year average	WeBS 5-year average 2009 -13	% WeBS 5-year average
	2009	2010	2011	2012	2013			
Mute Swan	13	7	12	4	2	8	85	9%
Canada Goose	24	-	-	-	-	5	823	< 1%
Shelduck	189	104	106	68	73	108	451	24%
Gadwall	9	21	2	13	3	10	407	2%
Teal	97	176	185	32	194	137	1661	8%
Mallard	28	37	72	13	16	33	304	11%
Pochard	-	33	8	17	-	12	94	13%
Tufted Duck	-	2	1	-	-	1	266	< 1%
Scaup	-	3	-	-	-	1	2	50%
Long-tailed Duck	-	-	-	-	2	< 1	2	< 1%
Goldeneye	22	31	80	63	24	44	84	52%
Red-breasted Merganser	9	16	70	25	43	33	64	52%
Little Grebe	3	6	19	14	15	11	65	17%
Great Crested Grebe	-	2	3	-	-	1	42	2%
Cormorant	-	-	-	-	17	3	298	1%
Grey Heron	-	-	-	1	4	1	44	2%
Little Egret	-	-	-	-	11	2	30	7%
Oystercatcher	-	-	1	-	-	< 1	1262	< 1%
Lapwing	24	37	6	-	30	19	4218	< 1%
Dunlin	-	-	4	-	-	1	767	< 1%
Curlew	2	5	4	8	3	4	1195	< 1%

Species	Peak Counts					5-year average	WeBS 5-year average 2009 -13	% WeBS 5-year average
	2009	2010	2011	2012	2013			
Redshank	82	86	30	13	99	60	1235	5%
Turnstone	13	-	7	1	7	6	233	3%
Common Tern	-	34	-	-	19	11	509	2%
Sandwich Tern	-	-	-	-	18	4	177	2%

Table 7.4 Peak counts and five year averages from 2009 to 2013 within Dabholm Gut, compared against five year average data for the Tees WeBS site

Species	Peak Counts					5-year average	WeBS 5-year average 2009 -13	% WeBS 5-year average
	2009	2010	2011	2012	2013			
Mute Swan	-	-	18	-	-	4	85	5%
Canada Goose			22	-	2	5	823	1%
Shelduck	18	67	83	74	74	63	451	14%
Gadwall	8	37	45	48	26	33	407	8%
Teal	120	314	275	422	241	274	1661	16%
Mallard	18	19	64	30	38	3	304	11%
Pochard	-	-	1	-	-	< 1	94	< 1%
Tufted Duck	-	-	6	-	2	2	266	1%
Red-breasted Merganser	-	-	5	-	-	1	64	2%
Cormorant	-	-	-	1	3	1	298	< 1%
Grey Heron	-	-	-	3	11	3	44	7%
Moorhen	-	-	-	2	2	1	71	1%
Oystercatcher	-	3	-	2	2	1	1262	< 1%
Lapwing	47	40	1	17	68	35	4218	1%
Dunlin	-	6	20	-	5	6	767	1%
Bar-tailed Godwit	-	-	-	1	-	< 1	142	< 1%
Curlew	2	4	6	2	3	3	1195	< 1%
Redshank	79	132	111	89	156	113	1235	9%
Common Sandpiper	-	5	-	-	-	1	5	20%
Turnstone	11	56	9	17	20	23	233	10%
Common Tern	-	-	-	-	4	1	509	< 1%

Table 7.5 Peak counts and five year averages from 2009 to 2013 along the river frontage (including intertidal area) north from Dabholm Gut to the boundary with the adjacent steel works site, compared against five year average data for the Tees WeBS site

Species	Peak Counts					5-year average	WeBS 5-year average 2009 -13	% WeBS 5-year average	Note
	2009	2010	2011	2012 Note 1	2013 Note 1				
Shelduck	5	6	6	2	6	5	451	1.1%	
Gadwall	9	-	-	-	-	2	407	0.5%	
Teal	13	4	5	-	-	4	1661	0.2%	
Mallard	2	2	-	-	-	<1	304	<0.3%	
Pochard	-	-	5	-	-	1	-	-	2
Tufted Duck	-	-	12	-	-	3	-	-	2
Eider	-	-	-	1	1	<1	-	-	2
Goldeneye	3	-	-	-	-	<1	-	-	
Red-breasted Merganser	4	-	17	-	2	5	-	-	2
Cormorant	106	2	4	11	15	28	298	9.4%	
Grey Heron	-	-	4	-	7	2	-	-	
Oystercatcher	12	8	11	12	11	11	-	-	
Lapwing	-	-	4	-	90	19	4218	0.5%	
Curlew	3	2	10	3	6	5	1195	0.4%	
Turnstone	3	2	2	1	10	4	233	1.7%	
Common Sandpiper	-	-	-	-	1	<1	-	-	
Redshank	59	10	5	8	3	17	1235	1.4%	

Notes:
1. Considerable disturbance during this period due to site maintenance work.
2. Birds on river adjacent to intertidal area.

7.5.3 The NWL jetty is used as a regular roost site by cormorants. Cormorants resting on jetty were counted from 2010 until October 2014. The maximum counts together with the corresponding WeBS data are shown in **Table 7.6**.

7.5.4 The data in **Tables 7.3** to **7.5** shows that there is significant waterbird use of both Bran Sands lagoon and Dabholm Gut by a variety of bird species, with a variety of species found at numbers exceeding 1% of the corresponding Tees WeBS site monthly count for at least one month. **Table 7.5** shows that the number of waterbirds present is low on the river frontage, but exceeds 1% of the Tees WeBS site counts for shelduck, turnstone and redshank. Based on the 5-year 2010-2014 peak counts of cormorants recorded on the NWL jetty, 10% of the 5-year 2009-2013 average of the peak annual Tees WeBS site count was exceeded in four of the five years.

