



**THE ABLE MARINE ENERGY PARK DEVELOPMENT CONSENT ORDER 2014
APPLICATION FOR A NON-MATERIAL CHANGE**




APPLICATION STATEMENT INCORPORATING ENVIRONMENTAL INFORMATION

JULY 2018

REVISION D – NOVEMBER 2020

Able UK Ltd
Able House,
Billingham Reach Industrial Estate,
Teesside
TS23 1PX
Tel: 01642 806080 Fax: 01642 655655

	ABLE MARINE ENERGY PARK APPLICATION FOR A NON-MATERIAL CHANGE	NOV 2020
---	--	-----------------

APPROVAL & REVISION REGISTER

	NAME	SIGNATURE	DATE
Originator:	RM Cram	[REDACTED]	18/7/18
Checked by:	H Fry (BDB)	[REDACTED]	18/7/18
Approved by:	RM Cram	[REDACTED]	03/09/18

REVISION	COMMENTS	DATE
A	DRAFT	3/7/18
B	Issue with Application to the SOS	18/7/18
C	Final	03/09/18
D	Revised to address comments by the SoS in letter dated 28 October 2020. General updates and minor additions to Sections 1 & 2. Additional details added to Section 3. Section 5 re-drafted.	12/11/20

CONTENTS

1	INTRODUCTION	- 1 -
1.1	general.....	- 1 -
1.2	Planning background.....	- 1 -
1.3	Application for non-material Change.....	- 4 -
1.4	The functional requirements of Area A.....	- 5 -
2	PROPOSED CHANGE	- 7 -
2.1	Reasons for the Proposed Change.....	- 7 -
2.2	The Proposed Amendment	- 7 -
3	SUPPORTING ENVIRONMENTAL INFORMATION	- 9 -
3.1	General	- 9 -
3.2	Review of the AMEP Environmental Statement.....	- 10 -
3.3	Review of Local Amenity	- 25 -
4	STAKEHOLDER ENGAGEMENT	- 27 -
4.1	Consultation with Natural England on Mitigation Option for AMEP.....	- 27 -
4.2	Consultation by the LPA for the HMWG Planning Application	- 27 -
4.3	Terrestrial Environmental Management and Monitoring Plan (TEMMP).....	- 29 -
5	CONCLUSION	- 31 -

APPENDICES

- APPENDIX A:** 'Halton Marsh Wetland Feasibility Study', JBA Consulting, April 2016
- APPENDIX B:** As Built Drawing for HMWG
- APPENDIX C:** North Lincolnshire Council's Appropriate Assessment for HMWG
- APPENDIX D:** Natural England response to consultation on Outline Design Reports for Mitigation Area A and HMWG
- APPENDIX E:** Consultation Responses to the Planning Application for HMWG
- APPENDIX F:** Draft TEMMP
- APPENDIX G:** Bat Survey Report 2016

1 INTRODUCTION

1.1 GENERAL

1.1.1 This statement is made in support of the application by Able Humber Ports Limited (the Applicant) for a non-material change to The Able Marine Energy Park Development Consent Order 2014 (Statutory Instrument 2014 No. 2935), ('the DCO'). The application is made pursuant to Schedule 6 of the Planning Act 2008 and Part 1 of the Infrastructure Planning (Changes to, Revocation of, Development Consent Orders) Regulations 2011.

1.2 PLANNING BACKGROUND

1.2.1 On 29 October 2014, the Applicant was granted the DCO for development of a new quay and associated development at Killingholme in North Lincolnshire on the south bank of the Humber estuary.

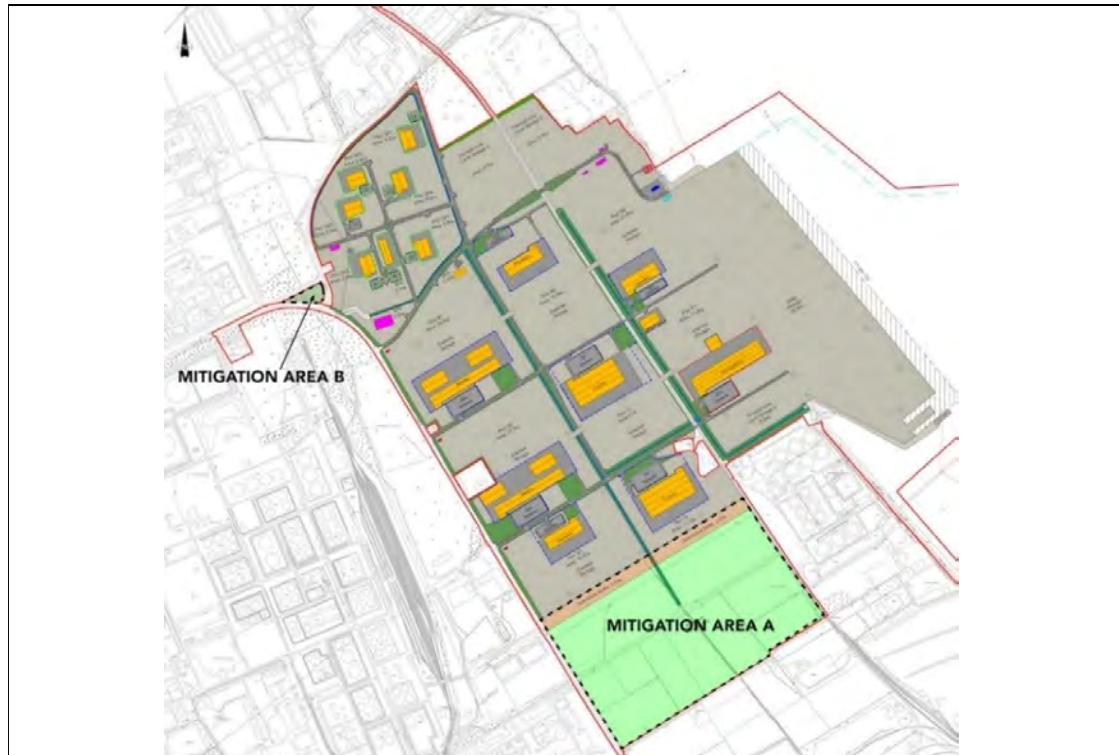
1.2.2 The DCO included approval of the siting of two ecological mitigation areas. These were identified in the application documents as Mitigation Area A and Mitigation Area B refer to Figure 1.1 below. In addition, when granting the DCO, the Secretary of State (SoS) required the Applicant to provide grassland at Halton Marshes (outside of the Order Limits) as part of a package of compensation measures for Black-Tailed Godwits. This is referred to as the 'Over Compensation'.

1.2.3 Mitigation Area A comprises a 16.7 ha core (undisturbed) area of wet grassland habitat surrounded by a 150m wide buffer strip (offering protection from disturbance for the core area). Area A is needed to provide wet grassland habitat for the use of feeding and roosting waders, and also breeding birds. Mitigation Area B comprises a plot of 0.7 ha, adjacent to the Chase Hill Wood local wildlife site, identified as mitigation to complement the local wildlife site for the use of Great Crested Newts, including the provision of new ponds. Both areas were provided for within the Order Limits of the DCO.

1.2.4 In the DCO Decision letter dated 18 December 2013, the SoS (at paragraph 37) left the details of the exact proposals for the Over Compensation to be agreed by Natural England through their approval of a Compensation Environmental Management and Monitoring Plan. Following approval by Natural England, the Over Compensation is to be provided at Halton Marshes (see Figure 1.2) within an area consented for habitat creation by North Lincolnshire Council. This site lies outside of the Order Limits but the land is owned by the Applicant.

1.2.5 Mitigation Area B is not affected by this application and has now been built and is supporting the translocated colony of GCNs.

1.2.6 In addition to obtaining permission to construct the Able Marine Energy Park under the DCO, the Applicant has separately secured planning permission from North Lincolnshire Council to construct Able Logistics Park (ALP), planning reference PA/2015/1264. In accordance with the conditions accompanying the decision (in particular condition 49) a core area comprising up to 32ha of wetland mitigation (suitably buffered) was to be created on Halton Marshes to mitigate the impact of the ALP development on the bird assemblage of the Humber Estuary Special Protection Area (SPA). Some of this wetland mitigation may be provided off site, however at least 12ha of core area, must be provided on Halton Marshes.



**Figure 1.1 – The Consented Mitigation Sites – the red line indicates the Order limits
(Area A comprises 16.7ha core of ecological habitat with 150m buffer strips, total area 52.3ha)**

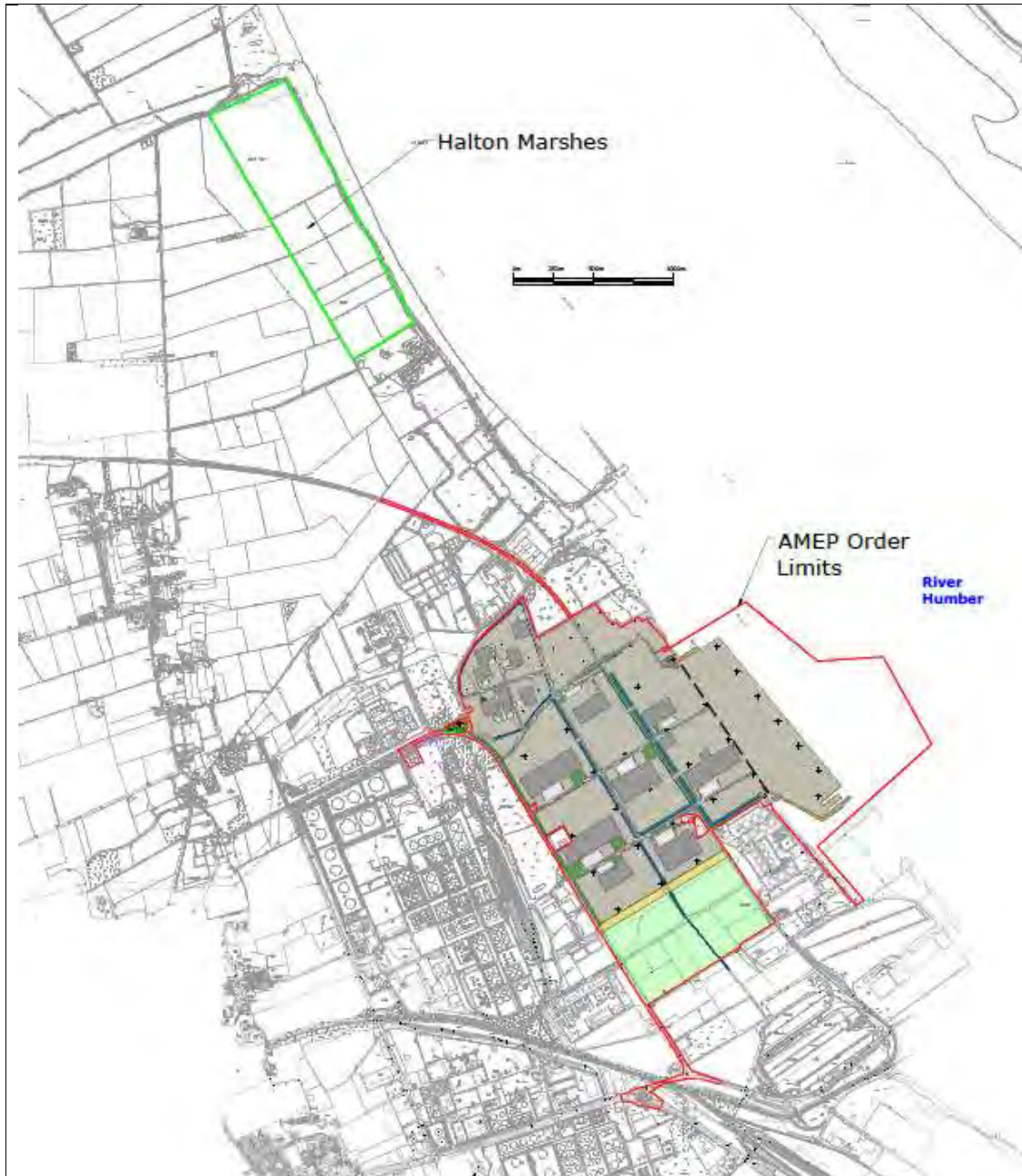



Figure 1.2 – Location of Halton Marshes in relation to AMEP

	ABLE MARINE ENERGY PARK APPLICATION FOR A NON-MATERIAL CHANGE	NOV 2020
---	--	-----------------

1.3 APPLICATION FOR NON-MATERIAL CHANGE

- 1.3.1 The principal purpose of the application for the non-material change (NMC) is to re-site Area A to Halton Marshes in order to co-locate the following three areas of ecological mitigation that the Applicant is under an obligation to provide under the DCO and planning permission PA/2015/1264:
- A core area of 16.7 ha to replicate that in Area A, as part of the DCO;
 - The area of Over Compensation, as part of the DCO; and
 - A core area of 12 ha, being part of the core area of 32 ha of wetland required by the ALP planning permission.
- 1.3.2 On 8 May 2017, North Lincolnshire Council granted planning permission (planning reference PA/2016/649) for the development of 52ha of core ecological habitat at Halton Marshes to include the areas described above. The total core area of 52ha includes 3.3ha that is needed to fully offset the loss of all functionally linked land at Killingholme Marshes (in addition to the 16.7ha to mitigate for the impact of AMEP). This is in accordance with North Lincolnshire Council's '*Housing and Employment Land Allocations Development Plan Document*', refer to Policy SHBE-1, paragraph 4.35, access link below:
- http://m.northlincs.gov.uk/public/planningreports/HEDPD_Adoption_2016/Housing%20Employment%20Land%20Allocations%20DPD.pdf
- 1.3.3 This habitat creation site is known as Halton Marshes wet grassland, or, adopting the acronym, HMWG. Construction of the habitat is complete and, for the avoidance of doubt, approval of the NMC will not cause to be consented any new physical disturbance of the environment.
- 1.3.4 The details of how the ecological mitigation would be provided at HMWG are more particularly shown in Figure 1.3 below.
- 1.3.5 As HMWG is outside of the Order Limits the re-siting cannot be approved by the local planning authority under the DCO requirements and therefore an amendment is needed to the DCO itself. As such, an application is required to the SoS to consent to amendments to the DCO.

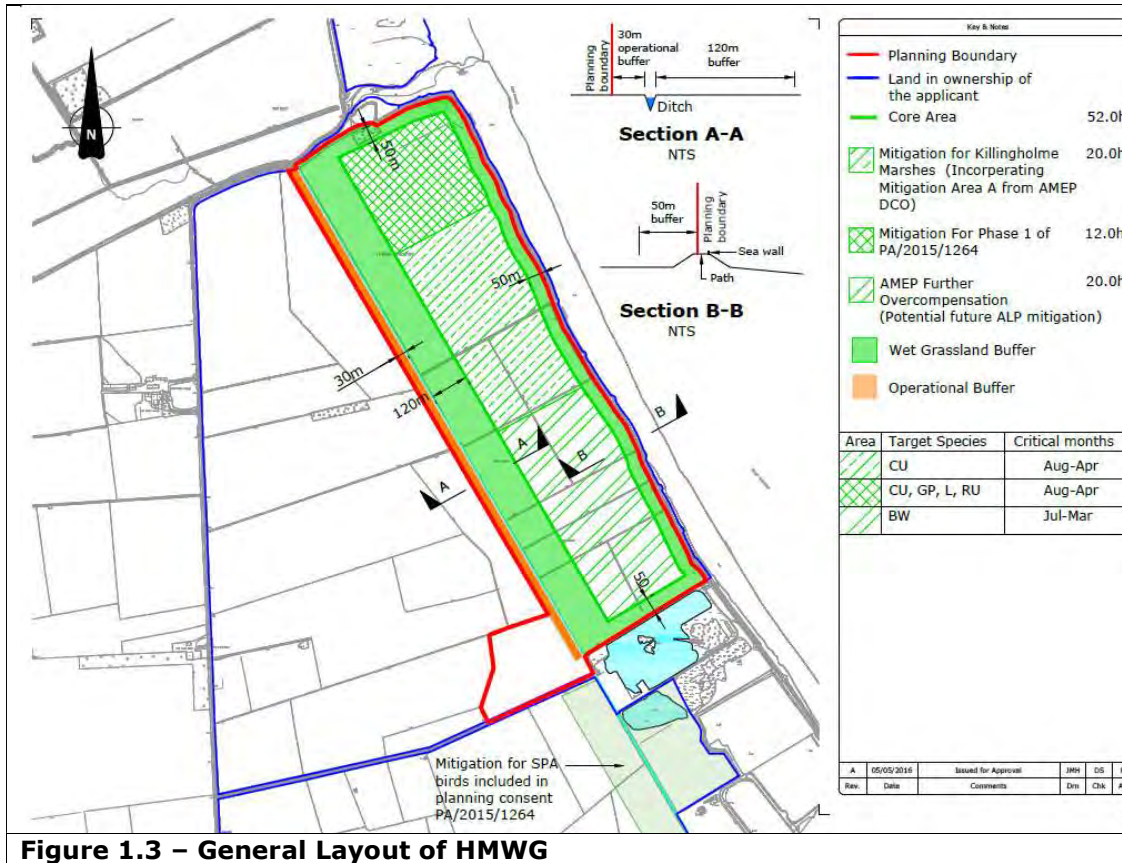


Figure 1.3 – General Layout of HMWG

1.4 THE FUNCTIONAL REQUIREMENTS OF AREA A

1.4.1 The particular functions of Area A are detailed on the approved DCO application drawing AME-02007-A, which states that:

'Area A will provide habitat for mitigation for wintering waders, e.g. curlew, the loss of Station Road Local Wildlife Site, bats and breeding birds.

The primary focus of Area A will be the creation and enhancement of wet grassland for wintering waders however measures to enhance the habitat for other species will also be taken.

Habitat creation, enhancement and restoration measures:


- *arable fields converted to grassland;*
- *wader scrapes that are shallow and variable depth, at least 100m from field boundaries;*
- *selected existing hedgerows will be removed to create an open aspect for wintering birds;*
- *foraging habitat for bats, low shrub/scrub will be located around the margins;*
- *1.7ha (at least) of neutral grassland to mitigate for loss of Station Road Local Wildlife Site;*



**ABLE MARINE ENERGY PARK
APPLICATION FOR A NON-MATERIAL CHANGE**

NOV 2020

- *tussocky swards will be encouraged which provide habitat for nesting Skylarks and Meadow Pipit, and*
- *Clearance of surrounding vegetation where it is resulting in over-shading, vegetation surrounding the water which provides cover from predators (eg rough grassland) and food for water voles will be encouraged'.*

	ABLE MARINE ENERGY PARK APPLICATION FOR A NON-MATERIAL CHANGE	NOV 2020
---	--	-----------------

2 PROPOSED CHANGE


2.1 REASONS FOR THE PROPOSED CHANGE

2.1.1 The principal factors driving the proposed non-material change can be summarised as follows:

- **Optimisation of Disparate Mitigation and Compensation Measures**
 - The Applicant has to provide ecological habitat in accordance with the approved application drawings listed in the DCO, and under its planning conditions for the ALP.
 - Under the DCO, mitigation is to be provided in part within Area A, which is to provide a core area of 16.7ha of wet grassland habitat. In granting the DCO the Secretary of State also required the Applicant to provide the Over Compensation habitat for Black Tailed Godwits (BTGs) at Halton Marsh.
 - As explained above, the Applicant also has approval for the development of ALP and a further 32ha of core ecological mitigation is required to mitigate for the impact of ALP on SPA birds, of which a minimum 12ha is required to be provided at Halton Marshes.
 - The Applicant, in considering its obligations to provide ecological mitigation for both the Able Marine Energy Park and ALP considered whether there would be benefits to providing a single large core area of 52ha, amalgamating the requirements of these schemes. The Applicant considered that relocating Area A to within Halton Marshes would offer the same benefits to those assessed as part of the environmental assessment for the DCO but could also offer a more attractive habitat for species overall than three individual and smaller parcels of land. In discussions with NLC and Natural England this approach was supported.
- **Optimisation of land for Economic Development**
 - If mitigation was to be provided as three separate areas then the land required to buffer the required core areas is significantly greater than if the core areas were combined. By combining the three core areas, a greater amount of land is available for future economic development.

2.2 THE PROPOSED AMENDMENT

- 2.2.1 The Applicant seeks to re-site Area A from within the Order Limits to Halton Marshes in accordance with the HMWG planning approval and therefore change the certified drawings that accompany the DCO and introduce a new drawing.
- 2.2.2 The definition of the Order limits is to be varied so that the parcel of land currently allocated as Mitigation Area cannot be developed pursuant to the DCO.
- 2.2.3 The changes to the certified DCO drawings for which the Applicant seeks approval are summarised in Table 2.1 below.

	ABLE MARINE ENERGY PARK APPLICATION FOR A NON-MATERIAL CHANGE	NOV 2020
---	--	-----------------

Drawing No.	Brief Description of Change
AME-02006 E	Mitigation Area A and associated Operational Buffer are deleted <i>in-toto</i> . Co-ordinates are added that relate to the re-definition of the Order Limits
AME-02007 C	Original references to Mitigation Area A and associated Operational Buffer deleted
AME-02008 B	Mitigation Area A and associated Operational Buffer deleted <i>in-toto</i> .
AME-02010 B	Mitigation Area A and associated Operational Buffer deleted <i>in-toto</i>
ALP-002-00011 D	New Drawing: Halton Marshes Wet Grassland Layout Core Areas and Buffers – As Built

Table 2.1: Summary of Changes to the DCO Drawings

- 2.2.4 The Applicant submits with this application revised drawings to re-site Mitigation Area A to HMWG.
- 2.2.5 The re-sited Area A will replicate the functional requirements repeated in paragraph 1.4.1 above.

3 SUPPORTING ENVIRONMENTAL INFORMATION

3.1 GENERAL

3.1.1 This review of the original Environmental Statement (ES) considers whether the NMC could result in any new or materially different, likely significant effects on the environment, either alone or in-combination with other projects.

3.1.2 The DCO application was submitted to the then Infrastructure Planning Commission with an accompanying Environmental Statement on 18 December 2011. Further environmental information was issued during the examination so that the final ES actually comprises a suite of documents, all of which are listed in schedule 11, paragraph 1 of the DCO. All documents are available from the Planning Inspectorate website¹.

3.1.3 The change to the development of AMEP is the change from developing wet grassland at Area A to leaving Area A in agricultural use. The wet grassland mitigation consented at Area A is now proposed to be provided at HMWG in line with the draft Terrestrial Environmental Management and Monitoring Plan (TEMMP) at Appendix F. The Draft TEMMP is agreed in principle with NE (letter from NE to PINS dated 13 December 2020). However, as this development forms part of another consent, the beneficial impact of that development will be considered at the cumulative stage of the assessment. Thus, the following approach has been taken:

- the conclusions of the original ES for the project alone are first assessed in the light of the change. Where, alone, the NMC results in no change at all to the original assessment of a component, then no further cumulative impact is required as the original cumulative impact would remain valid and taken as the baseline for all subsequent EIA development;
- where any conclusions of the original ES for the project alone are no longer certain, then the NMC is considered in combination with other projects relevant to the change. Because of the geographical location of Halton Marshes, because it has been built and because the only risk now, in combination with other projects relates to its potential disturbance, only three other developments are relevant to the NMC. These are: HMWGS which is designed to negate the impacts of the NMC; ALP which has the potential to disturb species on, or displace them from, HMWG, and North Killingholme Power Project (NKPP) which is yet to be constructed (SI/2014/3331). NKPP has not been implemented and its consent is about to expire. It has recently applied for a non-material change to extend the timeframe by which the authorised development may commence up until 1 October 2026. The location of these projects is shown in Figure 3.1.
- Where either the alone or in-combination assessment is able to conclude no change to the original assessment, then there is no material change to the component assessed.

3.1.4 If further development is proposed for Area A in the future it will need its own planning consent where the environmental impacts of the precise development proposed at that time will be assessed as required at that time.

¹ <https://infrastructure.planninginspectorate.gov.uk/projects/yorkshire-and-the-humber/able-marine-energy-park/>

3.2 REVIEW OF THE AMEP ENVIRONMENTAL STATEMENT

- 3.2.1 The ES that accompanied the DCO application was written by a team of relevant experts that were co-ordinated by Able UK Ltd. The ES was presented in two volumes: Volume 1 reported on the development of AMEP on the south bank of the Humber estuary, whilst Volume 2 reported on the development of the compensatory measures on the north bank.
- 3.2.2 Table 3.1 provides a proportionate review of the original ES and whether the NMC gives rise to:
- (a) new significant effects that were not identified in the ES for the authorised project; or
 - (b) materially different effects (positive or negative) when compared to the effects set out in the ES for the authorised project.
- 3.2.3 Table 3.1 demonstrates that the change arising from not developing Area A will not be materially different to that described in the original ES prepared for the DCO.
- 3.2.4 The Applicant has also considered whether the proposed change would constitute 'EIA Development' for the purposes of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017. The changes do not constitute either Schedule 1 development or Schedule 2 development. Paragraph 13 of Schedule 2 provides that a change or extension to a Schedule 1 development which has already been authorised will be Schedule 2 development only if "*the change or extension may have significant adverse effects on the environment*". In considering whether or not that is likely, the changes are not to be assessed in isolation. They fall to be considered by looking at the overall effect of the proposed change on the project, and identifying whether the whole project, as modified, has or is likely to have other significant effects which need to be taken into account (i.e. significant effects which were not identified in the original assessment) (*R (Baker) v. Bath and North East Somerset Council [2009] EWHC 595 (Admin) at paragraphs 22-23 and 44-45*).
- 3.2.5 The Applicant, with input from ERM, who prepared Volume 1 of the ES that accompanied the original DCO application, has considered the environmental issues which were previously reported in that ES. Further specialist input has been provided by Dr Steve Percival of Ecology Consulting.
- 3.2.6 The 2017 EIA regulations introduced new environmental assessments (human health, climate change and major accidents or disasters). Human health was considered in the DCO ES and is reviewed in Table 3.1 whilst the significance of the other new issues are also considered .

TABLE 3.1: Summary of Environmental Impacts	
ES Chapter	Materiality of the NMC on the EIA undertaken for the approved DCO, and reasoning.
7 Geology, Hydrogeology and Ground Conditions	<p>No material change.</p> <p>The proposed development of Area A included taking it out of agricultural use, removal of hedges, perimeter planting and the creation of scrapes. These works were not identified in the ES to be of any significance to this component and no mitigation was proposed that was relevant to Area A. As mitigation Area A will remain in agricultural use, there will be no change to the existing baseline environment and no impact on geology or hydrogeology.</p> <p>The NMC will not change the residual impacts reported in the original ES and there is no consequential loss of benefit to this component from the project.</p> <p>The conclusions of the original ES remain valid and unchanged.</p> <p>In the absence of any different impact of the change alone, there can be no impact in-combination with other development.</p>
8 Hydrodynamic and Sedimentary Regime	<p>No material change.</p> <p>The mathematical model used to assess the impacts of this component is bounded by the river lines, so no change to any terrestrial details has any effect on this assessment at all. Only physical changes to works in the river could impact this assessment. There is therefore no change to the original assessment.</p> <p>The NMC will not change the residual impacts reported in the original ES and there is no consequential loss of benefit to this component from the project.</p> <p>The conclusions of the original ES remain valid and unchanged.</p> <p>In the absence of any different impact of the change alone, there can be no impact in-combination with other development</p>

TABLE 3.1: Summary of Environmental Impacts

ES Chapter	Materiality of the NMC on the EIA undertaken for the approved DCO, and reasoning.
<p>9</p> <p>Water and Sediment Quality</p>	<p>No material change.</p> <p>The impact of works in Area A were not identified in the original ES to be of any significance in themselves in relation to this component. Minor impacts could have arisen during construction and operation due to plant operating within Area A, but these impacts will remain from activities over the rest of the site.</p> <p>The NMC will not change the residual impacts reported in the original ES and there is no consequential loss of benefit to this component from the project.</p> <p>The conclusions of the original ES remain valid and unchanged.</p> <p>In the absence of any different impact alone, there can be no impact in-combination with other development</p>
<p>10</p> <p>Aquatic Ecology</p>	<p>No material change.</p> <p>Direct and indirect construction impacts were identified to a number of aquatic receptors as a result of dredging, quay construction and construction run-off (ES paragraphs 10.6.2 <i>et seq</i>). Operational impacts were predicted arising from: the physical presence of the quay; increase vessel presence; maintenance dredging and discharges from vessels and the quay. Not developing Area A will have trivial change to construction run-off and therefore have no bearing on the assessment of impacts.</p> <p>The NMC will not change the residual impacts reported in the original ES and there is no consequential loss of benefit to this component from the project.</p> <p>The conclusions of the original ES remain valid and unchanged.</p> <p>In the absence of any different impact of the change alone, there can be no impact in-combination with other development</p>

<p>11</p> <p>Ecology and Nature Conservation</p>	<p>Water Vole – The original ES predicted no residual impact on water vole after mitigation (ES paragraph 11.8.8). Mitigation was detailed in EX11.27A of the ES and is based on developing improved habitat in the new surface water ditch system to be created to accommodate the increased run-off from the development. The proposed mitigation does not rely on any benefit from creating wet grassland at Area A. The NMC will not change the residual impacts.</p> <p>In the absence of any different impact of the change alone, there can be no impact in-combination with other development</p> <p>Great Crested Newts (GCNs) – The original ES predicted no residual impact on GCNs subject to their capture and relocation to Mitigation Area B. This relocation has now been completed under License and the ephemeral water bodies that used to support this species on the AMEP site have been removed. The NMC will not change the residual impacts and there is no consequential loss of benefit to the GCN who did not benefit from Area A in any event.</p> <p>The conclusions of the original ES remain valid and unchanged.</p> <p>In the absence of any different impact of the change alone, there can be no impact in-combination with other development.</p> <p>Bats – The original ES reported that there was not a significant population of bats utilising the AMEP site (paragraph 11.5.123). This was attributed to the fact that the site is very exposed and devoid of habitats that generate large quantities of insect food that would make the habitat attractive to bats. The exceptions to this were areas of open water, notably the ditch network, the lagoons (North KILLINGHOLME Haven Pits and Rosper Road Pools) and some woodland habitat (ES Annex 11.3, paragraph 4.4.1). The ES reported that, <i>'In the absence of roosts however and with only low levels of activity within the site boundary, impacts on bats are unlikely to be significant, although some temporary loss of foraging area and disruption to commuting routes'</i>, (Chapter 11, paragraph 11.6.61).</p> <p>The Statement of Common Ground (SoCG) between the Applicant and Natural England recorded agreement that there was a low likelihood of bats roosting on the development site (SoCG paragraph 16.4.10). The SoCG also recorded agreement that the landscape masterplan (Drawing AME-02007) would enhance opportunities for bat foraging.</p> <p>ES Document EX 20.3 detailed the mitigation for bats and that shows no dependency on Mitigation Area A, the principal benefit was from the surface water drainage ditches, see abstract below.</p>
--	--



Proposed Bat Corridors



Proposed Bat Foraging Areas

Green corridors across the site will be retained and enhanced to encourage commuting and foraging bats, especially between NKHP, Burkinshaw's Covert, Area A and Rosper Road Pools. New corridors will also be created within the main site and around the margins of Mitigation Area A. The provision of trees will also provide roosting opportunities for bats in the long term as mature trees decay.

The planting will include new tree belts, avenues of trees, hedgerows, realigned ditches and provision of new rough grassland strips.



Ecology/Landscape Detail Sheet No 3B – Bats
Proposed Mitigation



There is more recent evidence of bat activity within Area A as it is now, in agricultural use (SLR 2016, Appendix G), thus demonstrating that bats still benefit from the existing agricultural landscape of Area A. The 2016 survey recorded five species of bat to be using Area A alone:

- Common pipistrelle;
- Soprano pipistrelle;
- Noctule;
- Noctule/Leisler's; and
- Myotis sp.

This is the same as in the baseline surveys for the ES and within the target number for species diversity quoted in the approved TEMMP. Not developing Area A will leave the area untouched and this foraging area will remain and there will be no impact on the present use of the site.

A range of bat species can be expected to continue to forage over Area A even without its development as wet grassland. The conclusions of the original ES remain valid and unchanged.

In the absence of any different impact of the change alone, there can be no impact in-combination with other development.

Badger – The original ES screened badgers out of any impact assessment as none were present (ES paragraph 11.6.1). The SoCG recorded NE agreement that an existing management plan for Burkinshaw’s Covert was sufficient to prevent any impact on the local badger population.

The majority of the site is now developed pursuant to planning permissions PA/2013/0519 and PA/2014/0512, making it even less attractive to badgers than it was at the time of the original ES.

The agricultural land within Area A will remain in any event.

The conclusions of the original ES remain valid and unchanged.

SPA Wintering Waterbird Assemblage – The original ES identified a significant residual impact on the SPA assemblage using the Killingholme Marshes foreshore and proposed compensation at Cherry Cobb Sands. Further, subject to the provision of Mitigation Area A and B, the ES predicted no significant residual impact associated with the loss of terrestrial habitat. Given the Area A will not now be enhanced in the way anticipated then then the SPA assemblage will lose that benefit and so that conclusion is no longer valid for the project alone. The project should be considered in-combination with other developments, namely HMWG (PA/2016/649) and ALP (ALP/2015/1264) and North Killingholme Power Project (NKPP) SI 2014/3331.

