

Signposting Document for the Applicant's Environmental Information

September 2012 Revision: 0 Able UK Ltd











Date: Sep-2012

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APPROVAL & REVISION REGISTER

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Α	ISSUED TO PLANNING INSPECTORATE	24/09/2012

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1. **PURPOSE OF THE REPORT**

GENERAL

- 1.1 Since submitting the application in December 2011, including the Environmental Statement (ES), the Applicant has responded to, or commented upon:-
 - 70 Relevant Representations (RRs); refer to the Applicant's comments issued to the Examining Authority (ExA) on 28th June 2012 ('the RR Report'). This included the submission of 42 supplementary reports that are prefixed 'EX'.
 - 57 questions from the first set of Examiners' Questions (1st EQs); refer to the responses to the ExA dated 28th June 2012.
 - 30 Written Representations (WRs); refer to the Applicant's comments submitted to the ExA dated 3rd August 2012 (the 'WR Report'). These comments were supported by 8 appendices that are prefixed 'WR'.
 - 34 questions from the second set of Examiners' Questions (2nd EQs); refer to the responses to the ExA dated 7th September 2012. Revised Land Plans (identified as 'Revision 2' on the plan itself) accompanied these responses.
- 1.2 In addition to the above, the Applicant has submitted to the ExA, Statements of Common Ground (SoCGs) in association with the following bodies:
 - North Lincolnshire Council (NLC);
 - East Riding of Yorkshire Council (ERYC);
 - North East Lincolnshire Council (NELC);
 - Natural England (NE), The Environment Agency (EA) and the Marine Management Organisation (MMO) in respect of the ES;
 - NE and the EA in respect of the shadow Habitats Regulations Assessment (sHRA) report;
 - English Heritage (EH);
 - The Highways Agency (HA);
 - Thorngumbald IDB, Keyingham Level IDB and Ottringham IDB;
 - The Royal Society for the Protection of Birds (RSPB).
- 1.3 Finally, the Applicant attended Issue Specific Hearings between 11th-14th September 2012 and has made a Written Submission of its oral case.

REPORT STRUCTURE

- 1.4 The ExA requested, during the Issue Specific Hearings held on 11th–14th September 2012, that the Applicant produce a 'signposting' document to provide clarity on the relationship between the supplementary environmental information provided by the Applicant and the original application documents themselves. Accordingly, this report is divided into two parts as follows:-
 - Part 1: Signposting for Environmental Issues

 This Part explains how the 'other information' provided by the Applicant

relates to the Environmental Statement to enable the totality of the environmental information that has been provided to the Examining Authority by the Applicant may be read coherently.

Part 2 : Signposting of the Submitted Plans

This Part explains how the 'other information' provided by the Applicant relates to the Plans submitted by the Applicant, providing clarity on the current revisions.

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PART 1 Signposting for Environmental Issues

This Part explains how the 'other information' provided by the Applicant relates to the Environmental Statement to enable the totality of the environmental information that has been provided to the Examining Authority by the Applicant may be read coherently.

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2. **INTRODUCTION**

REPORTS SUBMITTED DURING THE EXAMINATION

2.1 Table 2.1 lists the reports submitted during the examination period to date (25th May – 21st September 2012) in response either to Representations or to the Examiner's questions. For ease of reference, the electronic version of the report provides automatic web-links to each document.

PART 1 STRUCTURE

- 2.2 The following sections of this Part identify any baseline information, impact assessment or mitigation measure that is contained within the environmental information provided by the Applicant and that is supplementary to the ES.
- 2.3 Signposting is only provided where the Applicant has provided substantive supplementary environmental information. No substantive additional environmental information has been provided for the following chapters, and accordingly it is not necessary to signpost information to these.

ES Volume 1

Chapter 1: Introduction Chapter 2: EIA Process

Chapter 5: Need for Development

Chapter 6: Choice of Site

Chapter 12: Commercial Fisheries Chapter 16: Noise and Vibration

Chapter 17: Air Quality Chapter 22: Aviation Chapter 23: Waste Chapter 24: Health

ES Volume 2

Chapter 25: Introduction

Chapter 26: The Environmental Assessment Process

Chapter 27: Planning Policy and Context Chapter 29: Need for the Development Chapter 33: Water and Sediment Quality

Chapter 37: Transport

Chapter 38: Noise and Vibration

Chapter 39: Air Quality

Chapter 40: Historic Environment

Chapter 41: Landscape and Visual Impact

Chapter 42: Socio-Economics

Chapter 43: Waste

2.4 The subsequent chapters of this report are structured to reflect the original ES, and additional information is signposted on a chapter-by-chapter basis. Signposting is only provided where 'any other information' has been provided.

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Table 2.1: List of ES Chapters, Annexes and Supplementary Documents

ES Chapter	Appendices	Supplementary document
1 – Introduction		
25 – Introduction (Compensation Site)		
2 – Environmental Assessment Process	2.1 Sup Scoping Opinion Responses	
26 – Environmental Assessment Process	2.2 Consultation Tables	
(Compensation Site)	2.3 Cumulative Impact List	
3 – Planning Policy And Context		EX3.1 Able Humber Port Northern Area: Planning
27 – Planning Policy And Context		Committee Meeting Notes Feb 2012
(Compensation Site)		
4 – Description Of The Development	4.1 Project Specification	EX28.1 Compensation Site Interim Report on
28 – Description Of Development	4.2 Draft Code of Construction Practice	Detailed Design
(Compensation Site)	4.3 Schedule of Buildings	EX28.2 Old Little Humber Farm: Wet Grassland
	4.4 Consideration of Alternative Design 4.5 Landscape Masterplan	Creation, Management and Monitoring Plan APPENDIX WR9.1 Black & Veatch – Second Interim
	4.5 Lanuscape Masterpian	Design Report
		APPENDIX WR21.1 Managed Realignment &
		Regulated Tidal Exchange: Humber Estuary Scenario
		Briefing Report
5 - Need For The Development	5.1 EC Communications on Renewable	Brieffing Report
29 – Need For The Development (Compensation	Energy	
Site)		
6 - Choice Of Site	6.1 Comparative Assessment	
30 – Choice Of Site (Compensation Site)	6.2 Streamlined Carbon Footprint of OWF	
	Assessment	
	30.1 Assessment of Alternative Sites for	
	Compensatory Habitat	
	30.2 Preliminary Alternative Sites Report (B	
	and V) Sept 2010	
7 – Geology, Hydrogeology And Ground	7.1 Geoenvironmental Assessment	EX7.7 AMEP Material Management Plan
Conditions	7.2 Water and Sediment Quality	EX31.5 Re-use of In-Situ Material at CCS (inc Cherry
31 – Geology, Hydrogeology And Ground	7.3 GI South Humber Channel	Cobb Sands Phase 2 Site Investigation)
Conditions (Compensation Site)	7.4 Ground Engineering Interpretive Report	
	7.5 Hydrogeology Risk Assessment	
	7.6 Dredging Strategy	
	31.1 Summary Desk Study and SI Design	
	Report	

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Table 2.1: List of ES Chapters, Annexes and Supplementary Documents