Table 7.6 Maximum counts for cormorants NWL Jetty

Year	Month	Peak count	Tees WeBS Count	% of Tees WeBS Count
2010	September	68	192	35%
2011	February	10	106	9%
2012	November	17	122	14%
2013	February	61	28	218%
2014	February	37	109	34%

Bird survey data from the Vopak foreshore

7.5.5 **Table 7.7** presents the data from the waterbird surveys of the Vopak foreshore. The only species using the site in any significant numbers is lapwing. The majority of these birds are roosting, recorded as loafing, with only a small number appearing to be feeding. In observations recorded on the adjacent terrestrial area at Vopak over recent years, the number of lapwing was also quite high with flocks of over 200 birds using the site for roosting. It is likely that the preferred roosting area is the Vopak landholding, but the birds move down onto the intertidal area when disturbed by activity on the adjacent site.

Table 7.7 Results of the waterbird surveys of the Vopak foreshore (f = feeding; l = loafing)

Date	Bar-tailed Godwit	Common tern	Cormorant	Curlew	Dunlin	Heron	Lapwing	Oyster-catcher	Redshank	Shelduck
24/06/13			1 l							1 l
27/06/13			2 l	1 f				1 f		
10/07/13				1 f			3 l	3 f		
23/07/13				4 f		7 l	1 l 2 f	6 f		
01/08/13		2 l		1 f			3 f 5 l	8 f		
21/08/13			5 l	3 f			25 l	4 f		
04/09/13			5 l	2 f	4 f		21 l	6 f	2 f	
20/09/13			2 l	3 f			130 l	2 f		
02/10//13	1 f		6 l	1 f			10 l	7 f		
17/10/13	5 f		2 l	5 f			22 l	4 f		
04/11/13	1 f			4 f			6 f 40 l	3 f	2 f	1 f

Date	Bar-tailed Godwit	Common tern	Cormorant	Curlew	Dunlin	Heron	Lapwing	Oyster-catcher	Redshank	Shelduck
15/11/13			4 l	3 f			43 l	2 f		
04/12/13			2 l	5 f			140 l	5 f		
09/12/13			24 l	1 f			30 l	3 f		
18/12/13							165 l	2 f		
06/01/14			73 l				77 l	4 f		
17/01/14	1 f						14 l	5f		
17/02/14								3 f		1 f
25/02/14								2 f		2 l
03/03/14			1 l	4 f				1 f	1 f	2 l
19/03/14				1 f				2 f		

Nature and functioning of the intertidal area at the site of the proposed port terminal

7.5.6 A description of the nature of the intertidal area at the site of the proposed port terminal is provided in **ES Section 8.4**. In summary, the intertidal area is of poor quality, as its surface consists of a mixture of bricks, rubble, road planings and gabions, with some areas of mud. Due to the nature of the substratum present and the exposure characteristics of the foreshore (see below), it is of low value for feeding waterbirds. The waterbirds counts undertaken along this intertidal frontage confirm that the waterbird interest it supports is limited.

7.5.7 The Preliminary Environmental Report (PER) provided to PINS made reference to the intertidal area only being exposed on spring tides. In response to comments received from Natural England during the Section 42 consultation process on this point (i.e. in response to the PER), further analysis was undertaken of the functioning of the intertidal in terms of its exposure / inundation cycle and availability for feeding waterbirds. This analysis is presented in **ES Section 9.4**. For a full spring/neap tidal cycle, the intertidal area would be exposed for a cumulative average of 20% of the time (i.e. 131 hours out of every 28 days (or 655 hours)).

7.5.8 In addition to the tidal inundation, the outfall from Bran Sands lagoons discharges onto this intertidal area. Water discharging from the lagoon ponds behind the training wall and causes inundation of a significant part of the intertidal area during times when the level of the tide is below the level of the intertidal. Much of the intertidal is, therefore, constantly inundated.

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8 ASSESSMENT OF POTENTIAL FOR LIKELY SIGNIFICANT EFFECT

8.1 Introduction

8.1.1 This section considers the potential effects associated with the proposed Harbour facilities in order to determine whether a LSE could arise with respect to each relevant qualifying feature for the 'screened in' designated sites. This assessment was undertaken in line with the Planning Inspectorate's Advice Note 10 (The Planning Inspectorate, 2013), and the methodology adopted for the screening assessment was consulted on with Natural England.

8.1.2 If there is any uncertainty as to whether or not a LSE could arise, the precautionary principle has been applied and LSE concluded to ensure that the potential implications for the site are assessed further at the Appropriate Assessment stage.

8.2 Screening assessment of the Harbour facilities (alone)

8.2.1 A summary of the potential effects associated with the Harbour facilities that could influence the Teesmouth and Cleveland Coast SPA and Ramsar site is presented in **Table 8.1**. In the context of the qualifying features of the sites, the potential effects are described in more detail in **Table 8.2**, with the potential for LSE identified in the screening matrices included in **Appendix 8.1**. The LSE screening assessment of the potential for in combination effects to arise with other plans and projects is presented in **Table 8.7**.

8.2.2 Although the qualifying interest features of the Teesmouth and Cleveland Coast SPA differ from the qualifying criteria for the Ramsar site, the proposed Harbour facilities would affect the features / criteria in the same way, given that the habitats of importance to the features of / criteria for the both the SPA and Ramsar site are the same. For this reason, the potential effects of the Harbour facilities are presented in **Table 8.1** and **Table 8.2** for both the SPA and Ramsar site together; however, the screening matrices (**Appendix 8.1**) address the potential effects of the proposed scheme on each qualifying feature / criteria separately, in accordance with the requirements of PINS Advice Note 10.

8.2.3 With regard to screening, Advice Note 10 states that:

> *"The screening matrices must reflect the screening exercise undertaken in its entirety, showing the screening result for all European sites including all features for which the European site(s) are designated, even if the screening exercise has concluded no LSE on certain European sites or features. This may include European sites and features screened out at the very beginning of the process, for example, those not mentioned by the consulted SNCBs as having the potential to be affected"*

8.2.4 In light of the above statement, and given that the screening exercise undertaken (and on which Natural England was consulted) included all elements of the YPP, the results of this screening exercise (including the screening matrices) in relation to the North York Moors SAC, North York Moors SPA and Arnecliff and Park Hole Woods SAC have been included in **Appendix 8.2**.