The wet grassland habitat created at the HMWG site provides the enhanced habitat for assemblage species (principally curlew) that was originally planned for Mitigation Area A (as well as enhanced foraging habitat for marsh harrier).

In Combination Assessment

HMWG has been constructed to provide wet grassland for the SPA assemblage in accordance with the South Humber Gateway Mitigation Strategy. The HRA undertaken by NLC concludes that the habitat will offset the loss of FLL on Killingholme Marsh (Appendix C).

Whilst ALP has the potential to disturb species on Halton Marshes, that impact is mitigated by conditions on the planning permission, namely Conditions 47, 48, 50 and 51. All of these conditions have been discharged.

Whilst NKPP which has the potential to disturb species on Halton Marshes, appropriate mitigation measures to avoid disturbance to protected species are embedded in its consent

(<https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010038/EN010038-001989-Environmental%20Report.pdf> , Table 5.2).

The conclusions of the original ES remain valid, namely that the loss of FLL on Killingholme Marsh will be fully mitigated by a habitat creation scheme proximate to the loss, albeit that the scheme is now outside the Order Limits.

Breeding birds – A breeding bird survey from 2011 is included in the original ES, at Annex 11.10. The original ES predicted a permanent negative impact of the development on breeding birds as nesting opportunities would be lost (ES paragraph 11.8.8). EX 11.16 updated the assessment of impacts on breeding birds absent any mitigation at all (i.e. ignoring any benefit from Area A) and concluded:

'The assessment update did not identify any effects on breeding birds from the AMEP development that would be considered significant, supporting the conclusions presented in the ES', (EX11.16, paragraph 34).

Subsequently EX 11.27A reviewed the benefits of proposed mitigation in detail. In EX11.27A Table 2, Area A was reported to partially mitigate for the permanent negative impact on breeding Lapwing, Skylark, Whitethroat and fully mitigate for the impacts on Yellow Wagtail.

Regarding Lapwing within the DCO boundary, the highest breeding densities were found on a temporary gravel area that has since been lost following development pursuant to planning permission PA/2006/0039 (EX 11.16, Figure 4). All but three of the other nesting sites are located either on agricultural land within Area A or on land to the south of Marsh Lane. Both areas will remain as existing, and the NMC will have no measurable change in impact for this species; a permanent negative impact will remain. Additionally, lapwing will benefit from the wet grassland habitat created at the HMWG site, which provides them with enhanced breeding habitat.

Regarding Skylark within the DCO boundary, these were widely distributed over the arable and grassland habitats, and also on a gravel area that has since been developed pursuant to planning permission PA/2006/0039 (EX 11.16 Figure 5). A large proportion of their nesting sites were also located in areas now developed pursuant to planning permissions PA/2013/0519 and PA/2014/0512, so no loss in those areas will be consequential to the NMC. EX11.27A reported that the creation of wet grassland within Mitigation Area A *'may assist'* mitigation of predicted losses. A large number of nesting sites were located on agricultural land within Area A demonstrating that the habitat is already suitable for Skylark and the NMC will have no measurable change in impact for this species; a permanent negative impact will remain however. Additionally, skylark will benefit from the wet grassland habitat created at the HMWG site, which provides them with enhanced breeding habitat.

TABLE 3.1: Summary of Environmental Impacts

ES Chapter	Materiality of the NMC on the EIA undertaken for the approved DCO, and reasoning.
	<p>Regarding Whitethroat, these were found to be abundant across most of the AMEP site, associated mainly with hedgerow and scrub habitats (EX11.16 Figure 18). Most breeding sites were on land that has now been developed in any event pursuant to those consents noted above. Several breeding sites are recorded on the existing agricultural land within Area A and to the south of Marsh Lane, demonstrating the current suitability of the habitat for this species. A permanent negative impact will remain however.</p> <p>Regarding Yellow Wagtail, there were only 9 nesting sites recorded and these were largely restricted to the western part of the arable/grassland habitats (EX11.17 Figure 6). Around half of the nesting sites are already lost pursuant to the implementation of planning permissions noted above, the remainder are within Area A or in close proximity. EX 11.16 reported the unmitigated loss of 6 nesting sites for this species to be of negligible significance. Additionally, yellow wagtail will benefit from the wet grassland habitat created at the HMWG site, which provides them with enhanced breeding habitat and will fully mitigate the losses resulting from the AMEP development.</p> <p>Overall, a permanent negative impact on breeding birds will remain but will not be significant, so the conclusions of the ES remain valid.</p> <p>Marsh Harrier– marsh harriers were recorded breeding adjacent to the AMEP site during the ES baseline surveys and occasionally foraged over that site (including the Mitigation Area A). With the breeding site buffered from disturbance, the ES concluded no significant effect on this species, and that remains the case. Mitigation Area A will remain as agricultural land (and hence be available to the harriers for foraging). The wet grassland created at HMWG site will provide this species with enhanced foraging that will fully mitigate any loss from resulting from the AMEP development. Any potential in-combination disturbance effects from the ALP or NKPP projects will be mitigated through approved planning conditions.</p> <p>Reptiles: no reptiles have been found on the site, so the NMC is not relevant to this group.</p>

TABLE 3.1: Summary of Environmental Impacts

ES Chapter	Materiality of the NMC on the EIA undertaken for the approved DCO, and reasoning.
12 Commercial Fisheries	<p>No material change.</p> <p>The principal residual impact on this component is reported to be permanent intertidal and subtidal habitat loss under the footprint of the reclamation area and disturbances to habitats during dredging or consequential to an altered sedimentary regime, (ES Section 12.8).</p> <p>The NMC will not change the residual impacts reported in the original ES and there is no consequential loss of benefit to this component from the project.</p> <p>The conclusions of the original ES remain valid and unchanged.</p> <p>In the absence of any different impact of the change alone, there can be no impact in-combination with other development.</p>
13 Drainage and Flood Risk	<p>No material change.</p> <p>The residual impacts of this component are flood risk due to overtopping, failure of the surface water pumping station, failure of foul water pumping stations and the accidental release of pollutants (ES Section 13.8).</p> <p>The NMC will not change the residual impacts reported in the original ES and there is no consequential loss of benefit to this component from the project.</p> <p>The conclusions of the original ES remain valid and unchanged.</p> <p>In the absence of any different impact of the change alone, there can be no impact in-combination with other development.</p>
14 Navigation	<p>No material change.</p> <p>The residual impacts of this component are set out in a navigational risk log at Annex 14.2 of the ES. Plainly however there is no navigational risk arising from either the development of Area A as wet grassland or leaving it in agricultural use.</p> <p>The NMC will not change the residual impacts reported in the original ES and there is no consequential loss of benefit to this component from the project.</p> <p>In the absence of any impact of the change alone, there can be no impact in-combination with other development.</p>

TABLE 3.1: Summary of Environmental Impacts

ES Chapter	Materiality of the NMC on the EIA undertaken for the approved DCO, and reasoning.
15 Traffic and Transport Assessment	<p>No material change.</p> <p>There were no residual impacts reported in the original ES on the local or strategic highway network (ES Section 15.9).</p> <p>The NMC will not change the residual impacts reported in the original ES and there is no consequential loss of benefit to this component from the project.</p> <p>In the absence of any different impact of the change alone, there can be no impact in-combination with other development.</p>
16 Noise and Vibration	<p>No material change.</p> <p>The original ES predicted minor residual impacts on residential receptors on the north bank during construction of the compensation site. Construction impacts on the south side of the Humber were predicted to be negligible (ES Section 16.8).</p> <p>The NMC will not change the residual impacts; there will be no construction of the scrapes etc. or noise from the operation and maintenance of the wet grassland at Area A, but these are trivial considerations, and there is no consequential loss of benefit to the project.</p> <p>The conclusions of the original ES remain valid and unchanged.</p> <p>In the absence of any different impact of the change alone, there can be no impact in-combination with other development.</p>
17 Air Quality	<p>No material change.</p> <p>The residual impacts of the development on air quality were originally reported as insignificant during construction and operational phases as insignificant (ES Section 17.8).</p> <p>The NMC will not change the air quality impacts; there will be no construction of the scrapes etc. and no activity to maintain the wet grassland at Area A but these are trivial considerations.</p> <p>There will be no change to the air quality at any of the sensitive receptors and the conclusions of the original ES remain valid and unchanged</p> <p>In the absence of any different impact of the change alone, there can be no impact in-combination with other development.</p>

TABLE 3.1: Summary of Environmental Impacts

ES Chapter	Materiality of the NMC on the EIA undertaken for the approved DCO, and reasoning.
18 Historic Environment	<p>No material change.</p> <p>The ES identified no residual impacts to this component (ES Section 18.8).</p> <p>The NMC will not change the residual impacts reported in the original ES and there is no consequential loss of benefit to this component from the project.</p> <p>The conclusions of the original ES remain valid and unchanged.</p> <p>In the absence of any different impact of the change alone, there can be no impact in-combination with other development.</p>
19 Light	<p>No material change.</p> <p>The original ES identified a moderate significant impact on Hazeldene, Marsh Lane, due to the proximity of the receptor to the development, the tall lighting columns (50m) and the absence of screening (ES Section 19.8).</p> <p>There was no lighting within Area A and the NMC does not change the lighting proposals at all so this impact will remain the same.</p> <p>In the absence of any different impact of the change alone, there can be no impact in-combination with other development.</p>


<p>20</p> <p>Landscape and Visual</p>	<p>No material change.</p> <p>The Examiner's Report, '<i>Panel's Findings and Recommendations to the Secretary of State</i>' (24 February 2013) recorded that:</p> <p><i>'Landscape and visual impacts [NPSP 5.11] have not been a major issue in the examination. The main development site is in an industrial landscape, with a background (from the river) primarily of a very large oil refinery', (underline added, paragraph 8.70).</i></p> <p>The original ES reported the residual impacts on views from Hazeldene, the nearest residential receptor, to be 'major' because '<i>some of the buildings associated with the core development areas will be clearly visible at short range. The buildings associated with the production of the wind turbine nacelles and towers will be visible together with external storage areas in the foreground</i>' (ES Table 20.18). The landscaping proposals for Area A did not mitigate this impact.</p> <p>This assessment was typical of other receptors because of the dominating presence of: tall structures on the quay; new buildings, and the very large components to be stored within the industrial area of the AMEP development. The visual impact of this development cannot be obscured by planting. However, the ES also notes that, '<i>whilst the scale of the proposal is large, it will be seen in close association with a heavily industrialised area in the vicinity of Immingham. From many locations, the AMEP will be visible in association with the Oil Refinery (and) Immingham Docks including the bulk coal import facility</i>', (paragraph 20.9.25). In other words, the area is already characterised by tall industrial structures such as the eight new silos for biomass storage constructed in 2013-15 and located close to the bulk coal import facility at the Port of Immingham. Each of these silos is 50m high and 36.5m in diameter and dominate the skyline, see below.</p>  <p>The NMC will not change the assessment of the landscape impacts as no tall planting was proposed in Area A because tall planting cannot mitigate the impact. Accordingly, Area A would have remained essentially as it is now, a low-lying expanse of land that is visually very open.</p>
---------------------------------------	---

TABLE 3.1: Summary of Environmental Impacts

ES Chapter	Materiality of the NMC on the EIA undertaken for the approved DCO, and reasoning.
	In the absence of any different impact of the change alone, there can be no impact in-combination with other development.
21 Socio-Economic	<p>No material change.</p> <p>The original ES reported residual impacts of the development to be: a negative impact associated with a sudden influx of workers; an increase in the economically active population; increased activity for local businesses and opportunities for education and research organisations (ES Section 21.8).</p> <p>The NMC will not change the assessment as the level of work associated from construction of Area A is trivial and <i>de minimis</i> in the context of the project as a whole.</p> <p>In the absence of any different impact of the change alone, there can be no impact in-combination with other development.</p>
22 Aviation	<p>No material change</p> <p>The original ES reported the residual impact to aviation to be low following the provision of warning lights on tall structures. (ES Section 22.8)</p> <p>The NMC will not change the residual impacts reported in the original ES and there is no consequential loss of benefit to this component from the project.</p> <p>In the absence of any different impact of the change alone, there can be no impact in-combination with other development.</p>
23 Waste	<p>No material change.</p> <p>The original ES reported the residual impacts of waste generated by the development to be '<i>potentially insignificant</i>', (ES Section 23.8).</p> <p>The NMC will not change the assessment as waste arising from Area A would have been trivial in the context of the project as a whole and will now be nothing at all.</p> <p>In the absence of any different impact of the change alone, there can be no impact in-combination with other development.</p>

TABLE 3.1: Summary of Environmental Impacts	
ES Chapter	Materiality of the NMC on the EIA undertaken for the approved DCO, and reasoning.
24 Health	<p>No material change.</p> <p>The original ES reported residual impacts on health to be: increased positive impact from employment and procurement and a negative impact from road traffic accidents.</p> <p>The NMC will not change the assessment as employment and traffic generated by Area A would have been trivial in the context of the project as a whole and will now be nothing at all.</p> <p>In the absence of any different impact of the change alone, there can be no impact in-combination with other development.</p>

TABLE 3.1: Summary of Environmental Impacts

ES Chapter	Materiality of the NMC on the EIA undertaken for the approved DCO, and reasoning.
Climate Change	<p>The permitted purposes of the AMEP project are very restricted and amount to the provision of a quay for the embarkation and disembarkation of items associated with the offshore renewable energy business (Schedule 11 paragraph 4(1)), and the provision of onshore facilities for the manufacture, assembly and storage of components and parts for the same business (Schedule 11 paragraph 4(2)). In this respect, the sole purpose of the project is to address the impacts of climate change by facilitating the transition to a zero-carbon target for energy generation.</p> <p>The impact of climate change was assessed in component parts of the original ES</p> <p>The original ES included an assessment of the carbon footprint of alternative solutions and demonstrated AMEP had the lowest footprint of the solutions considered., (ES Appendix 6.2)</p> <p>The Flood risk assessments considered the impacts of 100 years of climate change (ES Appendices 13.1 and 36.1) and the surface water drainage strategy for the site, incorporating an allowance for climate change, was approved by local planning authority on 5 August 2020, following consultation with the Environment Agency. The new flood defences at Cherry Cobb Sands have also been designed for 100 years of climate change.</p> <p>The compensation site has been designed so that the new embankment crest levels provide protection against a 1:200 years event following 100 years of climate change (ES Appendix 36.1)</p> <p>An allowance has been made in the size of the compensation site for long term geomorphological change (ES, EX 11.24)</p> <p>During the Examination the Applicant responded to the Examiner’s questions in relation to climate change, more specifically in relation to fuel efficiency and renewable energy².</p> <p>The NMC will not change the projects sensitivity to climate change as reported in the ES or change the impacts of the project on the climate.</p>

² https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030001/TR030001-001572-QU-003_TR030001_Response%20to%20first%20written%20questions%20by%20J%20Dawes%20on%20behalf%20of%20Able%20UK%20Ltd.pdf

TABLE 3.1: Summary of Environmental Impacts	
ES Chapter	Materiality of the NMC on the EIA undertaken for the approved DCO, and reasoning.
Major accidents and disasters	<p>Major accidents may give rise to serious injury to people or serious damage to the environment, both close to and further away from the site of the incident.</p> <p>During construction, all hazards are managed by adherence to a raft of health and safety legislation, including the CDM Regulations 2015 which require a principal designer and principal contractor to manage risks to health and safety throughout the project.</p> <p>The operation of the development does not fall under the COMAH Regulations 2015 and it is not considered that this component needs detailed consideration other than that already included in the ES, viz.</p> <p>Chapter 14 Navigation: risks to shipping are set in Appendix 14.2. Residual impacts are detailed in Section 14.9 and cumulative impacts are detailed in Section 14.10. Risks are principally controlled on a day to day basis by the Conservancy Authority</p> <p>Chapter 15 Drainage and Flood Risk: Flooding from the sea or land is the most probable natural disaster affecting the site. This is mitigated by Schedule 11 paragraph 13 and a Surface water Drainage Strategy for the site has already been approved by the local planning authority.</p> <p>Chapter 22 Aviation: risks to aircraft are mitigated by Schedule 11, paragraph 32.</p> <p>The NMC will not change the projects risk profile in relation to major accidents and disasters reported in the ES</p>

3.2.7 In conclusion, not developing Area A is not considered to give rise to any new significant effects that were not identified in the ES for the authorised project. Further, by leaving Area A undeveloped it is not considered to give rise to any materially different effects either during the construction or operation phases of AMEP, compared to those set out in the ES for the authorised project. There are no significant cumulative effects.

3.3 REVIEW OF LOCAL AMENITY

3.3.1 Residential and more generally, local amenity, is plainly an important consideration in the assessment of materiality. Amenity needs to be considered in the context of the area itself and its current baseline.

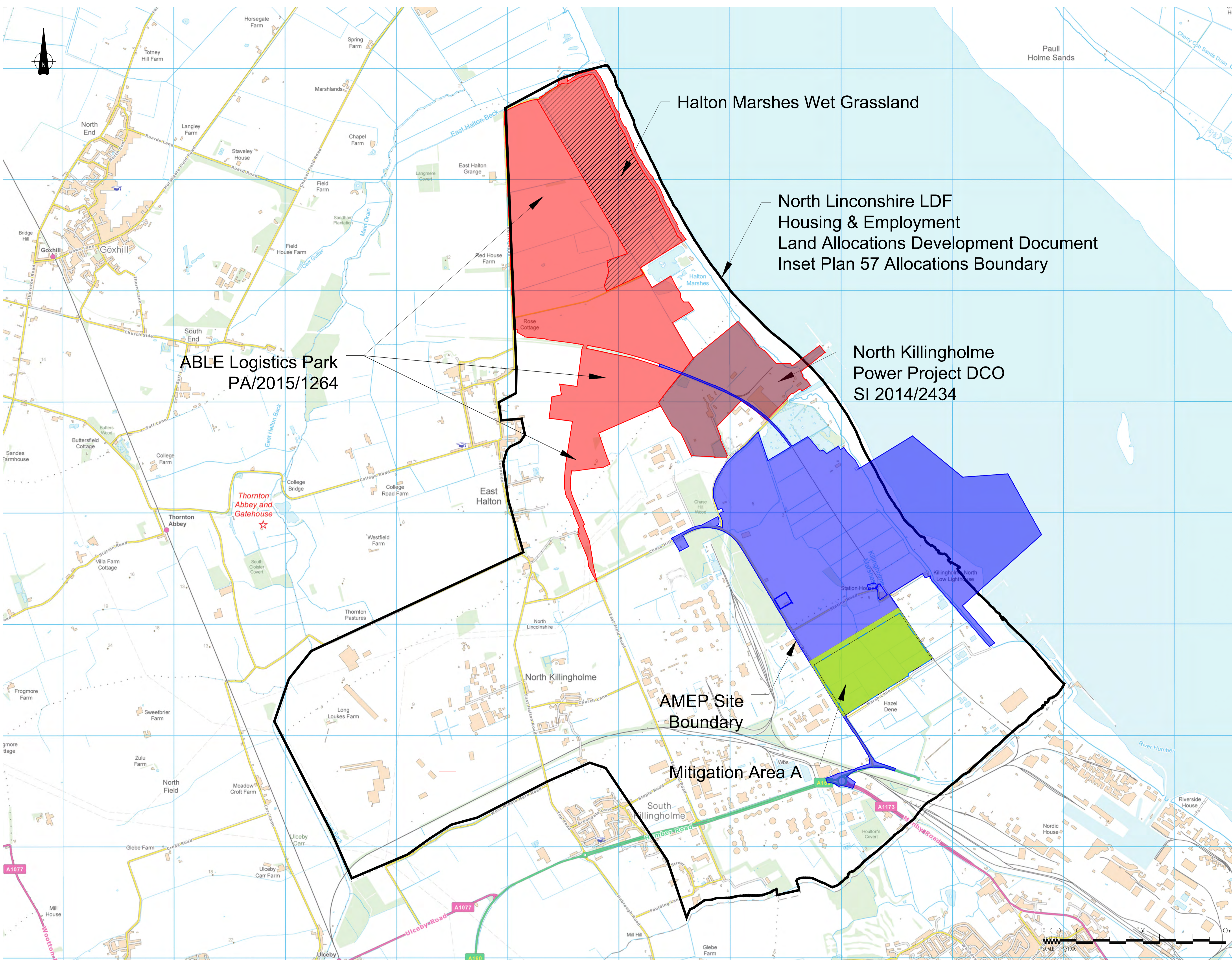
3.3.2 Local people will see no change in the environment as a consequence of the NMC being approved, or experience any change of amenity compared to that reported in the ES, because neither Mitigation Area A nor HMWG will be subject to any development consequential to the approval and there will be no material change to traffic, air quality, noise, health or any of the other matters that taken together



**ABLE MARINE ENERGY PARK
APPLICATION FOR A NON-MATERIAL CHANGE**

NOV 2020

measure the amenity of an area or particular location. In particular, because the landscape of AMEP will be dominated by very tall structures, the low planting proposed around Mitigation Area A provided no screening benefit, so visual amenity will be unaffected by the NMC. In respect of Hazeldene, the nearest residential receptor, the ES reported the visual impact to be 'Major', and it will remain so. Further, Mitigation Area A had no public benefit as access was not encouraged because of the potential for visitors to cause disturbance.



Rev.	Date	Approval Issue	Comments	EDA	RC	RC
A	12/11/2020			EDA	RC	RC



Project: **ABLE Marine Energy Park**
 Client: **ABLE UK Limited**
 Drawing Title: **Figure 3.1 Location of Potential Cumulative Projects**

FOR APPROVAL

Scale:	Drawn By:	Checked By:	Approved By:
1:15,000@A1	D Almeida	R Crum	R Crum
Date:	04/11/2020	12/11/2020	12/11/2020
Drawing No:	AME-002-00100	Revision:	A


4 STAKEHOLDER ENGAGEMENT

4.1 CONSULTATION WITH NATURAL ENGLAND ON MITIGATION OPTION FOR AMEP

- 4.1.1 In light of the developments proposed by the Applicant in the area, discussions were held between the Applicant, Natural England and North Lincolnshire Council in order to develop the concept of a unified approach to mitigation at Halton Marshes.
- 4.1.2 During the development of AMEP, Natural England confirmed in principle that mitigation for AMEP could be provided at Halton Marshes.
- 4.1.3 In 2013, the Applicant appointed Thomson Ecology to prepare outline proposals for ecological mitigation at Halton Marshes and held a workshop with Natural England, North Lincolnshire Council, RSPB and the Environment Agency on 23 June. Notes from this workshop are included at Appendix D.
- 4.1.4 In 2014, the Applicant appointed the Wildfowl and Wetlands Trust (Consulting) Limited to prepare alternative outline designs for ecological mitigation at Killingholme Marshes (the consented location of Area A) and at Halton Marshes. The proposals for Halton Marshes provided for a single block incorporating the mitigation for ALP and AMEP, including the Over Compensation. These alternative proposals were presented to Natural England at a meeting on 21 November 2014.
- 4.1.5 Natural England went on to provide written advice on the alternative proposals in accordance with their Discretionary Advice Service on 10 February 2015 and 29 July 2015. In the latter correspondence Natural England again confirmed their agreement that the ecological mitigation for AMEP could be moved to Halton Marshes subject to a Habitats Regulations Assessment.
- 4.1.6 In January 2016, the Applicant appointed JBA Consulting to further develop the outline design of ecological mitigation at Halton Marshes. Details of the emerging design were discussed at subsequent meetings with Natural England before a planning application was submitted in May 2016 to North Lincolnshire Council.
- 4.1.7 All written correspondence with Natural England is included at Appendix D.

4.2 CONSULTATION BY THE LPA FOR THE HMWG PLANNING APPLICATION

- 4.2.1 A consultation on the proposal for HMWG was undertaken by North Lincolnshire Council as a consequence of the planning application submitted to the LPA by the Applicant. For ease of reference all consultation responses are included at Appendix E. Responses were received from the following:
- North Lincolnshire Council, Environmental Health (Commercial)
 - North Lincolnshire Council, Public Rights of Way Officer
 - North Lincolnshire Council, Highways Development
 - North Lincolnshire Council, Development Control
 - North Lincolnshire Council, Historic Environment Record
 - Environment Agency
 - Natural England
 - Humberside Fire and Rescue Service
 - Lincolnshire Wildlife Trust
 - Royal Society for Protection of Birds
 - Miss JA Winter, Winter's Farm, East Halton
 - Mr John Richardson, Hill Top Farm, Lancashire

	ABLE MARINE ENERGY PARK APPLICATION FOR A NON-MATERIAL CHANGE	NOV 2020
---	--	-----------------

4.2.2 The principal comments are summarised in Table 4.1 below.

Table 4.1: Consultee Comments on the HMWG Planning Application	
Consultees	Comments
North Lincolnshire Council Environmental Health (Commercial)	Proposed restrictions on working hours, which were subsequently incorporated into Condition 7 of the planning permission.
North Lincolnshire Council Public Rights of Way Officer	Acknowledged that no public right of way would be affected.
Humberside Fire & Rescue Service Access for Fire Service	Standard response, relating to access for firefighting.
North Lincolnshire Council Highway Development	No comments.
North Lincolnshire Council Environment Team	<p>Supports the application in principle.</p> <p>A number of detailed queries raised which were resolved by further correspondence, and permitted completion of the appropriate assessment, Appendix C.</p> <p>3.06 ha of neutral grassland should be provided to ensure long term development of 1.7ha. 4.26ha has been provided in the approved scheme</p>
North Lincolnshire Council Historic Environment Record	Recommended three conditions, all of which were subsequently incorporated into the planning permission.
Environment Agency Principal Planning Adviser	<p>Requested a Water Framework Directive Screening assessment. This was subsequently provided, and the report accepted.</p> <p>Recommendation that former boreholes within the site are de-commissioned. This was incorporated into Condition 6 of the planning permission.</p> <p>The works should not impact or hinder the delivery of flood risk management improvement works. A suitable access strip has been left between the development and the sea wall.</p> <p>The works may require an Environmental Permit due to proximity of the flood defence. Subsequently agreed not required as works too remote from the defence.</p>
Natural England	<p>Raised a number of detailed comments but noted that an Environmental Management and Monitoring Plan should be developed to show how the requirements of Mitigation Area A will be met. (See Section 4.3 below).</p> <p>Addressed in Condition 9 of the planning permission.</p>


	ABLE MARINE ENERGY PARK APPLICATION FOR A NON-MATERIAL CHANGE	NOV 2020
---	--	-----------------

Table 4.1: Consultee Comments on the HMWG Planning Application

Consultees	Comments
Lincolnshire Wildlife Trust Conservation Officer	Welcomed the provision of wet grassland habitat. Raised need for long term management; this is addressed by Conditions 9, 10, 11, 14 and 15 of the planning permission.
RSPB Conservation Officer	<p>Recognised that the application '<i>goes some way to meeting the mitigation requirements for the ALP and AMEP developments</i>'.</p> <p>Repeated a number of arguments they had put before the Examining Authority during the DCO Hearings and in written submissions, principally regarding the value of grassland habitat to BTGs. Nevertheless, the Secretary of State decided that wet grassland should be provided at Halton Marshes.</p> <p>Wished to see the establishment of a Steering Group to oversee the development; this suggestion has been incorporated into Condition 15 of the planning permission.</p> <p>Advised that the LPA could not itself approve amendments to DCO plans that provided for changes outside of the Order Limits.</p>
Miss JA Winter, Winter's Farm, East Halton	Did not want the development to be used for wildfowling. Addressed by Condition 16 of the planning permission.
Mr John Richardson, Hill Top Farm, Lancashire	Concern that the development would ' <i>destroy</i> ' Winter's Ponds, by promoting saline ingress.


4.2.3 As noted in Section 3.3, North Lincolnshire Council's appropriate assessment agreed that the HMWG scheme, if built in lieu of the Area A, would ensure AMEP avoided having an adverse effect on the integrity of the Humber Estuary European site.

4.3 TERRESTRIAL ENVIRONMENTAL MANAGEMENT AND MONITORING PLAN (TEMMP)

4.3.1 In accordance with the DCO, Schedule 11, Requirement 19(3),

The authorised development must not commence until a terrestrial environmental management and monitoring plan, reflecting the survey results and ecological mitigation and enhancement measures included in the environmental statement, has been submitted to and approved by Natural England after consultation with the Environment Agency and the relevant planning authority.

4.3.2 The TEMMP for AMEP was approved by NE on 30 November 2016 and envisages Area A in its original position. The re-siting of Area A would be subject to a revised

 amep able marine energy park	ABLE MARINE ENERGY PARK APPLICATION FOR A NON-MATERIAL CHANGE	NOV 2020
--	--	-----------------

Terrestrial Environmental Management and Monitoring Plan to be approved by Natural England under Schedule 11, paragraph 19(3) of the DCO. A draft TEMMP that considers the re-siting of Area A to Halton Marshes has been approved in principle by Natural England and is included in Appendix F.

5 CONCLUSION

5.1.1 The Applicant seeks to re-site the mitigation area provided at Area A within the Order Limits to Halton Marshes and therefore amend the certified drawings that accompany the DCO. Mitigation Area A will be excluded from the Order limits.

5.1.2 Given that the Applicant proposes to rescind any development rights pursuant to the DCO from Mitigation Area A, and has withdrawn planning application PA/2017/2141, the re-siting of Area A is not considered to give rise to any new, significant or materially different effects compared to those assessed and reported within the ES for the approved DCO.


5.1.3 Given the changes proposed above, which are needed to provide certainty in respect of the possible environmental effects, the Applicant considers that there is no reason to regard the revised application as material. This is evidenced in the revised submissions which pursuant to the '*Planning Act 2008: Guidance on Changes to Development Consent Orders*', DCLG, December 2015 show that:

- the NMC gives rise to no new or materially different likely significant effects on the environment (refer Section 3);
- the original HRA relied on the opinion of NE that the TEMMP '*will ensure that the objectives of the mitigation measures relevant to the SPA ...will be achieved*' (paragraph 9), abstracted below.

9. The Secretary of State notes Natural England's opinion that Mitigation Area A, taken with the management and monitoring measures to be agreed under the Terrestrial EMMP, is sufficient to avoid an adverse effect on the site integrity of the SPA (PR 10.68). He notes also the Panel's view that the draft Terrestrial EMMP submitted at the end of the examination formed a firm basis for finalising measures that would fully mitigate the impacts on habitats and species of the AMEP development on land at North Killingholme (PR 10.76-78). Since the details of this and the other EMMPs have now been agreed between the applicant and Natural England, the Secretary of State is satisfied that the Terrestrial EMMP will ensure that the objectives of the mitigation measures relevant to the SPA (as well as other habitats and species) will be achieved.

Given that NE has confirmed agreement in principle to a TEMMP that includes for FLL to be located at Halton Marshes, then the SoS would actually be in exactly the same position when approving this NMC as he was when approving the original application. Further, the sHRA that accompanies this response reaches the same conclusion.

- No further compulsory acquisition is required, and
- Local people will see no change in the environment whatsoever as a consequence of the NMC being approved. Nor will local people experience any change to the amenity that has been previously assessed, because neither Area A nor HMWG will be subject to any development consequential to the approval and there will be no material change to traffic, air quality, noise, health or any of the other matters that taken together measure the amenity of an area. In particular, because the landscape of AMEP will be dominated by very tall structures, the low planting proposed around Area A provided no screening benefit, so visual amenity in particular will be unaffected by the NMC. In respect of Hazeldene, the nearest residential receptor, the ES reported the impact to be 'Major', and it will remain so. Local people will not experience any loss of benefit because to all intents and purposes, the mitigation site has no public benefit as access was not encouraged because of the potential for visitors to cause disturbance.

 amep able marine energy park	ABLE MARINE ENERGY PARK APPLICATION FOR A NON-MATERIAL CHANGE	NOV 2020
--	--	-----------------

APPENDIX A

'Halton Marsh Wetland Feasibility Study', JBA Consulting, April 2016



JBA
consulting

Halton Marsh Wetland Feasibility Study

FINAL

April 2016



Able UK Ltd

Able House

Billingham Reach Industrial Estate

Haverton Hill Road

Billingham

Teeside

JBA Project Manager

Mike McDonald
 JBA Consulting
 Salts Mill
 Victoria Road
 Saltaire
 SHIPLEY
 BD18 3LF

Revision History

Revision Ref / Date Issued	Amendments	Issued to
Draft V.1 / 05/04/16		R Cram
FINAL v3 18/04/16	Chapters 2, 4, 6	R Cram
FINAL v2 22/04/16	Client Comments Addressed	R Cram

Contract

This report describes work commissioned by Richard Cram, on behalf of Able UK Ltd, by an e-mail instruction dated 22nd January 2016. Able UKs representative for the contract was Richard Cram. Alex Jones and Kieran Sheehan of JBA Consulting carried out this work.