ES Chapter	Appendices	Supplementary document
	31.2 Cherry Cobb SI (Factual) 31.3 SI Interpretative Report 31.4 Cherry Cobb Sands Contaminated Land Risk Assessment	
8 - Hydrodynamic And Sedimentary Regime 32 - Hydrodynamic And Sedimentary Regime (Compensation Site)	8.1 AMEP Estuary Modelling Studies Report 8.2 Geomorphological Review of the Humber 8.3 Assessment of the Effects of Development on Fine Sediments 8.4 Dredging Plume Dispersal 32.1 Compensation Site Geomorphology 32.2 Hydraulic Model Set-up Report 32.3 Compensation Site Breach Design Report 32.4 Compensation Site Model Test Report 32.5 Compensation Site Sedimentation and Erosion 32.6 110ha Compensation site model test report	EX8.5 Validation of 3D Flow & Sediment Models used for Assessment of Impacts of AMEP on Fine Sediment Transport EX8.6 Maintenance Dredge Variability EX8.7 Modelling of Final Quay Design (Supplement to Annex 8.1) EX8.8 Update to Longer Term Morphology Predictions in the Region of the Centrica and E.ON intakes and outfalls EX8.9 Historical Review of Morphological Change North of HIT (2001-2010) EX8.10 Long-Term Morphological Change of Embayment South of Quay EX8.11 Water Framework Directive of Compensation Site EX8.12 Water Framework Directive - Project wide EX8.13 IOTA Dredge Appropriate Assessment
9 – Water And Sediment Quality 33 – Water And Sediment Quality (Compensation Site)	9.1 Bathymetry Hydrography Survey 9.2 Assessment of proposed reclamation impact on Centrica intake-outfall 9.3 Assessment of proposed reclamation impact on E.ON intake-outfall 9.4 Water Framework Directive Assessment 9.5 Anglian Water Letter 9.6 Assessment of relocation of E.ON outfall	EX9.7 Assessment of the effects of relocations of the E.ON and Centrica outfalls on thermal recirculation
10 – Aquatic Ecology 34 – Aquatic Ecology (Compensation Site)	10.1 Benthic and Fish Surveys Report 10.2 Impact Assessment of AMEP on Humber Lamprey 10.3 MEP Impact of Underwater Piling Noise on Migratory Fish 34.1 Saltmarsh Survey Cherry Cobb Sands	EX10.4 Impact of Dredging and Dredged Material Disposal on 1) Subtidal and Intertidal Features and 2) Aquatic Ecology EX10.5 Supporting Information on Harbour Porpoises in the Humber Estuary EX10.6 Impact of Berthing Pocket Construction

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Table 2.1: List of ES Chapters, Annexes and Supplementary Documents

ES Chapter	Appendices	Supplementary document
11 - Ecology And Nature Conservation 35 - Ecology And Nature Conservation (Compensation Site)	11.1 Extended Phase 1 and Scoping Report 11.2 South Killingholme Phase 1 Ecology 11.2.1 South Killingholme Southern Extension Area 11.3 South Killingholme Protected Species 11.4 Spring Passage and Breeding Birds Survey 11.5 Breeding Birds Survey 11.6 Coastal Bird Survey 11.7 Winter Farmland Birds 11.8 AMEP Protected Species 11.9 AMEP Bird Survey Results April 2010- April 2011 11.10 Breeding Birds Report 2011 11.11 Noise Contour Maps 11.12 Hedgerow and Ditch Losses 35.1 Phase 1 Survey Cherry Cobb Sands 35.2 Cherry Cobb Sands Water Vole Survey 35.3 Protected Species Survey Report 35.4 CCS Bird Survey Results August 2010- March 2011 35.5 Breeding Bird Survey - Fields 35.6 Humber Black-Tailed Godwit Study 35.7 Old Little Humber Farm Phase 1 Habitat	EX10.7 Soft Start and Seals EX34.2 An Assessment of Temporal Variation of Benthic Invertebrate Communities in the Humber Estuary EX11.19 AMEP Bat Surveys: Supplementary Note EX11.20 Draft Great Crested Newts Licence Application - acknowledgement of receipt EX11.22 The impact of SPMT and Cranes on the Operational Buffer EX11.23 Immediate Habitat Losses within the Designated Site EX11.24 Medium and Long Term Losses within the Designated Site EX11.26 Pumping Station EX11.27 Killingholme Phase 2 Survey EX11.28 Great Crested Newt Survey (2006) EX11.29 Water Vole Survey (2006) EX11.30 Location of Replacement Ponds for Great Crested Newts EX11.31 M456 Invertebrate Survey APPENDIX WR22.1 Great Crested Newts EX35.12 Farmland Disturbance at Cherry Cobb Sands EX35.13 Badger Bait-Marking Survey
	Survey	
12 - Commercial Fisheries	12.1 Fisheries Assessment (IECS)	EV12 2 Addendum to Flood Biol. According to
13 – Drainage And Flood Risk	13.1 Flood Risk Assessment and Drainage	EX13.2 Addendum to Flood Risk Assessment
36 – Drainage And Flood Risk (Compensation Site)	Strategy 36.1 Flood Risk Assessment	EX36.2 North Bank Flood Defence Crest Height EX36.3 Residual Flood Risk to Property on North Bank
14 - Navigation	14.1 AMEP Risk Assessment Workshop	EX14.4 Simulation Videos & Stills

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Table 2.1: List of ES Chapters, Annexes and Supplementary Documents

ES Chapter	Appendices	Supplementary document
	Minutes (BMT Isis) Feb 2011 14.2 Navigation Risk Assessment 14.3 Simulation Study STC for proposed MUT (BMT) Nov 2010	,
15 - Traffic And Transport 37 - Transport (Compensation Site)	15.1 Transport Assessment 15.2 Framework Travel Plan	EX15.3 A160 Killingholme Humber Port Access, Stage 1 Road Safety Audit EX15.4 A160 Killingholme Humber Port Access, Stage 1 Road Safety Audit Designer's Response EX15.5 Additional Junction RSA APPENDIX WR22.2 DTA's Report on Traffic Impacts APPENDIX WR22.3 Railways
16 – Noise And Vibration 38 - Noise (Compensation Site)	16.1 Acoustics Vibration Glossary 16.2 Legislation Policy and Guidance 16.3 Assessment of Noise Baseline 16.4 Source Data 16.5 Baseline Assessment Methodology 16.6 Road Traffic 16.7 Piling Mitigation Data 16.8 Noise Contours	
17 – Air Quality 39 – Air Quality (Compensation Site)	17.1 Detailed Methodology and Results	
18 – Historic Environment 40 – Historic Environment (Compensation Site)	18.1 Archaeology and Cultural Heritage Desk Study 18.2 Historic Environment Desk-Based Assessment 18.3 Geophysical Survey Report 18.4 Setting Effects on Heritage Assets 40.1 Foreshore Compensation Area Desktop Study 40.2 Cherry Cobb Sands Geophysics 40.3 Cherry Cobb Sands Geoarchaeological Appraisal	
19 – Light		EX19.1 Lighting Lux Plans
20 – Landscape And Visual Impact 41 – Landscape And Visual Impact	20.1 Landscape Characteristics Data (ERM) 20.2 Preliminary Arboricultural Assessment	EX20.3 Additional Landscape Masterplan

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Table 2.1: List of ES Chapters, Annexes and Supplementary Documents

ES Chapter	Appendices	Supplementary document
(Compensation Site)	41.1 Summary of Adopted Landscape	
	Character Assessments	
	41.2 Landscape Context Photographs	
	41.3 Photomontages	
21 – Socio-Economic		
42 – Socio-Economic (Compensation Site)		
22 – Aviation		
23 – Waste		
43 – Waste (Compensation Site)		
24 - Health		
44 - In-Combination Effects		EX44.1 Supplementary In-Combination Assessment
45 - References		
46 - Glossary		
47 – Acronyms And Abbreviations		
48 - Non-Technical Summary		



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3. **PLANNING POLICY & CONTEXT**

3.1 Environmental Information Provided by the Applicant

Environmental Statement

3.1.1 Chapter 3 of the ES presents an overview of the legislative framework as well as the national, regional and local planning policy and guidance in the context of the Project. The terrestrial areas of the application sites lie within two local authorities, NLC and ERYC.

Additional Reports

- 3.1.2 One additional report has been submitted to the ExA that is relevant to planning policy and context.
 - **EX3.1** Able Humber Port: Northern Area Planning Committee Report February 2012

This is the Planning Officer's report to North Lincolnshire Council Planning Committee in respect of the Applicant's planning application for Able Logistic Park (ALP).

3.2 **Signposting Issues**

Able Logistics Park

3.2.1 The application has not been consented at the time of preparing this report. The Planning Committee delegated authority to NLC's Head Of Planning to grant planning permission once a S106 Agreement had been signed by the Applicant and NLC to cover the cost of highway improvement works, and a legal agreement had been signed between the Applicant and the EA to improve and maintain the flood defences on the Halton Marshes frontage. The latter agreement is not in place, so consent has not been granted.

National Planning Policy Framework

3.2.2 The answer to Q52 of the 1st EQ's recorded the Applicant's view that the publication of the NPPF had no implications for the scheme.