Table 8.1 Summary of the potential effects associated with the Harbour facilities that could affect the Teesmouth and Cleveland Coast SPA and Ramsar site

Designation	Potential effects	Presented in screening matrices as
Teesmouth and Cleveland SPA and Ramsar site	Changes in coastal processes affecting the extent of feeding habitat. Disruption to the sediment budget (e.g. loss of fluvial sediment to offshore disposal sites due to maintenance dredging and potential impacts to bird feeding and interruption of sediment flow to Coatham Sands due to offshore disposal of maintenance dredged material).	Coastal processes
	Potential for direct take or physical disturbance of contributory habitat (e.g. the intertidal foreshore, Bran Sands lagoon and Dabholm Gut). Potential implications for water levels in Bran Sands lagoon due to changes in permeability of the existing embankment between the lagoon and the Tees estuary due to construction of the proposed port terminal.	Habitat loss / change
	Disturbance to feeding and roosting areas for overwintering and passage birds (e.g. visual disturbance arising from personnel movements and lighting).	Disturbance
	Effects on food resources due to reduced water quality following dredging and deposition of sediment disrobed during dredging in intertidal areas. Effect on water quality in Bran Sands lagoon.	Water and sediment quality

8.2.5 The qualifying features of the Teesmouth and Cleveland Coast SPA are:

- Little tern (breeding);
- Sandwich tern (passage);
- Ringed plover;
- Knot;
- Redshank; and,
- The waterbird assemblage (regularly supporting at least 20,000 waterbirds).

8.2.6 The qualifying features of the Teesmouth and Cleveland Coast Ramsar site are:

- Assemblage of international importance (incuding breeding little tern at levels of national importance);
- Common redshank (passage); and,
- Red knot (wintering).

Table 8.2 Description of potential effects of the Harbour facilities on the Teesmouth and Cleveland Coast SPA and Ramsar site

Topic / potential effect	Description of potential effects of the proposed scheme
Coastal processes	During the operational phase changes to coastal processes have the potential to affect the intertidal areas that represent a feeding and roosting resource of the designated interest features. An effect could occur due to the integrated effect of changes in tidal current speeds, wave climate and tidal propagation impacting on sediment transport pathways. In this context a LSE was determined.
Habitat loss / change	Both forms of the proposed quay construction under consideration would result in the direct loss of intertidal area due to the reclamation (solid quay structure) and the installation of a revetment over the re-graded intertidal area (open quay structure). There is also potential for alteration to water levels within Bran Sands lagoon due to effects on the permeability of the existing embankment which separates the lagoon from the Tees estuary. An overland conveyor running to the north of Bran Sands lagoon would need to bridge the finger of the lagoon at its north-western corner; this would require a conveyor support, with two foundations, in the lagoon. The conveyor would overshadow the part of the lagoon (i.e. part of the finger of the lagoon would be affected). In this context a LSE was determined.
Disturbance	Construction activities have the potential to impact on the SPA and Ramsar qualifying features / criteria through noise (particularly piling for the port terminal and conveyor), vibration and visual disturbance. Piling noise potentially could impact upon birds using both banks of the Tees estuary. Noise disturbance could also occur due to the increased shipping activity and conveyor operation. Visual disturbance could also arise during the operational phase as a result of lighting and employee movements. In this context a LSE was determined. Decommissioning would only involve the removal of the overland conveyor and these works are not considered to have the potential to give rise to a significant effect. Decommissioning works are, therefore, screened out.
Water and sediment quality	Construction activities have the potential to impact on the SPA and Ramsar qualifying features / criteria through release of uncontaminated sediments during capital dredging activities. There is potential for reductions in water quality associated with maintenance dredging, and emissions to air associated with the transport and handling of product. There is the potential for an effect on water quality in Bran Sands lagoon. In this context a LSE was determined.

8.3 Potential for interactions across the whole YPP

8.3.1 This section considers the potential effects of the YPP as a whole in order to assess the potential for interaction between the Mine, MTS, MHF and Harbour facilities with respect to European and international designated sites. This approach has been adopted given Natural England's request that, in the first instance, the YPP be considered in its entirety in the context of the Habitats Regulations.

8.3.2 **Tables 8.3 to 8.6** summarise the findings of the screening assessment undertaken in September 2014 for the YPP as reported in the HRA that accompanied the applications for the Mine and MTS and the MHF (Appendix 3 of **Document 7.3**), and identify the potential effects of the YPP on the designated sites that could be affected by one or more of the components of the YPP, namely the:

- North York Moors SAC.
- North York Moors SPA.
- Arnecliff and Park Hole Woods SAC.
- Teesmouth and Cleveland SPA and Ramsar site.

North York Moors SAC

8.3.3 The qualifying features of the North York Moors SAC are:

- Northern Atlantic wet heaths with *Erica tetralix*;
- European dry heaths; and,
- Blanket bogs.

Table 8.3 Potential effects of the YPP on the North York Moors SAC

Project element	Distance from site	Description of potential effects of the proposed scheme
Mine	0km	The Mine site is not located within the boundary of the SAC; however, qualifying SAC habitats are located adjacent to the site boundary. Distances at the closest points are: • Northern Atlantic wet heaths with *Erica tetralix* – which is approximately 340m west at its closest point from the mine site boundary. • European dry heaths – which is approximately 60m at its closest point from the mine site boundary. • Blanket bogs – which ranges between 60 and 250m at its closest point from the mine site boundary. ***Dust*** During the construction phase, potential impacts could be associated with airborne emissions in the form of dust which could be generated from earthworks and vehicles using the haul roads. Existing vegetation within the boundaries of Dove's Nest Farm (i.e. the mine surface development site), as well as the band of naturally established woodland along the edge of Ugglebarnby Moor and the direction of the prevailing winds, is expected to capture airborne dust. Any deposited material would then be removed by precipitation and, in combination with the distance of these habitats from the Mine site boundary and the prevailing (south westerly) wind direction, the potential for the deposition of dust onto the qualifying SAC habitats would be low. Given this, and proposed dust control measures (i.e. timing of the earthworks to avoid dry/windy conditions, and the installation of dust control measures such as rubble chutes and water suppressions on all construction plant), a LSE is not expected to occur in this context.