Prepared by  Alexander Jones BSc MSc CGeol
 Senior Hydrogeologist

Prepared by  Kieran Sheehan BSc MSc PGCE CEnv MCIEEM
 MifL
 Technical Director

Reviewed by  Michael McDonald PhD, MSc, BSc, FGS
 Principal Hydrogeologist

Purpose

This document has been prepared as a Draft Report for Able UK Ltd. JBA Consulting accepts no responsibility or liability for any use that is made of this document other than by the Client for the purposes for which it was originally commissioned and prepared.

JBA Consulting has no liability regarding the use of this report except to Able UK Ltd.

Copyright

© Jeremy Benn Associates Limited 2016

Contents

1	Introduction	1
1.1	Project Background.....	1
1.2	Report Structure.....	1
1.3	Data Sources	1
2	Ecological Requirements	3
2.1	Introduction	3
2.2	Consultation	6
2.3	Target Bird Species.....	8
2.4	Implications for habitat creation.....	13
2.5	Areas and Buffers	13
3	Topography, Hydrology, Geology and Hydrogeology	14
3.1	Introduction	14
3.2	Topography.....	14
3.3	Climate	16
3.4	Hydrology.....	16
3.5	Geology.....	16
3.6	Historic Landfilling Activities	19
3.7	Hydrogeology	22
3.8	Hydrological and Hydrogeological Conceptual Model.....	23
4	Design Principals	24
4.1	Hydrogeological Controls	24
4.2	Water Level Targets.....	24
4.3	Scrape design on low permeability soils	25
5	Site Constraints	27
5.1	Target species constraints	27
5.2	General site constraints	27
6	Design Options	31
6.1	Introduction	31
6.2	Habitat Management Plan.....	31
6.3	Options for Wet Grassland Creation	32
6.4	Key Elements of Preferred Option.....	41
7	Conclusions	47
	Appendices	I
A	Maps	I
B	Auger Hole Logs.....	II
C	Water Quality Analysis.....	III
D	Water Budget.....	VII
E	Natural England Correspondence	VIII
	References.....	IX

List of Figures

Figure 2-1 Halton Marshes Wet Grassland Creation Site	4
Figure 2-2 Killingholme Marshes Wet Grassland Creation Site	6
Figure 2-3: Buffer and Core Area (modified from Able UK drawing AME-001-00042 Rev G).....	7
Figure 3-1: LIDAR Topography	15
Figure 3-2 Geological cross-section	17
Figure 3-3: Superficial Geology	18
Figure 3-4: Landfill and Raised Ground.....	21
Figure 4-1 Typical mechanisms for creating wet grassland	24
Figure 5-1: Development Modification of the Hydrology	29
Figure 6-1: Options	34
Figure 6-2: Typical Cross Section of a Scrape	35
Figure 6-3: Long Section of a Tiered Scrape System (NTS).....	35
Figure 6-4: Linear scrapes at habitat creation site near Doncaster immediately after excavation	36
Figure 6-5: Linear scrapes at same site with saddles one month after installation.....	36
Figure 6-6: Pump and Tiered Scrape Schematic	42
Figure 6-7: Example of a water distribution gateway to control the flow of water between individual scrapes.....	42
Figure 6-8: Spillway within Bund and drainage culvert.....	43
Figure 6-9: Scrape Classification in Preferred Design	45
Map 1: Topography.....	I
Map 2: Preferred Option Design.....	I
Map 3: Preferred Option Design with Annotations	I
Map 4: Preferred Option Design with Scrape Classifications.....	I
Figure A1 Water quality sampling locations	IV

List of Tables

Table 2-1 Total Core Areas in Halton Marshes Wet Grassland Creation Scheme	8
Table 2-2 Habitat and Management Requirements of Target and Non-target Species	12
Table 3-1 Geology of Halton Marshes.....	17
Table 3-2 Landfill sites located within the site's surface water catchment	20
Table 6-1: Options Overview	32
Table 6-2 Options Appraisal	38
Table 6-3: Scrape Classification, and other Area, and their Winter Management	44
Table A1 Water quality sampling locations.....	V
Table A2 Water quality results.....	VI

1 Introduction

1.1 Project Background

Able UK Ltd are required to provide ecological habitat on the south bank of the Humber Estuary to both mitigate and compensate for development of the Able Marine Energy Park (AMEP) and to mitigate for the development of Able Logistics Park (ALP). Able UK wish to provide a single site that provides for all the ecological habitat required. The Halton Marshes site is owned by Able UK and comprises an area of 85.3ha consisting of arable farmland on reclaimed saltmarsh supplemented by an additional 4.9ha operational buffer on its western boundary.

This report aims to detail the process of developing a wet grassland scheme design to fulfil the temporary and permanent spatial requirements for habitat for a number of target bird species. The broad requirements for the habitat have previously been developed in consultation between Able UK Ltd, Natural England and the RSPB.

JBA has undertaken this work in accordance with our proposals to Able UK Ltd dated 3rd December 2015 and 1st February 2016 in order to develop a water balance for the site and an outline wetland design.

1.2 Report Structure

The report has the following structure:

- Section 2 - Ecological Requirements;
 - This section outlines the target species the site should attract, their requirements, and the spatial extent of habitats needed.
- Section 3 - Topography, Hydrology, Geology and Hydrogeology;
 - This section outlines the physical parameters and background information that informed the wetland design process.
- Section 4 - Design Principles;
 - This section analyses the findings of Section 3, to identify the principles on which a successful wet grassland scheme on this particular site should be based.
- Section 5 - Site Constraints;
 - This section outlines factors which should control and constrain the practical implementation of a scheme on this site.
- Section 6 - Design Options;
 - This section outlines an options appraisal process for a series of potential wet grassland designs and then presents in detail the preferred option.

1.3 Data Sources

The data used in the study were obtained from the following sources;

- Topography and general mapping:
 - OS Open Data, Terrain 50 DTM
 - 1m LIDAR DTM
 - 2m LIDAR DTM
 - Aerial photography (Google Earth and Bing Maps)
- Climate:
 - Flood Estimation Handbook (FEH) and CD-ROM (CEH, 2009)
 - Met Office website
 - MORECS (Met Office Rainfall and Evapo-transpiration Calculation System) data for Square 101.
- Geology and Soils:
 - BGS digital geology mapping

- BGS online borehole database (BGS website)
- BGS online Lexicon (BGS website)
- 1:250,000 soils mapping (Soil Survey of England and Wales, 1983)
- Hydrogeology:
 - Aquifer classification (Environment Agency website)
 - Groundwater vulnerability (Environment Agency website)
 - Source Protection Zones (Environment Agency website)
 - Licensed abstractions (Environment Agency website)
 - Groundwater quality (Environment Agency website)
- Other information relating to the site:
 - Wetland and Wildfowl Trust (March 2015), Halton Marshes Outline Design.
 - Thomson Ecology (October 2013), Statement of Design Principles - Halton Marshes Wet Grassland.
 - Hannah, Reed and Associates Limited (October 2007), Able Humber Pots Facility - Surface Water Drainage Statement.
 - Layout proposals for the site and the surrounding area provided to JBA by Able UK Ltd.

2 Ecological Requirements

2.1 Introduction

North Lincolnshire Planning Consent PA/2015/1264 includes for land at Halton Marshes to be developed as mitigation for loss of coastal farmland when the associated Able Logistics Park is constructed on the adjoining land to the south and west. The principal species impacted are Golden Plover, Lapwing, Curlew and Ruff.

The Development Consent Order for AMEP includes for land at Killingholme Marshes to be provided as mitigation for Curlew.

The Secretary of State's appropriate assessment for AMEP, took account of 38.5ha of land at Halton Marshes being provided as part of the compensation for the loss of inter-tidal foraging habitat on Black-tailed Godwits.

There has been significant previous dialogue between Able UK Ltd, Natural England and RSBP on the nature of the ecological habitat required on the site and the areas that are required in order to ensure that the land is managed in such a way as to provide suitable habitat to the target species noted above. The most recent correspondence from Natural England to Able UK Ltd in relation to the wet grassland creation scheme was received in November 2015.

In addition to the target species noted above, the main habitats that will be created will also benefit other species of wading birds, some of which use the nearby areas on the estuary for roosting, foraging, breeding or on passage. A number species breed in the area whilst others only utilise the area for wintering or on passage. In some cases the same species will use the land for all of these purposes, although the populations doing this may be different. The competing requirements of the target species makes the development of a scheme for this area of land complex. This project aims to deliver a solution to the multi-factorial requirements and provide a way forward acceptable to all parties.

2.1.1 Able Logistics Park (ALP)

ALP is a new development to the north of Killingholme that was initially granted planning permission by North Lincolnshire Council in July 2013 (PA/2009/0600), and further approved with revised conditions in February 2016 (PA/2015/1264). The area within the site proposed for ecological enhancement lies mainly to the east of a linear drain at the foot of the slope to the west as shown in Figure 2-1. The current size of the habitat creation area is 85.3ha, of which 52ha is to be core area for the reasons explained in paragraph 2.2 below.

The remainder, 33.3ha, will provide a wet grassland buffer to protect the core area from significant disturbance. An operational buffer to the west of the drain will be provided, restricted to non-disturbing activity. Buffer areas are also designed to partially screen the site from existing sources of disturbance, such as the footpath along the Humber flood embankments and the fishing ponds (known locally as Winters Ponds) to the south.

Figure 2-1 Halton Marshes Wet Grassland Creation Site



2.1.2 Able Marine Energy Park (AMEP)

This is a related development by Able UK Ltd to the south of the ALP development, which was granted development consent by the Secretary of State for Transport on the 29th October 2014 via *the Able Marine Energy Park Development Consent Order 2014* ('the DCO').

Part of the mitigation for the loss of habitat associated with this development was the retention and enhancement of an area of existing habitat at South Killingholme Marshes as shown in Figure 2-2. This area, commonly referred to in the DCO application as 'Mitigation Area A' contains a core area of 16.7ha, habitat buffers and a sown neutral grassland area of 1.7ha. As part of the proposals for the new site at Halton Marshes, Able UK proposes that the 16.7ha of core land for Curlew is transferred to Halton Marshes and the land at South Killingholme be released for development. The principle of this was first supported by Natural England in correspondence dated 28 October 2011, refer to Appendix E. To mitigate for any further development on Killingholme Marshes, in addition to AMEP, it is proposed that the core area provided at Halton Marshes is increased to 20ha so that it provides for mitigation not just for AMEP, but for any such further development on Killingholme Marshes also.

Figure 2-2 Killingholme Marshes Wet Grassland Creation Site

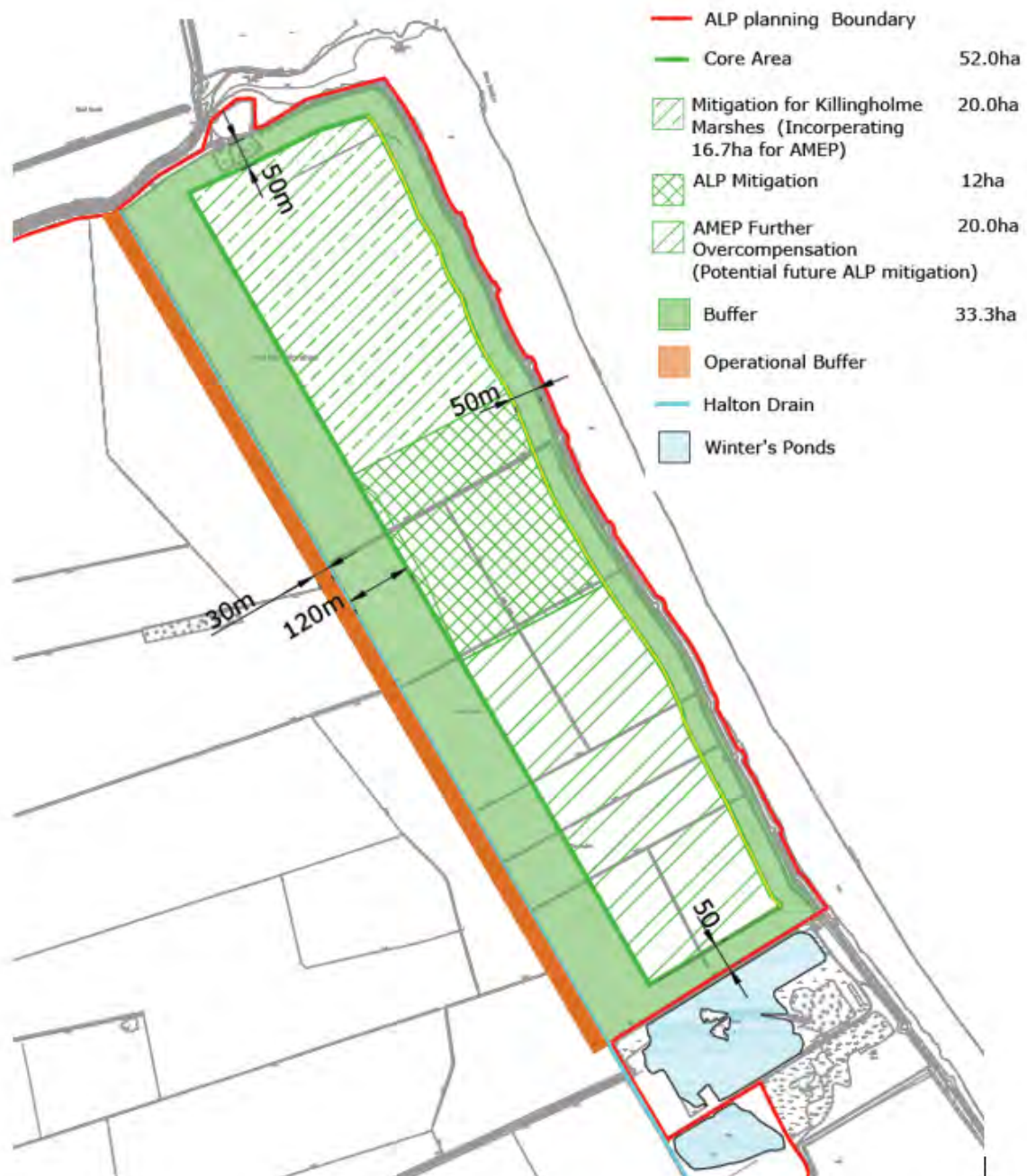


2.2 Consultation

Able UK Ltd have had extensive consultation with both the Royal Society for the Protection of Birds (RSPB) and Natural England on the proposals for the Halton Marshes wet grassland creation project. These consultations began in 2011, however, it was only in June 2013 that firm proposals for moving Mitigation Area A to Halton Marshes were prepared. This essentially set in motion a new round of consultations which has now resulted in the following statistics for the wet grassland creation scheme:

- The core area at Halton Marshes is: 12ha for mitigating Phases 1a and 1b of the ALP development (that is the development South of the redundant railway line mentioned in the Habitats Regulations Assessment (Taylor, 2015); 20ha for Killingholme Marshes (incorporating the 16.7ha of Mitigation Area A), and 20ha for foraging Black-tailed Godwit *Limosa limosa islandica* that will be displaced from inter-tidal areas by AMEP
- In addition there is 31.6ha of wet grassland buffer and 1.7ha of neutral grassland that buffer these core areas, and 4.9ha of operational buffer making a total area of 90.2ha.
- The above areas are based on buffers of 150m width on the west (drain) side and 50m on the other three sides (see Figure 2-3)

Figure 2-3: Buffer and Core Area (modified from Able UK drawing AME-001-00042 Rev G)



Within these core areas as well as the adjoining buffer areas there are a number of requirements that need to be met to satisfy the needs of the target species. These are set out below:

- Wet grassland is required to mitigate for the loss of habitat for roosting and foraging Curlew *Numenius arquata*, displaced from both Halton and Killingholme Marshes. These birds require the amount of winter flooding to be limited as, if the area is excessively flooded, invertebrate biomass (especially earthworms) falls.
- Wet grassland as overcompensation for foraging Black-tailed Godwits displaced by AMEP; 20ha needs to be managed specifically for individuals that start to arrive in the late summer and early autumn. This will require the maintenance of wet conditions on the site at the driest time of the year in an area with low rainfall totals.
- Hedgerows within the site will need to be removed to ensure long sight-lines for the birds using the site.
- The wet, vegetated, ditch near the flood embankment on the east side of the site will need to be extended and enhanced to limit disturbance to the site from dogs running off the lead.
- The creation of a bank on the landward side of the ditch into which new bushes will be planted to create a new hedge, which will act as a partial screen between the site and the public footpath along the flood embankment.

The total areas for the scheme are shown in Table 2-1.

Table 2-1 Total Core Areas in Halton Marshes Wet Grassland Creation Scheme

Requirement: Core Area	Area Agreed (ha)	Area Proposed (ha)
Curlew	20.0	20.0
Lapwing/Golden Plover/Ruff/Curlew	12.0	12.0
Black-tailed Godwit	20.0	20.0
Sub-totals	52.0	52.0

2.3 Target Bird Species

The primary objective of the wet grassland site is to avoid consented development having an adverse effect on the integrity of the Humber Estuary SPA in respect of non-breeding Curlew, Lapwing, Golden Plover and Ruff, and to provide a foraging resource for passage and wintering Black-tailed Godwit that will be adversely affected by the development of AMEP.

This section outlines the year-round requirements for the target species.

Curlew

The Curlew is Britain's largest wading bird.

The appropriate assessment for ALP noted that Curlew currently use the ALP (Taylor, 2011, p. 28) site '*primarily for feeding throughout the passage and winter survey periods in January – March*'. The Environmental Statement for AMEP recorded that Curlew are present on Killingholme Marshes in significant numbers between September and March, and that the site is used for roosting as well as providing a feeding resource for the species. Accordingly the principal objective for Curlew is to provide a roosting and feeding resource between September and March.

Curlew breed in a number of habitats, including taiga, blanket bogs, wet meadows pastures and even arable fields (Mullarney, et al., 1999). In the UK they are present all year round and additional birds can also be seen on passage. In order to create optimum conditions for this bird at Halton Marshes this species requires damp pastures with some areas of rougher, tussocky grassland to nest in between April and July. Adult birds feed on earthworms, leatherjackets and arthropods whilst the chicks generally feed on arthropods gleaned from the surface (RSPB, 2008), often on the draw-down margins of ponds and scrapes.

In the winter the birds tend to feed around the coasts, usually on soft coast, such as estuaries (Holden & Cleeves, 2014), however, wave cut platforms on hard coasts are also utilised. At high tide the birds can be found on adjacent pasture and arable land and will continue to forage here when conditions are suitable.

Management on site will need to be via the control of water levels to achieve wetness at or near to surface level and good numbers of invertebrates, especially during the breeding

season. This will require cattle grazing to create a medium-long sward height (15-30cm), with shorter tussock areas (5cm) scattered around the site. Drier areas with a tall sward are also required to encourage nesting in the Spring after which the water levels can be allowed to drain down (RSPB, 2005).

Black-tailed Godwit

The Planning Inspectorate (2013) recommended that the East Halton Marshes scheme should be included as a compensatory measure to provide as much available feeding ground as possible, given the disagreement between Able UK, Natural England and the RSPB during the examination about how much food-stock was required to replace the existing resource at North Killingholme Marshes. Able UK also proposed improvements to its design proposals for the site to benefit Black-tailed Godwit and other estuary birds by incorporating surface water features and islands in scrapes to serve as secure roosts in winter.

Accordingly, the principal objective for Black-tailed Godwit is to provide a feeding resource for on passage and over wintering flocks, this is the period between July and February.

Black-tailed Godwits are found around the coasts of Britain, especially soft coasts, such as estuaries, saltmarshes, mudflats and, occasionally, inland marshes (Mullarney, et al., 1999). The main concentrations are on the muddy estuaries and coastal grasslands of the north-west, south and south-east coasts of England, with important numbers on the Wash and in Northern Ireland (Holden & Cleeves, 2014). They also occur on passage and wintering birds from Iceland (ssp. *islandica*) can also be found in the UK (Mullarney, et al., 1999) on estuaries and areas of inter-tidal mud (European Communities, 2007). This is the sub-species found on the Humber Estuary. Black-tailed Godwits may also winter in freshwater habitats, including swampy lake shores, pools and flooded grassland (BirdLife International, 2016). In spring and summer feeds on insects. Also feeds on worms and small snails (Holden & Cleeves, 2014). Wintering birds in the UK arrive typically in August and September and post-breeding birds may also use these habitats in the summer and into the wintering period (Avibirds, n.d.).

In Britain, breeding Black-tailed Godwits mainly use lowland wet grassland that is prone to flooding, whereas in other parts of their range they will utilise mires, wet moorland, river valley fens and marshy margins of lakes (European Communities, 2007). Nesting begins in early April and the nest is well hidden in a tussock (Holden & Cleeves, 2014). The presence of flooded area is believed to be important for both roosting and for feeding, especially in the period leading up to breeding, and mown grasslands are selected over grazed pastures (European Communities, 2007) with areas with high grass and soft soil preferred, occasionally using sandy areas. It is believed that extensive farmland habitats are of critical importance for breeding Western European populations of Black-tailed Godwit: seasonally flooded grasslands are considered a critical habitat in Ireland (BirdLife International, 2016).

Breeding birds tend to favour areas with short, tussocky, easily probed turf and surface water within approx. 300m of the nest (English Nature, 1999) (RSPB, 1997). Nesting is largely controlled by water levels, but generally the first eggs are laid in mid-April (Seago, n.d.). The nest itself is placed on the ground in short, often in dense vegetation, and this typically consists of a shallow scrape 12-15cm in diameter, lined with a thick mat of stem grass, leaves and other available vegetation (BirdLife International, 2016). The chicks have a preference for taller vegetation (RSPB, 1997) and, once they have fledged, the adults and fledgelings may move to adjacent secondary habitat which are reported to more closely resemble that of their non-breeding range (BirdLife International, 2016). These include draw down areas around ponds and sewage farms, tidal marshes, mud flats and salt-water lagoons.

In terms of management the RSPB (1997) have set out three options for this:

- Best Option: Very high water table without surface flooding the previous winter
- Best Alternative: Grassland surface flooded during the previous winter
- Worst Option: Unflooded grassland with a low water-table

Ruff

Ruff were recorded on the ALP site between January and March. The appropriate assessment for the Able Logistics Park (Taylor, 2011, pp. 26-27) noted that wintering and passage Ruff use the site for '*feeding, roosting and loafing*'

This is an uncommon breeding species in the UK but it does breed on marshes, wet grass meadows, lakesides and seashores (Mullarney, et al., 1999). It tends to winter mainly in Africa but small numbers do overwinter usually on the coast in southern England (JNCC, n.d.). It is often seen on passage in small numbers and, at times, can form large flocks in the Spring where the males display in communal leks (Mullarney, et al., 1999).

In the breeding season the birds frequent lowland wet meadows which have been grazed in the summer and flooded in the winter (Holden & Cleeves, 2014). The nest is a shallow scrape on the ground and the food for the adults and chicks are insects and their larvae, especially flies, which can be found around the margins of muddy pools and lakes (Holden & Cleeves, 2014).

In terms of management the requirements are for grazed grassland that have been flooded in the winter but still retain areas of shallow water and draw-down zones along with drier areas with shorter grassland for lekking (RSPB, 1997) (English Nature, 1999).

Lapwing

The greatest numbers of lapwings are found on the Humber during the mid-winter period, mainly November to January. The appropriate assessment for ALP states that, '*recent surveys show a high proportion of records relate to both feeding and roosting on fields in the day*' (Taylor, 2011, p. 33).

This is a common breeding bird in the UK and is resident all year round. In the Summer it is found on the coast and in open country inland whereas in winter it is found in large flocks on farmland and marshes (Mullarney, et al., 1999).

Of the UK waders, it is the least dependent on wet conditions (English Nature, 1999) and it breeds mainly on farmland, especially in Spring sown crops (Holden & Cleeves, 2014). It also breeds on pastures and in wet grasslands and even in industrial estates (K Sheehan - pers comm), where there is bare ground and damp areas for chicks to forage (Holden & Cleeves, 2014). Breeding Lapwing require short swards (5cm) with scattered tussocks (15cm) and shallow surface pools nearby for feeding and these should draw down gradually ensuring there is always a muddy margin for the chicks to feed on a wide range of invertebrates (Ausden, et al., 2003) (RSPB, 2005). The nest is a scrape with a lining of grass or leaves.

Management for Lapwing requires the presence of a short sward (a maximum height of 15cm has been suggested) during the breeding season along with surface pools to serve as nurse areas (English Nature, 1999). Other authors have suggested shorter swards (RSPB, 2005) (Ausden, et al., 2003) in the region of 4 - 10cm in height during the breeding season with scattered tussocks up to 15cm in height to hide chicks. The surface should be kept damp with the water table being no more than 30cm below the ground with draw-down areas to provide feeding habitat for chicks and adults (Ausden, et al., 2003) (JBA Consulting, 2013).

Golden Plover

Large wintering flocks arrive on the Humber during November, with peak usage continuing into January (Cram, R. pers. com.). The appropriate assessment for ALP (Taylor, 2011, p. 30) states that, '*birds (Golden Plover) recorded in the hundreds are invariably roosting flocks; much smaller flocks of 10 or so are occasionally recorded feeding*', and that these flocks are generally '*observed between August – March*'.

This is a bird that breeds in the uplands and north of the country on blanket bog, heather moorlands and limestone grassland (Mullarney, et al., 1999) and feeds on the surrounding pastures (Holden & Cleeves, 2014). In the winter birds gather at favoured inland sites on lowland grassland or arable fields and often roost on ploughed fields, coastal marshes and estuaries (Holden & Cleeves, 2014) in the company of Lapwing. Damp areas are required – feed on crane fly larvae which require damp areas for survival. Likes dry ground (Mullarney, et al., 1999) and feeds on a variety of small creatures, especially beetles, earthworms (Holden & Cleeves, 2014) and crane fly larvae (BTO, n.d.).

Bats and Passerines

The loss of hedgerows will have a negative effect on bat species, however, the creation of wetlands and the planting of a hedgerow screen along the eastern edge of the site will improve the overall habitat heterogeneity and offer increased foraging opportunities.

Skylark *Alauda arvensis* and Meadow Pipit *Anthus pratensis* are found in large numbers on Halton Marshes (pers. obs), although the current conditions are sub-optimal as the vegetation has become tall and rank following the cessation of arable production. The introduction of grazing and the creation of a sward with a mosaic of different heights will benefit these species, however, there will be a need to ensure that areas of grassland remain dry during the breeding season.

The above requirements are summarised in Table 2-2

2.3.1 Summary of Requirements for Target Species

Table 2-2 summarises the requirements for target species through-out the year as described in the section above. The highlighted requirements relate to the specific objectives for the site as outlined in Section 2.2.

Table 2-2 Habitat and Management Requirements of Target and Non-target Species

Species	Timings			Management	Rationale
	Target	February – June	July – September		
Black-tailed Godwit	Pools, tussocks and drier areas	Maintain pools of water	Avoid surface water	No winter flooding, taller, ungrazed swards	To allow foraging, roosting and to promote breeding
Lapwing	Pools and drier areas with tussocks	Water draw-down	Some surface water	Winter grazing/short sward	To allow foraging, roosting and to promote breeding
Ruff	Dry areas, tussocks and pools	Water draw-down	Winter flooding	Short, grazed grasslands	To allow foraging, roosting and to promote breeding
Curlew	Tussocks and soft ground	Water draw-down	Shallow winter pools	Short, grazed grasslands	To allow foraging, roosting and to promote breeding
Golden Plover	N/A	Drying surfaces	Dry areas essential	Winter grazing/short sward	To allow foraging and roosting
Non-target					
Redshank	Pools and drier areas	Maintain pools of water	Some surface water	Winter grazing/short sward	To allow foraging, roosting and to promote breeding
Snipe	Muddy patches and soft ground	Maintain damp soils	Some surface water and soft ground	Tussocky and rough grassland/ no winter/spring grazing	To allow foraging, roosting and to promote breeding
Meadow Pipit	Drier areas, short sward with small tussocks	Drier areas with a short sward	Drier areas with a short sward	Light spring grazing, summer cattle grazing	Foraging
Skylark	Drier areas, short sward with small tussocks	Drier areas with a short sward	Drier areas with a short sward	Light spring grazing, summer cattle grazing	Foraging Roosting Breeding
Bats	Hedgerows, trees, open water, hibernaculum	Hedgerows, roosts, open water	Hibernaculum	Grazing animals on site	Foraging

Note - as a result of the requirement for black tailed godwits to have standing water in August it is possible that breeding habitat may be created for other species as a consequence of the requirement to maintain water at drier times of the year.

2.4 Implications for habitat creation

The management requirements of the five target bird species are not always compatible, however, the size and nature of the site allows a degree of synergy between them with different parts of the site being managed preferentially for different species. In summary the principal requirements are:

- Mix of wet and dry areas in summer.
- Some areas of short grass and others with longer grassland as well as scattered tussocks (Curlew).
- Some areas of summer grazing (Ruff).
- Areas with no surface flooding in winter to promote foraging (all species).
- Dry areas in the winter for roosting (Golden Plover).
- Shallow surface flooded areas in summer (Lapwing).
- Areas of muddy margins in draw down areas (Lapwing).
- Areas which are inundated in winter (Ruff).
- Removal of hedgerows to eliminate predator posts (all species).

These are not mutually exclusive and more than one wader species will benefit from each requirement, even though the main species to benefit is shown.

2.5 Areas and Buffers

Figure 2-3 shows an indicative plan that illustrates how the separate parcels of land make up the total area of habitat required of the scheme. In general the primary habitat extending across the site (core and buffer) will be wet grassland.

All Earthworks will be set back from the main drain, the soke dyke along the eastern part of the site and at least 10m from the base of the sea wall.

In accordance with the guidance provided by Natural England, a buffer of 150m has been provided where adjacent land use could change. This buffer has been incorporated along the western perimeter. However, where the core area is otherwise adjacent to the SPA or Winter's Pond which has no development potential a buffer of 50m is proposed. A 50m buffer is considered sufficient to mitigate for the minimal disturbance arising to the east in combination with a screening hedge and a ditch to discourage dogs from entering the site from the footpath along the Humber flood embankments.

Along the northern margin of the site, the ALP development incorporates a landscaping bund that will further screen the site from any disturbance to the north. This will be augmented by the creation of 1.7ha of neutral grassland (MG5) in this area.

3 Topography, Hydrology, Geology and Hydrogeology

3.1 Introduction

This chapter describes the geology, hydrology and hydrogeology of Halton Marshes and the surrounding area.

3.1.1 Methodology

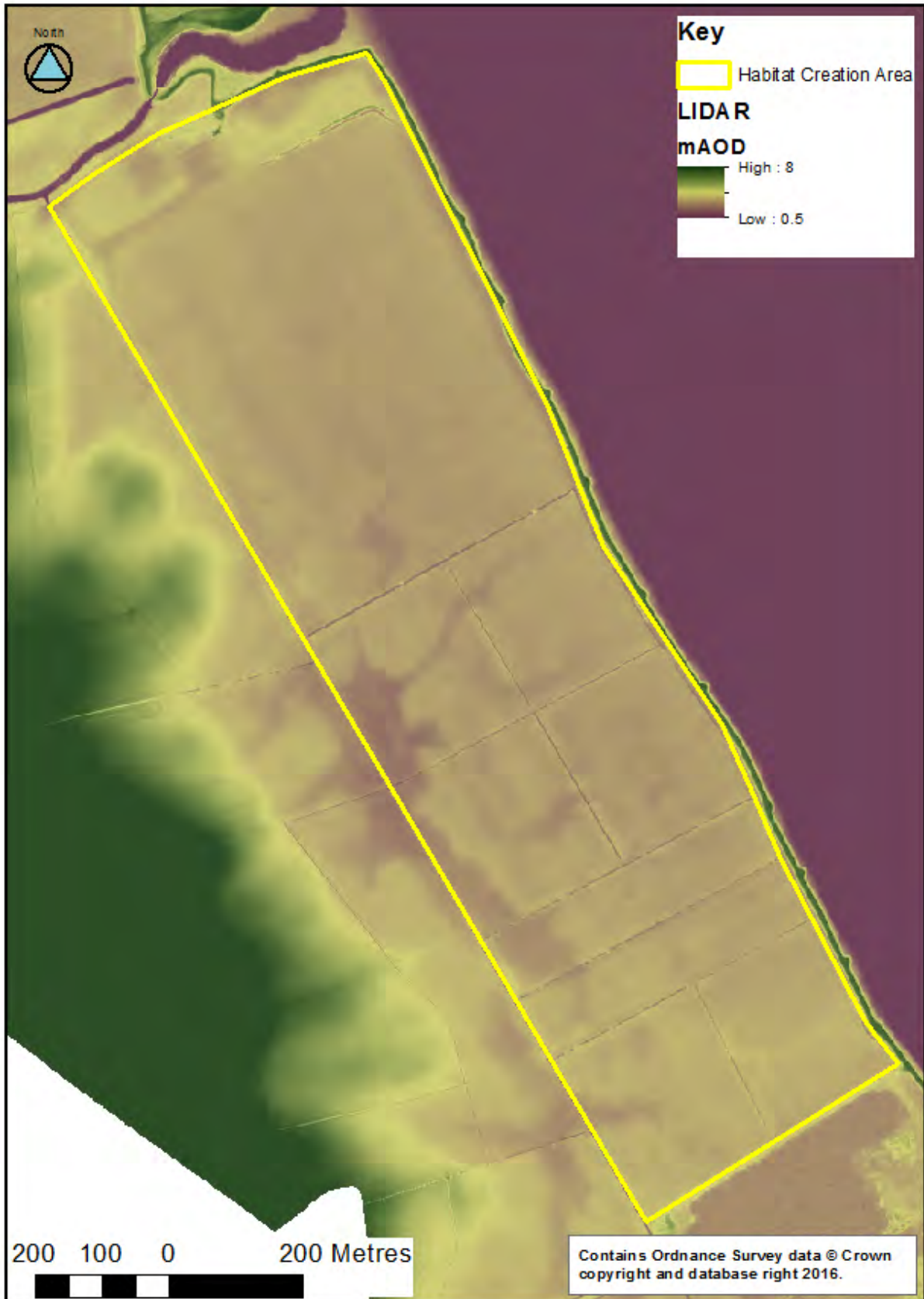
To inform this section, the feasibility study has involved:

- Desk-based study,
- Site walkover visits undertaken by JBA hydrogeologists and ecologist on 17th February 2016,
- Site investigation and monitoring works including shallow soil augering, water quality sampling and flow monitoring in the drain which was undertaken on the 24th February and 1st March.