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4. THE DEVELOPMENT (ES CHAPTERS 4 & 28)

4.1 Environmental Information Provided by the Applicant

Environmental Statement

4.1.1 Chapters 4 and 28 provide a description of the works proposed; the chapters are to be read in conjunction with the drawings submitted with the application.

Additional Reports

- 4.1.2 Three additional reports have been submitted to the ExA that are relevant to the description of the development, viz.
 - **EX28.1** Compensation Site Interim Report on Detailed Design.

This report describes modelling of the intertidal compensation site as a managed realignment (MR) site. The design has since been superseded.

• **EX28.2** Old Little Humber Farm: Wet Grassland Creation, Management and Monitoring Plan.

This report describes the design of the wet grassland compensation site. This part of the compensation proposals has since been superseded and the wet grassland will now be created adjacent to the intertidal compensation.

• WR9.1 CCS Compensation Site Second Interim Design Report.

This report describes modelling of the intertidal compensation site as a part MR and part regulated tidal exchange (RTE). The design is being further developed and a final design report will be issued to the ExA ON 12 October.

4.2 **Signposting Issues**

The Use of the Quay

4.2.1 In response to Q2 of the 1st EQs, the Applicant provided further evidence of the actual tonnages handled by existing port facilities. A restriction on the use of the quay has been added to the draft DCO, refer to Schedule 11, Requirement 3A. This provides consistency between the ES and any subsequent consent.

Diversion of the Public Footpath on the North Bank

4.2.2 Additional justification for the diversion of the footpath to the landward toe of the new flood defence bank is provided in paragraphs 15.2 *et seq* the Applicant's RR Report.

Helicopter Landing Pad

4.2.3 Confirmation that a helicopter landing-site is not included in the application was given in paragraph 18.4 the Applicant's RR Report.

Old Little Humber Farm (OLHF)

4.2.4 Proposals to create wet grassland at OLHF have been removed from the application. A new area of wet grassland adjacent to the intertidal habitat site is proposed in its place. Details will be issued to the Examiners on 12th October.

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Land required for the Development

4.2.5 In response to Q58 of the 2nd EQs, the Applicant confirmed that those land parcels necessary for the construction of the HIT Head-shunt facility (02008 and 03015) were removed from the Order land and re-issued the Land Plans to reflect this change.

Rail Crossings

4.2.6 Four new levels crossings have been proposed in the application as shown on the Indicative Masterplan, AME-02006-A. In response to Q29 of the 2nd EQs, the Applicant illustrated an alternative layout with bridge crossings over the railway. Both options are viable but the current use of the track means that level crossings are the reasonably practicable solution. Hybrid solutions are also possible; for example bridge crossings for C&U vehicles and level crossings fro abnormal loads.

Extent of the Harbour Authority

4.2.7 In response to Q26 of the 1st EQs, the Applicant confirmed that the extent of the Able Harbour Authority could be limited to 100m from the berthing face of the quay. Schedule 10 of the current draft DCO has been amended accordingly and includes the proposed co-ordinates of the harbour authority area.

Associated Development

4.2.8 In paragraphs 22.11 to 22.13 of the Applicant's WR Report, further justification for defining the manufacturing facilities as Associated Development is provided.

Maintenance of the Cooling Water Outfalls

4.2.9 In response to Q51 of the 2nd EQs, the Applicant confirmed that cooling water outfalls for both E.ON and Centrica would be maintained by periodic plough dredging but that alternative outfalls would be installed in the quay during its construction to allow for diversion of both outfalls in the future if deemed necessary.

4.3 Activities requiring a Licence under MCAA

- 4.3.1 In its WR, the MMO requested that the Applicant signpost the impact assessment of the tidal works. This request was made on the grounds that the ES was 'disjointed'. The Applicant does not agree with this assertion.
- 4.3.2 The Applicant's approach to the EIA process is set out in Chapter 2 of the ES. The EIA has been undertaken in the normal way, identifying the scope of the project and undertaking individual assessments of the main effects or likely significant effects of the Project on aspects of the environment (e.g. population, noise, light, air quality etc.). Accordingly, the main impacts of individual activities are necessarily addressed across a number of chapters of the ES as is general practice. For example, in the case of piling:-
 - Chapter 4 piling works are described and this chapter is to be read in conjunction with the drawings;
 - Chapter 10 underwater noise generated by piling is calculated and impacts on fish (including lamprey) and marine mammals is assessed;

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- Chapter 11 impact of airborne noise on birds during construction is assessed;
- Chapter 14 impact of navigation during construction;
- Chapter 16 propagation of airborne noise from construction activity and its impact on humans is assessed;
- Chapter 17 impact on air quality from construction activity is assessed.
- 4.3.3 The SoCG between the Applicant and the NE, MMO and EA effectively signposts the environmental information provided by the Applicant in respect of the environmental issues identified by the three Agencies.
- 4.3.4 Notwithstanding the above, Table 4.1 below sets out the list of licensable works included in the DML; it then identifies what the main effects/likely significant effects of each activity on the marine environment, and details where in the application package these were assessed for the project as a whole.

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Works:	Main effects or likely significant effects of the works on the marine environment:	Relevant 'environmental information'
Reclamation of the Estuary	Habitat loss, Compensation	EX11.23, EX11.24 Volume 2
Construction of the quay:		
Piling (tubular, sheet metal and anchor)	Underwater noise: impacts on marine wildlife	Ch 10, EX10.5, EX10.7, sHRA SoCG (para 4.3.1)
InfillingFenders	Airborne noise, impacts on birds	Ch 11, sHRA (Annex F)
Rock armour protection	Impact on intertidal and subtidal habitat	EX11.14, EX11.23, EX11.24, Ch 10, EX10.4, EX10.6
	Navigation risk	Ch 14, Annex 14.2
	Vibration	Ch 16
Installation of Monitoring Buoys	There are no likely significant effects associated with the deployment of buoys into the estuary.	
Construction and removal of seven temporary dolphins As for piling works		,
Backfilling of a berthing pocket with gravel and	Change in habitat type	EX10.6
rock aggregate	Impact on fish nursery grounds	Ch 10
	Impact on benthic communities	Ch 10, EX11.14
Works to the pumping stat		
Temporary sheet pile cofferdam	Underwater noise: impacts on marine wildlife	Ch 10, EX10.5, EX10.7, sHRA SoCG (para 4.3.1)
Excavation of the foreshore	Vibration	Ch 16
Six drainage pipes	Immediate habitat loss	EX11.23
Stone mattressing of	Disturbance to wildlife	Ch 11 (p11.6.29 et seq)
drainage channel	Size of new channel	ES Annex 8.3, section 4

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Works:	Main effects or likely significant effects of the works on the marine environment:	Relevant 'environmental information'			
Construction of compensat	Construction of compensation site, including:				
Breaching of the sea wall Excavation of the	Hydrodynamic effects	Ch 32, Annexes 32.1 to 32.6			
foreshore	Habitat loss	Ch 34			
Placement of excavated material in construction		EX11.23, EX11.24			
of new flood defence • Erosion protection	Ground contamination	Ch 31, Annexes 31.1 to 31.4			
	Soil Treatment	Ch 37, Ch 39			
Capital dredging of the following	lowing areas:				
Turning area	Dredging Strategy	Annex 7.6			
Approach channel	Sediment plume during dredging	Ch 8, Annex 8.4			
Berthing pocket	Impact on marine wildlife	Ch 10, EX10.5, EX10.7, sHRA SoCG (para 4.3.1)			
Excavation of a drainage channel on the south bank at the pumping station	Navigation risk	Ch 14, Annex 14.2			
Excavation of a drainage channel on the north bank at Cherry Cobb Sands compensation site	Beneficial use	EX7.7			
Disposal of capital and maintenance dredged	Dredging Strategy	Annex 7.6			
material at sea	Sediment plume assessment	Ch 8, Annex 8.1			
	Impact of sediment plume on aquatic ecology	Ch 10, EX10.4			
	Navigation	Ch 14, Annex 14.2			

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Works:	Main effects or likely significant effects of the works on the marine environment:	Relevant 'environmental information'
Maintenance dredging of t	he following areas:	
Turning area	Refer to capital dredging impac	ts
Approach channel		
Berthing pocket		
The drainage channel on the south bank at the pumping station		
Plough dredging around the E.ON and Centrica outfall structures		
In-Combination Impacts	EX44.1	

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5. **GEOLOGY, HYDROGEOLOGY & GROUND CONDITIONS**(ES CHAPTER 7)

5.1 Environmental Information Provided by the Applicant

Environmental Statement

5.1.1 Chapter 7 of the ES reviews the geotechnical site investigations that have been undertaken within AMEP and its surroundings; summarises the baseline conditions and assesses the impact of the development on soils within and underlying the AMEP site. It also considers the hydrogeological impacts of the Project.