Project element	Distance from site	Description of potential effects of the proposed scheme
		Emissions – road traffic movements Emissions could also be associated with increased road traffic movements which could result in changes in nitrogen deposition rates. A number of road transport mitigation measures are proposed to be implemented as part of the YPP to reduce the impact of road traffic movements on the North York Moors. These measures would reduce the impact of emissions from road traffic and include the use of designated transport routes for all staff vehicles, the use of the P&R facilities and a below ground MTS. Given these measures, the impact of road traffic would be minimised such that there would be a negligible effect on local air quality and, therefore, a LSE is not predicted to arise in this context. ***Emissions – vehicle movements on and around the mine surface development site and ventilation stacks*** Indirect impacts on the areas of heathland and blanket bogs associated with the North York Moors arising from increased emissions at and around the minehead and the deposition of nitrogen from generator ventilation stacks could also be experienced. Twenty generators within two ventilation stacks (both 40m high) are proposed within the mine surface development site. Baseline nitrogen deposition rates for 2015 in the North York Moors (predicted to range between 17.5 and 21.6 kg N/ha/yr) are in some cases predicted to be above the upper critical load (which is 20 kg N/ha/yr) for the habitats associated with the North York Moors. These elevated values are largely due to the contribution of the background nitrogen deposition rates in the wider area. However, by 2020 and 2030, background concentrations are expected to have reduced so that the critical load for nitrogen deposition is within the acceptable range. The predicted changes in the annual mean concentrations of oxides of nitrogen (NO_X) (in the air) and the deposition rates of nitrogen and acid due to the mine development are provided in the URS minehead air quality technical report (URS, 2014). The calculated rate of nitrogen deposition due to the construction works ranges between 0.1 and 0.2 kg N/ha/yr and the calculated rate of acid deposition is 0.1 keq N/ha/yr. The largest impact on annual mean NO_X concentrations and nitrogen and acid deposition rates is predicted to occur during the 2015 construction scenario (with increased construction traffic) and would influence the section of North York Moors adjacent to the mine surface development site which is closest to the A171. In this location there would be an exceedance in the daily national air quality objective for the North York Moors (which is 75µg/m^3) and the deposition rates set out above would be experienced. However, the works would not cause any additional exceedences in the critical loads for nitrogen or acid deposition beyond those predicted in the baseline assessment (i.e. exceedances would be due to the already elevated background deposition rates experienced in the area). These effects would be localised and would last for the duration of the construction works.

Project element	Distance from site	Description of potential effects of the proposed scheme
		In sections of the North York Moors which are further away from the A171, concentrations of NO_X are predicted to be significantly less. In the 2020 and 2030 operational scenarios, impacts on the North York Moors would be markedly less. The operation of the proposed development would not cause an exceedance of the national air quality objective for annual mean NO_X concentrations. There would continue to be some exceedance of critical load values for nitrogen and acid deposition in the North York Moors in the vicinity of the mine site, but the dominant contributions would be the elevated background deposition rates experienced in the area (URS, 2014). Due to the close proximity of the mine surface development site to the SAC and the potential additions to the already exceeded critical loads for the North York Moors due to the works, a LSE cannot be ruled out at this stage. Further modelling and assessment will be undertaken to determine the significance of these impacts. [Note that this further modelling has now been undertaken and the outcome is summarised in **Document 7.3** – Project Position Statement.] ***Groundwater and surface water*** Groundwater could be affected during construction (through dewatering requirements) and the operation of the mine, potentially impacting the SAC habitats. However, the 2013 Ugglebarnby Moor vegetation and mapping exercise (PCA, 2013) concluded that the communities recorded within Ugglebarnby Moor do not represent groundwater dependent moor communities. It was considered that the recorded communities are more driven by topographical features and the gently downward slopes (i.e. soil conditions). The findings of this work considered that the SAC habitats are not suitable for the interest species for either nesting or foraging and are often associated with damp ground but are not necessarily fed by groundwater, specifically purple moor-grass dominated and rush pasture habitats are more typically associated with damp conditions created by poorly drained typically acidic soils (PCA, 2013). The potential for groundwater change to affect these habitats is low, but present, It is envisaged that there would be no surface water effects due to the proposed drainage control measures that would be put in place as part of the proposals. However, due to the close proximity (approximately 20m at its closest point) of the mine site to the SAC, and the potential impact on groundwater flows, a LSE cannot be ruled out at this stage. Further modelling will be undertaken to assess these impacts.
Lady Cross Plantation Intermediate Shaft Site	4.2km	Due to the distance the shaft site is from the SAC, no direct or indirect potential impacts are considered to be likely (i.e. a LSE is not predicted).

Project element	Distance from site	Description of potential effects of the proposed scheme
Lockwood Beck Intermediate Shaft Site	0km	***Dust*** Construction activity has the potential to result in impacts associated with airborne emissions in the form of dust generated from earthworks and construction vehicles using the haul roads. It is proposed that the materials arising from ground works and the shaft construction would be almost entirely re-used within the mine surface development site, which would minimise the number of off-site vehicle movements. In addition, mitigation measures to control dust impacts would be implemented and adhered to throughout the construction period. These measures are envisaged to include the timing of earthworks to avoid dry/windy conditions, and the installation of dust control measures such as rubble chutes and water suppressions on all construction plant. A 'dust management plan' would also be prepared. Hence, in this context, a LSE is not expected to occur. ***Emissions – road traffic movements*** Emissions could also be associated with increased vehicular movements which could result in changes in nitrogen deposition rates. As set out for the Mine, a number of road transport mitigation measures would be implemented to reduce the impact of road traffic movements on the North York Moors. These measures would reduce the impact of emissions from road traffic and would include designated transport routes for all staff vehicles, use of P&R facilities and a below ground MTS. Given these measures, the impact of road traffic would be minimised such that there would be a negligible effect on local air quality and, therefore, a LSE is not predicted to arise in this context. ***Emissions – vehicle movements on and around the mine surface development site and ventilation stacks*** Indirect impacts on the areas of heathland and blanket bogs associated with the North York Moors arising from increased emissions at and around the Lockwood Beck Shaft Site and the deposition of nitrogen from generator ventilation stacks could also be experienced. Seven generators with one 30m high stack are proposed within this site. As for the mine site, the key impact on annual mean NO_X concentrations and nitrogen and acid deposition rates is predicted to occur during the 2015 construction period and would have most influence on the section of North York Moors adjacent to the intermediate shaft site which is closest to the A171. In this location there would be an exceedance in the daily national air quality objective for the North York Moors (which is 75 µg/m^3) and the annual deposition of mineral particles through ventilation generally would be less than 0.2 kg/ha/yr. In some years, meteorological conditions may cause deposition to increase to 0.2 kg/ha/yr or above, but only a small portion of the North York Moors would be affected and the same area would not be affected each year (URS, 2014).