3.2 Topography

The site lies at an elevation of around 2.6mAOD within a flat coastal plain, approximately 600m wide, running parallel with the Humber in a north-northwest to south-southeast orientation (see Map 1 (Appendix A) and Figure 3-1).

Figure 3-1: LIDAR Topography



The site lies within a small catchment. Inland of the coastal strip, the ground gently rises to a watershed at around 12mAOOD, 2km from the coastline.

The coastal plain appears to be reclaimed tidal marshes, until recently used for arable agriculture. Palaeo-channel tidal creek features up to around 90m wide are evident within the micro-topography. This can be clearly seen as an area of darker shading in Figure 3.1 running broadly parallel to the western site boundary.

The coastal strip is protected through a sea defence. The top of this defence (wave return wall) is around 6mAOD.

3.3 Climate

The Flood Estimation Handbook (FEH) CD-ROM includes long-term average rainfall data for catchments in the UK. For the smallest catchment covering the majority of the site the Standard Average Annual Rainfall (SAAR) is 618 mm for the period 1961 - 1990 and 599 mm for the period 1941 - 1970 (CEH, 2009).

The water budget presented in Appendix D presents more information on the local climate.

3.4 Hydrology

The Humber Estuary lies to the east of the site.

The site lies within the Louth Grimsby and Ancholme catchment. The Environment Agency's Grimsby, Ancholme and Louth Catchment Abstraction Management Strategy (CAMS) (February, 2013) further subdivides the catchment, with the site lying within the catchment of Barrow Beck and Skitter Beck.

Skitter Beck (known for part of its reach as East Halton Beck) discharges to the Humber Estuary to the north of the site. Skitter Beck is a heavily modified water body which is currently regarded as having poor ecological quality and does not require assessment for chemical quality.

The coastal plain at Halton Marshes is dominated by a North East Lindsey Drainage Board (NELDB) adopted drain which forms the western boundary of the site which discharges north to Skitter Beck under a small road bridge. For the purposes of this study it is referred to as the main drain. The dimensions of the main drain are approximately 3m wide by 2m deep but it is deeper in the north, where it passes through higher ground.

The site itself is crossed by a number of drains which run at right angles to the site boundaries. These are typically circa 1m deep and 2m wide.

Immediately to the south of the site there are two of open water bodies which historic maps indicate are flooded former clay pits. The closest to the site is named Winters Pond.

3.4.1 Catchment Descriptors

The Flood Estimation Handbook (FEH) CD-ROM (CEH, 2009) provides a series of estimates of hydrological parameters for the site and catchment it lies in.

The Standard Percentage Runoff (SPR) is the percentage of rainfall responsible for the short term increase in river flow during and/or following a rainfall event (Boorman et al, 1995). The FEH CD-ROM gives the SPR for the site as 36.3%. This suggests that a large amount of rain falling on the catchment will pass rapidly into watercourses via overland flow or interflow (lateral flow through the soil).

The Baseflow Index (BFI) is the proportion of total streamflow made up of baseflow (mostly groundwater input). The FEH-CD approximates this, for the site, to be 0.506. This value suggests that baseflow makes up around half of total streamflow, which is a surprisingly high proportion of baseflow, given the relatively thick and low permeability nature of the drift deposits on site.

3.5 Geology

The geology at the site is summarised in Table 3-1, Figure 3-3 and Figure 3-3. A shallow ground investigation was undertaken by JBA hydrogeologists using a hand held auger. The auger logs are presented in Appendix B. These compliment additional auger logs presented in WWT 2015.

Table 3-1 Geology of Halton Marshes

Age	Formation	Member	Description	Thickness (m)
Quaternary		Tidal Flat Deposits	Clay At depth thin bands of gravel, sand and peat.	~13 m *
		Till	Outcrops on the slopes to the east of the coastal plain. Consists of boulder clay with bands of gravel and sands.	up to 17m thick on the high ground to the west ** The deposits wedges out towards the coastal plain.
Cretaceous	Burnham Chalk Formation	Upper chalk bearings	A weathered upper margin of the chalk consisting of broken chalk and "putty chalk"	~10 m**
		Un-weathered structured formation	White, thinly-bedded chalk with common tabular and discontinuous flint bands; sporadic marl seams.	~130 m ***

Sources:
 * BGS Online Borehole Archive BGS Ref TA12SW66
 **BGS Online Borehole Archive BGS Ref
 ***BGS online lexicon of named rock units

Figure 3-2 Geological cross-section

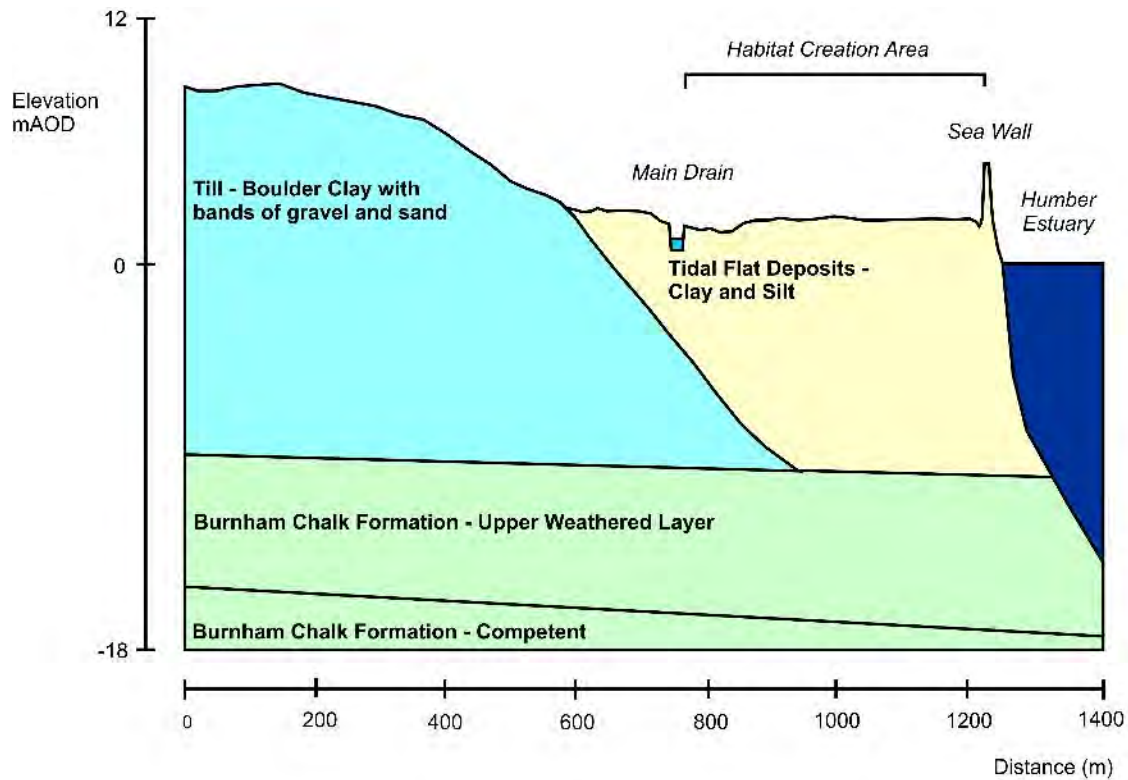


Figure 3-3: Superficial Geology



Contains Ordnance Survey data © Crown copyright and database right 2016. Derived from 1:50000 scale BGS digital data, British Geological Survey © NERC 2016.

3.5.1 Bedrock Geology

The bedrock beneath the site belongs to the Cretaceous Burnham Chalk Formation of the White Chalk Subgroup, and constitutes a white thinly-bedded chalk with common and discontinuous flint bands. The upper layer of the bedrock underlying the site constitutes chalk bearings which is a term used to describe a layer of fragmented chalk which occurs above the relatively un-weathered structured chalk. Local borehole logs (BGS Ref TA12SW63) suggest that the chalk bearings are approximately 10 m thick beneath the site.

3.5.2 Superficial (Drift) Geology

The near surface drift deposits are mapped to be tidal flat deposits by the BGS. These typically comprise consolidated soft silty clay, with layers of sand, gravel and peat. Undifferentiated beach and tidal flat deposits lie to the east of the site beyond the sea wall, typically comprising a more mixed deposit of clay silt and sand.

The augering across the site indicates that the upper marine alluvial deposits are dominated by clay and silty clay. Within the middle of the largest palaeo-channel some sandy clay deposits were identified.

Till (boulder clay) deposits outcrop on the slopes to the east of the coastal plain. Borehole logs available from the BGS GeoIndex (BGS Ref TA12SW63) suggest that the till is up to 17m thick on the higher ground to the west of the site. The till deposits thin towards the shore, and borehole logs (BGS Ref TA12SW66) in close proximity to the site suggest that the till may be absent on the coastal plain including beneath the site itself.

3.5.3 Soils

The soils beneath the site belong to the Newchurch 2 Soil Association which comprises deep stoneless mainly calcareous clayey soils. These are similar in nature to soil associations in which successful low permeability wet grassland revision schemes have been constructed along the east and south coast of England.

3.6 Historic Landfilling Activities

The dominant land use within the surface water catchment of the site is for arable farmland and as a result the overall contamination risk to the catchment is low. However, a number of landfill sites have been identified within the catchment using the Environment Agency's web based service "What's in Your Backyard" facility (see Figure 3-4). Details of these landfill sites are given in Table 3-2.

East Halton landfill site located closest to Halton Marshes is a historic landfill site which poses the greatest contamination risk as it has handled a number of waste types including household waste which typically comprises waste which can be subject to decomposition, and is therefore more likely to produce landfill gas and leachates. No information regarding the construction of the landfill sites was made available for this study and as a result it is not clear whether any engineering measures have been implemented to collect gas or leachate. Surrounding and containing the areas of landfill is a wider area of raised ground which appears from their morphology to be formed from made ground.

Water quality monitoring (see Appendix C) from the main drain for a broad range of potential contamination indicators (including ammoniacal nitrogen as an indicator of potential contamination from the nearby former landfill site) indicated limited evidence of surface water concentration.

Table 3-2 Landfill sites located within the site's surface water catchment

Site	Authorised / Historic	Waste first received	Last waste received	Nature of waste	Distance from site
East Halton	Historic	31 Dec 1967	31 Dec 1983	Inert, Industrial, Household, Special, Liquids/sludge	342m SE
North Kingholme Landfill	Authorised			Non-biodegradable wastes	575m SE
Clough Lane	Historic	23 Mar 1994		Inert waste	720m S

Figure 3-4: Landfill and Raised Ground



Contains Ordnance Survey data © Crown copyright and database right 2016.

3.7 Hydrogeology

The bedrock beneath the site is regarded as a Principal Aquifer by the Environment Agency (EA). This describes layers of rock that have a high intergranular and/or fracture permeability and therefore usually provide a high level of water storage. They may support water supply and/or river base flow on a strategic scale (Environment Agency Online).

The tidal flat deposits are regarded as unproductive strata by the EA, this designation means that the deposits have a low permeability and negligible significance for water supply or river baseflow. The degree of soil gleying (an indicator of local water table height) identified in the auger survey, across the site, suggests that the furthest to which the water table falls is circa 1 to 1.5mbgl. The high proportion of gleyed material in mottled layer above that suggests that the water table regularly is at or near the ground surface. The upper 30cm of deposits, showed limited mottling. This is likely to be the result of ploughing disturbing the deposits rather than indicating the water table does not reached the surface (the site walk-overs in February and March identified significant amounts of standing water).

A limited number of field drains were observed discharging into the main drain. These are likely to change the hydrogeological nature of the upper marine deposit layer, increasing the bulk permeability of this layer.

The till deposits have been defined as a Secondary (undifferentiated) Aquifer by the EA. This category is assigned in cases where it has not been possible to attribute either a Secondary A or Secondary B category to the rock type. In most cases this means that the layer in question has previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type.

3.7.1 Groundwater Source Protection Zones

There are a large number of groundwater source protection zones located to the south and west of the site. All abstractions to have an inner zone (zone 1), outer zone (zone 2) and a total catchment (zone 3). None of the defined SPZs lie within the surface water catchment defined for the site.

3.7.2 Groundwater Vulnerability and Water Quality

The groundwater beneath the site itself is regarded as belonging to a Principal Aquifer of high vulnerability. This high vulnerability classification is a function of the overlying soil type and does not take into account the overlying drift deposits. There is a significant thickness of tidal flat deposits on site (~13m) and these will help protect the aquifer from pollution at the surface, and also limit recharge to the underlying chalk aquifer.

The groundwater body beneath the site is named the Grimsby Ancholme Louth Chalk Unit and is currently regarded as having poor quantitative quality (i.e. the volume of water with the groundwater body is below ideal due to activities such as abstractions) and poor and deteriorating chemical quality. Quantitative status is an expression of the degree to which the groundwater body is affected by direct and indirect abstraction, suggesting the chalk is potentially over-abstracted in this area.

3.7.3 Implications for wetland habitat creation

The tidal flat deposits are dominated by clay and silt. These deposits are likely to act as a low permeability aquitard which will limit the rate of infiltration to the ground and yield limited groundwater. Also, given their low permeability, it is very likely that they will hold surface water when it accumulates in topographic depressions across the site.

Any earthworks associated with the future habitat creation on site will be very shallow (limited to the upper metre of the ground profile). The field drains on site may change the nature of the upper layer of deposits so would have to be blocked as part of any scheme. Given the significant thickness of drift deposits on site there is very unlikely to be any change in groundwater interaction with the underlying Chalk Principal Aquifer.

3.7.4 Catchment Abstraction Management Strategy (CAMS)

The site lies within the Grimsby, Ancholme and Louth Catchment Abstraction Management Strategy (CAMS) area, as defined by the EA. The CAMS document produced by the EA

describes where water is available for abstraction and the implications water resource availability has for new and existing water abstraction licences.

The CAMS for the site suggests that groundwater resources in the Chalk are fully committed to existing users and the environment. Consequently no new consumptive groundwater licences will be granted. New non-consumptive licenses will be considered on a case-by-case basis.

The CAMS states the following for surface water abstractions:

- No new unconstrained licences will be granted at any flows;
- New licences for consumptive water abstraction will be considered at extremely high flows (occurring less than 7% and 10% of the time), subject to hands off flow (HOF) conditions;
- Water may be available at lower flows subject to HOF conditions, if you can buy (known as licence trading) the amount equivalent to that recently abstracted from an existing licence holder;
- Any new abstraction licences with the potential to affect the downstream Humber Estuary SPA/SAC will be assessed under the Habitats Regulations;
- Applications for non-consumptive purposes will be considered on a case-by-case basis.

If a surface water abstraction licence was applied for the scheme the following factors would aid in the EA's consideration of the application:

- The scheme would be for conservation purposes,
- The abstractions would be limited for February to May (no abstractions during the Summer) (see Appendix D),
- The surface water drainage design for ALP will change the outfall location of the catchment, so that it will not contribute to Skitter Beck (see Section 5.2.3).

The last factor especially, means that a surface water abstraction, in itself, should have minimal impact on the flows of Skitter Beck.

3.8 Hydrological and Hydrogeological Conceptual Model

The EA defines a conceptual model as "*a description of how a hydrogeological system is believed to behave*" and its development as "*an iterative process of development and testing in which new observations are used to evaluate and improve the model*" (Environment Agency, 2002, p.4. 1-2).

A conceptual model summarises the understanding of the functioning of a groundwater system. The main features of the conceptual model for Halton Marshes are as follows:

- The site lies within a flat coastal plain running parallel to the Humber which is protected by a sea defence wall.
- The site lies within the catchment of Skitter Beck which discharges to the Humber beyond the northern boundary of the site. The main hydrological control is the main drain which runs parallel to the western boundary of the site.
- The site is underlain by drift deposits comprising low permeability clay dominated tidal flat deposits. Palaeo-channel tidal creek features are also apparent which create hollows across the site.
 - The bulk permeability of the upper layer has been increased by field drains
- Till deposits outcrop on higher ground to the west forming a watershed approximately 2km from the coastline, and these deposits are regarded to comprise a secondary (undifferentiated) aquifer by the EA.
- The bedrock approximately 13m beneath the site belongs to the Cretaceous Burnham Chalk Formation but are isolated from the site by the low permeability tidal flat deposits.

4 Design Principals

This chapter describes the general principles for wet grassland creation, and goes on to develop these principles specifically in relation to the site.

Wet grassland design consist of two main elements:

- Hydrological controls,
- Vegetation management controls.

This chapter focuses on the hydrological controls. Vegetation management is described in Section 6.2.

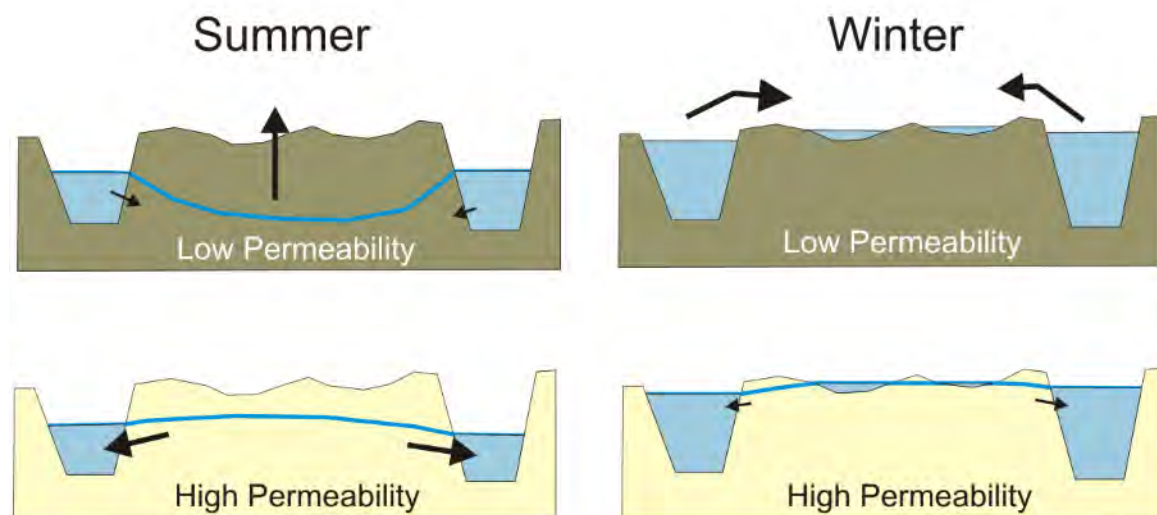
4.1 Hydrogeological Controls

There are two main hydrological types of wet grassland: those developed on high permeability soils which are dependent on maintaining high groundwater levels, and those on low permeability soils which are dependent on retaining surface water in topographical hollows (JBA Consulting 2013). Figure 4-1 gives an overview of how each of these mechanisms work. The wet grassland on high permeability ground model is dependent on high water levels in the surrounding drains or rivers to cause high groundwater levels to occur across the site.

In the low permeability model, water levels in the surrounding ditches are not as important as the low permeability nature of the soils isolates them from the groundwater levels within the fields between them. Instead the low permeability model is dependent on surface inundation for topographical hollows; either through flooding or through retaining rainfall.

Based upon our assessment of site geology and conditions we are of the opinion that the site lends itself to a low permeability type model for creation of the required habitats.

Figure 4-1 Typical mechanisms for creating wet grassland



4.2 Water Level Targets

4.2.1 Target Species

Curlew

Curlew require a medium-long sward height (15-30cm), with shorter tussock areas (5cm) scattered around the site. The water table needs to be near the surface but they require drier areas with tall sward for nesting. Following nesting the water levels should be allowed to drain down slowly (RSPB, 2005). In winter Curlew are typically found in and around estuaries on pastureland and on the shore (Holden & Cleaves, 2014).

Black-tailed Godwit

A very high water table is required without surface flooding during the previous winter (RSPB, 1997). Adults tend to feed in deep water. In winter this species prefers soft coasts/ estuaries and freshwater habitats (BirdLife International, 2016).

Lapwing

Lapwing feed on soils and sward invertebrates and earthworms (especially adults) which are especially abundant in unflooded grassland. Lapwing require a close cropped sward and this is usually achieved with either winter flooding (which restricts sward growth) or grazing with livestock (Ausden, 2001) (Benstead, et al., 1997, p. 72).

Ruff

Ruff prefer lowland wet meadows which are grazed in the summer and flooded in the winter (Holden & Cleeves, 2014). If breeding is to be achieved this species needs to lek in drier areas (RSPB, 1997) with short swards and nearby shallow water with muddy margins for foraging (English Nature, 1999). This species is most likely to be seen in the Winter as they typically overwinter on the coast (JNCC, n.d.).

Golden Plover

In the Winter they often move to lowland fields (Holden & Cleeves, 2014), usually in the company of Lapwings, where they feed on crane fly larvae which require damp areas for survival (BTO, n.d.). In the breeding season this bird prefers upland areas, such as blanket bog, heather moorlands and limestone grassland (Mullarney, et al., 1999) and should not be seen on site.

4.2.2 Additional Wader Species

Wet grasslands provide a valuable habitat for a range of species, particularly wading birds such as Snipe *Gallinago gallinago*, and Redshank *Tringa totanus*. However, both of these species have slightly different habitat preferences, particularly when it comes to breeding, as summarised below. Wet grasslands also provide valuable wintering and migratory feeding sites for wildfowl.

Snipe

Snipe has a relatively restricted diet, feeding mainly on earthworms (and other invertebrates) in soft, damp soil (Ausden, 2001) with its long bill. Flooding of the land severely reduces the numbers of earthworms and other invertebrates in the soil while letting the water table fall too dramatically leads to a loss of these species at the surface, and therefore a decline in their availability for this species.

Redshank

These require very similar conditions to Lapwing.

Bats and Passerines

There are no specific targets for these species, however, bats will benefit from ponds and scrapes as foraging habitats. Passerines, such as Skylark and Meadow Pipit like dry areas to breed and forage in.

4.3 Scrape design on low permeability soils

On clay soils, wetland birds will use the wetted margins for feeding (rather than feeding across the surfaces of the field) and therefore scrapes can offer such margins though it is important for the scrapes to create and maintain long margins (Acreman, et al., 2010). Scrapes are not intended to be permanent bodies of deep water like ponds, and therefore they will not provide habitat for fish and other aquatic species which require significant water depth throughout the year.

JBA Consulting's (2013) study into low permeability soil wetland grassland schemes in Lincolnshire identified principles required for successful schemes. The study suggested that the best scrapes should retain the water they collect and be effective at concentrating surface water towards them. It is ideal to have a relatively large catchment to scrape size and to have the shortest distance possible between the edge of the catchment and the scrape (without

limiting the catchment area too much) and the steepest slope possible. This will allow the greatest possible amount of run-off to reach the scrape and limit the amount of infiltration of rainfall into the ground. Scrapes should have wide, shallow sides, so whatever the water levels within them there are still shallow muddy margins and extensive drawdown zones for the creation of suitable feeding habitat for wader birds.

A good scrape design for focussing run-off will have the following features (JBA 2013):

1. A relatively large catchment to scrape size.
2. The shortest distance possible between the edge of the catchment and the scrape (without limiting the catchment area too much) and the steepest slope possible. Together this will limit the infiltration of rainfall into the ground before it enters the scrape.
3. Once run-off enters the scrape, it should be allowed to flow to one low point so that when water levels are low, the catchment of the scrape does not splinter, feeding many smaller depressions.
4. The scrapes should have shallow sides so whatever the water level is within them, there are still shallow margins for feeding.
5. They will not have spoil laid down immediately next door to the scrapes in a way that reduces their receiving catchment area.
6. The scrapes should be located some distance from any areas of trees and scrub to reduce the risk of predation from potential predator perches and areas of cover.
7. The scrapes should hold water to until at least mid-summer (though potentially even later for some bird species such as Black-tailed Godwit) to allow for successful wader breeding.

4.3.1 External inputs of water

The section above discusses the optimal scrape design for capturing and retaining surface water run-off. Even if the best method for scrape design is adopted it is not guaranteed that scrapes will be able to retain water to mid-summer or later. The water budget of some sites is such that the outputs (evaporation and other losses) outweigh the inputs (rainfall) leading to a negative water balance (JBA 2013). If a negative water balance persists for a substantial length of time, water from the system may be lost more rapidly than desired. On sites which have a water balance which will not allow even well designed scrapes to persist into the summer months (or early autumn in the case of Godwits) the only remaining option is to secure an additional supply of water supply and input this to the site, effectively topping up the scrapes when necessary. Methods which could be employed to input an external supply of water to a site could include pumping water onto a site from a nearby water body such as a drain, ditch or pond, or drilling a water supply borehole to input groundwater to the site.

4.3.2 Winter Water Level Management

The target birds have different winter water level requirements. The design of the scrapes (or other open water bodies) have to vary across the site to create areas where:

- the scrapes are maintained and could spill out onto the surrounding ground,
- the scrapes are allowed to completely drain down,
- the scrapes are maintained but do not flood the surrounding ground.

Overall, the objective is to create a mosaic wet area, isolated open pools and dry areas. The low permeability nature of the underlying soils, allows these areas to be relatively easily compartmentalised. Implementation of a flexible management regime over the winter months will maintain the conditions required by each of the species across the site.

Certain areas will be managed for Black-tailed Godwits, here winter flooding will be avoided by allowing water to drain. Elsewhere, water will be encouraged to pool on site in scrapes, ponds and furrows to benefit Curlew, Ruff and Lapwing. Dry areas, will also be maintained for Golden Plover. Overall though the site will have appearance of an open wet grassland and, in all likelihood, the bird species will range across the site, taking advantage of seasonal changes in the water levels.

5 Site Constraints

A number of potential constraints to undertaking habitat creation works across Halton Marshes have been identified. Some of these constraints directly relate to the target species desired on site, and others relate to more general site constraints.

5.1 Target species constraints

Constraints relating to the target species include:

- Habitat area requirements:
 - 20 ha Curlew
 - 12 ha Golden Plover, Lapwing, Curlew and Ruff
 - 20 ha Black-tailed Godwit
- Buffer zones (from site boundaries)
 - 150m west boundary
 - 50m all other boundaries
- 1.7ha neutral grassland within the buffer
- Hedgerow removal
- Wet ditch to keep dogs out
- Target species periods - as highlighted in Table 2-2.

More general site constraints include:

- Site topography
- Water quality
- Development plans within the site catchment (including water quality)
- Functionality of the sea wall
- Third parties (nearby house)
- Landfill
- Source of additional top up water

5.2 General site constraints

5.2.1 Site topography

The site itself is generally fairly flat, meaning any proposals to have water flowing across the site must be carefully considered in order to function.

Higher ground lies to the west of the habitat creation area, and the runoff from this area could potentially be exploited for the habitat creation. However, there is a relic palaeo-channel on-site which runs broadly parallel to the western boundary of the site forming a depression. The presence of a hollow lying directly between the potential up-catchment source of water and the main body of the site means getting water onto the site itself is difficult as the gradients are not naturally conducive. Similarly, there is a need for water to be able to flow across the site itself.

There is one branch of the remnant palaeo-channel which cuts through the site running broadly southwest - northeast. This means that the topographical gradients are also not conducive to allow the flow of water from the southern half of the site to the northern half and therefore design measures will be necessary to allow for movement of water across the site.

5.2.2 Water quality

Should the quality of water on site be poor, there may be negative implications for habitat creation on-site and potentially even a threat to human health. In order to assess any constraints to the project which may be caused by water quality issues five water samples were collected from Halton Marshes on 1st March 2016, and dispatched to a UKAS accredited

laboratory for chemical analysis for a range of general water quality indicators. The results are presented in Appendix C and show the following:

- Salinity is currently higher in bodies of standing water (whether Winters Pond or small ephemeral pools within the palaeo-channel). However, levels of salinity are still relatively low (just brackish) and is likely to be the result of sea spray aerosol deposition. It should be noted that until recently the site was productive farmland.
- In general the water quality is better in the main drain than the standing bodies of water. There are two exceptions to this:
 - Calcium levels - suggesting influence of the chalk and chalk parent material of the till within the catchment.
 - Suspended solids in the main drain sample downstream of the road. This appears to be the result of run-off on the day of sampling from the road which was dirty as a result of recent agricultural activity.

Overall, testing showed that the main drain would be a suitable source of water as it is of a better quality than the open water bodies, and particularly the palaeo-channel ephemeral open water body on site.

5.2.3 Development plans within the site catchment

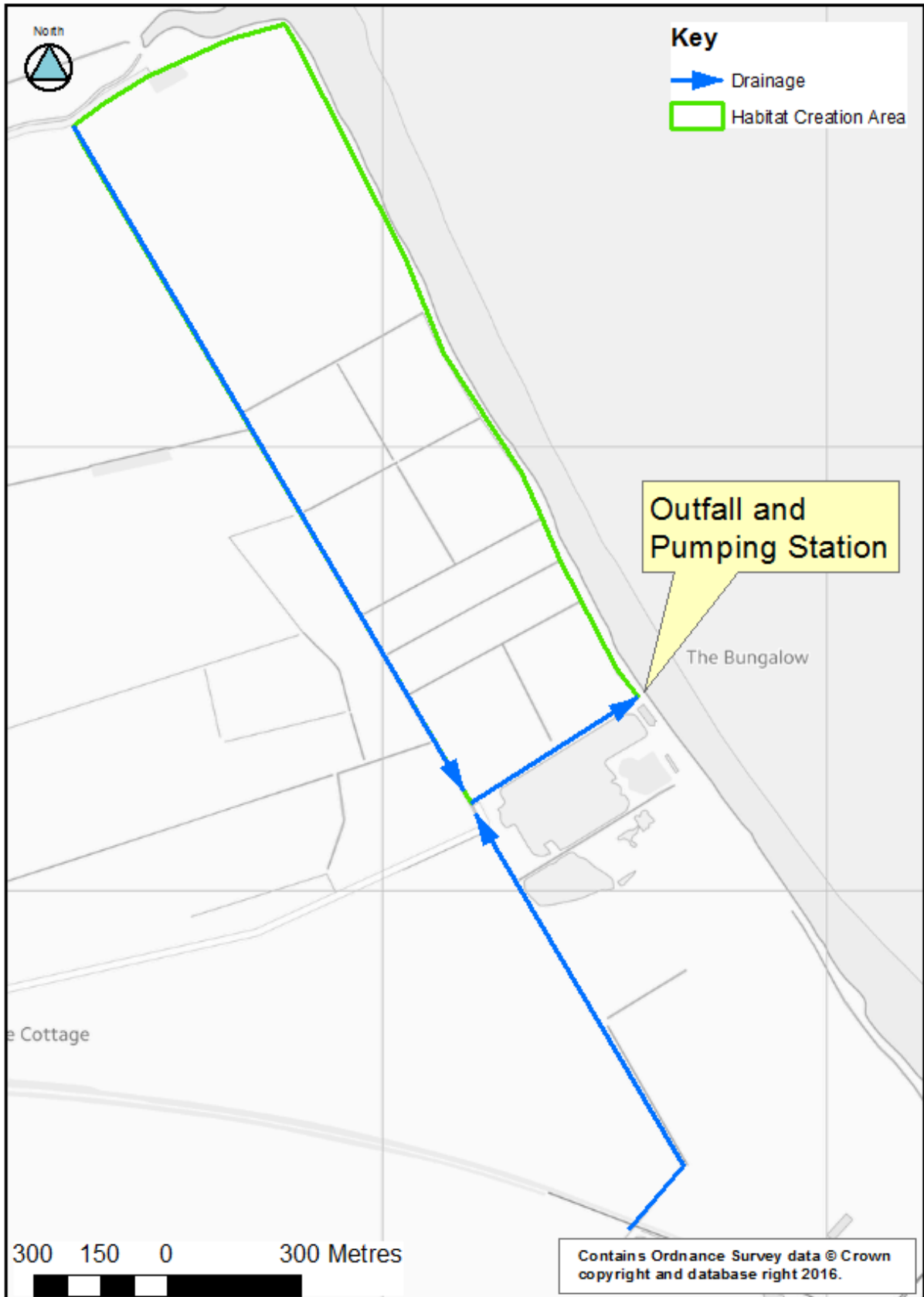
In order to develop a wet grassland habitat on site, it may be necessary to ensure water from the site catchment is encouraged to flow onto Halton Marshes. It is understood that the current plan is to develop a commercial park adjacent to the site within the site catchment. Developing a business park will change the primary land use within the site catchment from predominantly agricultural farmland to a mainly urban environment, and this will significantly alter the hydrology of this adjacent area land.