Additional Reports

- 5.1.2 One additional report has been submitted to the ExA that is relevant to the need for geology, hydrogeology and ground conditions.
 - **EX7.7**: AMEP Material Management Plan

This Plan covers the beneficial use of firm/stiff clay from the capital dredge of the berthing pocket for use as bulk fill on land.

5.2 **Signposting Issues**

Beneficial Use of Dredge Arisings

5.2.1 Table 12.2 of the SoCG with NE, EA and MMO records agreement that 1.1m tonnes of clay to be dredged from the berthing pocket will be used as fill in the terrestrial areas of the AMEP development. Report EX7.7 is the related Material Management Plan.

Dredging Strategy

- 5.2.2 Annex 7.6 is to be updated and re-issued on 12th October with the following:-
 - New site investigation data from 2011 Over-Water Ground Investigation;
 - · Updated maximum dredging quantities;
 - Details of beneficial use of dredge arisings;
 - Updated quantities for proposed dredge disposal sites.

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6. HYDRODYNAMIC & SEDIMENTARY REGIME (ES CHAPTER 8)

6.1 Environmental Information Provided by the Applicant

Environmental Statement

6.1.1 Chapter 8 of the ES examines the likely effects of AMEP on the hydrodynamic and sedimentary regime of the Humber Estuary. The development of AMEP will cause an alteration of the local estuary shoreline and bathymetry, which may lead to changes to existing estuarine processes both in close proximity to AMEP and potentially remotely. This chapter evaluates the potential effects of AMEP in terms of physical processes (for example changes to hydrodynamics, sediment transport, waves, current velocities, bed shear stresses and geomorphology). Impacts of these changes on other receptors (such as aquatic ecology) are addressed within separate sections of the ES.

Additional Reports

- 6.1.2 Six additional reports have been submitted to the ExA that are relevant to the hydrodynamic and sedimentary regime.
 - **EX8.5:** Validation of 3D Flow & Sediment Models used for Assessment of Impacts of AMEP on Fine Sediment Transport. June 2012.

This note provides supplementary information requested by the EA on model validation.

• **EX8.6:** Able Marine Energy Park. Assessment of maintenance dredging requirements. June 2012.

This supplementary report provides a review of more data on maintenance dredging and disposal activities at existing berths and provides the basis for maximum disposal quantities arising from maintenance dredging requested by the MMO.

• **EX8.7:** AMEP Supplementary Report - Modelling of Final Quay Design (Supplement to Annex 8.1 of the ES). September 2012.

This supplementary report provides the results of the hydrodynamic and sediment modelling repeated for the final AMEP layout (i.e. changes to waves, flows, water levels, sand transport all of which effects were modelled for the larger footprint original AMEP layout which a quay line set 80m forward). In addition, the effects of capital disposal of inerodible material at HU081 and HU082 are also modelled.

• **EX8.8:** Able Marine Energy Park. Update to longer term morphology predictions in the region of the Centrica and E.On intakes and outfalls. March 2012.

This supplementary report provides the results of longer term modelling of changes to morphology northwest of AMEP, using the final AMEP layout (in EX8.3 the results from longer term simulation of an earlier layout had been modelled).

• **EX8.9** Able Marine Energy Park. Assessment of changes to morphology (particularly intertidal) between the Humber International Terminal (HIT) and Humber Sea Terminal (HST). June 2012.

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This supplementary report provides a more detailed assessment (using detailed historical EA LiDAR data for the period 2001 to 2010 for intertidal areas) of the changes to morphology that have arisen between HIT and CPK, as a consequence of the construction of HIT.

• **EX8.10** Able Marine Energy Park 3D Mud Modelling. Morphological assessment of changes south-east of development. June 2012.

This supplementary report provides an assessment of the future rates of accretion predicted to the south of AMEP between AMEP and HIT.

6.1.3 The information contained in supplementary reports EX8.8, EX8.9 and EX8.10 was then drawn upon, together with a technical note by Deltares (2012) on behalf of the EA, to detail the potential medium and long term implications of AMEP for habitats within the SPA/SAC.

6.2 **Signposting Issues**

6.2.1 Baseline

6.2.1.1 Baseline information has been extended with analysis of morphological changes to the north of HIT based on the LiDAR data (EX8.9) and with comparison of the results of the 3D mud transport model against maintenance dredging records from 2010 and 2011 (EX8.6).

6.2.2 Impacts

- 6.2.2.1 The flow and wave modelling reported in EX8.1 has been repeated with the present AMEP scheme represented (EX8.7).
- 6.2.2.2 The prediction of longer term morphological evolution of the intertidal to the north west of AMEP reported in EX8.3 has been repeated with the present AMEP scheme represented (EX8.8).
- 6.2.2.3 The assessment of long term morphological evolution to the south east of AMEP is updated in EX8.10.
- 6.2.2.4 Assessment of the impacts of the placement of inerodible material into HU081 and HU082 is presented in EX8.7.
- 6.2.2.5 Assessment of medium and longer term habitat changes associated with AMEP has been agreed with the Regulators and is presented in the SoCG with MMO, NE and EA.
- 6.2.2.6 Long term geomorphological change has been assessed quantitatively by Deltares (EX11.24, Appendix B) and is recorded to be agreed with the Applicant in the sHRA SoCG (Table 4.1, row 1)
- 6.2.2.7 Consideration is being given to the fate of the gravel fraction of material that will be placed at HU080 as part of the disposal of erodible material from the construction of AMEP and a separate report will be submitted to the ExA on 12th October.

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6.2.3 Mitigation

- 6.2.3.1 In response to Q51 of the 2nd EQs, the Applicant confirmed that cooling water outfalls for both E.ON and Centrica would be maintained by periodic plough dredging but that alternative outfalls would be installed in the quay during its construction to allow for diversion of both outfalls in the future if deemed necessary.
- 6.2.3.2 In response to Q52, a financial contribution is to be agreed with Associated Petroleum Terminal Limited for the construction of walkways between the dolphins that serve the South Killingholme Oil Jetty.
- 6.2.3.3 The volume of inerodible material to be placed at HU082 has been reduced as a result of by at least 500,000m³ through this material being used beneficially on the AMEP site.
- 6.2.3.4 Heads of Terms or protective provisions are being agreed with operators of adjacent facilities to protect those parties against any increased maintenance dredging requirements associated with AMEP.

6.2.4 Monitoring

6.2.4.1 An Environmental Management and Maintenance Plan for the marine environment is under development and will be issued to the ExA on 12th October.

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7. WATER & SEDIMENT QUALITY (ES CHAPTER 9)

7.1 Environmental Information Provided by the Applicant

Environmental Statement

7.1.1 Chapter 9 of the ES addresses the issue of water and sediment quality and details the approach to assessing the potential impacts of AMEP on both. It describes the sedimentary baseline environment within the AMEP site boundary, the impact assessment criteria and methodology relating to the potential impacts associated with disturbance of sediments of this nature, and an assessment of the significance of these impacts to the wider environment. Sediment contamination is addressed in Chapter 7.

Additional Reports

- 7.1.2 4 additional reports have been submitted to the ExA that are relevant to the water and sediment quality.
 - **EX8.11** Water Framework Directive of Compensation Site

This report provided a WFD assessment for the works associated with the Intertidal habitat site. It was superseded by EX11.12

• **EX8.12** Water Framework Directive - Project wide

This report provided a WFD assessment for the Project as a whole. The Applicant has received comments from the EA and it is being revised and will be reissued as EX8.12A on 12th October.

• **EX9.7** Assessment of the effects of relocations of the E.ON and Centrica outfalls on thermal recirculation

This report assessed the spatial extent of the thermal plume that would arise if both the E.ON and Centrica cooling water outfalls were diverted to pass through the berthing face of the quay.