Project element	Distance from site	Description of potential effects of the proposed scheme
		As for the mine, the works would not cause any additional exceedences in the critical loads for nitrogen or acid deposition beyond those predicted in the baseline assessment. These effects would be localised and would last for the duration of the construction works. In sections of the North York Moors adjacent to the intermediate shaft site which are further away from the A171, concentrations of NO_X are predicted to be significantly less. In the 2020 and 2030 operational scenarios, impacts on the North York Moors would be markedly less. The operation of the proposed development would not cause an exceedance of the annual or daily mean national air quality objective values for NO_X. There would continue to be some exceedance of critical load values for nitrogen and acid deposition in the North York Moors in the vicinity of the shaft site, but the dominant contributions would be the elevated background deposition rates experienced in the area (URS, 2014). Due to the close proximity of the Lockwood Beck Intermediate Shaft Site to the SAC and the potential additions to the already exceeded critical loads for the North York Moors due to the works, a LSE cannot be ruled out at this stage. Further modelling and assessment will be undertaken to determine the significance of these impacts. [Note that this further modelling has now been undertaken and the outcome is summarised in **Document 7.3** – Project Position Statement.] ***Groundwater*** Detailed quadrat surveys undertaken in 2014 (in accordance with the NVC methodology) of habitats within the shaft site boundaries concluded that the habitats (in theory) could be impacted by alteration to the groundwater flow. However, the species found during these surveys indicate a species poor habitat. Furthermore within Ugglebarnby Moor, there is general movement of water downslope through these habitats, with sections locally demarked with a central open section (PCA, 2014). During the survey visits, the habitats were noted to be dry and therefore suggesting that the perceived importance of groundwater to this habitat is not the case. Rather, the surveys suggest that there is an existing fluctuating water table which results in these habitats being dry for prolonged periods with the associated species subsequently being recorded. When considered alongside the general topography of the site, there is little evidence to suggest that groundwater has any significant influence on the vegetation across the moor, the vegetation communities recorded during the surveys are indicative of typically surface water fed habitats associated with free draining ground or lower lying damper ground where the soils may be damper primarily as a result of topographical influences. Therefore the risk of a significant impact arising with respect to the SAC is considered to be negligible (i.e. a LSE is not predicted).
Tocketts Lythe Intermediate Shaft Site	4km	Due to the distance of these project elements from the SAC, no direct or indirect potential impacts are considered to be likely (i.e. a LSE is not predicted).

Project element	Distance from site	Description of potential effects of the proposed scheme
MHF	11.5km	
Harbour facilities	13km	

North York Moors SPA

8.3.4 The qualifying features of the North York Moors SPA are:

- golden plover; and,
- merlin.

Table 8.4 Potential effects of YPP on North York Moors SPA

Project element	Distance from site	Description of potential effects of the proposed scheme
Mine	0km	***Disturbance*** Breeding bird surveys have been undertaken during 2012, 2013 and 2014 and found no evidence of golden plover or merlin within the mine surface development site or adjacent habitat (up to approximately 1km from the site boundaries) (PCA, 2014). These surveys extended into the moorland sections to the south and west of the mine site for the surrounding area. Whilst these surveys recorded all breeding bird activity, particular attention was given to golden plover and merlin. In addition, in order to facilitate further assessment of potential impacts to the North York Moors SPA, further surveys of the adjacent Ugglebarnby Moor and Sneaton Low Moor were undertaken in 2013 and 2014. The habitats within the proposed mine surface development site have been assessed as being poor breeding bird habitat, supporting a typical range of common bird species, with key species being skylark and meadow pipit (PCA, 2014). The habitats within the adjacent SPA have been assessed as providing poor breeding and foraging habitat for golden plover and merlin (PCA, 2013 and 2014). It is considered that the habitat within the SPA is unsuitable to support these species due to the general age of the established scrub and woodland within its site boundaries (PCA, 2014). Although no golden plover or merlin have been recorded during the breeding bird surveys undertaken to date, consultation with Natural England has indicated that both golden plover and merlin have been recorded in these areas previously and therefore (despite these species not being recorded during 2012, 2013 and 2014) there does remain the potential that they could return to the area. Given this, in combination with the habitats within the wider area having the potential to support merlin and golden plover, a LSE cannot be ruled out at this stage and consideration of indirect effects due to noise, visual change and lighting (in construction and operation) on foraging golden plovers and merlin will be