The current development and drainage plan (Hannah Reed and Associates, 2007) will have three main hydrological impacts upon the overall catchment (see Figure 5-1):

- A flood attenuation basin in the upper catchment will reduce the flashiness of inputs to the main drain.
- The increase in hardstanding may increase the peak run-off rate in the lower catchment.
- The direction of flow and outfall location of the site will be modified so that the main drain will discharge via a widened drain along the southern boundary of the site, via a pumping station/ flap valve outfall (tidal dependent) located in the south-eastern corner of the site.

Any scheme has to be flexible to cope with these changes as and when they occur.

Figure 5-1: Development Modification of the Hydrology



Contains Ordnance Survey data © Crown copyright and database right 2016.

5.2.4 Functionality of the sea wall

The wet grassland habitat design is reliant upon the sea wall remaining functional. Should the wall fail and not be repaired, this will have a significant impact on the wet grassland area.

5.2.5 Third parties

Creating a wet grassland habitat across Halton Marshes will involve creating areas of standing water on site. The development must not lead to negative impacts for third parties, including impacts on the drainage of third party properties.

5.2.6 Landfill

There are a number of landfill sites located to the south of the site, and it is essential that the habitat creation works do not have any impact on the hydrology of these sites. The development of a wet grassland at Halton Marshes is likely to require an external source of water and the most appropriate solution is to draw water from the main drain alongside when it is required. If water levels are artificially raised in this drain in order to secure a water supply it will be necessary to ensure that standing water levels are not raised adjacent to any landfill sites.

5.2.7 Source of additional top-up water

A water balance has been undertaken for the site (Appendix D). It suggests that the site is relatively "robust" in terms of its ability to retain water. However, although scrapes are likely to persist in most years through the required target periods, a source of top up water would be desirable. The main drain during the months of February to May could provide water but the flows in the summer months are likely to be too dry to be a reliable source of water. Water quality analysis indicates that the drain can be used as a source of additional "top-up" water.

6 Design Options

6.1 Introduction

This chapter outlines a number of possible habitat creation opportunities for Halton Marshes. It has the following elements:

- The principles of the Habitat Management Plan,
- An appraisal of potential wet grassland creation options,
- A detailed description of the preferred scheme.

6.2 Habitat Management Plan

6.2.1 Grazing Regime

The best form of habitat management to achieve the requirements of the desired wader species at Halton Marshes is grazing with cattle. Cattle are generalist grazers that leave a residual sward height typically in the range of about 4cm (Wilson, et al., 2004). However, they also defecate and avoid their own excretions, leaving tussocky patches of ungrazed habitat within the overall grazed grassland matrix. Unlike sheep, goats or horses, they are far less choosy when consuming vegetation and graze all areas equally and relatively lightly in comparison with the more concentrated grazing in favoured areas of the species mentioned above. Cattle do, however, have a propensity to trample nests in the Spring (Hart, et al., 2002) and poach ground during the winter months, when the water levels are high. It is, therefore, important to restrict the number of animals per hectare in the bird breeding season, whilst ensuring that the grazing effort is maximised during the late summer and Autumn to ensure that the sward is grazed short before the Winter months, removing material before it senesces.

Winter grazing with sheep can be effective in tandem with cattle as it reduces parasite loadings and can keep the sward short during the winter months, especially in mild years with long growing seasons. However, the issue with the site at Halton Marshes is its location in relation to the general availability of livestock as it is in a predominantly arable area, nevertheless it should be possible to rent the land for sheep grazing over the winter months to upland farms.

Overall the best solution for keeping the grasslands short would be to winter sheep on the land between October and March, introducing cattle after a period of relaxation in the second week of May, initially at low densities of around 0.5LU/ha (Bientema & Muskens, 1987) but, in late June this can be upped to a rate of 2.0LU/ha until mid October. If necessary, after July, this can be upped further in order to achieve the correct sward height prior to the onset of winter and wetter conditions. This will reduce the sward to a height where it can be grazed by sheep over the winter months, however, if large flocks of Wigeon *Anas penelope* or geese frequent the site, these can serve the same purpose removing the need for winter sheep grazing. Winter grazing needs to take account of the fact that much of the site, not included within the core area for Black-tailed Godwits, will be surface flooded, therefore, a stocking rate of one ewe per hectare (0.15LU/ha) should be utilised.

In order to create the sward types necessary to suit the individual wader species, it may be necessary to sow (or plug plant) species such as Cocksfoot *Dactylis glomerata*, Soft Rush *Juncus effusus* or Hard Rush *Juncus inflexus*. There may also be a need to electric fence of parts of the site to create small areas of more tussocky grassland. These small areas of habitat will serve as nurseries and nesting sites for the waders on site and increase the overall value of the habitat to wading birds.

6.2.2 Hedgerow removal

All the hedgerows within the main site will need to be removed as part of this scheme. However, in compensation and to aid screening, new lengths of hedgerow will be planted alongside the wet ditch on the east side of the site, enhancing the existing intermittent hedgerow on this location. The existing screens to the north and south will be enhanced by gapping-up to ensure that the birds using the site will remain undisturbed by people and/or predators.

6.2.3 Screening

Screening will be planted on the landward side of a wet ditch below the floodbank on the eastern boundary of the site. No hedgerow trees will be planted into this hedge.

6.2.4 Reseeding

It is not proposed to reseed the site generally, as the sward that has developed is suitable for wading birds if correctly managed. However, at the moment the sward is rank and overgrown with tall herb species and this will have had a negative effect on wading bird populations since arable production ceased on site. However, the loss of this area will have a negative effect on passerine populations, which were good at the time of the site visit, with large numbers of Goldfinches *Carduelis carduelis* present on the site. In view of this and the requirements for some tussocky grassland on site, it is advisable to leave a wide uncultivated strip around the outside of parts of the site, which could be electric-fenced to exclude sheep in the winter months. The northernmost field would also benefit from a small area of ploughed land being left fallow during the winter to encourage Golden Plover and Lapwing to use this field, prior to sowing with a wild bird mix in the Spring prior to nesting. This could be rotated along the eastern edge of the core site, leaving topped vegetation in the winter for wintering finches whilst reducing the potential for predator perches. These areas could be electric-fenced along with the rough grass margins making management easier, if sheep grazing in the winter is necessary.

The only portion of the site that should be reseeded is a 1.7ha area at the most northern part of the site. This could be sown with a species-rich MG5 grassland mix to create an area of neutral grassland. Given the highly productive nature of the land, it is highly likely that this will become rank if not regularly mowed and this would be undesirable from a habitat management point of view. Therefore, a hay cut should be taken from this each year in August and the grassland left rough over the winter months. Given the nature of the sward mix, this hay could easily be sold to local equine interests.

6.3 Options for Wet Grassland Creation

6.3.1 Overview

A series of outline design options have been developed for the site as presented in Table 6.1 and are based on JBA's previous experience of development of wetland habitat across a range of sites. This section aims to give an overview of the options reviewed.

The following sections provide additional detail on the nature of these schemes, an options appraisal taking into account the mitigation requirements balanced against the general site constraints and concluding with a preferred option.

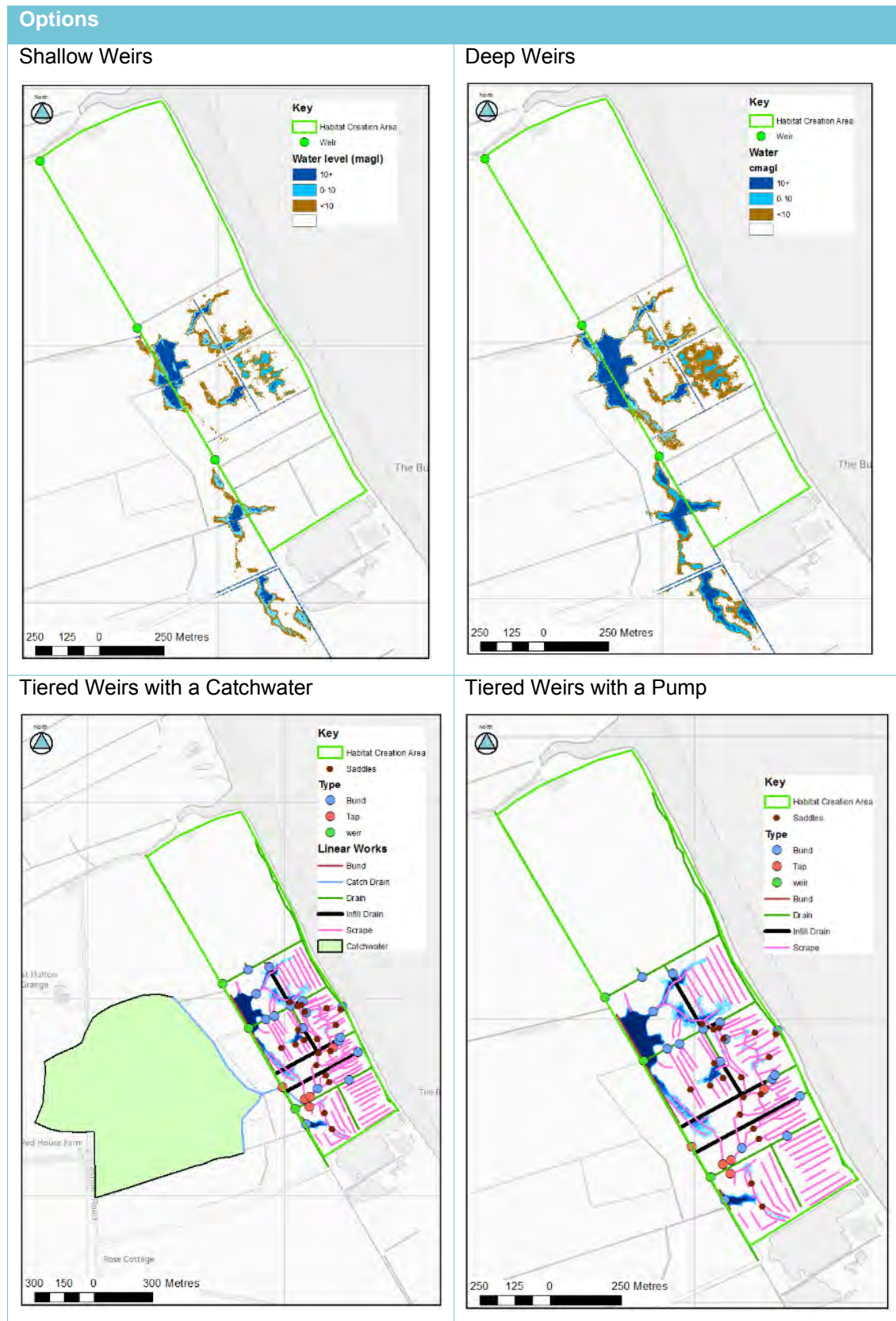
Table 6-1: Options Overview

Option Name	Description
Shallow Weir	Installing two weirs within the main drain causing shallow inundation of the palaeo-channel. This is coupled with additional scrapes.
Deep weir	Installing two weirs within the main drain causing deeper inundation of the palaeo-channel. This is coupled with some additional scrapes.
Field Scrapes	This consists of a series of linear isolated scrapes.
Tiered Scrapes	This consists of a series of scrapes which are connected to allow the distribution of water across the site. The scrapes are tiered through the installation of "saddles" between the scrapes, which control water levels and ensure that the scrapes at the top of the system are not drained. No external "top-up" system (pump or catchwater) would be initially installed (but could be if the need arose).
Tiered Scrapes with a Catchwater	As the tiered scrape option with the addition of a "passive" catchwater which would collect run-off from the hillside to the west. There is a low area between the site and the hills to the west formed by the palaeo-channel. In order for the water from the catchwater to be feed into the site

	via gravity, a culvert over the main drain and palaeo-channel low would be required.
Tiered Scrapes with a Pump to draw water from main drain.	As the tiered scrape option the addition of a pump from the main drain supplying the system.

Figure 6-1 provides general overview plans of the considered options and presents key features of the outline designs together with an indication of wetted areas through the use of site LIDAR data. No separate plan has been provide for the Field Scrape option as this consists of a series of uniformly spaced linear scrapes, nor the Tiered Scrape option as this appears very similar to the Tiered Scrape with a Pump option.

Figure 6-1: Options



Contains Ordnance Survey data © Crown copyright and database right 2016.

6.3.2 Scrape Design

The design of the scrapes for the site are based on the principles outlined in Section 4.3 and reflect the finding of the water budget (see Section 6.3.3 and Appendix D). In order to persist

through to September in all but the driest years, the scrapes have been designed to be relatively deep (circa 0.75m to 0.85m) (Note - if a scrape is able to persist through September, it should be able to continue to persist through autumn). As a result they will also be relatively wide (circa 4.5m) so that the slopes of the scrapes are not overly steep. This ensures good marginal habitat (see Figure 6-2). Examples of scrapes with similar parameters recently installed at a nature reserve near Doncaster are shown in Figure 6-4 and Figure 6-5.

Within all of the tiered scrape options, the scrapes would be connected together to allow the distribution of water. To ensure that the water does not all flow and pool at the lowest point in the system; the scrapes will be separated by a shallow saddles set just below the ground surface (see Figure 6-3 and Figure 6-5). The tiered scrape option also allows for parts of the scrape system to be drained down during the winter, to limit winter flooding. The management of scrapes through winter is described in more detail in Section 6.4.6.

Figure 6-2: Typical Cross Section of a Scrape

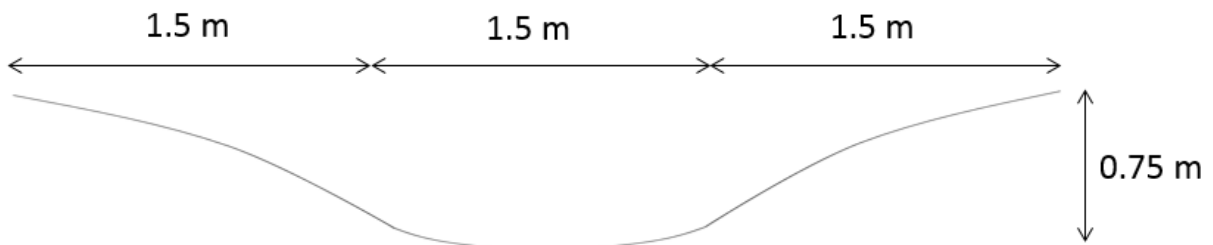


Figure 6-3: Long Section of a Tiered Scrape System (NTS)

Upslope

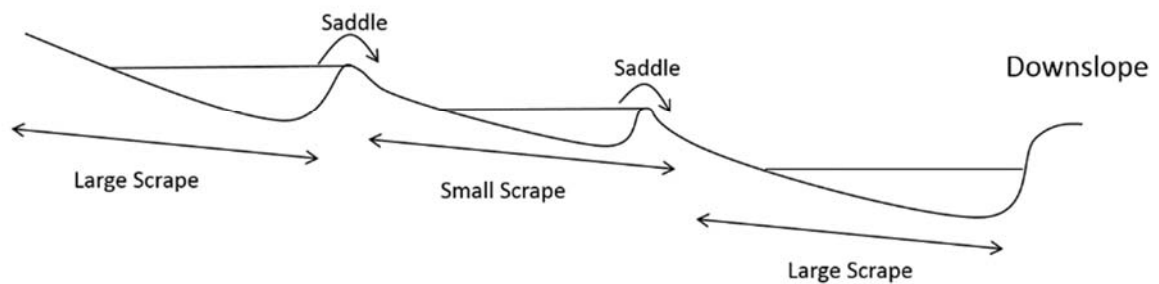


Figure 6-4: Linear scrapes at habitat creation site near Doncaster immediately after excavation



Figure 6-5: Linear scrapes at same site with saddles one month after installation



6.3.3 Water budget

A series of water budgets have been developed in order to assess the ability/ likelihood of the different options in meeting the required water level targets, and this work is presented in Appendix D. The water budgets are based on the use of Met Office Rainfall and Evapotranspiration Calculation System (MORECS) monthly data from 1986-2015 collected for MORECS square 101 (in which the site is located) for a range of land uses which are relevant to the site in its current form and as a mitigation area.

In summary they comprise the following:

- A basic water budget - this calculates direct rainfall minus evaporation losses to estimate the drawdown in scrapes (i.e. progressive reduction in water levels) during the target periods.
- A volumetric water budget - this is a monthly mass balance water budget calculating the inputs (rainfall and run-off) and outputs (evaporation, transpiration and run-off) for the whole of the site and also additional areas such a catchwater to the west which could contribute to the site.
- A combined water budget - this integrates the volumetric water budgets ability to estimate the degree to which the scrapes would be full at the beginning of the target periods with the basic water budgets estimation of drawdown in water levels in the scrapes during the target period to estimate the depth of water at the end of the target period.

The water budget was conducted on data gathered from 1986-2015 (30 years), the results can therefore give an estimation of the proportion of years a scheme may not be successful. The result however are not true return period, but give a broad indication of how successful the assess schemes could be.

Based on the water balance assessments the following conclusions can be drawn:

- A Shallow Weir option as outlined above would not achieve the required targets as the inundation deep created (circa 200mm) would be too shallow to persist over the required periods (the water budget estimated it would have failed 27 times over the 30 year period). However, a Deep Weir option would produce water deep enough to persist (circa 600mm) in all but extremely dry years (the water budget estimated it would have succeeded in every year in the 30 year period).
- The maximum deficit (the difference between the depth of rainfall and losses due to evaporation) for the scrapes, calculated in the last 30 years, in the target period was circa 500mm (the average deficit was circa 300mm). Therefore, provided that the 750mm - 850mm scrapes are full at the beginning of the target period (beginning of February) they should persist throughout the required timescales annually.
- Without a way of providing "top up" (either a catchwater or pump) the scrapes would be more prone to not fully filling up in late winter/early spring as they would only be supplied with run-off from the land immediately adjacent or direct rainfall. Provision of a top up supply would mean that they would only fail in the most extreme circumstances (only 1 year in the past 30 years was calculated to fail, if a pump was utilised)..
- In the majority of years there is likely to be sufficient water available in the main drain for pumping into the site from February to May to completely fill the scrape system (in only 2 years in the 30 year period was it calculated that there would not be sufficient flows to allow this). However, flow in later months from May onwards could not be relied on to fill up the scrapes. Therefore, topping up of the scrapes would need to occur by May at the latest.

6.3.4 Options appraisal

An appraisal has been undertaken for the various options outlined in Table 6-1, which as previously stated are based on practical measures based upon JBAs experience on similar sites. The results are summarised in Table 6-2 based on three key criteria:

- Ability to fulfil targets - i.e. does the water budget indicate that the water level targets would be met by the scheme.
- Impact on external receptors - i.e. would the scheme create significant impacts such as drainage issues to third parties.
- Construction, maintenance and robustness - i.e. can the scheme be delivered in a relatively straightforward way, can it be maintained and will it remain successful in delivery of the habitat requirements?

The appraisal indicates that the Tiered Scrapes with a Pump option would offer the best overall outcomes in terms of all three criteria. This option is discussed in further detail in Section 6.4

Table 6-2 Options Appraisal

Option	Ability to Fulfil Targets	Impact on External Receptors	Construction and maintenance Issues	Conclusion
Shallow Weirs	<p>Collects water from the wider catchment, however the ability to fulfil targets is limited as the areas of inundation would be too shallow to persist.</p> <p>Estimate – Only successful in 3 of 30 years based on water balance assessment.</p>	<p>The water level in main drain would be raised above bank level. Significant impact on the drainage of the whole coastal plain upstream of the weir including:</p> <ul style="list-style-type: none"> -Third party house -Access road -Landfill drainage 	<p>Relatively simple to construct and maintain.</p> <p>Weirs will require active management and maintenance.</p>	<p>Would not be successful and have significant impacts on external receptors.</p>
Deep Weirs	<p>Collects water from the wider catchment, ensuring the system is likely to fill and the areas of inundation would be sufficiently deep to persist.</p> <p>Estimate – All 30 years of record would have been successful.</p>	<p>The water level in main drain would be raised above bank level. Significant impact on the drainage of the whole coastal plain upstream of the weir including:</p> <ul style="list-style-type: none"> - Third party house - Access road - Landfill drainage 	<p>Relatively simple to construct and maintain</p> <p>Weirs will require active management and maintenance.</p>	<p>Like to be successful but have significant impacts on external receptors.</p>
Field Scrapes (isolated system of scrapes)	<p>Cannot collect water from the wider catchment. Topping up by a pump would be difficult as the scrapes are isolated.</p> <p>However it would be successful in a high/moderate proportion of years</p> <p>Estimate – failure in 1 year – near</p>	<p>Limited as external drains will not be modified.</p>	<p>Very simple to construct with limited maintenance.</p>	<p>Could be successful, however the difficulties in the ability to top-up the system with water would limit the robustness of this solution in drier</p>

Option	Ability to Fulfil Targets	Impact on External Receptors	Construction and maintenance Issues	Conclusion
	failure in a further 5 in the 30 year record			years.
Tiered Scrapes	<p>Cannot collect water from the wider catchment but a pump into the main drain could be easily retrofitted.</p> <p>It would be successful in a moderate proportion of years</p> <p>Estimate – failure in 2 year – near failure in a further 6 in the 30 year record</p>	Limited as external drains will not be modified.	Construction would require that the fall along the scrapes works in terms of the ability to distribute water and retain water in the upper scrapes.	Could be successful, however without a pump being installed initially there is a chance that the scheme would fail periodically.
Tiered Scrapes with Catchwater	<p>Would be successful in a very high proportion of years.</p> <p>Estimate – failure in 1 year in the 30 year record.</p>	Limited as external drains will not be modified.	<p>Nature of the catchment will change as the site to the west is developed, which may affect the ability of the catchwater to provide water (however, if all drainage from site to west is diverted to planned pumping station as part of future development plans it may be possible to draw off a proportion of the drainage to provide top up water provided it was of suitable quality).</p> <p>Construction would require that the fall along the scrapes works in terms of the ability to distribute water and retain water in the upper scrapes.</p>	Likely to be successful but difficult to incorporate into the overall scheme as timescales for future development of site to the west are currently not known with any degree of certainty.
Tiered Scrapes with Pump	<p>Would be successful in a very high proportion of years.</p> <p>Estimate – failure in 1 year in the 30 year record.</p>	Limited as external drains will not be modified.	Construction would require that the fall along the scrapes works in terms of the ability to distribute water and retain water in the upper scrapes.	<p>Preferred Option</p> <p>Likely to be most successful. However, may have</p>



Option	Ability to Fulfil Targets	Impact on External Receptors	Construction and maintenance Issues	Conclusion
			The direction of the main drain will be modified by the development, therefore the layout of the distribution scrapes would need modifying to allow the planned pump at the planned outfall to be incorporated into the scheme.	to be modified slightly depending upon future development of land to the west.

6.4 Key Elements of Preferred Option

The result of the options appraisal indicates that a Tiered Scrape Option with a Pump which provides a supply of scrape top up water from the main drain would be the preferred option for the following key factors:

- The inclusion of a pump connected to an interconnected water distribution and scrape system will improve the success of the scheme through relatively dry years. The exact nature of the pump would be confirmed at the detailed design stage, but could be mobile and brought onto site during the critical pumping periods.
- The impact on the surrounding catchment should be relatively limited and should not create drainage issues for third parties, the landfill and the future development.
- The scheme is relatively flexible and can be adapted to take account of any changes in site drainage planned for the development site to the west.

This section provides further detail on how this scheme will function. The key elements of the scheme are presented on Map 2 (included an annotated version).

6.4.1 Pump

The pump from the main drain is located at the top of the scrape distribution system. The pump array has the following features:

- A sump will be created to storage a limited amount of water in the main drain to increase the efficiency of the pump. This will be coupled with a weir set in the main drain to slightly back up and create a depth of water. The parameters for the pump sump and weirs will need to be set to accommodate 1/2 a day of average flows with the main drain (circa 650m³).
- The pump will be able to discharge into two scrape systems, one which flows northwards and the other southwards.
- Various options could be available for pumping. In its simplest form a mobile pump could be brought onto site as required.

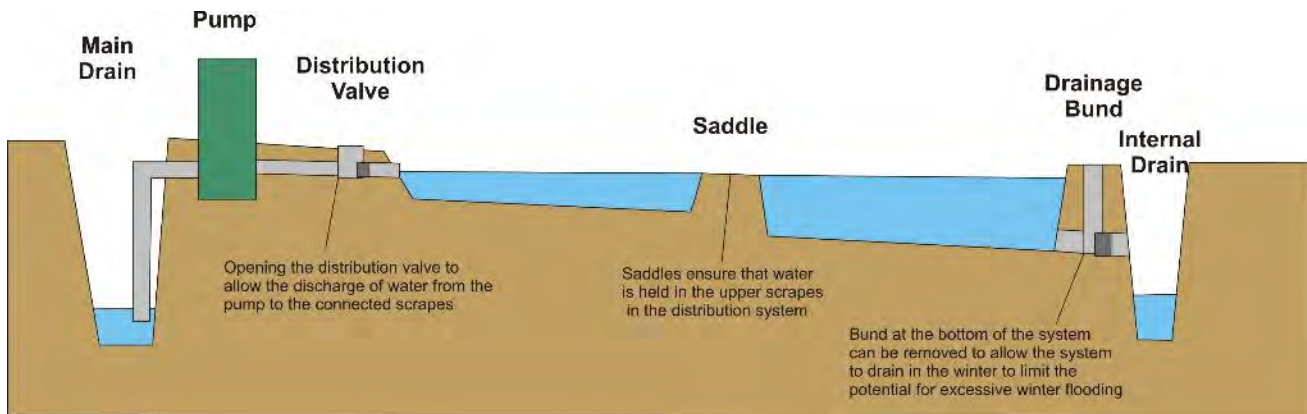
6.4.2 Scrapes and Distribution

A simplified schematic scrape distribution system is shown in Figure 6-6. It has the following features:

- A pump which pumps water from the main drain to the top of the distribution system;
- A series of distribution valves at the head of an interconnected system of scrapes which can be manually opened to direct pumped flow into different groups of scrapes
- A series of tiered scrapes separated by saddles (higher ridges in the base of the scrape). The pumped water will be able to flow down the scrape system and the saddles will ensure that water is distributed evenly along the system (i.e. highest scrape fills up initially until water level exceeds saddle crest and water then discharges to next scrape).
- Water can be released from the scrapes at the bottom (lowest elevation end) of the scrape system, through a structure containing a removable bund.
- It should also be noted that the outline design incorporates a series of isolated scrapes which would not be connected to the pumping system.

The elements a described in more detail below.

Figure 6-6: Pump and Tiered Scrape Schematic



The scrape system will effectively form the distribution channel from the pump. At junctions in the system, simple distribution gates can be set. This is likely to take the form of a short culverted section, with a manhole cover access to a stopper type valve (see Figure 6-7 as an example used on a similar type of wetland scheme to that proposed here) to control the distribution of water between individual scrapes.

The benefits of this type of approach is that it allows for significant flexibility in controlling the distribution of water on an "as required" basis, is relatively straightforward to install and operate.

Figure 6-7: Example of a water distribution gateway to control the flow of water between individual scrapes.



As described in Section 6.3.2, the scrapes will be separated with saddles to ensure that water will not just flow down the system to the lowest tier, but will be retained in the higher scrapes before cascading into the lower scrapes. The height of the saddles will need to be set to be as high as possible without the water spilling out of the scrapes and escaping from the scrape system (e.g. spill into an external drain). In most cases this is circa 10cm below ground level. The heights of the saddles are indicated in mAOD on Map 2.

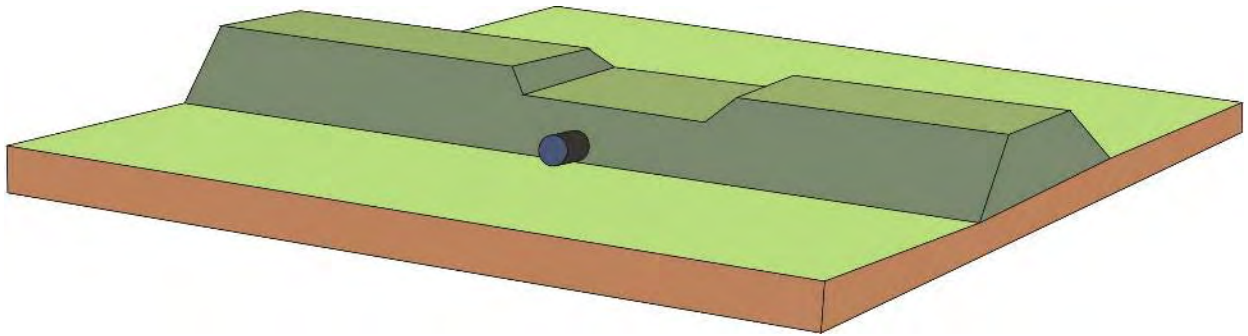
The exact design of the saddles would be subject to detailed design but are likely to take the form of an earth core protected from poaching by a grid paving system or concrete canvas would be sufficient. These can be monitored during the early years of the system operation and easily modified and maintained as the need arises.

It should be noted that because of topographical constraints at the site, a group of scrapes in the south-east of the site would not be initially connected to the distribution channel. However, they could be connected when the scheme is modified as the development is constructed (see Section 6.4.7).

6.4.3 Palaeo-channel

The site has a series of topographical lows formed by tidal creek palaeo-channels. The design can incorporate these features by blocking the channels with simple earth bunds, to impound water behind them. At their simplest, this will be a bund, with a reinforced overspill point and a large plugged culvert set in the base, to allow the system to be drained (see Figure 6-8). For the larger bunds, a formal weir structure would be incorporated into the bund.

Figure 6-8: Spillway within Bund and drainage culvert



6.4.4 Field Drain System

A number of Field Drains discharge into the main drain from the site. These will need to be addressed in order to prevent potential drainage of water from the newly constructed scrape system. This is typically done in either a targeted fashion at known discharge points, or construction of inspection trenches along field boundaries.

Where field drains are identified when excavating the scrapes, these are typically dug out (including removal of surrounding coarse backfill materials such as gravels) to a distance of 2.5m from the edge of the scrapes and backfilled with clay arising from the scrapes. This aids in limiting the lateral flow of water out of the scrape to the surrounding ground.

6.4.5 Northern Field

Suggested works in the northern field (see Figure 6-9) should be limited to the blocking of the field drain system, including a small drain with a plugged culverted outfall to allow the draining of a depression in the winter and vegetation management (discussed in Section 6.2). This is due to the fact that this field already typically holds good number of Golden Plover during the winter months and therefore little modification is required.

Golden Plover prefer drier ground than other waders and this field is suitable for them now and, with the removal of the hedgerows, use should increase as the birds will feel less intimidated by the presence of potential predator perches and will have improved sight lines.

6.4.6 Water Level Management Plan

The following section presents the key elements of future water level management in order to achieve the requirements of the habitat creation.