• **EX44.1** Cumulative & In-Combination Effects Supplementary Report

This report provides an extended explanation of the cumulative and incombination effects of the project with other projects.

7.2 **Signposting Issues**

Water Framework Directive

7.2.1 Following further consultations with the Environment Agency, reports EX8.11 and EX8.12 are withdrawn and a revised WFD Assessment (EX8.12A) is to be submitted to the ExA on 12th October.

Thermal plume from Power Station Outfalls

7.2.2 Following further consultations with the Environment Agency, E.ON and Centrica, EX9.7 was produced and submitted with the Supplementary Environmental Information. The report is no longer relevant to the application as the MMO will not licence the works on the basis that it is not certain to be required.

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8. **AQUATIC ECOLOGY (ES CHAPTER 10)**

8.1 Environmental Information Provided by the Applicant

Environmental Statement

8.1.1 Chapter 10 of the ES reviews the aquatic flora and fauna within the marine area affected by the development on the south bank. The existing baseline is reviewed using information that is in the public domain and using project specific surveys that have been undertaken for AMEP. The receptors that are potentially affected by the works, identified through the EIA process are: grey seal which are a feature of the SAC; harbour porpoise; fish, including lamprey which are a feature of the SAC; marine invertebrates; OSPAR species present in the estuary; intertidal habitats; sub-tidal habitats and North Killingholme Haven SSSI.

Additional Reports

- 8.1.2 Five additional reports have been submitted to the ExA that are relevant to aquatic ecology:-
 - **EX10.4** Impact of dredging and dredged material disposal on 1) subtidal and intertidal features and 2) Aquatic Ecology

This report provides additional assessment of dredge disposal impacts on aquatic ecological receptors.

• **EX10.5** Supporting information on harbour porpoises in the Humber Estuary

This report clarifies the occurrence of harbour porpoises in the middle estuary, and explains their significance to the impact assessment.

• **EX10.6** Impact of berthing pocket construction explanatory note

This report provides clarification of the impact that berthing pocket construction and maintenance will have on aquatic ecology, in particular on benthic receptors.

• **EX10.7** Effects of Soft Start Explanatory Note

This report provides clarification of the derivation of the soft-start procedure and its effects on marine mammals.

• **EX11.14** Biotopes of the Intertidal and Subtidal Sediments around the AMEP site, in the Humber Estuary

This report provides further interpretation of the baseline distribution of biotopes in the location of the site, and includes additional mapping derived from the existing biotope data.

8.2 **Signposting Issues**

<u>Underwater Noise and Marine Mammals</u>

8.2.1 Additional information regarding the baseline and the impacts upon harbour porpoises from underwater noise is presented within EX10.5.

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- 8.2.2 Additional information regarding the noise impacts on grey seals is presented in EX10.7.
- 8.2.3 The sHRA SoCG records the agreed piling restrictions that are to be adopted and will be specified in the final draft DML to avoid an adverse impact on grey seals. Other marine mammals will be similarly protected from harm.

Underwater Noise and Fish

8.2.4 The sHRA SoCG records the agreed piling restrictions that are to be adopted and specified in the final draft DML to avoid an adverse impact on Lamprey. Other fish species will also be protected by virtue of these restrictions.

Biotope Baseline Assessment

8.2.5 The baseline surveys are further interpreted in EX11.14.

<u>Impact of Sediment Plume from Dredging on marine wildlife</u>

8.2.6 Additional information on these impacts is presented in EX10.4. Mitigation will be secured by means of the EMMP as set out in the SoCG between the Applicant, EA, MMO and NE on the ES.

Rockfill within the berthing pocket

- 8.2.7 Impacts on subtidal habitat are presented within EX10.6.
- 8.2.8 Following more recent discussions with the MMO, EA and NE, the Applicant has agreed that the rockfill will be placed to -11.5m CD but maintenance dredging will be restricted to -11m CD so that the rock is never exposed within the estuary and the habitat within the berthing pocket will therefore always be a silty mud. The final draft DML to be issued on 9th October will be amended accordingly.

OSPAR Screening

8.2.9 Clarification of the Applicant's assessment and screening of OSPAR species and habitats is set out in Section 15.10 of the SoCG between the Applicant and the EA, MMO and NE in respect of the ES.

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9. TERRESTRIAL ECOLOGY & BIRDS (ES CHAPTER 11)

9.1 Environmental Information Provided by the Applicant

Environmental Statement

9.1.1 Chapter 11 of the ES reviews the terrestrial flora and fauna affected by the development on the south bank. The existing baseline is reviewed using information that is in the public domain and using project specific surveys that have been undertaken for AMEP. The receptors that are potentially affected by the works were identified through the EIA process to be: Great crested newts; bats; water vole; badgers; breeding birds; SPA assemblage over the tidal cycle; Station Road Fields LWS and OSPAR species.

Additional Reports

- 9.1.2 Seventeen additional reports have been submitted to the ExA that are relevant to terrestrial ecology and birds.
 - **EX11.16** Assessment Update for Breeding Birds May 2012

This report provides additional analysis of the distribution and abundance of breeding bird territories, paying particular attention to those of conservation importance. An addendum to this report (EX11.16 Addendum) will be submitted by the Applicant on 12th October to address NE's residual comments on this assessment.

• **EX11.17** AMEP Vascular Plant Surveys June 2012

This report explains the approach to vascular plant surveys of the AMEP site.

• **EX11.18** Sensitive Time Periods for Birds at AMEP Compensation Site June 2012

This report provides information about the time periods which are regarded as sensitive due to the presence of important numbers of qualifying interest waterbirds of the Humber Estuary SPA/Ramsar on the Cherry Cobb Sands foreshore (i.e. >1% of the Humber Estuary population).

• **EX11.19** AMEP Bat Surveys: Supplementary Note May 2012

This report provides clarification about the surveys undertaken for bats as part of the AMEP application, and their suitability to inform the assessment of impact that has been made.

• **EX11.20** Draft Great Crested Newts Licence Application – Acknowledgment of Receipt & Natural England Correspondence June 2012

This report provides NE's response to the Applicant's original great crested newt license application. A third submission was made to NE on 21st September.

• **EX11.22** Impact of the SPMT and the Cranes on the Operational Buffer, and Operational Noise Effects on Birds at North Killingholme Haven Pits June 2012

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This report describes the noise impact within the operational buffer by SMPT and cranes acting independently and the levels that would arise on the core mitigation area.

EX11.23 Immediate Habitat Losses within the Designated Site May 2012.

This report details the location, size and type of habitat immediately lost if AMEP is constructed.

• **EX11.24** Medium and Long Term Quantum of Habitat Loss June 2012.

This report details the medium (0-30 years) and long term (0-100 years) losses of habitat within the Humber Estuary SPA/SAC.

• **EX11.26** Impact of the Pumping Station June 2010.

This report clarifies the impacts of the pumping station on estuarine habitat loss and disturbance effects on birds.

• **EX11.27** Able Marine Energy Park Phase 2 Habitat Survey October 2006.

This report presents the results of a Phase 2 habitat survey of an area that includes the application site and outlines the implications of the findings.

• **EX11.28** Able Marine Energy Park Environmental Statement Great Crested Newt Survey July 2006.

This report presents the results of great crested newt survey that includes the application site and outlines the implications of the findings.

• **EX11.29** Water Vole Survey July 2006.

This report presents the results of the water vole survey within the application site and outlines the implications of the findings.

• **EX11.30** Able Marine Energy Park Location of Replacement Ponds for Great Crested Newts, November 2011.

This report summarises the rationale for the use of the receptor site as a suitable mitigation.

EX11.31 Able Marine Energy Park M456 Invertebrate Survey May 2007

This report details the methodology and results of an invertebrate survey of the Able Logistics Park site and identifies areas potentially impacted and mitigation measures.

• **EX20.3** Additional Landscape Masterplan June 2012

This report illustrates areas of water vole, bat and breeding bird activity and illustrates how habitat impacts are being mitigated.

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9.2 **Signposting Issues**

Great Crested Newts - Baselines Surveys

9.2.1 EX11.28 provides information on the original 2006 survey undertaken by Just Ecology to inform the baseline assessment and supplements those more recent surveys included in the ES. EX11.20 gives information on the licence application and EX11.30 explains the rationale for selection of receptor sites. Both the latter relate to mitigation.