Project element	Distance from site	Description of potential effects of the proposed scheme
		undertaken. With respect to lighting, a strategy has been prepared in accordance with RSPB and Bat Conservation Trust (2012) guidance to minimise potential impacts. ***Groundwater*** Groundwater could be affected during construction (through dewatering requirements) and the operation of the Mine, potentially impacting the habitats within the ZOI. However, as SPA interest features have not been found near the mine surface development site, and no suitable habitat has been identified for breeding birds (merlin and golden plover) which could be impacted by alteration to the groundwater flow, the risk of a significant impact arising with respect to these interest features is considered to be negligible (i.e. a LSE is not predicted).
Lady Cross Plantation Intermediate Shaft Site	4.2km	***Disturbance*** The habitat within this shaft site boundary has been assessed as providing low quality habitat for both golden plover and merlin (PCA, 2014). Furthermore, bird surveys to date have not recorded either of these species within or adjacent to this shaft site. Due to the distance the shaft site is from the SPA, no direct effects are considered to be likely. However the proposed works may give rise to indirect lighting impacts on foraging golden plover and merlin during the construction phase (albeit that they have not been recorded in surveys). As set out above, due to this risk a lighting strategy has been prepared in accordance with guidance to minimise potential impacts. With the implementation of this strategy, and given the distance of the SPA from the intermediate shaft site, a LSE is not predicted.
Lockwood Beck Intermediate Shaft Site	0km	***Disturbance*** Breeding bird surveys have been undertaken between April and June 2014 (PCA, 2014) and have recorded no golden plover or merlin within the site boundaries or within 1km of the site. Golden plover (a single pair) has been recorded approximately 1.1km to the south of this shaft site. The main breeding bird survey area focussed on the proposed extent of works boundary but was extended to include Stanghow Moor and Moorsholm Moor (both sites are located within the North York Moors SAC). At these locations, the breeding bird surveys extended for a distance up to 1km from the proposed works and to include adjacent woodland sections, the majority of which form part of the wider Kilton Beck Complex Local Wildlife Site (PCA, 2014). The habitat in this shaft site has been assessed as having limited suitability as a breeding habitat and this is reflected in the few species recorded during the surveys undertaken to date. The majority of the breeding bird records were associated with the adjacent woodland habitats as opposed to the proposed extent of the working area (PCA, 2014). However, the habitats within Stanghow Moor provide a wider variety of breeding bird habitats, such as dry heathland, streams

Project element	Distance from site	Description of potential effects of the proposed scheme
		and linear sections of marsh (PCAS, 2014). No evidence of breeding merlin was noted but golden plover records were associated with three territories, the closest of which is approximately 800m south-west of the shaft site. The habitats within Moorsholm Moor comprise an extensive area of moorland/moorland fringe habitat interspersed with mosaic of dry heath and acid grassland (PCA, 2014). No evidence of breeding golden plover or merlin was noted during the 2014 surveys. Despite the negative survey findings to date, based on the potential of the habitats within the wider area to support merlin and golden plover, a LSE cannot be ruled out at this stage during the construction phase and consideration of indirect effects due to noise, visual change and lighting on foraging golden plovers and merlin will be undertaken. ***Groundwater*** Groundwater levels and spring flows could also be affected during construction, which could have an effect on species using the supporting habitat. Detailed quadrat surveys undertaken in 2014 (in accordance with the NVC methodology) of habitats within the shaft site boundaries concluded that the habitats (in theory) could be impacted by alteration to the groundwater flow. However, based on the findings of the groundwater impact assessment, the risk of a significant impact arising with respect to the SPA's interest features is considered to be negligible (i.e. a LSE is not predicted).
Tocketts Lythe Intermediate Shaft Site	4km	***Disturbance*** The Tocketts Lythe shaft site has been assessed as providing low quality habitat for both golden plover and merlin (PCA, 2014). Furthermore, bird surveys to date have not recorded either of these species within or adjacent to this shaft site. A lighting strategy has been prepared in accordance with guidelines to minimise potential impacts and, with the implementation of this strategy and given the distance of the SPA from the shaft site, a LSE is not predicted due to disturbance effects.
MHF	11.5km	Due to the distance of this project element from the SPA, no direct or indirect potential impacts are considered to be likely (i.e. a LSE is not predicted).
Harbour facilities	13km	There is evidence of golden plover using Tees estuary, but (and importantly) the golden plover using the Tees estuary are not expected to be the same birds that are breeding in the North York Moors SPA. In addition, the golden plover within the Tees estuary frequent the north bank rather than the south bank of the estuary (i.e. outside of the proposed construction footprint for the marine terminal). As such, no 'alone' impacts of the Harbour facility on the North York Moors SPA would arise due to the distance between the SPA and proposed Harbour facility (i.e. a LSE is not predicted).

Arnecliff and Park Hole Woods SAC

8.3.5 The qualifying features of the Arnecliff and Park Hole Woods SAC are:

- Old Sessile Oak woods with *Ilex* and *Blechnum*; and,
- Killarney Fern.

Table 8.5 Potential effects of YPP on Arnecliff and Park Hole Woods SAC

Project element	Distance from site	Description of potential effects of the proposed scheme
Mine	10km	Due to the distance of the project elements (including the proposed transportation routes which are approximately 3km away at their closest point) from this SAC, no direct or indirect potential impacts are considered to be likely. No impacts on ground or surface water are envisaged, due to the absence of a hydrological connection between the proposed YPP works and the European site. Hence, a LSE is not predicted with respect to this site.
Lady Cross Plantation Intermediate Shaft Site	3km	
Lockwood Beck Intermediate Shaft Site	15km	
Tocketts Lythe Intermediate Shaft Site	20km	
MHF	28km	
Harbour facility	31km	

Teesmouth and Cleveland Coast SPA and Ramsar site

Table 8.6 Potential effects of YPP on Teesmouth and Cleveland Coast SPA and Ramsar site

Project element	Distance from site	Description of potential effects of the proposed scheme
Mine	35km	Due to the distance of these project elements from the SPA, no direct or indirect potential impacts are considered possible (i.e. a LSE is not predicted).
Lady Cross Plantation Intermediate Shaft Site	26km	
Lockwood Beck Intermediate Shaft Site	14km	
Tocketts Lythe Intermediate Shaft Site	8km	

Project element	Distance from site	Description of potential effects of the proposed scheme
MHF	2.3km	***Disturbance/displacement*** Given the distance (approximately 2.5km at its closest point) of the MHF from the SPA there are no routes for direct effects associated with the development of the MHF on estuarine habitats which support the qualifying features of the SPA or Ramsar site. However, the bird surveys undertaken over the winter of 2013/2014 have recorded that the proposed MHF site does, on occasion, support more than 1% of the Teesmouth population of curlew, which forms part of the overwintering assemblage of the SPA. As such, at this stage, a LSE cannot be ruled out.
Harbour facilities	900m	See **Table 8.2**. A LSE is determined with respect to the Teesmouth and Cleveland Coast SPA and Ramsar site and the Harbour facilities.