6.4.6.1 Winter

Together the target birds on-site during winter have a range of different requirements. These are described in Table 2-2 but can be summarised as:

- Black-tail Godwits - no winter flooding
- Lapwing - some surface water
- Curlew - some surface water
- Ruff Winter - winter flooding
- Golden Plover - essentially dry

Section 4.3.2 outlines that a design should consist of a range of differing scrapes which can be managed in different ways to achieve the various requirements. The preferred design has

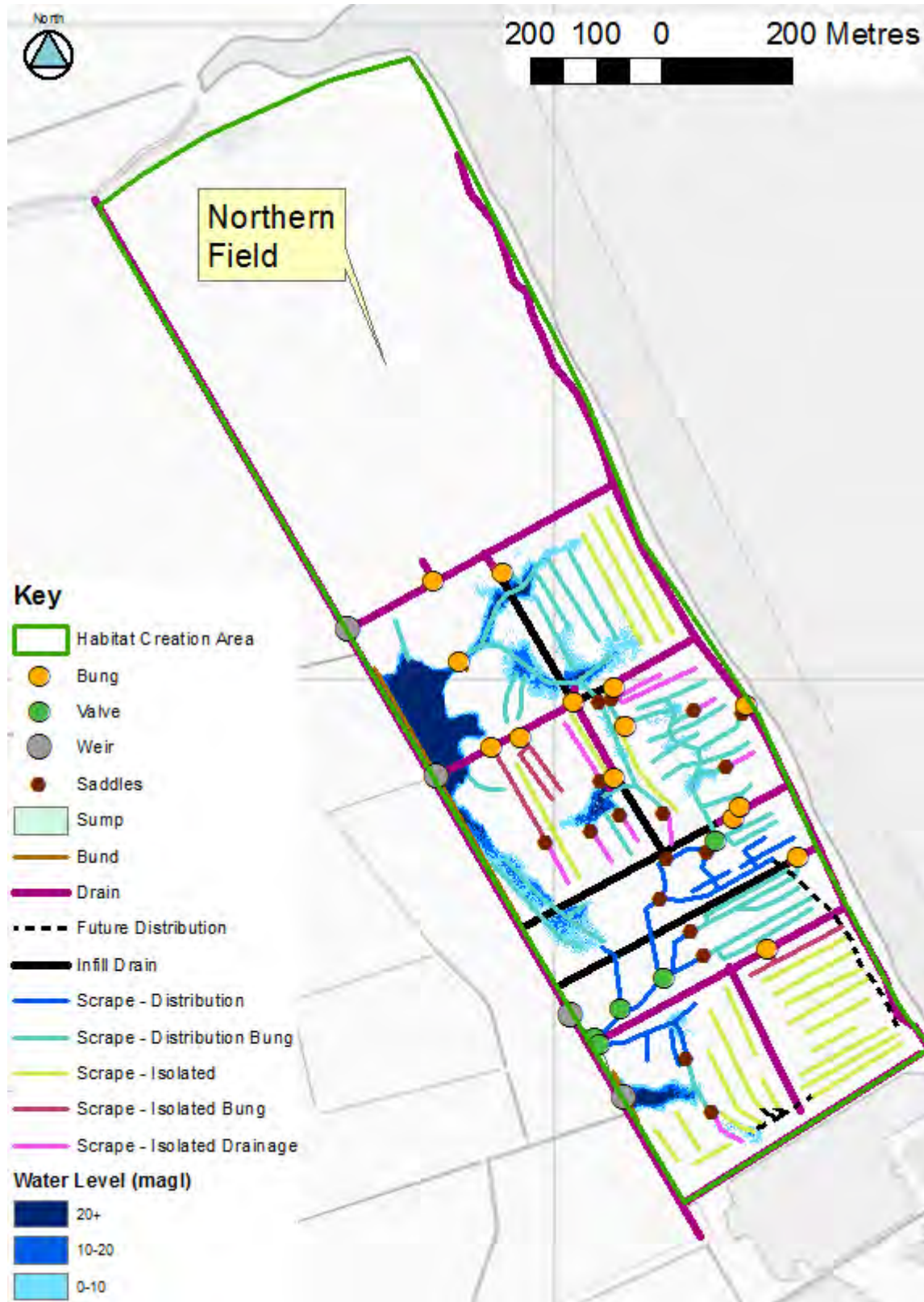
several classes of scrapes and open water bodies which can be managed in different ways (see Table 6-3, Figure 6-9, and Map 4) to achieve required outcomes.

The flexibility of having several scrape classes means that the requirements for core habitat areas for different species can be achieved across the site. This may also allow some rotation of the area of winter inundation.

Table 6-3: Scrape Classification, and other Area, and their Winter Management

Scrape Classification and other Areas	Description	Suitable Target Bird Habitat
Scrape - Distribution	These are scrapes in the upper tiers of the distribution system. In winter they cannot be fully drained down, however, once full water will cascade down into adjoining (lower lying) scrapes such that water should not spill out of banks and flood the surrounding ground.	Lapwing Curlew
Scrape - Distribution & Bung	These are the scrapes in the lowest tier of the distribution system. The removal of the bungs will allow water to fully drain from the scrapes.	If drained down - Black-tailed godwit and Golden Plover. If not drawn down - Ruff, Curlew and Lapwing.
Scrape - Isolated	These are isolated scrapes, not connected to the water distribution network and therefore once full will spill onto the surrounding land	Ruff
Scrape - Isolated & Bung	This are similar to the "Scrape - Distribution Bung" category but are not directly connected to the water distribution system. In the winter, their operation would be similar, i.e. they can be drained down of water where required.	If drained down - Black-tailed godwit and Golden Plover If not drawn down - Ruff, Curlew and Lapwing
Scrapes - Isolated Drainage	This are similar to "Scrape - Distribution" but they would not directly connect to the pump water distribution system. In the winter, their operation would be similar.	Lapwing
Inundated Palaeochannel	These are the topographical lows formed by palaeochannels which will be inundated and connected to the pump distribution system. In effect, they can be managed the same as the "Scrape - Distribution Bung" category as they have a release bung, or weir which will allow them to be fully drained down.	If drained down - Black-tailed godwit and Golden Plover. If not drawn down - Ruff, Curlew and Lapwing.
Northern Field	The management of this field is described in Section 6.4.6.	Golden Plover.

Figure 6-9: Scrape Classification in Preferred Design



Winter Water Level Management activities will involve the following key activities:

- Lowering of the weir controlling the internal drains to allow the system to freely drain.
- Unblocking of bungs at the lower end of the scrape systems where required to allow for drain down.

To avoid excessive water standing on the site during the winter, the system of scrapes presented in Map 2 has been designed to have a series of release bungs at the bottom of the system, which will allow the connected scrapes to act as drains and discharge water to the retained field boundary drains. While some bungs should not be removed to maintain enough standing water for wading species, such as Curlew and Lapwing enough should be removed to prevent the winter flooding of 20ha of pasture land for Black-tailed Godwits. The isolated scrapes will provide much of the surface water pools required for Ruff. The system can then be blocked again at the beginning of January to allow the system to fill up sufficiently before the target period starts in February.

To compliment the scrape system, weirs and bungs can be incorporated into the bunds across the palaeo-channel and can be managed in a similar way.

The plan also incorporates control structures on the drains so where possible, the water levels can be raised during the target period to allow free functioning during the winter. The drains may require some limited re-profiling to allow them to function in the envisaged way. However, for the drain on the eastern site boundary, this could be incorporated into the screening discussed in Section 6.2.3.

6.4.6.2 Spring to autumn

During this period there are two main functions:

- From spring to mid-summer the site will be managed for breeding waders (Note - not a target objective as laid out in Section 2.3)
- From late summer into early autumn there is a requirement for open water for Black-tailed Godwits.

It should be noted that the requirement for pools for Black-tailed Godwits extends beyond this period through late autumn and into March. However, the critical factor is to ensure that the scrape persist through the driest period of the year i.e. they can persist to the end of September. In October, within the 20ha targeted at Black-tailed Godwits, the bungs should be open and the scrapes here allowed to drain-down, preventing winter flooding.

The water level management during this period will consist of two main activities:

- Blocking the outfalls of the scrape systems with bungs,
- Pumping water from the main drain from February to May, if required, to fully fill the scrapes and palaeochannel in the distribution system.

6.4.7 Future Modification

Outlined in Section 5.2.3, are the planned modifications to the surface water drainage network as the site is developed. The tiered scrape system which is presented in Map 2 has been designed to incorporate flexibility in order that it can be readily modified in the future, if necessary, to incorporate a new surface water discharge location in the south-east corner of the site. When the modifications occur, the location of the pump can be altered to the new outlet. This will have two immediate benefits:

- The drain at this point will have a larger catchment (and therefore higher flows) compared to the previous pump location; and,
- There will be a small increase in the number of scrapes that will be fed into the distribution system.

6.4.8 Habitat Areas Required

These have been set out in Section 2.2 above and have been incorporated into the proposed scheme. If the scheme presented above is implemented then the planning requirements to allow development to proceed will have been met.

7 Conclusions

An outline wet grassland scheme has been presented to allow the creation of suitable habitats for a range of target species throughout the year. The scheme takes into account a water balance for the site which has been undertaken using MORECS data, an understanding of the current physical characteristics of the site and the surrounding area and the overall mitigation requirements as required by statutory authorities.

Due to the low permeability nature of the clay deposits on site, the scheme design has focused on the creation of a series of long linear scrapes, sufficiently deep to persist through the target period but shallowly sloped to allow the target bird species to utilise them.

To increase the robustness of the scheme, the design allows for topping up of water from the main drain through the use of a pump. Hydrological analysis suggests that there should be sufficient water to fill the system from February to May, however the flows in the main drain cannot be relied on in the summer months, and therefore it is important that pumping, if required, occurs during these months.

To ensure that the site does not experience excess flooding in the winter, a series of bungs and weirs can be adjusted to allow the site to effectively drain during this period.

The engineered elements of the scheme will need to be complimented by a series of vegetation management elements, including, hedge removal, screening, reseeding, and grazing management.

Appendices

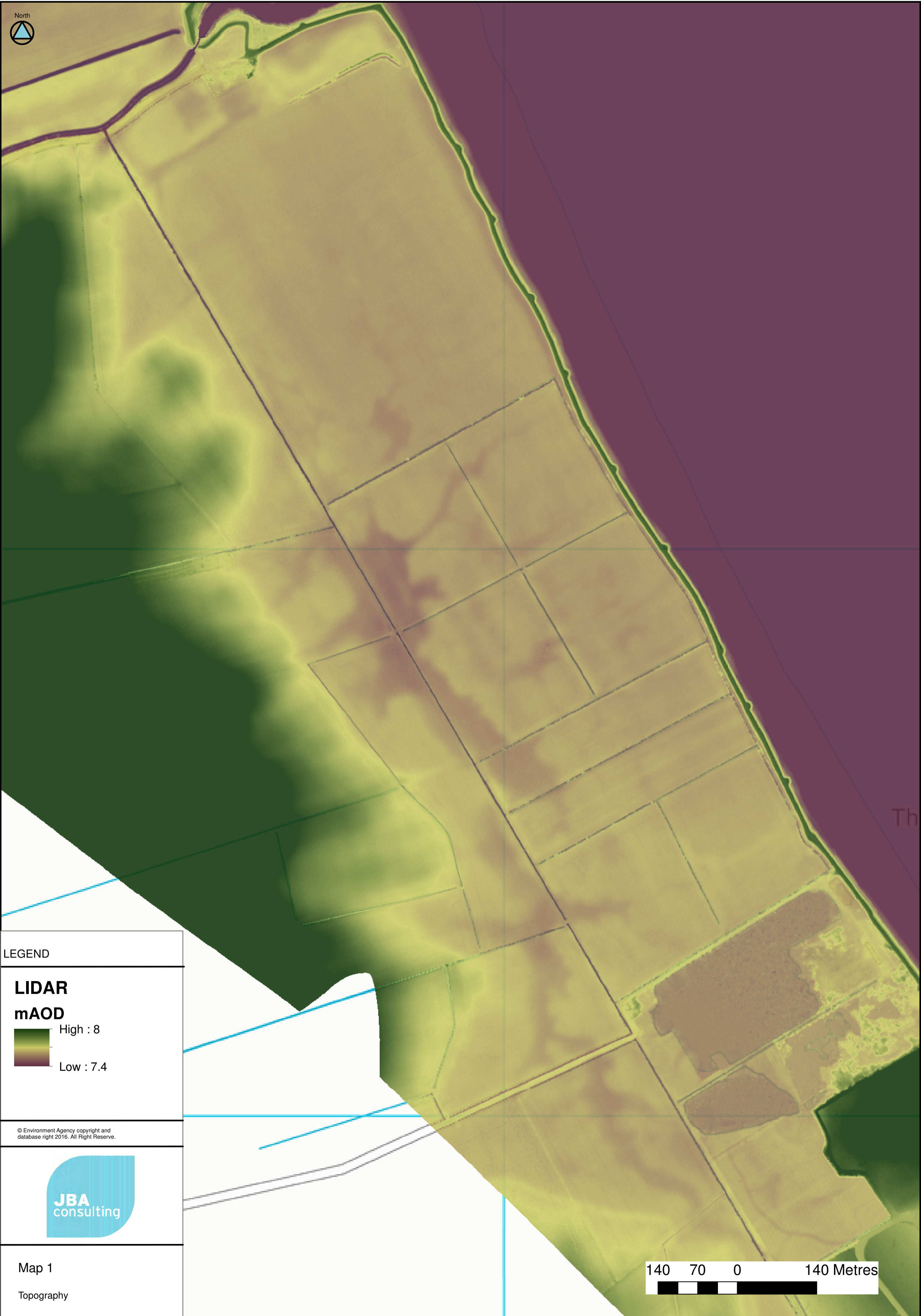
A Maps

Map 1: Topography

Map 2: Preferred Option Design

Map 3: Preferred Option Design with Annotations

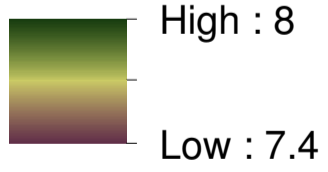
Map 4: Preferred Option Design with Scrape Classifications



LEGEND

LIDAR

mAOD



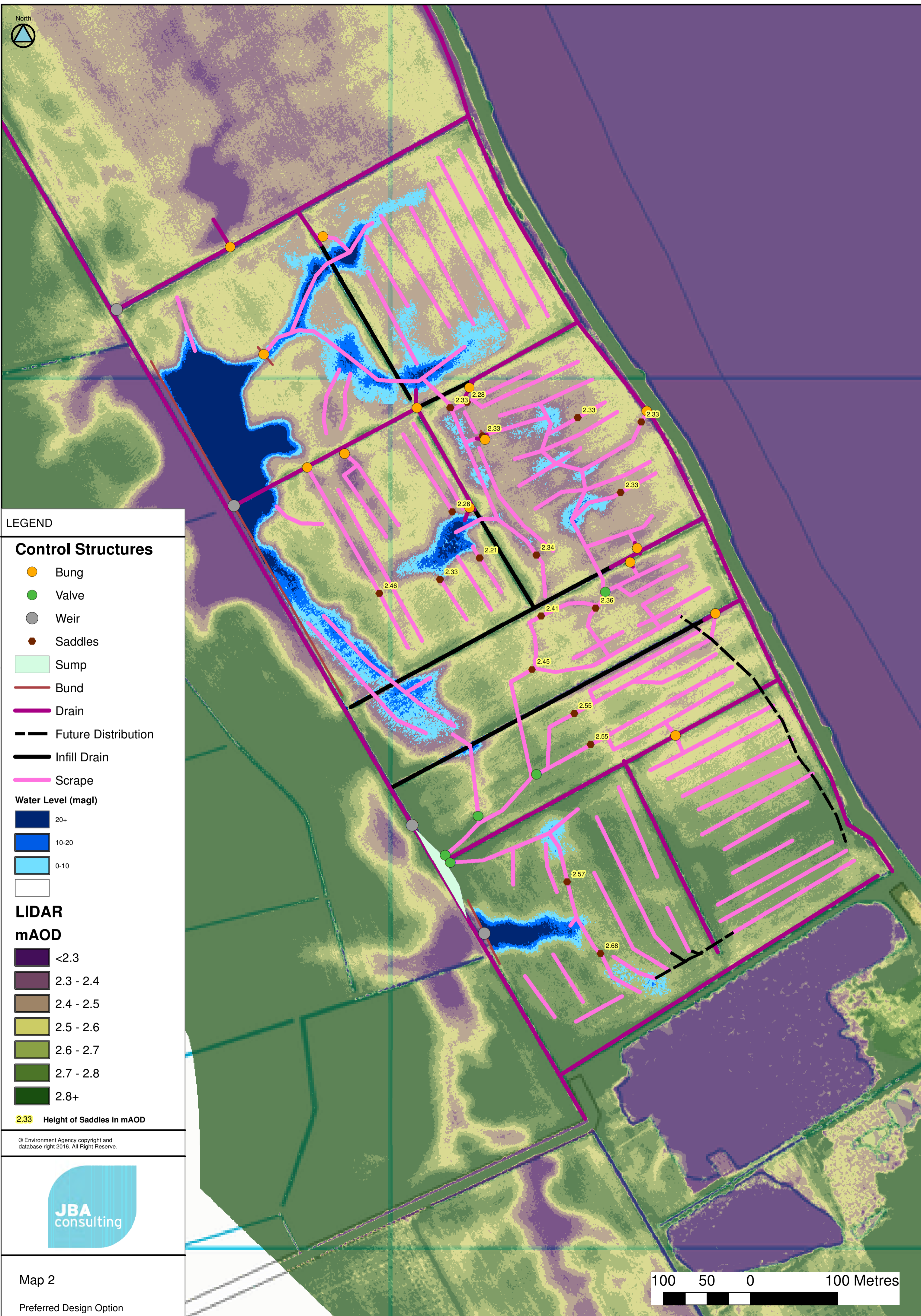
© Environment Agency copyright and database right 2016. All Right Reserve.



Map 1

Topography





LEGEND

Control Structures

- Bung
- Valve
- Weir
- Saddles
- Sump
- Bund
- Drain
- Future Distribution
- Infill Drain
- Scrape

Water Level (magl)

- 20+
- 10-20
- 0-10
-

LIDAR mAOd

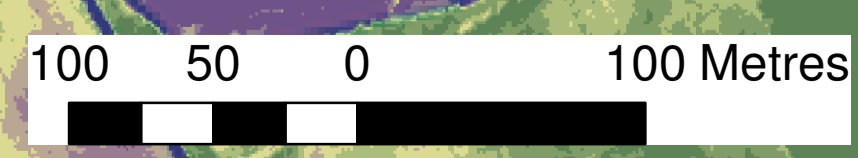
- <2.3
- 2.3 - 2.4
- 2.4 - 2.5
- 2.5 - 2.6
- 2.6 - 2.7
- 2.7 - 2.8
- 2.8+

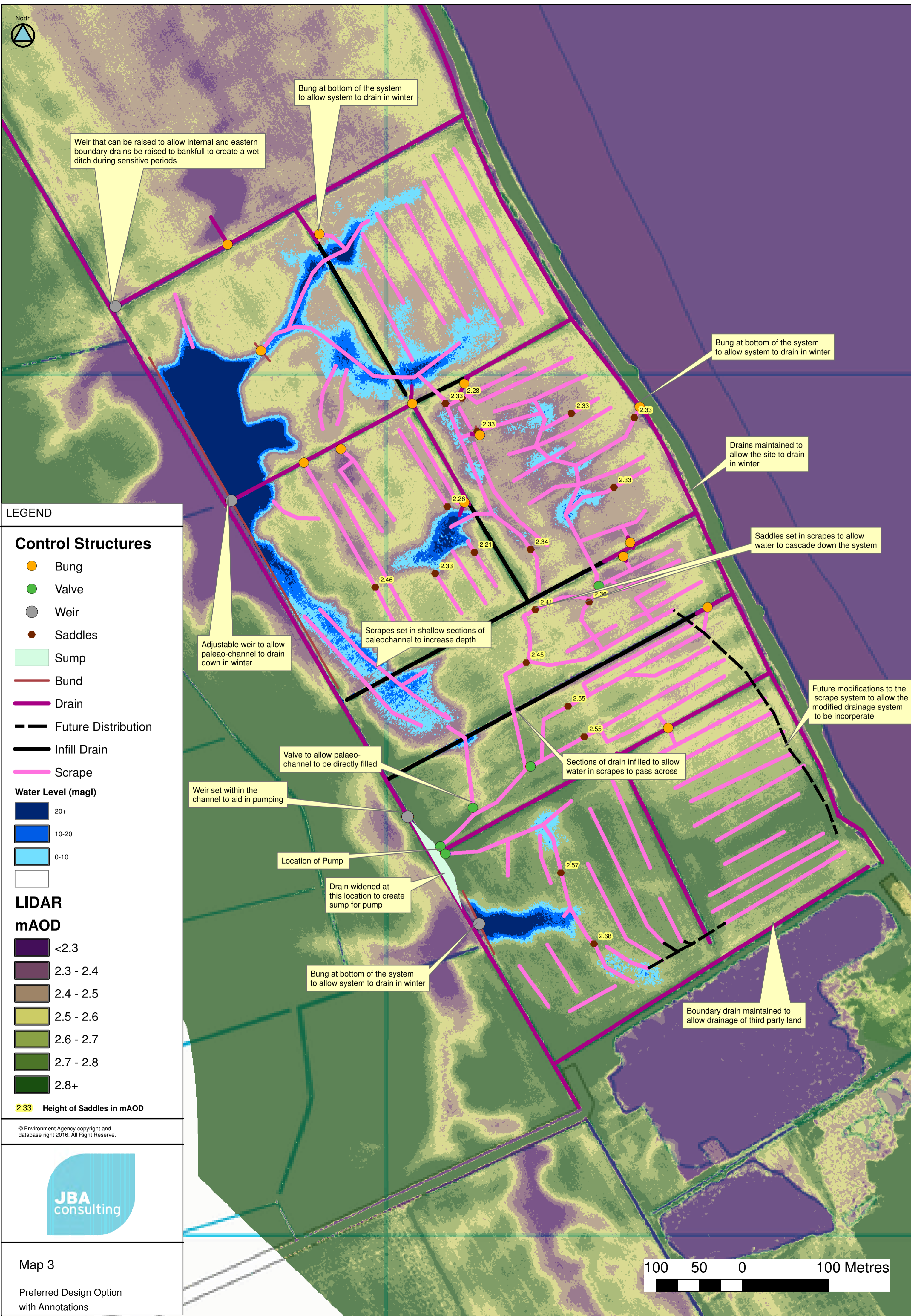
● 2.33 Height of Saddles in mAOd

© Environment Agency copyright and database right 2016. All Right Reserve.



Map 2
Preferred Design Option





LEGEND

Control Structures

- Bung
- Valve
- Weir
- Saddles
- Sump
- Bund
- Drain
- Future Distribution
- Infill Drain
- Scrape

Water Level (magl)

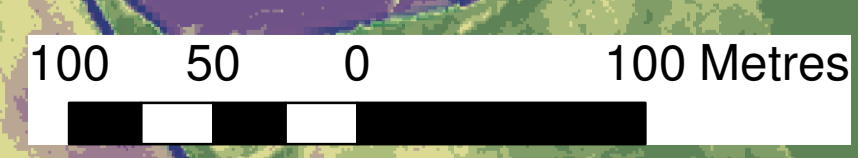
- 20+
- 10-20
- 0-10
-

LIDAR mAOD

- <2.3
- 2.3 - 2.4
- 2.4 - 2.5
- 2.5 - 2.6
- 2.6 - 2.7
- 2.7 - 2.8
- 2.8+

2.33 Height of Saddles in mAOD

© Environment Agency copyright and database right 2016. All Right Reserve.





LEGEND

Control Structures

- Bung
- Valve
- Weir
- Saddles
- Sump
- Bund
- Drain
- Future Distribution
- Infill Drain
- Scrape - Distribution
- Scrape - Distribution Bung
- Scrape - Isolated
- Scrape - Isolated Bung
- Scrape - Isolated Drainage

Water Level (magl)

- 20+
- 10-20
- 0-10
-

2.33 Height of Saddles in mAOD

Contains Ordnance Survey Data © Crown copyright and database right 2016.



Map 4

Preferred Design Option
with Classified Scrapes



B Auger Hole Logs

1 Halton Marshes Auger Hole Logs

1.1 Auger Holes excavated on 24th February 2016, logged by Alice Davis and Alex Jones

HMA1 NGR 515197 421233

Depth (mbgl)	Description
0 - 0.3	Light brown and grey mottled CLAY
0.3 - 0.5	Orange (50%) and grey (50%) mottled CLAY
0.50 - 0.75	Orange (25%) and grey (75%) mottled CLAY
0.75 - 1.00	Orange (40%) and grey (60%) mottled CLAY with rare fragments of black organic material
1.00 - 1.10	Orange (40%) and grey 60%) mottled CLAY with occasional pockets of light brown silt
1.10 - 1.50	Orange (50%) and grey (50%) slightly silty CLAY with occasional fragments of black organic material
1.50 - 1.60	As above with chalk clasts
End at 1.60 m	

HMA2 515154 421348

Depth (mbgl)	Description
0 - 0.3	Light brown-grey wet CLAY
0.30 - 0.45	Light orange-brown and grey mottled CLAY
0.45 - 0.90	Dark orange (85%) and grey (15%) mottled CLAY
0.90 - 1.30	As above with occasional organic material
1.30 - 1.50	Fully gleyed (100% grey) CLAY with a high organic matter content
1.50	Water strike which rose to 0.2mbgl
1.50 - 2.20	No returns - PEAT
End at 2.20 m	

HMA3 515393 421409

Depth (mbgl)	Description
0 - 0.30	Light brown-grey wet CLAY
0.30 - 0.40	Brown and orange mottled CLAY
0.40 - 1.50	Orange (50%) and grey (50%) mottled CLAY
1.50	Water strike
End at 1.50 m	

HMA4
515390 421594

Depth (mbgl)	Description
0 - 0.30	Light grey-brown CLAY
0.30 - 0.90	Orange (40%) and grey (60%) mottled CLAY
0.90 - 1.20	As above with occasional pockets of organic material
1.20 - 1.50	Orange (40%) and grey (60%) mottled CLAY
End at 1.50 m	

HMA5
515032 421616

Depth (mbgl)	Description
0 - 0.30	Grey-brown CLAY
0.30 - 0.40	Orange and grey mottled CLAY
0.40 - 0.50	Orange (50%) and grey (50%)
0.50 - 1.30	As above with rare pockets of organic material
1.30	Water strike
1.30 - 1.60	Fully gleyed (100% grey) wet soft CLAY
End at 1.60 m	

HMA6
514912 421792

Depth (mbgl)	Description
0 - 0.30	Grey-brown CLAY
0.30	Water strike
0.30 - 0.60	Orange (30%) and grey (70%) mottled CLAY
0.60 - 1.30	Orange (50%) and grey (50%) mottle CLAY with rare organic material
1.30 - 1.50	Fully gleyed (100% grey) CLAY
1.50	Water strike
1.50 - 1.60	Peaty CLAY
1.60 - 1.65	Fine gravelly grey CLAY on tip of auger. Refusal at 1.65 m
End at 1.65 m	

HMA7
514793 421984

Depth (mbgl)	Description
0 - 0.40	Light brown-grey CLAY
0.40 - 0.50	Orange (30%) and grey (70%) mottled CLAY
0.50 - 0.55	Orange (50%) and grey (50%) mottled CLAY
0.55	Water strike
0.55 - 0.65	Brown-grey clayey, fine gravelly, medium grained SAND
0.65 - 1.00	Deep yellow fine gravelly medium grained SAND
1.00 - 1.50	Fully gleyed (100% grey) CLAY

End at 1.50 m

HMA8

514950 422141

Depth (mbgl)	Description
0 - 0.30	Brown-grey CLAY
0.30 - 0.60	Orange (40%) and grey (60%) mottled CLAY
0.60 - 1.10	Orange (10%) and grey (90%) mottled CLAY
1.10 - 1.20	Fully gleyed (100% grey) CLAY

End at 1.20 m

HMA9

515113 421967

Depth (mbgl)	Description
0 - 0.30	Grey-brown CLAY
0.30 - 0.40	Grey-brown CLAY with organic bands
0.40 - 1.00	Orange (40%) and grey (60%) mottled CLAY
1.00 - 1.20	Orange (20%) and grey (80%) mottled CLAY
1.20	Water strike
1.20 - 1.40	Fully gleyed (100% grey) soft CLAY with pockets of organic material

End at 1.40 m

HMA10

515225 421786

Depth (mbgl)	Description
0 - 0.30	Grey-brown CLAY
0.30 - 0.40	Orange (20%) and grey (80%) mottled CLAY
0.40 - 0.50	Brick fragments
0.50 - 1.10	Orange (50%) and grey (50%) mottled CLAY
1.10 - 1.50	Orange (20%) and grey (80%) mottled CLAY
1.50 - 1.60	Fully gleyed (100% grey) CLAY

End at 1.60 m

1.2 Auger Holes excavated on 1st March 2016, logged by Brendon McFadden and Alex Jones

HMA11

514487 422645

Depth (mbgl)	Description
0 - 0.30	Grey-brown CLAY
0.30 - 1.50	Orange (50%) and grey (50%) mottled CLAY

End at 1.50 m

HMA12
514830 422654

Depth (mbgl)	Description
0 - 0.30	Grey-brown CLAY
0.30 - 0.50	Orange (80%) and grey (20%) mottled CLAY
0.50 - 1.50	Orange (50%) and grey (50%) mottled CLAY
End at 1.50 m	

HMA13
515005 422345

Depth (mbgl)	Description
0 - 0.30	Grey-brown CLAY
0.30 - 0.50	Orange (60%) and grey (40%) mottled CLAY
0.50 - 1.00	Orange (50%) and grey (50%) mottled silty CLAY
1.00 - 1.50	Orange (50%) and grey (50%) mottled CLAY
End at 1.50 m	

HMA14
514809 422262

Depth (mbgl)	Description
0 0.30	Grey-brown CLAY
0.30 - 0.90	Orange (50%) and grey (50%) mottled CLAY
0.90 - 1.20	Orange (20%) and grey (80%) mottled CLAY
1.20 - 1.50	Fully gleyed (100% grey-purple) CLAY
End at 1.50 m	

C Water Quality Analysis

C.1 Introduction

In order to provide an assessment of water quality across the site, five water samples were obtained from key locations across Halton Marshes and dispatched for analysis at a UKAS accredited laboratory for a broad range of contaminants.

It should be noted that the purpose of the assessment is to provide an initial screening assessment of water quality issues in relation to the proposals for future habitat creation and not to provide a detailed assessment of the site within the context of Part IIA of the 1990 Environmental Protection Act.

The sampling locations are given in Table A1 and displayed in Figure A1.

Figure A1 Water quality sampling locations





Contains Ordnance Survey data © Crown copyright and database right 2016.

Table A1 Water quality sampling locations

Sample Name	Easting	Northing	Location Description
HMWQ1	514779	421860	Standing water in palaeo-channel to the west of the main drain.
HMWQ2	514974	421578	Main drain (site boundary).
HMWQ3	515135	421358	Standing water in palaeo-channel on site.
HMWQ4	515245	421121	Main drain (to the south of the site).
HMWQ5	515273	421182	Pond to the south of the site.

C.2 Results

The results of the water quality analysis are given in Table A2.
2016s3854_Halton Marshes_220416_Final_v2issuedr

Table A2 Water quality results

Determinand	Units	HMW1	HMW2	HMW3	HMW4	HMW5
pH		8.4	8.3	8.3	8.5	8.3
Suspended Solids At 105C	mg/l	20	550	27	12	98
Dissolved Oxygen	mg O ₂ /l	7.4	6.1	6.7	6.6	6.4
Alkalinity (Total)	mg CaCO ₃ /l	310	170	250	330	280
Chloride	mg/l	380	98	230	72	300
Ammoniacal Nitrogen	mg/l	0.43	0.31	0.26	0.17	0.21
Calcium	mg/l	56	150	140	86	110
Potassium	mg/l	27	11	11	13	14
Sodium	mg/l	220	74	130	41	170
Arsenic (Dissolved)	µg/l	3.3	1.2	1.3	3.6	1.9
Iron (Dissolved)	µg/l	< 20	< 20	< 20	< 20	< 20
Manganese (Dissolved)	µg/l	1.6	30	160	8.1	130
Nickel (Dissolved)	µg/l	1.9	2.3	2.1	4.6	2.0
Lead (Dissolved)	µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (Dissolved)	µg/l	3.4	10	7.2	8.1	10
Dissolved Organic Carbon	mg/l	18	18	15	24	15
Salinity	ppt	0.69	0.18	0.42	0.13	0.54

D Water Budget

Halton Marshes Water Budget - Technical Note

1 Introduction

This technical note describes the basis of the water budgets used to assess the potential for wetland creation in the Halton Marshes Area. Three types of water budget have been presented:

- A basic water budget used to assess how far into a summer period a surface water body could persist if full at the end of the previous winter and receiving no water inputs through the spring-summer period.
- A mass balance catchment water budget assessing the volumes of water on a month by month bases which would be supplied to and held within surface water bodies used to create a wetland habitat (using a combination of scrapes and pools).
- Third water budget combining conservative assumptions from both.

Once the water budgets have been presented, analysis for the potential to pump water from the main drain is presented.

2 Data Sources

The following data sources have been used within the assessment:

- MORECS (Met Office Rainfall Evapo-transpiration Calculation System, which provides climatic data on a 40km x 40km grid basis across the UK) monthly data for the area which includes the Halton Marshes Site (MORECS square 101),
- Topographic data using LIDAR,
- Lowflows data.

3 Basic Water Budget

3.1 Introduction and Methodology

The wetland conceptualisation in the main assessment identifies that the site is underlain by low permeability clays (based on ground investigation data obtained from the site). Lateral groundwater movement onto and off the site will therefore be limited. Scrapes and other surface water bodies will therefore be supplied primarily by surface water run-off. Water losses from the open water bodies will take the following form:

- Surface water discharges - when the scrapes or pools are full and a surface water discharge route (spill) can open up through overtopping.
- Lateral groundwater movement - which will be limited by the low permeability clay.
- Evaporative losses.

To understand how long a scrape or pool will persist into the summer a direct rainfall - evaporation water budget for the scrapes has been developed with the following assumptions, which are considered reasonable based upon our existing level of knowledge of the site and the surrounding environment:

- The only water input during the target habitat period into the scrapes is direct rainfall (this is a conservative assumption as the low permeability clays are likely to generate some surface water run-off). Rainfall data is based on monthly MORECS data obtained for Square 101 (the square in which the site lies).
- The only output is evaporation. This is not a conservative assumption as despite the low permeability nature of the clays, there will be some limited lateral groundwater movement from the water bodies to the surround ground, when the water table in the surrounding ground drops, although as noted above this is likely to be limited. The evaporation data is based on monthly MORECS data for Square 101.
- Where rainfall is greater than evaporation within a month, net recharge is not added to the total deficit during the target period. This assumption equates to net monthly positive recharge being lost through run-off - i.e. the scrapes cannot hold more than 100% of their volume. This is a conservative assumption, as monthly net positive recharge can happen once water levels in the scrapes have dropped (e.g. a wet May following several dry antecedent months).