<u>Bats - Baseline Surveys</u>

9.2.2 EX11.19 provides clarification on the bat surveys undertaken that informed the baseline and impact assessment. EX20.3 provides information, via landscape plans, on mitigation for bats.

Water vole - Impact Assessment

9.2.3 EX11.29 provides information on the original 2006 survey undertaken by Just Ecology and is additional to the baseline surveys in the ES. Mitigation is further described in EX20.3.

Badgers

9.2.4 The Applicants RR Report, paragraph 60.40, provides information on mitigation being provided through the appropriate management of Burkinshaw's Covert.

Breeding birds

9.2.5 EX11.16 supports the impact assessment with regard to breeding birds. Details of mitigation are given in EX20.3. An addendum to EX11.16 will be submitted to the ExA by the Applicant on 12th October to address NE's residual comments on this assessment.

Loss of intertidal feeding and roosting areas for SPA birds

9.2.6 Further clarification of habitat loss is provided in EX11.23 and 11.24.

Vascular Plants

9.2.7 Clarification on the issue of vascular plants is set out in EX11.17 and EX11.27.

Invertebrates

9.2.8 Further clarification on terrestrial invertebrate impacts is set out in EX11.31.

Pumping Station

9.2.9 Impacts arising from construction of the pumping station are set out in detail in EX11.26.

NKHP SSSI - Disturbance

9.2.10 Information on managing disturbance is provided in EX11.22. Following further discussions with NE it is proposed that a requirement is included in the DCO.

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10. **DRAINAGE & FLOOD RISK (ES CHAPTER 13)**

10.1 Environmental Information Provided by the Applicant

Environmental Statement

10.1.1 Chapter 13 of the ES reports on the impact of the AMEP development upon drainage and flood risk and determines whether, and if so how, the proposed development will affect the hydrology, surface water drainage and flooding of the site and its surrounds.

Additional Reports

- 10.1.2 Two additional reports have been submitted to the ExA that are relevant to drainage and flood risk on the south bank.
 - **EX8.7:** AMEP Supplementary Report Modelling of Final Quay Design (Supplement to Annex 8.1 of the ES)

This report updates Annex 8.1 of the ES that provided an assessment of the impacts of a previous design layout for the quay on the marine development. EX8.7 re-assesses the potential impacts based on a model of the final design layout.

• **EX13.2:** Addendum to Flood Risk Assessment June 2012

This report amends sections of the FRA contained in Annex 13.1 of the ES.

10.2 Signposting Issues

Flood Risk Assessment

- 10.2.1 FRA is to be read in combination with EX13.2 Addendum to Flood Risk Assessment June 2012. The addendum covers the following minor issues; Modelling of Quay Design, Impact on Overland Flood Flows, Surface Water Disposal, Climate Change Requirements, Land Drainage & Sea Defence Byelaws, Foul Water Drainage Strategy
- 10.2.2 Flood risk to Centrica and Drax land and property was raised and subsequently covered by the Applicant in the Written Representations, but no further reporting is considered necessary as the assessment itself is not challenged.
- 10.2.3 More details on the issues of flood risk are set out in the ES SoCG between the Applicant, EA, NE and MMO.

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11. COMMERCIAL & RECREATIONAL NAVIGATION (ES CHAPTER 14)

11.1 Environmental Information Provided by the Applicant

Environmental Statement

11.1.1 Chapter 14 of the ES considers the potential impacts of the proposed development on commercial and recreational navigation within the Humber Estuary during both the construction of the works and once the facility is operational. In particular, it considers the specific hazards that will arise from the additional marine activity and assesses the consequential risk to users of the river.

Additional Reports

- 11.1.2 Two additional reports have been submitted to the ExA that are relevant to commercial and recreational navigation.
 - **EX14.4** Navigation Simulation Study

This reports on a Simulation Study undertaken at South Tyneside Marine College using environmental data agreed with C.RO Ports (Killingholme) and the Harbour Master.

 WR9.1 Cherry Cobb Sands Compensation Site 2nd Interim Report on Detailed Modelling

This report describes modelling of the intertidal compensation site as a part MR and part regulated tidal exchange (RTE). The design is being further developed and a final design report will be issued to the ExA on 12th October.

11.2 **Signposting Issues**

Berthing and Unberthing from C.RO Ports Killingholme

11.2.1 Report EX14.4 reports on the berthing and unberthing of vessels at C.RO Port (Killingholme) and records that, if AMEP is consented, vessels can still safely manoeuvre on and off the berths even in the most adverse credible environmental (tide and wind) conditions for such manoeuvres.

Navigation to Stone Creek

11.2.2 Section 4 of Report WR9.1 provides a quantitative assessment of the impact of the development on Cherry Cobb Sands Creek which provides access to Stone Creek. The report will be superseded by a new report (EX28.3) to be issued to the ExA on 12th October.

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12. TRAFFIC & TRANSPORT (ES CHAPTER 15)

12.1 Environmental Information Provided by the Applicant

Environmental Statement

- 12.1.1 Chapter 15 of the ES considers the potential traffic and transport impacts of the proposed development during both the construction of the works and once the facility is operational.
- 12.1.2 In accordance with DfT's Guidance on Transport Assessment, a Transport Assessment (TA) was prepared, which provides a detailed assessment of the traffic impacts of the proposed development. The TA is provided in Annex 15.1 of the ES. A Travel Plan was also prepared for the site, which is provided in Annex 15.2 of the ES.

Additional Reports

- 12.1.3 Three additional reports have been submitted to the ExA that are relevant to traffic and transport.
 - **EX15.3** A160 Killingholme Humber Port Access, Stage 1 Road Safety Audit
 - **EX15.4** A160 Killingholme Humber Port Access, Stage 1 Road Safety Audit Designer's Response
 - **EX15.5** Additional Junction Road Safety Audit

12.2 Signposting Issues - Highways

Junction capacity assessments

12.2.1 Junction capacity assessments are to be subjected to a sensitivity analysis in respect of the PCU factor which was applied in the original model. The results will be made available to the ExA on 12th October.

Road Safety Audits

- 12.2.2 EX15.3 reviewed the following junctions:-
 - A180 (T) / A160 Merge Improvement / Westbound Entry Slip Road widening;
 - A160 / A1077 Ulceby Road localised junction widening to major road to provide right-turn reservoir;
 - A160 / Habrough Road / Top Road Roundabout Widening of the A160 carriageway, on the approach to and exit from the roundabout, on the western arm;
 - A160 Humber Road / Eastfield Road Carriageway widening to Eastfield Road (north of A160) to provide dedicated left-turn lane into Humber Road;
 - A160 Humber Road / Rosper Road Installation of traffic signals on a three arm priority junction.

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- 12.2.3 EX15.5 reviewed the following junctions:-
 - Rosper Road / Humber Road (traffic signals);
 - Humber Road / A160 / A1173 (additional lane on one approach);
 - A1173 / North Moss Lane / Kiln Lane (additional lane on each approach)
- 12.2.4 Following comments by the Highways Agency, an amended Stage 1 Road Safety Audit has been produced which will supersede the audit carried out in EX15.5. The report will be made available to the ExA on 12th October.

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13. **HISTORIC ENVIRONMENT (ES CHAPTER 18)**

13.1 Environmental Information Provided by the Applicant

Environmental Statement

13.1.1 Chapter 18 of the ES considers the potential impacts of the proposed development on the historic environment of that part of the Humber estuary and its hinterland that will be affected by the Able Marine Energy Park. In practice, the scope of the historic environment (heritage assets) includes archaeological sites, wrecks, buildings, battlefields, parks and gardens, hedgerows and palaeoenvironmental deposits.

Additional Reports

13.1.2 No additional reports have been submitted to the ExA that are relevant to the historic environment.

Statements of Common Ground

13.1.3 Statements of common ground have been entered into between the Applicant and English Heritage, and between the Applicant and NLC. These contain the extent of development and agreement post-submission.

13.2 **Signposting Issues**

Lighthouse Mitigation

13.2.1 Agreement between the Applicant and EH and NLC on the lighthouse mitigation strategy is set out in the SoCG's between the Applicant and those two parties.