8.3.6 **Tables 8.2** to **8.6** illustrate where the potential for a LSE was determined or could not be ruled out at the screening stage in the process, and where no LSE can be determined. With respect to the potential for a LSE to arise, it is important to note that the interest features (and designated sites) that could be affected by the Mine and the Lockwood Beck Intermediate Shaft Site (the North York Moors SAC and SPA) are not the same as the interest features (and designated sites) that could be affected by the Harbour facilities and MHF. For example, LSE has been determined with respect to the Harbour facilities and the Teesmouth and Cleveland Coast SPA and Ramsar site, and LSE cannot be ruled out for the MHF, but the works at the Mine and MTS intermediate shaft sites would not affect these designated sites.

8.3.7 It is concluded, therefore, that the Mine and MTS intermediate shaft sites can be excluded from further consideration in the HRA for the Harbour facilities, because there is no potential for the effects associated with these YPP components to interact and influence the same European or international designated sites. (The HRA, and shadow Appropriate Assessment, for the Mine, MTS and MHF is included as Appendix 3 to **Document 7.3** of this DCO application.)

8.4 Screening assessment of the Harbour facilities in-combination with other relevant plans and projects

8.4.1 **Table 8.7** presents the screening assessment of the potential for effects to arise due to the Harbour facilities in combination with the effects of other relevant plans and projects, as identified in **Section 6.2**. The assessment of LSE (in combination) is presented in the screening matrices included in **Appendix 8.1**, adopting the templates provided in PINS Advice Note 10**.**

Table 8.7 Screening assessment of the potential for effects to arise due to the Harbour facilities in combination with the effects of other relevant plans and projects

Project ID - Description	Potential in-combination effects	Potential for LSE on the Teesmouth and Cleveland Coast SPA (**Y/N**)	Potential for LSE on Teesmouth and Cleveland Coast Ramsar site (**Y/N**)
Potential interactive effects			
YPP Materials Handling Facility	The habitat within the footprint of the MHF is used by waterbirds that form port of the SPA and Ramsar site assemblage (curlew). The construction of the MHF therefore represents a loss of habitat used by waterbirds.	Y	Y
169 – Dogger Bank Teesside A and B	This project has the potential to affect the habitats and waterbirds of the SPA and Ramsar site on the open coast due to the export cable landfall of the windfarm. Potential effects of relevance comprise effect on feeding terns due to increased suspended sediment and disturbance.	Y	Y
172 - Maintenance dredging within the Tees Estuary	In-combination effects to marine water quality and food resources have the potential to arise should maintenance dredging be undertaken at the same time as the proposed dredging works associated with the harbour facility.	Y	Y
173 - Northern Gateway Container Terminal	During the construction phase, in-combination effects could occur due to interaction between sediment plumes created during capital dredging (with potential effects on food resources for waterbirds) and construction noise. During the operational phase, there is the potential for an in-combination effect on morphology of intertidal habitats used by waterbirds and an in-combination noise effect.	Y	Y
174 - QEII Berth Development	During the construction phase, in-combination effects could occur due to interaction between sediment plumes created during capital dredging (with potential effects on prey species for waterbirds) and construction noise. During the operational phase, there is the potential for an in-combination effect on morphology of intertidal habitats used by waterbirds and an in-combination noise effect.	Y	Y

Project ID - Description	Potential in-combination effects	Potential for LSE on the Teesmouth and Cleveland Coast SPA (Y/N)	Potential for LSE on Teesmouth and Cleveland Coast Ramsar site (Y/N)
120 - Construction of a poly ethylene terephthalate (PET) chemical plant	The information available regarding this proposed development states that the PET chemical plant is due to be online at the end of 2013, and as such, construction phase in-combination effects would not arise with the YPP. Ecological information produced to support the application stated that it is highly unlikely that the development would have any major influence on the existing flora and fauna. It is therefore concluded that operational in-combination effects would not arise.	N	N
124 - Erection of 14 industrial units in 4 blocks (classes B1, B2 & B8) with associated service area and 76 space car park (phase 2)	This proposed developed was approved by RCBC in 2011, and has to be implemented within 3 years of the approval date. In-combination construction imacts would not therefore arise with the YPP. The proposed development is located in Kirkleatham Business Park, and as such is also distant from the Teesmouth and Cleveland Coast SPA and Ramsar. Given the nature of the development, no significant in-combination operational impacts are predicted to arise.	N	N
130 - Proposed anaerobic digestion and combined heat & power plant	This application was approved in 2013 and needs to be constructed within 3 years of the approval date. The planning decision makes no reference to ecological issues, and the application states that there is no designated site or protected species issues associated with it. No ecological work was carried out in support of the proposed development. Given that the SPA issues associated with the MHF and the conveyor leaving Wilton are purely due to the footprint of the MHF (i.e. disturbance to a limited number of curlew using the area), it can be concluded that there is no concern regarding construction overlap with the YPP in terms of noise. It is also concluded that there are no in-combination operational concerns for the Teesmouth and Cleveland Coast SPA and Ramsar or ecological receptors given the lack of requirement for ecological assessment.	N	N