3.2 Results

Figure 3-1 shows an example water budget for 1999 (selected at random) based on the use of the MORECS data. It has four key elements:

- Monthly rainfall,
- Monthly evaporation (using open water data to best reflect losses from the scrapes),
- Net recharge - i.e. monthly rainfall minus monthly evaporation,
- Deficits excluding positive recharge.

The figure shows the total deficit (i.e. the summation of the deficits) during the two critical water level target periods in 1999:

- February to End of September for Black Tail Godwits = 246 mm
 - i.e. there is water available in the driest time of year from late summer to early Autumn.
- February to End of July for the other target species = 221.5 mm

It should be noted that there are autumn and winter water level targets for the site, notably the water level target period for Black tail Godwits extends from August to March. However, this water budget focuses on the sensitive (drier) periods of the year. If water bodies persist through these periods, then they should persist through the less sensitive (in water balance terms, i.e. cooler and wetter) autumn and winter months.

The total deficits during the target periods for each year between 1986 and 2015 are shown in Table 3-1. Scrapes are expected to have a maximum depth of between 750 and 850mm. Table 3-1 includes a column highlighting those deficits greater than 500mm when residual water levels

in the scrapes would be less than 250mm to 350mm; this occurred twice within the 30 year period. If there is a relatively dry winter period before commencement of the target period, the scrapes may not fill. 500mm represents filling the scrapes to only approximately two thirds capacity. Therefore, a conservative assumption is that for those years with a deficit greater than 500mm following a dry winter, the scrapes may not persist through to the end of either target period noted above. Within the assessed period a deficit of 500mm occurred during the longer target period twice in thirty years (deficits of 400mm occurred a further four times). In no year was the deficit greater than 400mm in the shorter target period (to end of July).

In the absence of any "artificial" recharge (i.e. introducing water onto the site from an external source) it is concluded using the MORECS data that there is a potential for the scrapes to completely dry out twice in the past 30 years. This is generally as a result of a dry antecedent winter.

The volumetric water budget in Section 4 assesses how full the scrapes and water bodies need to be prior to commencement of the target period.

Figure 3-1: Example Water Budget from 1984

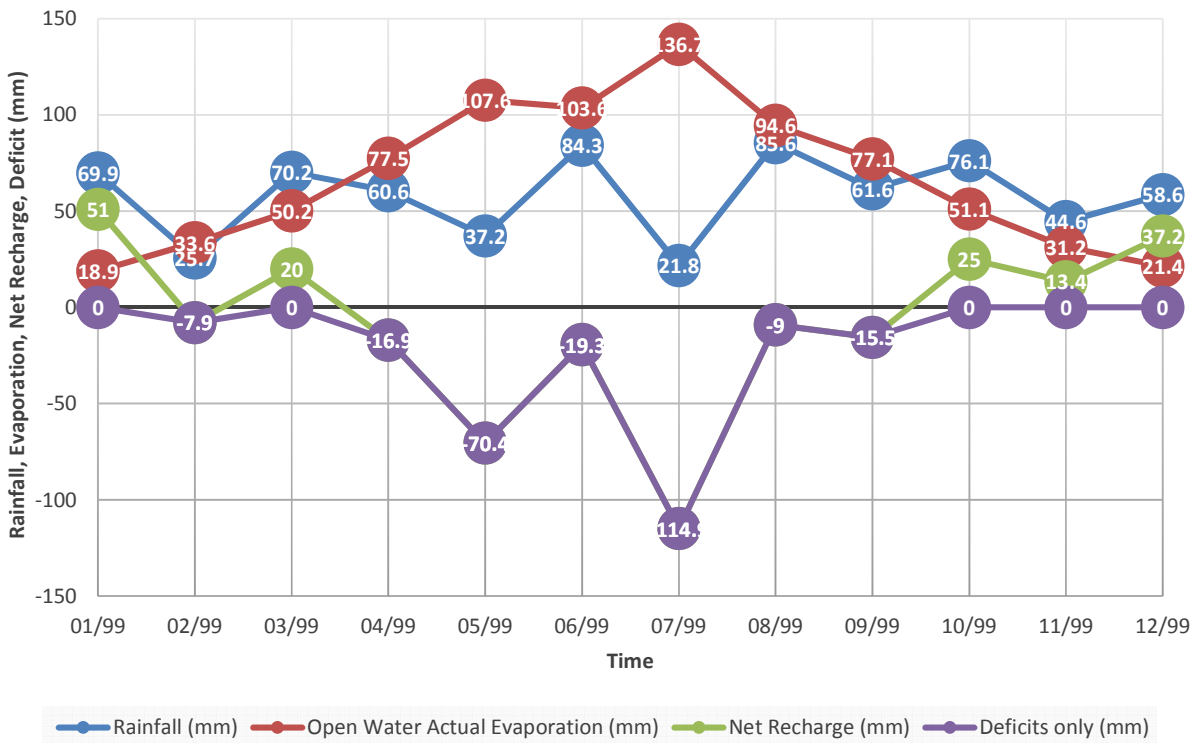


Table 3-1: Total Deficits during the Target Period between 1986 and 2015

Year	Feb - End of July Target Period Deficits for other species (mm)	Feb - End of Sept Target Period Deficits for Black Tailed Godwits (mm)
1986	203.7	273.3
1987	132.1	185.2
1988	152	257.6
1989	242.7	376.1
1990	359.8	503.7
1991	275.7	432.4
1992	208.8	256.3
1993	216	263.8
1994	286.2	363.4
1995	370.7	507.1
1996	348.5	467.6
1997	226.6	331
1998	183.1	286.6
1999	221.5	246
2000	157.5	231
2001	227.5	262.8
2002	228.9	298.6
2003	243.5	399.3
2004	186	239.5
2005	250.1	326.6
2006	283.3	293.7
2007	116.4	255.8
2008	202.6	222.8
2009	261.3	392.7
2010	339.4	371.3
2011	376.2	455.4
2012	140.1	196.8
2013	299.6	429.6
2014	162.7	217.1
2015	259.1	329.7

Overall, this analysis of MORECS rainfall and evaporation data for the site suggests that given the local climate, if the scrapes constructed at the depths anticipated (750mm - 850mm) are able to fill over the winter period, they should persist in all but the very driest years.

4 Volumetric Water Budget

A monthly volumetric water budget has been developed for four wetland design options presented to identify the volume of water that would be contained within surface water bodies within the wetland in each month between the period 1986 and 2015 for which MORECS data has been obtained. In outline, the wetland designs options are:

- Blocking the Halton Marsh Drain with two weirs and feeding water from the open water body created through a series of scrapes. Two sub-options were considered:
 - "Shallow Weirs" where the weirs shallowly inundated the neighbouring ground; and,
 - "Deep Weirs" where the weirs would create deeper bodies of water.
- "Field Scrapes"- A series of linear scrapes fed by direct surface run-off.
- "Tiered Scrapes" - a series of tiered scrapes coupled with the inundation of low lying paleo- channel features on the site.
 - A variation on this is the "Tiered Scrapes with a Catchwater" option, where a catchwater system on the site to the west owned by Able collects surface run-off from the slopes and discharges it to the site. A second variation includes a pump in the main drain which is discussed in Section 6.

These options are described in further detail in Section 6 of the main report and are based upon the broad management option of active water level management through-out the year..

4.1 Rainfall, Evapotranspiration and Evaporation

Rainfall and Actual Evapotranspiration data was used from MORECS square 101, from 01/1986 to 12/2016. Actual evapotranspiration and a high availability soil type (i.e. assuming a high water table) data was used in the water balance calculations. Actual evapotranspiration is an estimate of the quantity of water that is actually removed from a surface due to evaporation and transpiration. It differs from potential evapotranspiration, which is a measure of the ability of the atmosphere to remove water from the surface through evaporation and transpiration. In dry periods, the actual evapotranspiration can be significantly lower than the potential evapotranspiration as there is restricted water available. .

Areal averaging of MORECS evaporation and evapotranspiration data was undertaken in order to account for the variation in vegetation community and land-use across the site, to produce an average evapotranspirational loss for the site. The vegetation/land use areas were attributed to a MORECS category allowing direct use of actual evaporation data. The areas of each vegetation/land use sub-area was estimated using ArcGIS and consisted of the following categories:

- Open water - for the areas of planned scrapes and other water bodies.
- Riparian - for the margins around open water bodies.
- Grassland - the remainder of the catchment/site. It has also been assumed that the rest of catchment is grassland which is a reasonable assumption. Currently this is dominated by arable usage, however the choice of grassland provides relatively high evapotranspiration rates throughout the target period. Arable crops can have higher evapotranspiration rates for particular months in the target period (e.g. winter wheat is likely to have higher evapotranspiration rates in February and March and oil seed rapid higher rates in June and July).

It should also be noted that much of the catchment to the west of the proposed wetland may be developed in the future with hardstanding. This will increase the rate of run-off and should also reduce evapotranspirational losses and thus potentially supply more run-off to the wetland than has been calculated.

The percentage land covers for each option are shown in Table 4-1.

Table 4-1. Percentage covers for MORECS land class for the scenarios derived from ArcGIS

MORECS land class	Field Scrapes	Shallow and Deep Weirs	Tiered Scrapes	Tiered Scrapes with Catchwater
Open water	15	5	22	8.6
Riparian	10	15	10	38.6

Grazing	75	80	68	52.8
---------	----	----	----	------

Note: the design options with inputs from the rest of the catchment have proportionally smaller areas of open water to support.

Based on the land cover proportions above, the evapotranspiration for each month was calculated as follows.

$$E = [(0.15 \times AE\ OWT) + (0.1 \times AE\ RIP) + (0.75 \times AE\ RGZ)]$$

E = Evapotranspiration

AE = Actual Evapotranspiration

OWT - Open Water

RIP - Riparian

RGZ - Rough Grazing

4.2 Storage Capacity

The volumetric water budget was assessed on the basis that from the start of October through to the end of December, there is effectively no water storage within the system - i.e. control structures are left open to allow the site to drain and limit winter flooding. This is a conservative assumption as not all the system will be drained down in October so as to create a mosaic of suitable winter habitats. In January to the end of September, the outfalls can be blocked and weirs raised. The open water capacity of the various designs (in effect the volumes of water needed to fill the system) were assessed by two means:

- Capacity of inundated paleo-channels were assessed by analysis of LIDAR data.
- Linear scrapes were assessed on the basis of length and average depth and cross section parameters.

Once the storage capacity is reached, water inputs into the system are deemed to be lost - i.e. once the system is full, additional water cannot be stored and therefore discharges from the system (through the drainage system).

4.3 Assessing Monthly Inputs and Outputs

Monthly inputs into the open water bodies were calculated using the following equation:

$$\begin{aligned} \text{Input into Open Water body} \\ = (\text{Rainfall} - \text{area adjusted Evapotranspiration}) \times \text{Catchment Area} \end{aligned}$$

Where inputs into the open water body were negative, transpirative losses from fields were assumed not to affect the volume of water contained within the open water bodies. During the months where the equation above was less than zero; the following equation, which only accounts for net direct evaporative losses from the open water bodies, was used to calculate the flux out of the open water body.

$$\text{Input into Open Water body} = (\text{Rainfall} - \text{Evaporation}) \times \text{Area of Open Water}$$

The area of open water is adjusted linearly based on the percentage of the total capacity of the open water bodies that are full the previous month - i.e. If the system was 80% dry at commencement of the, the area of the open water body in the calculation above is 20% of the maximum area. The assumption is considered valid due to the gentle slopes of the water bodies.

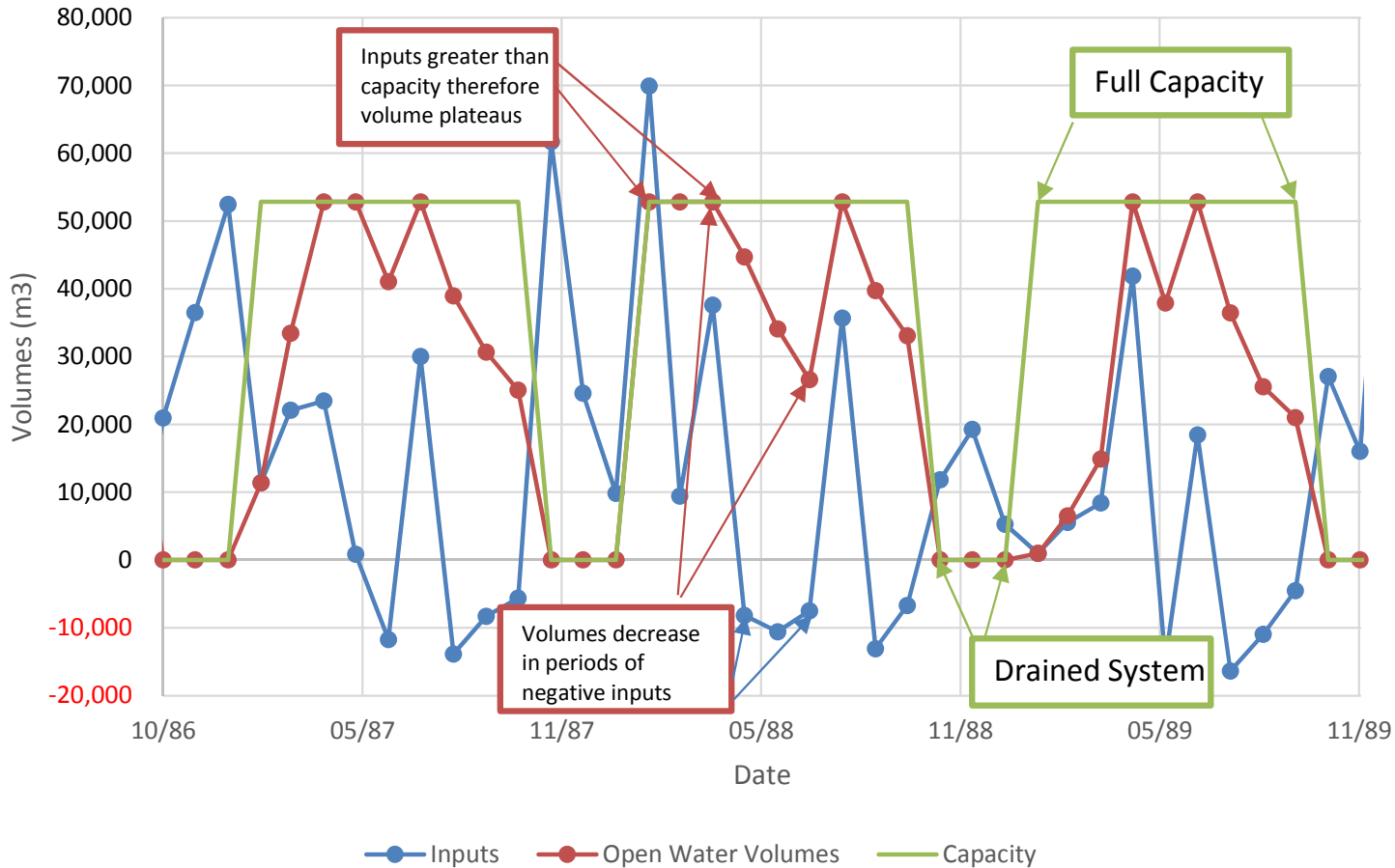
4.4 Example Water Budget

Figure 4-1 shows part of a month by month water budget for the Scrapes Only option from October 1986 to November 1989. It highlights three elements:

- Capacity - the volume of open water that can be held in the system. In the October-December period, this is fixed at zero, i.e. no additional water can be held. In January, the outfalls of the system are blocked/ raised, allowing two months for the system to be re-filled before the end of February.
- Inputs - this is the volume of water inputting into the system per month (as described in Section 4.3).

- Open Water Volume - this is the volume of water contained within the open water bodies. It is the summation of the inputs and outputs from the system, unless the maximum or minimum capacity is reached (i.e. once the system is full or empty it cannot become more full or empty).

Figure 4-1: Example of a Monthly Water Budget for the Scrapes Only Scenario



4.5 Failure Thresholds

For the habitat targets to be met, the scrapes have to hold water at the end of the target period. The nature of the scrape design (linear and shallowly sloped) means that they should provide significant edge habitat until they are almost dry. The thresholds for achieving the targets have therefore been set as:

- Scrapes holding 0.2m depth of water 1.125m in width;
- The paleo channel inundated areas at 10% of their original area, holding 0.1m of water.

4.6 Results

Table 4-2 shows the results of the volumetric water budget for the different options assessed over the period 1986-2015. The table indicates (by means of a simple Pass or Fail criteria) for each year whether two conditions have been achieved:

- Is the system full by the end of February of each year?
 - The systems are blocked in December and given up to the end of February to fill.
 - The scenarios with the relatively larger volumes (Deep Weirs) or small catchments (Tiered Scrapes) failed this test more frequently in the absence of any external water source.
 - This test is however less important than the second test, namely:
- Is the threshold at the end of July or September passed?

- The tests are described in Section 4.5 and relate to whether the system is too dry at the end of July or September (i.e. do water levels drop below a critical level). The tests also indicate whether any individual month within the target period was also a "Fail" (e.g. scrape dried out on June but were wet at the end of July would be a failure).
- The only scenario to fail this test consistently was the Shallow Weir Scenario. This is because the average depth of water in the scenario was circa 0.18m (at least 50% shallower than the other scenarios). The water bodies were thus deemed not to be deep enough to regularly persist through the target period.

Overall the analysis indicates the following:

- The shallow weir scenario regularly fails to be sufficiently full at the end of September, as it is unable to store sufficient water to prevent potential drying out. For the other scenarios, if they are shown to fail, they only do so in extremely dry years.
- The scenarios where water is collected from a wider catchment than the site (the shallow and deep weirs and the tiered scrapes with a catchwater), were more regularly full by the end of February, as they received inputs from a wider area.

Table 4-2: Year Summary of the Volumetric Water Budget Results for the Scenarios

Year	Deep Weir			Shallow Weir			Field Scrapes			Tiered Scrapes			Tiered Scrapes with Catchwater		
	Full System in Feb	Threshold end of July	Threshold end of Sept	Full System in Feb	Threshold end of July	Threshold end of Sept	Full System in Feb	Threshold end of July	Threshold end of Sept	Full System in Feb	Threshold end of July	Threshold end of Sept	Full System in Feb	Threshold end of July	Threshold end of Sept
1986	PASS	PASS	PASS	PASS	FAIL	FAIL	PASS	PASS	PASS	FAIL	PASS	PASS	PASS	PASS	PASS
1987	PASS	PASS	PASS	PASS	FAIL	FAIL	FAIL	PASS	PASS	FAIL	PASS	PASS	PASS	PASS	PASS
1988	PASS	PASS	PASS	PASS	PASS	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
1989	FAIL	PASS	PASS	PASS	FAIL	FAIL	FAIL	PASS	PASS	FAIL	PASS	PASS	FAIL	PASS	PASS
1990	PASS	PASS	PASS	PASS	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
1991	PASS	PASS	PASS	PASS	FAIL	FAIL	PASS	PASS	PASS	FAIL	PASS	PASS	PASS	PASS	PASS
1992	FAIL	PASS	PASS	FAIL	PASS	PASS	FAIL	PASS	PASS	FAIL	PASS	PASS	FAIL	PASS	PASS
1993	FAIL	PASS	PASS	FAIL	FAIL	FAIL	FAIL	PASS	PASS	FAIL	PASS	PASS	FAIL	PASS	PASS
1994	PASS	PASS	PASS	PASS	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
1995	PASS	PASS	PASS	PASS	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
1996	PASS	PASS	PASS	PASS	FAIL	FAIL	FAIL	PASS	PASS	FAIL	PASS	PASS	PASS	PASS	PASS
1997	FAIL	PASS	PASS	PASS	FAIL	FAIL	FAIL	PASS	PASS	FAIL	PASS	PASS	FAIL	PASS	PASS
1998	FAIL	PASS	PASS	FAIL	FAIL	FAIL	FAIL	PASS	PASS	FAIL	PASS	PASS	FAIL	PASS	PASS
1999	PASS	PASS	PASS	PASS	FAIL	FAIL	FAIL	PASS	PASS	FAIL	PASS	PASS	PASS	PASS	PASS
2000	FAIL	PASS	PASS	PASS	FAIL	FAIL	FAIL	PASS	PASS	FAIL	PASS	PASS	PASS	PASS	PASS
2001	PASS	PASS	PASS	PASS	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
2002	PASS	PASS	PASS	PASS	PASS	FAIL	FAIL	PASS	PASS	FAIL	PASS	PASS	PASS	PASS	PASS
2003	PASS	PASS	PASS	PASS	FAIL	FAIL	FAIL	PASS	PASS	FAIL	PASS	PASS	PASS	PASS	PASS
2004	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
2005	PASS	PASS	PASS	PASS	FAIL	FAIL	FAIL	PASS	PASS	FAIL	PASS	PASS	PASS	PASS	PASS
2006	PASS	PASS	PASS	PASS	FAIL	FAIL	FAIL	PASS	PASS	FAIL	PASS	PASS	PASS	PASS	PASS

Year	Deep Weir			Shallow Weir			Field Scrapes			Tiered Scrapes			Tiered Scrapes with Catchwater		
	Full System in Feb	Threshold end of July	Threshold end of Sept	Full System in Feb	Threshold end of July	Threshold end of Sept	Full System in Feb	Threshold end of July	Threshold end of Sept	Full System in Feb	Threshold end of July	Threshold end of Sept	Full System in Feb	Threshold end of July	Threshold end of Sept
2007	PASS	PASS	PASS	PASS	PASS	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
2008	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
2009	PASS	PASS	PASS	PASS	PASS	FAIL	FAIL	PASS	PASS	FAIL	PASS	PASS	PASS	PASS	PASS
2010	PASS	PASS	PASS	PASS	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
2011	PASS	PASS	PASS	PASS	FAIL	FAIL	PASS	PASS	PASS	FAIL	PASS	PASS	PASS	PASS	PASS
2012	FAIL	PASS	PASS	FAIL	FAIL	FAIL	FAIL	PASS	PASS	FAIL	PASS	PASS	FAIL	PASS	PASS
2013	PASS	PASS	PASS	PASS	FAIL	FAIL	FAIL	PASS	PASS	FAIL	PASS	PASS	PASS	PASS	PASS
2014	PASS	PASS	PASS	PASS	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
2015	FAIL	PASS	PASS	PASS	FAIL	FAIL	FAIL	PASS	PASS	FAIL	PASS	FAIL	PASS	PASS	PASS

5 Combined Water Budget

The analysis presented in Section 3 produced a water budget for scrapes based on the evaporative losses from an open water body through the target periods. It is limited insofar as it does not assess how full the scrapes would be at the start of the target periods, which is an important consideration in assessing their "longevity". However, the volumetric water budget in Section 4 does this. The volumetric water budget also estimated whether the scrapes would hold sufficient water at the end of the target period (in line with the criteria outlined in Section 4.5). Table 5-1 presents an additional analysis to assess whether the thresholds are likely to be met through combining the two water budgets in the following way:

- Identify the percentage to which the scrapes are full based on the volumetric water budget.
- Convert this percentage into a depth of water in a typical scrape.
 - The cross section parameters of a scrape was simplified to a triangle 0.75m deep and 4.5m wide when full, which is not unreasonable.
- The depth of water in the scrape in February is subtracted from the open water losses in the target period calculated in the basic water budget to produce the depth of water at the end of July or September.

By this measure, only in one year (1989) did the scrapes, in all scenarios fall to 0.1m depth of water remaining by the end of September.

The scenarios where water was only available from rainfall falling on land adjacent to the scrapes more regularly did not fill by the end of February and were much more likely to be low (below 0.2m depth) at the end of July or September. In the Tiered Scrapes and Catchwater scenario, the additional water from a wider catchment than just the site allowed the scrapes to persist.

Table 5-1: Combined Water Budget for Scrape Options

Year	Feb - End of July Target Period Deficit (mm)	Feb - End of Sept Target Period Deficit (mm)	Field Scrapes			Tiered Scrapes			Tiered Scrapes and Catchwater		
			Scrape Depths in Feb in m	Water Depth in End of July (m)	Water Depth in End of Sept (m)	Scrape Depths in Feb in m	Water Depth in End of July (m)	Water Depth in End of Sept (m)	Scrape Depths in Feb in m	Water Depth in End of July (m)	Water Depth in End of Sept (m)
1986	0.20	0.27	0.75	0.55	0.48	0.73	0.53	0.46	0.75	0.55	0.48
1987	0.13	0.19	0.60	0.47	0.41	0.56	0.43	0.38	0.75	0.62	0.56
1988	0.15	0.26	0.75	0.60	0.49	0.75	0.60	0.49	0.75	0.60	0.49
1989	0.24	0.38	0.26	0.02	-0.11	0.24	-0.01	-0.14	0.45	0.21	0.08
1990	0.36	0.50	0.75	0.39	0.25	0.75	0.39	0.25	0.75	0.39	0.25
1991	0.28	0.43	0.75	0.47	0.32	0.71	0.44	0.28	0.75	0.47	0.32
1992	0.21	0.26	0.45	0.24	0.19	0.42	0.21	0.16	0.69	0.48	0.43
1993	0.22	0.26	0.46	0.24	0.19	0.42	0.21	0.16	0.71	0.50	0.45
1994	0.29	0.36	0.75	0.46	0.39	0.75	0.46	0.39	0.75	0.46	0.39
1995	0.37	0.51	0.75	0.38	0.24	0.75	0.38	0.24	0.75	0.38	0.24
1996	0.35	0.47	0.70	0.35	0.23	0.66	0.31	0.19	0.75	0.40	0.28
1997	0.23	0.33	0.44	0.21	0.11	0.41	0.18	0.08	0.72	0.49	0.39
1998	0.18	0.29	0.65	0.47	0.36	0.60	0.42	0.31	0.70	0.52	0.41
1999	0.22	0.25	0.66	0.44	0.42	0.59	0.37	0.35	0.75	0.53	0.50
2000	0.16	0.23	0.46	0.30	0.23	0.43	0.27	0.20	0.75	0.59	0.52
2001	0.23	0.26	0.75	0.52	0.49	0.75	0.52	0.49	0.75	0.52	0.49
2002	0.23	0.30	0.71	0.48	0.41	0.66	0.43	0.36	0.75	0.52	0.45
2003	0.24	0.40	0.71	0.46	0.31	0.66	0.42	0.26	0.75	0.51	0.35
2004	0.19	0.24	0.75	0.56	0.51	0.75	0.56	0.51	0.75	0.56	0.51
2005	0.25	0.33	0.51	0.26	0.18	0.47	0.22	0.15	0.75	0.50	0.42
2006	0.28	0.29	0.54	0.25	0.24	0.50	0.22	0.21	0.75	0.47	0.46

2007	0.12	0.26	0.75	0.63	0.49	0.75	0.63	0.49	0.75	0.63	0.49
2008	0.20	0.22	0.75	0.55	0.53	0.75	0.55	0.53	0.75	0.55	0.53
2009	0.26	0.39	0.74	0.48	0.35	0.70	0.44	0.31	0.75	0.49	0.36
2010	0.34	0.37	0.75	0.41	0.38	0.75	0.41	0.38	0.75	0.41	0.38
2011	0.38	0.46	0.75	0.37	0.29	0.72	0.35	0.27	0.75	0.37	0.29
2012	0.14	0.20	0.40	0.26	0.20	0.37	0.23	0.17	0.62	0.48	0.42
2013	0.30	0.43	0.60	0.30	0.17	0.56	0.26	0.13	0.75	0.45	0.32
2014	0.16	0.22	0.75	0.59	0.53	0.75	0.59	0.53	0.75	0.59	0.53
2015	0.26	0.33	0.50	0.24	0.17	0.47	0.21	0.14	0.75	0.49	0.42

6 Water Supply through Pumping

6.1 Introduction

In Section 5, it was shown that options which gather water from a larger catchment than just the site were more likely to fill the scrapes by the end of February and for all of them to persist into July and September.

In the Tiered Scrapes with a catchwater option, the catchwater in the scenario represented a quarter of the main drain catchment at the point at which it enters the site. If water from the main drain is utilised to supply the site, rather than a using catchwater, the catchment available for supply would be significantly larger. However, due to the relative elevations, between the site and the drain pumping would be necessary to draw water from the drain. This section looks at the practicality of pumping from a water quantity perspective.

In relation to a pumped supply from the drain relative to a "passive" catchwater option a number of additional factors would need to be considered:

- A pump will need to be managed, operated and maintained;
- Pumping would not be possible when there are low flows in the drain for efficiency and ecological reasons.

Overall therefore, pumping is only suitable for collecting water when there is a moderate flow in the drain. The sections below assess whether there is likely to be sufficient flow for a sufficient duration in the main drain, in periods when the scrapes need topping up (i.e. the site is dry).

6.2 LowFlows Analysis of Main Drain

LowFlows¹ software has been used to estimate the annual and monthly average flow duration curve for the main drain at the proposed abstraction point. This is supported by on-going spot gauging of flows in the drain by JBA staff to validate the model output.

The Q95 (daily mean flow which is expected to be exceeded 95% of the time) was used as a low flow indicator. It was assumed that no abstraction through pumping can take place at flow values equivalent, or less than the Q95.

The annual, March and August flow duration curve information obtained using LowFlows is listed in Table 6-1 and the flow duration curve for all months is shown in Figure 6-1. These indicate that the annual Q95 is 3 litres per second (= 0.003m³/s). In March, the annual Q95% flow occurs less than 5% of the time, whereas in August it occurs in an average year for more than 40% of the time (June, July and September show very similar patterns to the August curve). These are values for average years, rather than for dry years where pumping is more likely to be required.

This first stage of the analysis suggests that the drain should not be relied on as a source of water in the summer months. However, the February, March and April flow duration curve, show greater flows than the average over the whole range. This suggest that water will be more regularly available during these periods. The basic water budget in Section 3 indicates a maximum deficit of 507mm. If the scrapes (0.75m deep) are filled through pumping (if necessary) before the start of, or in the first couple of months of the target period, they should therefore persist.

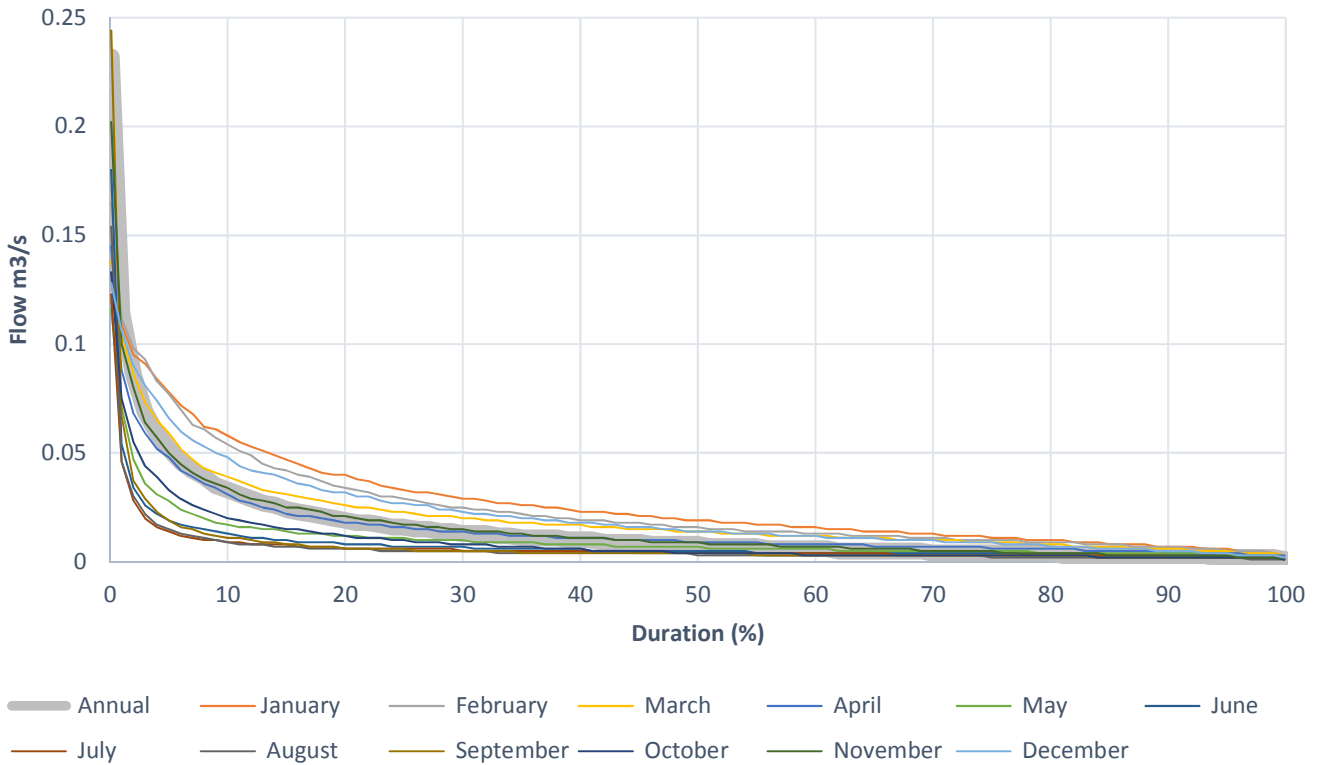
Table 6-1: Summary Flow duration curve estimates

Percentile	Annual Flow Duration Curve m ³ /s	March Flow Duration Curve (m ³ /s)	August Flow Duration Curve (m ³ /s)
Qmean	0.015	0.021	0.006

¹ LowFlows 2 estimates flow characteristics on ungauged watercourses by using a region of influence approach whereby estimates are developed using catchment characteristic information (such as rainfall and soil information) from similar catchments around the UK.