Further Investigatory Works

13.2.2 Agreement between the Applicant and EH and NLC on the applicant's programme of further investigatory works and its implementation is set out in the SoCG's between the Applicant and those two parties.

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14. **LIGHT (ES CHAPTER 19)**

14.1 Environmental Information Provided by the Applicant

Environmental Statement

14.1.1 This chapter assesses the impact that the lighting of the proposed AMEP development (including security lighting, operational lighting, car park lighting, fixed lighting on buildings/structures and road/junction lighting) will have on human and ecological receptors. The impacts of AMEP's lighting are assessed in the context of the existing lighting environment surrounding the site, and are considered in terms of sky glow, light presence, glare and intrusion. Lighting both during construction and operation is considered.

Additional Reports

- 14.1.2 Two additional plans have been submitted to the ExA that are relevant to the need for light:-
 - **EX19.1** These are the proposed lighting lux contour plans for AMEP development.

14.2 Signposting Issues

Lighting Levels

14.2.1 Supplementary plans detailing the proposed lighting levels across the site were submitted in EX19.1.

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15. LANDSCAPE & VISUAL (ES CHAPTER 20)

15.1 Environmental Information Provided by the Applicant

Environmental Statement

15.1.1 Chapter 20 of the ES considers the potential impacts of the proposed development on landscape, character and resources including the effects on the aesthetic values of the landscape; and the visual amenity including effects upon potential viewers and viewing groups.

Additional Reports

- 15.1.2 One additional report has been submitted to the ExA that is relevant to the need for landscape and visual.
 - **EX20.3**: Additional Landscape Masterplan

This provided additional detail on the landscape mitigation and habitat creation to be created within the AMEP site.

15.2 **Signposting Issues**

Landscaping Masterplan

15.2.1 The indicative landscape masterplan submitted as part of the application is supplemented by the additional landscape proposals given in more detail in EX20.3.

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16. **SOCIO-ECONOMICS (ES CHAPTER 21)**

16.1 Environmental Information Provided by the Applicant

Environmental Statement

16.1.1 Chapter 19 of the ES assesses the socio-economic impact of the Project on the local area and the wider Hull and Humber sub-region. It sets out the current state of the economy with high levels of deprivation and acute need for new investment in economic activity; the number of additional jobs that will be directly created by the Project, after taking into account displaced activity; the nature of the jobs created and the skills or occupational requirements; the skills of the local workforce and their suitability for the new employment opportunities; the number of jobs created in the local area by the additional spending created by the direct employment; and the nature of any negative impacts, such as stress on local housing and amenities, and possibility of mitigating these.

Additional Reports

16.1.2 No additional reports were submitted to the ExA that are relevant to socioeconomics.

16.2 **Signposting Issues**

Project Appraisal Framework for Ports

16.2.1 An Appraisal Summary Table for the Economy Objectives and sub-objectives, consistent with the requirements of the Project Appraisal Framework for Ports is set out in Table 1.1 of the Applicant's response to Q1 of the 1st EQs and cross-refers to the relevant sections of the Environmental Statement (ES).

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17. <u>DESCRIPTION OF THE COMPENSATION SITE (ES CHAPTER 28)</u>

17.1 Environmental Information Provided by the Applicant

Environmental Statement

17.1.1 Chapter 28 of the ES describes the works that are proposed at both Cherry Cobb Sands and at Old Little Humber Farm. The latter parcel of land has been removed for the application.

Additional Reports

- 17.1.2 Two additional reports have been submitted to the ExA that are relevant to the description of the compensation site.
 - **EX28.1** Compensation Site Interim Report on Detailed Design.

This report is superseded

• **WR9.1**: Cherry Cobb Sands Compensation Site 2nd Interim Report on Detailed Modelling

This report describes modelling of the intertidal compensation site as a part MR and part regulated tidal exchange (RTE). The design is being further developed and a final design report will be issued to the ExA on 12th October.

17.1.3 Both of the above documents will be superseded by the final modelling report for the RTE to be issued on 12th October.

17.2 **Signposting Issues**

Baseline information

17.2.1 A report prepared by Institute of Estuarine and Coastal Studies (IECS, University of Hull), titled 'Managed Realignment and Regulated Tidal Exchange: Humber Estuary Scenario Briefing Report' provides a review of current RTE schemes.

Wet grassland

17.2.2 Old Little Humber Farm is no longer being considered as a compensation site; grassland adjacent to the site will be managed to create wet grassland habitat, detailed proposals will be submitted to the ExA on 12th October.

Maintenance of the Compensatory Habitat

17.2.3 Proposals for the long term maintenance of the intertidal habitat site will be set out in a final design report (EX28.3) for the intertidal site to be submitted to the ExA on 12th October.

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18. **CHOICE OF SITE (ES CHAPTER 30)**

18.1 Environmental Information Provided by the Applicant

Environmental Statement

18.1.1 This chapter of the ES sets out the process undertaken to identify a suitable location for the intertidal compensation site.

Additional Reports

18.1.2 No additional report has been submitted to the ExA that are relevant to the choice of site.

18.2 **Signposting Issues**

Weighting of Factors Considered in the choice of the Site

18.2.1 The response to Question 18 of the 1st EQs provided details of the weighting given to various issues. The significant factor was the proximity of compensation site Killingholme Marshes foreshore as explained at paragraph 18.3 of the Applicant's response.

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19. **GEOLOGY & GROUND CONDITIONS (ES CHAPTER 31)**

19.1 Environmental Information Provided by the Applicant

Environmental Statement

19.1.1 Chapter 31 of the ES reviews the geology, hydrogeology and ground conditions and their potential impact due to the proposed works on the Compensation Sites.

Additional Reports

- 19.1.2 One additional report has been submitted to the ExA that is relevant to the geology and ground conditions of the compensation site.
 - **EX31.5** This is the Phase 2 Site Investigation of the proposed Compensation Site at Cherry Cobb Sands.

19.2 **Signposting Issues**

Ground contamination within the development site/remediation

Baseline

19.2.1 A further detailed site investigation of Cherry Cobb Sands was carried out in April 2012 and a draft factual report is included in the volume of supplementary environmental information; refer to Report EX31.5. This later investigation has proved the presence of contaminated material within the Compensation Site is very likely to be limited to a single location. A full and final version of the SI Factual Report will be submitted to the ExA on 12th October.

Mitigation

19.2.2 A suitable mitigation scheme, based on an updated risk assessment, will be submitted to the Local Planning Authority and to the MMO for their approval in accordance with a requirement included within Schedule 11 of the DCO and the Deemed Marine Licence respectively.

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20. <u>HYDRODYNAMIC AND SEDIMENTARY REGIME (ES CHAPTER 32)</u>

20.1 **Environmental Information Provided by the Applicant**

Environmental Statement

20.1.1 Chapter 32 of the ES addresses issues associated with the hydrodynamics and sedimentary regime and details the assessment of potential changes on these aspects which are specific to the Compensation Site.

Additional Reports

- 20.1.2 No additional reports have been submitted to the ExA that is relevant to the hydrodynamic and sedimentary regime. See EX28.1 and WR9.1 for modelling of the compensation site. These two reports, and the final modelling report currently being completed, all update Chapter 32 and its Annexes.
 - EX28.1: 'Compensation Site Interim Report on Detailed Design'.

This report was superseded by WR9.1

• **WR9.1**: 'Cherry Cobb Sands Compensation Site 2nd Interim Report on Detailed Modelling'.

This report describes modelling of the intertidal compensation site as a part MR and part regulated tidal exchange (RTE). The design is being further developed and a final design report will be issued to the ExA on 12th October.

20.2 **Signposting Issues**

Existing Surface water drainage and outfalls

20.2.1 Siltation levels in Stone Creek will be monitored and compared to historic levels of siltation. This monitoring will be secured by a requirement in Schedule 9, paragraph 4 of the DCO. Where siltation is demonstrably outside of its natural variability and that is due to the operation of the Compensation Site, the Applicant will make a reasonable contribution towards any increased dredging costs.