Project ID - Description	Potential in-combination effects	Potential for LSE on the Teesmouth and Cleveland Coast SPA (Y/N)	Potential for LSE on Teesmouth and Cleveland Coast Ramsar site (Y/N)
59 – Installation of 2 wind turbines (140m maximum height to tip, rotor diameter 112m generating capacity 19.68gwh per annum including substation control building and new vehicular access onto A174	Ecological assessment undertaken to support this application stated that the likely effects on most species are considered to be negligible overall. The potential for collision impacts for all ornithological species was considered to be low, and no population level effects through collision are anticipated. Given that the SPA issues associated with the MHF and the conveyor leaving Wilton are purely due to the footprint of the MHF (i.e. disturbance to a limited number of curlew using the area), it can be concluded that there is no concern regarding construction overlap with the YPP in terms of noise. It is also concluded that there are no in-combination operational concerns for the Teesmouth and Cleveland Coast SPA and Ramsar or ecological receptors, as the MHF would not have an operational effect on the designated site.	N	N
81 - R/2009/0504/OOM Outline application for 23 no. Dwellings with private garages and associated roads	A review of the planning application (including the ecological assessment report) did not identify any potential effects to the SPA or SAC site, primarily due to the distance of this project from the designated sites. As such no in-combination effects are predicted.	N	N
87 - R/2013/0540/FFM Residential development comprising of 14 two storey detached dwellings with new access and landscaping	A review of the planning application (including the ecological assessment report) did not identify any potential effects to the SPA or SAC site, primarily due to the distance of this project from the designated sites. As such no in-combination effects are predicted.	N	N
114 - R/2013/0669/OOM Outline application for up to 1000 dwellings together with ancillary uses and a neighbourhood centre, park- and-ride car park; petrol filling station; drive-thru; public house/restaurant and 60 bed hotel with details of access	A review of the planning application did not identify any potential effects to the SPA or SAC site, primarily due to the distance of this project from the designated sites. As such no in-combination effects are predicted.	N	N

Project ID - Description	Potential in-combination effects	Potential for LSE on the Teesmouth and Cleveland Coast SPA (Y/N)	Potential for LSE on Teesmouth and Cleveland Coast Ramsar site (Y/N)
Potential additive effects			
27 - Demolition and creation of 4/5 storey buildings	A review of the ecological appraisal concluded that there was no potential for the works to affect the SPA and Ramsar site. Therefore, there is no potential for in-combination effects to arise.	N	N
93 - Two storey residential care home	A review of the planning application did not identify any potential effects to the SPA or Ramsar site. As such no in-combination effects are predicted.	N	N
95 - Three storey 72 bed care home	A review of the environmental report identified no effects to the SPA or Ramsar site. As such no in-combination effects are predicted.	N	N
97 - Proposed arts and media centre (this has now been constructed – the Tuned In! facility at Redcar).	The HRA undertaken for this project identified the potential for impacts to qualifying features of the SPA and Ramsar site, in particular redshank, from noise and visual disturbance.	Y	Y
99 - Four storey residential care home	A review of the planning application did not identify any potential effects to the SPA or Ramsar site. As such no in-combination effects are predicted.	N	N
100 - Teaching block and lecture theatre	A review of the planning application did not identify any potential effects to the SPA or Ramsar site. As such no in-combination effects are predicted.	N	N
106 - Demolition and erection of new health centre	A review of the BREEM report did not identify any potential effects to the SPA or Ramsar site. As such no in-combination effects are predicted.	N	N
117- Demolition and outline application for leisure use	A review of the ecological statement determined that there was no potential for the SPA or Ramsar site to be affected. As such no in-combination effects are predicted.	N	N
118 - Leisure centre, business, civic and community buildings	A review of the EIA screening request concluded that the project would have no effect on the SPA or Ramsar site. As such no in-combination effects are predicted.	N	N
125 - Erection of 2No centrifuges	A review of the planning application did not identify any potential effects to the SPA or Ramsar site. As such no in-combination effects are predicted.	N	N

Project ID - Description	Potential in-combination effects	Potential for LSE on the Teesmouth and Cleveland Coast SPA (Y/N)	Potential for LSE on Teesmouth and Cleveland Coast Ramsar site (Y/N)
126 - Erection of pulverised coal injection plant	A review of the environmental report concluded no potential effects to the SPA or Ramsar site. As such no in-combination effects are predicted.	N	N
131 - Provision of underground cables	A review of the planning application did not identify any potential effects to the SPA or Ramsar site. As such no in-combination effects are predicted.	N	N
136 - Two storey community and education centre	A review of the planning application did not identify any potential effects to the SPA or Ramsar site. As such no in-combination effects are predicted.	N	N
149 - 10 industrial units	A review of the planning application did not identify any potential effects to the SPA or Ramsar site. As such no in-combination effects are predicted.	N	N
155 - Change of use to waste transfer system	A review of the planning application did not identify any potential effects to the SPA or Ramsar site. As such no in-combination effects are predicted.	N	N
154 - 24MW energy facility	Ecological assessment undertaken for the application stated that ecological impacts to designated sites as a result of water quality, noise, lighting, traffic and air quality would be negligible. As such, no in combination effects are predicted.	N	N
156 - 45MWe renewable energy plant	Ecological assessment undertaken for the proposed development states that no statutory sites of nature conservation would be directly affected by the development. Indirect effects to the designated sites are reported to be negligible within the ecological assessment undertaken for the proposed development. Hence no in combination effects are predicted.	N	N

9 SCREENING STATEMENT

9.1.1 For the Teesmouth and Cleveland Coast SPA and Ramsar site, a LSE was determined for the proposed Harbour facilities due to potential direct and indirect loss of habitat, potential disturbance of the qualifying features / criteria due to noise and visual disturbance, potential reductions in water quality due to capital dredging and piling and the potential alteration of coastal processes which could impact on the availability of feeding resources.

9.1.2 The potential for in combination effects to arise were identified with respect to the following projects:

- Construction of the MHF (part of the YPP) due to the fact that the site of the MHF is used by curlew, which form part of the Tees population. The construction of the MHF would result in the loss of habitat used by waterbirds.
- Construction of Dogger Bank Teesside A and B due to its effect on foraging terns and disturbance.
- Construction and operation of the Northern Gateway Container Terminal (NGCT) from construction phase noise disturbance, creation of a sediment plume during capital dredging and changes to the hydrodynamic and sedimentary regimes during operation.
- Construction and operation of the QEII Berth Development from construction phase noise disturbance, creation of a sediment plume during capital dredging and changes to the hydrodynamic and sedimentary regimes during operation.
- Maintenance dredging within the Tees Estuary, from potential effects to marine water quality and food resources.
- Tuned In! arts and media centre from disturbance during operation (note that the centre has now been constructed).

9.1.3 The Teesmouth and Cleveland Coast SPA and Ramsar site and the other plans and projects listed above were, therefore, taken forward into the Appropriate Assessment for the Harbour facilities.

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