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21. **AQUATIC ECOLOY (ES CHAPTER 34)**

21.1 Environmental Information Provided by the Applicant

Environmental Statement

21.1.1 Chapter 34 of the ES assesses the impacts to aquatic ecology from the construction and operation of the Compensation Site. The Compensation Site will become part of the estuarine environment following the breaching of the existing sea wall, and a new channel will form across the existing intertidal habitat caused by the flows in and out of the managed realignment site.

Additional Reports

- 21.1.2 One additional report has been submitted to the ExA that are relevant to aquatic ecology.
 - **EX34.2**: The value of the existing invertebrate assemblage has been assessed by reference to 'An Assessment of Temporal Variation of Benthic Invertebrate Communities in the Humber Estuary' J.H. Allen (*Institute of Estuarine & Coastal Studies* (IECS) (2006)).

This report assesses the physical and biological development of newly created mudflats at Paull Holme Strays realignment site, breached in 2003: Franco A & Mazik K, (19th May 2011), *The Institute of Estuarine and Coastal Studies*, 'Paull Holme Strays Monitoring.

21.2 **Signposting Issues**

Baseline

21.2.1 The value of the existing invertebrate assemblage has been assessed by reference to 'An Assessment of Temporal Variation of Benthic Invertebrate Communities in the Humber Estuary' J.H. Allen (*Institute of Estuarine & Coastal Studies (IECS)* (2006)). This report has been included as supplementary information EX34.2.

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22. TERRESTRIAL ECOLOGY (ES CHAPTER 35)

22.1 Environmental Information Provided by the Applicant

Environmental Statement

22.1.1 Chapter 35 of the ES reviews the potential impacts on terrestrial flora and fauna that may result specifically due to the construction and operation of the Compensation Site.

Additional Reports

- 22.1.2 Two additional reports have been submitted to the ExA that are relevant to terrestrial ecology.
 - **EX35.12**: 'Farmland Disturbance at Cherry Cobb Sands'.

The effect of the loss of roosting habitat that is currently provided by the Compensation Site has been assessed and is reported in Annex G of the sHRA. A supplementary report EX35.12 – CCS Disturbance, provides further details of the surrounding habitat and existing levels of disturbance.

• **EX35.13**: Potentially Excepted Information: `Land at Cherry Cobb Sands, Badger Survey'.

This report provides the results of a badger bait marking survey that was undertaken in April 2012 and supplements the surveys provided in the ES.

22.2 **Signposting Issues**

Badgers use of the compensation site

- 22.2.1 The existing use of the site has been informed by two surveys:-
 - Badger Bait Marking Survey undertaken in March 2011 and reported in Annex 35.8 of the ES.
 - Badger Bait Marking Survey undertaken in April 2012 and reported in EX35.13 included with the supplementary environmental information.
- 22.2.2 The proposed flooding of the site will impact on two badger groups. However, there will be negligible effect upon the badger population or their setts. The Supplementary Report EX35.13 confirmed that within the Compensation Site, there is poor potential for foraging, although seasonal foraging opportunities will be offered along the grassy field margins, ditch banks, hedgerows and areas of scrub on the sea defences. The foraging opportunities will be reduced through the creation of the Compensation Site.
- 22.2.3 To mitigate for loss of foraging habitat new hedges or small scrub islands will be planted. Detailed proposals will be set out in an Environmental Management and Monitoring Plan which will be secured under a requirement in Schedule 11 of the DCO.

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Managed realignment site - loss of terrestrial habitat

22.2.4 The effect of the loss of roosting habitat that is currently provided by the Compensation Site has been assessed and is reported in Annex G of the sHRA. A supplementary report EX35.12 – 'Farmland disturbance at CCS', provides further details of the surrounding habitat and existing levels of disturbance. As the principal value of the site is for roosting, and given the widespread availability of similar habitat in the locality (and the likely permanence of that habitat), there will be no significant impact upon the SPA assemblage.

Construction disturbance to birds within the designated site

- 22.2.5 Construction of the new flood defences will generate noise and activity that have the potential to cause disturbance to the SPA assemblage using the Cherry Cobb Sands foreshore. The existing flood defence wall will act as a visual and acoustic screen for SPA features using the intertidal areas. These impacts will be offset to some extent by the early diversion of the public footpath from the top of the flood defence wall. The impacts are fully explained in Supplementary Report EX11.18 contained within the volume of supplementary environmental information.
- 22.2.6 Construction plant will operate behind the existing flood defences, limiting visual disturbance. The diversion of the footpath at an early stage will remove a significant source of existing visual disturbance.

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23. **DRAINAGE & FLOOD RISK (ES CHAPTER 36)**

23.1 Environmental Information Provided by the Applicant

Environmental Statement

23.1.1 Chapter of the ES reviews the potential impacts upon the Compensation Site and its environs on surface water drainage and flood risk.

Additional Reports

- 23.1.2 Two additional reports have been submitted to the ExA that are relevant to the need for drainage and flood risk:-
 - **EX36.2** 'North Bank Flood Defence Crest Height'.

The Standard of Protection for the proposed flood defences is 1 in 200 years after taking into account 100 years of sea level rise. The assessment of the crest height for the new flood defence wall is explained in this Supplementary Report.

• **EX36.3** 'Change in Flood Risk to Properties on the North Bank'

This report reassesses the change in flood risk to properties on the north bank that is consequential to the flood defence embankment being closer to some existing properties.

23.2 **Signposting Issues**

Existing Surface water drainage and outfalls

23.2.1 Siltation levels in Stone Creek will be monitored. This monitoring will be secured by a requirement in Schedule 9, paragraph 4 of the DCO. Where siltation is demonstrably outside of its natural variability and that is due to the operation of the Compensation Site, the Applicant will make a reasonable contribution to the IDB's towards any increased dredging costs.

Design criteria for the new flood defence crest level

23.2.2 The Standard of Protection for the proposed flood defences is 1 in 200 years after taking into account 100 years of sea level rise. The assessment of the crest height for the new flood defence wall is explained in Supplementary Report EX36. This concludes that the introduction of the managed realignment will improve the local standard of protection and raise the condition grade of this length of defence, both of which will reduce the risk to people living in nearby properties despite the defence being closer to some adjacent properties.

Development Impact upon Third Parties

23.2.3 The standard of protection provided by the new defences will be 1:200 in 100 years, allowing for 100 years of climate change. Although the new flood embankment will be sited closer to existing properties, its condition will be considerably improved from that of the existing defence. The risk to property of flooding from a breach is, therefore, assessed to be no worse than existing and full details of this are contained in the Supplementary Report EX36.3.

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Maintenance of Flood Defence

23.2.4 Maintenance of existing flood defences and of new flood defences at Cherry Cobb Sands will be covered in a Section 41 Agreement (Yorkshire Water Authority Act) between the Applicant and the Environment Agency.

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24. **INCOMBINATION (ES CHAPTER 44)**

24.1 Environmental Information Provided by the Applicant

Environmental Statement

24.1.1 Cumulative and in combination impacts are assessed within individual chapters of the ES.

Additional Reports

- 24.1.2 One additional report has been submitted to the ExA that is relevant to the incombination assessment.
 - **EX44.1**: Cumulative and In-combination Effects.

An in-combination assessment of individual impacts that might combine to produce a greater effect on a receptor than the impacts considered individually is also presented in Chapter 44. In order to explain these assessments more comprehensively, this separate report has been prepared.

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PART 2

Signposting of the Submitted Plans

This Part Signposts any Plans that were submitted with the Application that have been Revised or Withdrawn

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25. **ADDITIONAL/REVISED PLANS**

25.1 Environmental Information Provided by the Applicant

Application

- 25.1.1 A pack of plans and drawings was submitted with the application, including:-
 - Land plans
 - Works plans
 - Ecological designation plans
 - Heritage designation plans
 - Crown land plans
 - Public rights of way plans
 - Planning application drawings
 - Design drawings

Additional Reports

25.1.2 Three additional plans have been submitted to the ExA that are update the plans submitted at the time of the application.

Land Plans

The land plans have been updated, and an updated Book of Reference provided, to reflect changes in the land subject to CPO since the application was made.

Lighting Plans

Clarification of the operational lighting and light spill was provided in the form of additional lighting plans – see paragraph 14.2.1 above.

Landscape Masterplan

More detail on the landscape masterplan was provided – see paragraph 15.2.1 above.

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