Q1	0.115	0.138	0.154
Q5	0.052	0.103	0.046
Q10	0.033	0.059	0.015
Q20	0.019	0.039	0.009
Q30	0.013	0.026	0.006
Q40	0.01	0.02	0.005
Q50	0.008	0.017	0.004
Q60	0.006	0.014	0.003
Q70	0.004	0.012	0.003
Q80	0.004	0.01	0.003
Q90	0.003	0.008	0.002
Q95	0.003	0.006	0.002

Figure 6-1: Annual and Monthly Flow Duration Curves from low flows



6.3 Water Budget Comparison with LowFlows

LowFlows 2 provides flows for mean years. In order to understand the range of flows, a volumetric water budget for the whole catchment has been developed. This has a very similar basis to the water budgets described in Section 4. It estimates the flow at the outfall of the catchment based on the area of the catchment multiplied by the effective recharge. This simple model has limitations:

- It does not taken into account changes in storage:
 - Therefore it is likely to over-estimate flows in autumn as the catchment wets up.
 - Underestimates flows in the summer it cannot take account of the reduction in the storage in the system as the flows are maintained by limited baseflow input.
- It assumes that all net rainfall that lands in a month will be discharged during that month

- This is very similar to the water budget not being able to take account of changes in storage.
- It is also the reason that negative flows are calculated as it does not take into account slow limited releases of baseflow during the summer months

Table 6-2 presents the result of the water budget estimates on monthly mean flow against the Lowflow estimates. Two versions are presented, one which averages all the months between 1986 and 2015, and one which presents the average of the months with positive flows. Overall, it can be seen that the water budget approach shows similar results to the LowFlows estimate in terms of monthly flow volumes. As a result, the water budget flow estimates, are utilised in the next section to assess whether it is possible to top up the scrapes at the beginning of the target period to ensure they persist to the end of the target period

Table 6-2: Catchment Volumetric Water Budget and LowFlows Mean Flows

	Water budget Mean Flows (m3/s)		LowFlows Qmean (m3/s)
	Utilising all months	Positive Flow Months Only	
Annual	0.014	0.02	0.015
January	0.036	0.036	0.029
February	0.025	0.026	0.026
March	0.007	0.012	0.021
April	0.006	0.017	0.016
May	-0.022	0.004	0.011
June	-0.004	0.013	0.008
July	-0.005	0.006	0.007
August	0.000	0.007	0.006
September	0.009	0.016	0.007
October	0.034	0.035	0.01
November	0.040	0.040	0.016
December	0.042	0.042	0.023

6.4 Pumping to Fill Scrapes

This section assesses the likelihood of scrape failure at end of September, if the tiered scrapes option is combined with pumping from the drain. The failure of scrapes could occur through a combination of the following:

- High net open water evaporative losses,
- The degree to which the scrapes are full at the beginning of the target period
- If pumping is implemented - the volume of water to that can be pumped from the main drain into the site, in the spring (as there is likely to be limited water available in the summer (see Section 6.2).

Table 6-3 assesses the likelihood of these factors coinciding through the following:

- The open water losses (taken from the simple water budget in Section 3);
- The depth of scrapes at the beginning of the target period (taken from the combined water budget in Section 5);

- The depth of scrapes at the end of the target period without pumping (taken from the combined water budget in Section 5);
- The volume required to fill the scrapes. This is the total possible volume of scrapes minus the maximum volume of water in the scrapes between February and May (based on the volumetric water budget in Section 4);
 - This allows if the scrapes continue to fill with rainfall and run-off through the first part of the target period.
- The volume available to pump from February to May. This is based on the flow calculated by the water budget described in Section 6.3 minus the Q95 volume.
- The last column presents the ratio of volumes between the volume available from the main drain between February and May, and the volume required to fill the scrapes.
 - A value of less than 1 indicates that there would not be sufficient water to fill the scrapes;
 - A value of 5 or less would require a significant proportion of the flows in the ditch to be captured over a four month period which may be difficult to achieve technically.

The results of the analysis suggest that in the 30 year period, there would be 3 years where completely filling the scrapes may be difficult. This coincides with the other factors which would cause the scrapes to fail in one year out of the 30 (in 1997). The other year which was identified in the combined water budget in Section 5 as a significantly dry target period was 1989. The analysis suggest that from February to May 1989 there was 82 times the amount of water available from the drain than would be required to fill the scrapes. The analysis therefore indicates that a correctly utilised pump would have limited the number of years of failure to one in the last thirty. This is a very low rate of failure.

The analysis indicates that pumping, correctly utilised in the spring when water will be available within the drain, will be of significant benefit in limiting the potential for the failure of the scrape system.

Table 6-3: Scrape Top-Up Requirements and Volumes Available to Pump from the Main Ditch

Year	Open Water Loss in Target Period (m)	Scrape Depths in Feb in m	Water Depth in End of Sept Without pumping (m)	Pump Volume Required to fill Scrapes (m3)	Pump Volume Available from Feb to May (m3)	Proportion of Flow to Required Volume
1986	0.27	0.73	0.46	0	349853	N/A
1987	0.19	0.56	0.38	2093	250020	119.5
1988	0.26	0.75	0.49	0	385144	N/A
1989	0.38	0.24	-0.14	3093	253994	82.1
1990	0.5	0.75	0.25	0	242980	N/A
1991	0.43	0.71	0.28	2556	222311	87.0
1992	0.26	0.42	0.16	15189	131509	8.7
1993	0.26	0.42	0.16	5975	68415	11.5
1994	0.36	0.75	0.39	0	115444	N/A
1995	0.51	0.75	0.24	0	83309	N/A
1996	0.47	0.66	0.19	5474	0	0.0
1997	0.33	0.41	0.08	23247	29063	1.3
1998	0.29	0.60	0.31	0	117340	N/A
1999	0.25	0.59	0.35	0	0	N/A
2000	0.23	0.43	0.20	0	279271	N/A
2001	0.26	0.75	0.49	0	118423	N/A
2002	0.3	0.66	0.36	7239	64536	8.9
2003	0.4	0.66	0.26	7128	3609	0.5
2004	0.24	0.75	0.51	0	8212	N/A
2005	0.33	0.47	0.15	14473	75909	5.2
2006	0.29	0.50	0.21	5214	40436	7.8

2007	0.26	0.75	0.49	0	272678	N/A
2008	0.22	0.75	0.53	0	0	N/A
2009	0.39	0.70	0.31	4323	149199	34.5
2010	0.37	0.75	0.38	0	230253	N/A
2011	0.46	0.72	0.27	2292	197487	86.2
2012	0.2	0.37	0.17	0	522975	N/A
2013	0.43	0.56	0.13	4886	416826	85.3
2014	0.22	0.75	0.53	0	563322	N/A
2015	0.33	0.47	0.14	20189	299033	14.8

E Natural England Correspondence

Date: 28 October 2011



Peter Stephenson
Executive Chairman
Able UK Ltd
Able House
Billingham Reach Industrial Estate
Billingham
Teesside
TS23 1PX

Natural England
Touthill Close
City Road
Peterborough
PE1 1XN

Email - pms@ableuk.com

Dear Peter

ABLE UK MARINE ENERGY PARK (AMEP)

Thank you for your email of 24 October and most recent letter, received on 26 October 2011. We welcome your proposal to “agree to disagree” on a number of matters and seek to agree a pragmatic way forward.

I committed to responding to you this week on two points; the footprint of the development site and the mitigation proposals. Our comments are therefore given below. We will provide a substantive response to the other key points raised in your correspondence next week.

Area of the proposed development site

We acknowledge that the statement under point 1 in our letter of 21 October could have been clearer. We recognise that some of the area proposed for AMEP is currently consented and developed and therefore not all of the AMEP development site footprint is functioning habitat that will be permanently lost to SPA and Ramsar waterbirds. However, there will clearly be a significant change of use from the existing car storage to a new port facility and the impact of this must be adequately assessed under the EIA Regulations and the Habitats Regulations.

The documentation that we have recently received presents a number of differing figures for the land that is currently undeveloped; this figure varies from 102ha in your letter of 29 September to 154ha shown on the drawing attached to your email of 14 October. In your most recent letter it is stated that “planning consent already covers 122ha of that land”, however the attachment to that letter lists planning permissions with a total area of 117ha.

We would be grateful if you could provide clarity on these figures.

However, it is important to clarify that our advice on the amount of mitigation required for the loss of roosting and foraging habitat at Killingholme Marshes is based on the bird monitoring records of the area. This provides information on the actual fields utilised by waterbirds and so the areas already developed were not included in our calculations.

Mitigation principles

As you are aware, it is our advice that a core area of 16.7ha with a buffer of 150m where the adjacent land use is unsecured would be sufficient to mitigate for the loss of terrestrial feeding and roosting habitat within Killingholme Marshes. We welcome your acceptance of our advice and proposal “to include a 16.7ha core mitigation area within the red line boundary that we have used in our statutory consultations”.

As discussed at our meeting in Peterborough it may be possible to reduce the 150m buffer along the sides adjacent to the fuel depot and the development site to 100m if further information is provided on the levels and types of activity that will be carried out on these sites. **We would be grateful if you could send this information through to us, as agreed in Peterborough, as soon as possible for our consideration.**

It is unclear what is meant by your statement that the core area will be buffered by “150m of farmland”. All of the mitigation area, including the buffer must be optimally managed as wet grassland. This has been discussed previously and was one of the principles agreed in the MOU for ALP “Memorandum of Understanding For Able UK East Halton Application, 24th February 2011” signed by yourself, Peter Nottage Natural England and Peter Robertson RSPB. The reason that the entire area must be managed as wet grassland is to ensure that the core area is optimal at all times. If the surrounding buffer was an alternative habitat type then it would be almost impossible to ensure that the water levels and habitat quality within the entire core area was optimal wet grassland. As you are aware, the purpose of the buffer is to reduce disturbance to the core area so that the entire 16.7ha is able to function optimally at all times. It will not be possible therefore to farm the buffer as this will cause disturbance to the SPA/ Ramsar waterbirds. Subject to your confirmation on these points,

It is Natural England’s opinion that this option of delivering sufficient mitigation within the footprint of AMEP would meet the requirements of the Habitats Regulations and mitigate the loss of feeding and roosting habitat from Killingholme Marshes.

Alternative mitigation options

Whilst the mitigation option described above would, in our view, meet the requirements of the Habitats Regulations, you have made it clear that you wish (and will plan) to mitigate for the loss of Killingholme Marshes at AMEP alongside the mitigation that you are providing for ALP. As discussed in Peterborough, we accept that there are alternative options where mitigation can be delivered in close proximity to AMEP but still within the South Humber Gateway and therefore these options would also meet the requirements of the Habitats Regulations and mitigate for the loss of feeding and roosting habitat at Killingholme Marshes.

Option 1

The option that was discussed in Peterborough was for the provision of a 20ha core area to partially mitigate for ALP and a 16.7ha core area to mitigate for AMEP – ie a 36.7ha core area. This would be surrounded by a 150m buffer, except adjacent to the seawall where a buffer of 50m was agreed if public access was screened. To complete the mitigation for ALP, this option also requires a 20ha core area surrounded by 150m buffers where the adjacent land is unsecured, outside of the South Humber Gateway. The location of this offsite

mitigation would be agreed with Natural England and would need to follow the principles of the South Humber Gateway and the Habitats Regulations in respect of delivering the conservation objectives for the site. All of the land should be optimally managed as wet grassland.

Option 2

Drawing No. ALP 08039 A attached to Neil Etherington's email of 14 October shows a core area of 48ha and as stated in our previous letter, if the core area is amended to 32ha + 16.7ha – ie a total core area of 48.7ha with a 150m buffer, except adjacent to the seawall where a buffer of 50m was agreed if public access was screened, then Natural England is of the opinion that this option would also meet the requirements of the Habitats Regulations.

Our advice is that option 2 represents the best option for the designated site, as it would create a large mitigation area in the closest proximity to the impacts of ALP and AMEP. However we advise that **there are three options – one on AMEP and two on ALP that we believe would all enable the impact of the loss of feeding and roosting habitat from Killingholme Marshes to be mitigated.**

Able UK has also put forward a number of other options that result in a reduction in the area of mitigation provided on the ALP site. As Natural England provided clear advice at our meeting in Peterborough that mitigation for AMEP could be moved to ALP, not to a location outside the South Humber Gateway, we assume that these options are proposals to amend the existing planning permission for ALP.

Your letter also states that “other alternatives may emerge and we would hope that you maintain an open mind in any future discussions”. Obviously, Natural England is happy to keep an open mind and work with you on mitigation proposals, but we understood that there was a pressing timeframe to deliver AMEP and therefore submission to the IPC was imminent. We have provided advice on 3 options that, in our view, would meet the requirements of the Habitats Regulations; therefore we would welcome your decision over which one of these options to progress, rather than continued debate of alternative proposals.

In the interests of resolving our discussions on developments within the South Humber Gateway, we do not wish to reopen long and protracted discussions on previous cases. As you will be aware, resolution of ALP took considerable time and effort from a number of parties – Able UK, Natural England, RSPB, North Lincolnshire Council and Peter Barham Environment Ltd. If the mitigation for ALP was considerably revised then North Lincolnshire Council would need to undertake a new assessment under the Habitats Regulations and those parties that signed the MOU would need to be reconsulted and new agreements drawn up. It would seem that the public purse would be better served by advancing a positive outcome for the AMEP proposal that does not rely on significant amendments to the planning permission for ALP which threaten to undo much of the hard work put into that application.

Compensation

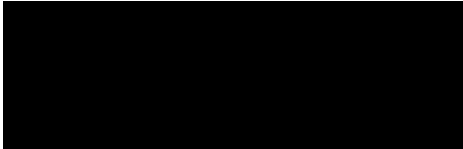
We will respond to the compensation proposals in our letter of detail next week.

Drax

As we stated in our previous letter, we are looking into the details of this case and will respond in detail in due course. However, we can assure you that it is unlikely that this will change the advice we have given for AMEP.

I would like to reassure you that we remain committed to regular open and transparent dialogue with Able UK to bring this proposal forward to the point of submission to the IPC as soon as possible. As you are aware, we have a teleconference set up on Wednesday with your team to discuss any outstanding matters.

Yours sincerely



Alan Law
Director, Land Use

References

- Acreman, M. C. et al., 2010. *Restoration of wet grasslands through re-instatement of surface grips Extended final report BD1322.*, Wallingford: CEH.
- Ausden, M., 2001. The effects of flooding of grassland on food supply of breeding waders. *British Wildlife*, 12(3), pp. 179-187.
- Ausden, M., Rowlands, A., James, R. & Sutherland, W. J., 2003. Diet of breeding Lapwing *Vanellus vanellus* and Redshank *Tringa totanus* on coastal grazing marsh and implications for habitat management. *Bird Study*, Volume 50, pp. 285-293.
- Avibirds, n.d. *Profile Black-Tailed Godwit*. [Online]
Available at: [http://www.avibirds.com/html/Black-Tailed Godwit.html](http://www.avibirds.com/html/Black-Tailed_Godwit.html)
- Benstead, P. et al., 1997. *The Wet Grassland Guide Managing floodplain and coastal wet grasslands for wildlife*. sandy: RSPB.
- Bientema, A. J. & Muskens, G. J. D. M., 1987. Nesting Success of Birds Breeding in Dutch Agricultural Grasslands'. *Journal of Applied Ecology*, Volume 24, pp. 748-758.
- BirdLife International, 2016. *Species factsheet: Limosa limosa*. [Online]
Available at: <http://www.birdlife.org/datazone/speciesfactsheet.php?id=3003>
- BTO, n.d. *Do plovers face a golden future?*. [Online]
Available at: <http://www.bto.org/science/climate-change/do-plovers-face-golden-future>
- English Nature, 1999. *The Management of Lowland Wet Grassland for Birds*. [Online]
Available at: publications.naturalengland.org.uk/file/1018244
- Environment, A., 2013. *CAMS: The Grimsby, Ancholme and Louth Catchment Abstraction Management Strategy*. [Online]
Available at: <https://www.gov.uk/government/publications/camsgrimsby-ancholme-and-louth-catchment-abstraction-management>
- European Communities, 2007. *Management Plan for Black-tailed Godwit Limosa limosa 2007-2009*. [Online]
Available at:
http://ec.europa.eu/environment/nature/conservation/wildbirds/hunting/docs/black_tailed_godwit.pdf
- Hart, J. D. et al., 2002. The impact of livestock on Lapwing *Vanellus vanellus* breeding densities and performance on coastal grazing marsh. *Bird Study*, Volume 49, pp. 67-78.
- Holden, P. & Cleeves, T., 2014. *RSPB Handbook of British Birds*. London: Bloomsbury.
- JBA Consulting, 2013. *Lincolnshire Grazing Marshes Special Project HLS Study*, s.l.: s.n.
- JNCC, n.d. *Ruff Philomachus pugnax (non-breeding)*. [Online]
Available at: <http://jncc.defra.gov.uk/pdf/UKSPA/UKSPA-A6-68B.pdf>
- Mullarney, K., Svensson, L., Grant, P. J. & Zetterstrom, D., 1999. *Collins Bird Guide*. London: HarperCollins.
- RSPB, 1997. *The Wet Grassland Guide*. Sandy: RSPB.
- RSPB, 2005. *Wet Brassland Practical Manual: Breeding Waders*. [Online]
Available at: https://www.rspb.org.uk/Images/wetgrasslandmanual_tcm9-132779.pdf
- RSPB, 2008. *Advice for Farmers Curlew*. [Online]
Available at: <http://www.rspb.org.uk/forprofessionals/farming/advice/details.aspx?id=203886>
- Seago, M. J., n.d. *Black-tailed Godwith*. [Online]
Available at: <http://birdsofbritain.co.uk/bird-guide/black-tailed-godwit.asp>

Taylor, A., 2011. *Able UK Ltd land between East Halton Skitter and Chase Hill Road North Killingholme Appropriate Assessment under the Conservation of Habitats and Species Regulations 2010*, Scunthorpe: North Lincolnshire Council.

Taylor, A., 2015. *HRA*. [Online]

Available at:

<http://www.planning.northlincs.gov.uk/api/download/PL/?id=209790&api=northlincs&apikey=wVR4YJYvJF1Us6AKxigVZ0CoGfw%3d>

[Accessed 23 04 2016].

The Planning Inspectorate, 2013. *The Planning Act 2008 The Able Marine Energy Park Order 201X Panel's Findings and Recommendations to the Secretary of State*, s.l.: The Planning Inspectorate.

Thomson Ecology, 2013. *Statement of Design Principles - Halton Marshes Wet Grassland*, s.l.: s.n.

Wetland and Wildfowl Trust, 2015. *Halton Marshes Outline Design*, s.l.: s.n.

Wilson, A. M., Ausden, M. & Milsom, T. P., 2004. Changes in breeding wader populations on lowland wet grasslands in England and Wales: causes and potential solutions. *Ibis*, 146(Suppl 2), pp. 32-40.



JBA
consulting

Offices at

Coleshill
Doncaster
Dublin
Edinburgh
Exeter
Glasgow
Haywards Heath
Isle of Man
Limerick
Newcastle upon Tyne
Newport
Peterborough
Saltaire
Skipton
Tadcaster
Thirsk
Wallingford
Warrington

Registered Office

South Barn
Broughton Hall
SKIPTON
North Yorkshire
BD23 3AE
United Kingdom

t:+44(0)1756 799919
e:info@jbaconsulting.com


Jeremy Benn Associates Ltd

Registered in England
3246693



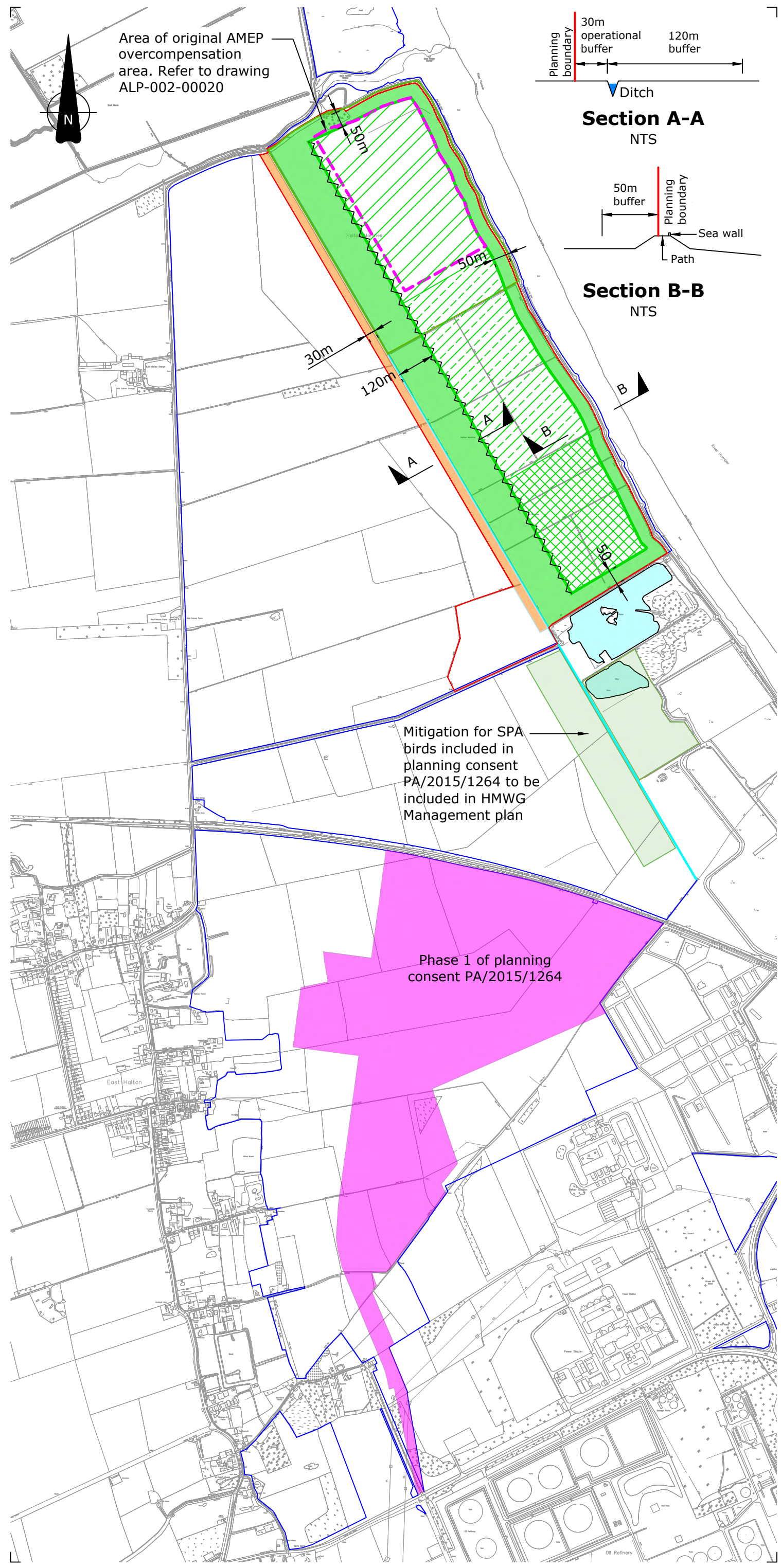
Visit our website

www.jbaconsulting.com

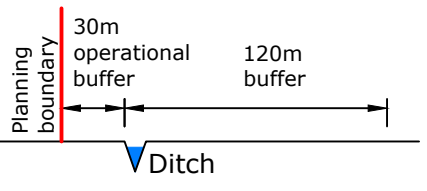
 <p>amep able marine energy park</p>	<p>ABLE MARINE ENERGY PARK APPLICATION FOR A NON-MATERIAL CHANGE</p>	<p>NOV 2020</p>
---	---	------------------------

APPENDIX B

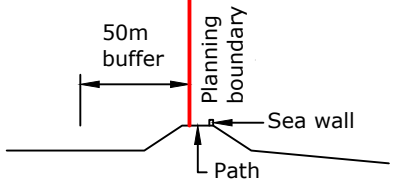
Consented Planning Drawings for HMWG



Area of original AMEP overcompensation area. Refer to drawing ALP-002-00020



Section A-A
NTS



Section B-B
NTS

Key & Notes	
	Planning Boundary
	Area of original AMEP overcompensation
	Land in ownership of the applicant
	Core Area 52.0ha
	AMEP Further Overcompensation (Potential future ALP mitigation) Target Species: BW Critical months: Jul-Mar 20.0ha
	Mitigation for Killingholme Marshes (Incorporating Mitigation Area A from AMEP DCO) Target Species: CU Critical months: Aug-Apr 20.0ha
	Mitigation For Phase 1 of PA/2015/1264 Target Species: CU, GP, L, RU Critical months: Aug-Apr 12.0ha
	Wet Grassland Buffer
	Operational Buffer
	Western boundary of core area noise level not to exceed 65dB(A). Development affecting 'operational buffer' must not exceed this.

Rev.	Date	Comments	Drn	Chk	App
D	03/11/2020	As Built	DJA	RC	RC
C	13/04/2018	Issued for Construction	JMH	JS	RC
B	05/08/2016	Areas Reordered, Notes Amended	JMH	JS	RC
A	05/05/2016	Issued for Approval	JMH	DS	RC


Mitigation for SPA birds included in planning consent PA/2015/1264 to be included in HMWG Management plan

Phase 1 of planning consent PA/2015/1264

ABLE UK Limited
ABLE House
Billingham Reach Industrial Estate
Teesside, TS23 1PX
United Kingdom
Tel: +44(0)1642 806080
Fax: +44(0)1642 655655

Project:	ABLE Logistics Park
Client:	ABLE Humber Ports Ltd.
Drawing Title:	Halton Marshes Wet Grassland Layout Core Area & Buffers

AS BUILT			
Scale:	Drawn By:	Checked By:	Approved By:
1:12,500 @A3	J Horsman	D Sargent	R Cram
Date:	05/05/2016	05/05/2016	05/05/2016
Drawing No:	ALP-002-00011	Revision:	D

 amep able marine energy park	ABLE MARINE ENERGY PARK APPLICATION FOR A NON-MATERIAL CHANGE	NOV 2020
--	--	-----------------

APPENDIX C

Appropriate Assessment for HMWG

Land to the East of Skitter Road, Halton Marshes, East Halton

Planning permission for creation of habitat, primarily wet grassland

Appropriate Assessment under the under The Conservation of Habitats and Species Regulations 2010

Contents

1. Summary- Record of Appropriate Assessment in accordance with Habitats Regulations Guidance Note 1.
2. Introduction
3. The Appropriate Assessment Process
4. Description of Development
5. Summary of Likely Significant Effects on the International Nature Conservation Sites.
6. Disturbance of wintering and passage waterbirds during the construction phase of the proposal.
7. Risk of inadequate delivery of waterbird mitigation and compensation requirements arising from the Able Logistics Park and Able Marine Energy Park.
8. In-combination assessment of plans and projects not already considered
9. Register of conditions or restrictions required.
10. Overall determination of AEOI.

Appendices

1. Location of Proposals in relation to the International Nature Conservation Site.
2. Citations and Conservation Objectives.
3. Natural England Correspondence.
4. Applicant Correspondence.
5. Consultee Responses.
6. References.

1 Summary- Record of Appropriate Assessment in accordance with Habitats Regulations Guidance Note 1.

1.1 Title of Plan or Project/Application: PA/2016/649

Planning permission for creation of habitat, primarily wet grassland.

1.2 Location of Plan or Project /Application

Land to the East of Skitter Road, Halton Marshes, East Halton

Grid Ref: E: 514494 N: 421301

See Location Plan- Appendix 1.

1.3 International Nature Conservation Site

Humber Estuary Special Protection Area (SPA) and Ramsar site

1.4 Nature/Description of Plan or Project/Application

1.4.1 The HMWGS provides 90.2ha of mitigation. This total area comprises:

- 52ha of core area; and
- 38.2ha of buffer, distributed as appropriate around the core area.

1.4.2 The HMWGS comprises a series of tiered scrapes with a back-up facility to draw water from Halton Drain as required. The main engineering works will be focussed on the southerly fields and will largely entail the creation of scrapes separated by raised saddles. Water control structures shall be installed to achieve the target

1.4.3 The buffer around the northern perimeter of the site will be augmented by the creation of 3.06 ha of neutral grassland, part of the habitat relocated from AMEP Mitigation Area A¹. In places, hedges shall be removed, to provide the openness required by wintering waders. Ditches and hedgerows will be created on certain boundaries, to provide screening and the control of dogs.

1.4.4 The development programme initially aimed for construction through September and October 2016, such that the site would be ready for use through Winter 2016/17. However, in reality, construction will be delayed at least until consultees' concerns are overcome so that the planning application can be determined.

1.4.5 Grazing is proposed throughout the year, and across the site, using different animals to provide the correct sward conditions and to protect the ground and any nesting birds. The area of neutral grassland will be mowed once a year.

1.4.6 Relationship with approved mitigation

- 1.4.6.1 As proposed by Able UK, the HMWGS provides 52ha of core area, amalgamating the objectives of the three approved schemes. One of the functions of the Habitats Regulations Assessment is to determine whether the proposal will meet the following objectives:

¹ Note that planning permission PA/2016/649, if granted, will not confer the right to relocate mitigation Area A from Killingholme Marsh. This will require other consenting processes.

- Able Logistics Park (ALP) Option 2
12 of the 32 hectares of core area required under ALP Option 2 will be provided in the HMWGS. As part of a much larger core area (52ha in total) this will facilitate implementation of Phase 1 of the ALP;
- AMEP Mitigation Area A

The 16.7ha core area of AMEP Mitigation Area A will be relocated to the HMWGS, and increased (by 3.3ha) to 20ha of core area, so providing mitigation for the development of the current site of Mitigation Area A and any further development on Killingholme Marshes;²

- AMEP Further Overcompensation

As described by the applicant, a further 20ha of core area will be provided for the future delivery of the AMEP Further Overcompensation scheme for the Black-tailed godwit. The core area is surrounded by appropriately sized buffer. Note that Natural England does not describe this provision in terms of a core plus buffer. Instead, they view the provision as a response to the Secretary of State's requirement for 38.5 hectares of wetland habitat.

In time, an additional 20ha of core area will be provided so as to facilitate implementation of the rest of the ALP. This can be provided:

- at an agreed location off-site; or
- once it is demonstrated that the compensatory habitat at Cherry Cobb Sands has achieved functionality such that the Further Overcompensation is not required, it can instead be banked, potentially being used for the remaining 20ha of ALP mitigation.

The appropriate details would need to be agreed prior to any development of the ALP north of the railway line.

1.5 Date Appropriate Assessment Recorded

03 April 2017

1.6 This is a record of the appropriate assessment, required by Regulation 61 of the Habitats Regulations 2010, undertaken by North Lincolnshire Council in respect of the above plan/project, in accordance with the Habitats Directive (Council Directive 92/43/EEC). Having considered that the plan or project would be likely to have a significant effect on the Humber Estuary SPA and Ramsar Site and that the plan or project was not directly connected with or necessary to the management of the site, an appropriate assessment has been undertaken of the implications of the proposal in view of the sites conservation objectives.

1.7 Natural England was consulted under Regulation 61(3) on 26 May 2016 and the representations, to which this authority has had regard, are attached at Appendix 4. The conclusions of this appropriate assessment are in accordance with the advice and recommendations of Natural England.

1.8 The applicant was required to submit further information reasonably necessary for

² Note that planning permission PA/2016/649, if granted, will not confer the right to relocate mitigation Area A from Killingholme Marsh. This will require other consenting processes.

this assessment on 07 June 2016 and subsequent dates under Reg. 61(2) and replied with information between June 2016 and October 2016.

1.9 The opinion of the general public was taken under Reg.61(4) by way of further consultation etc and the views expressed (attached at Appendix 6) have been taken into account.

1.10 The site's conservation objectives have been taken into account, including consideration of the situation for the site and information supplied by Natural England (See Appendix 4). The likely effects of the proposal on the international nature conservation interests for which the site was designated may be summarised as:

1.10.1 Disturbance of wintering and passage waterbirds during the construction phase of the proposal.

1.10.2 Risk of inadequate delivery of waterbird mitigation and compensation requirements arising from the Able Logistics Park and Able Marine Energy Park.

1.11 The assessment has concluded that the plan or project as proposed would adversely affect the integrity of the site.

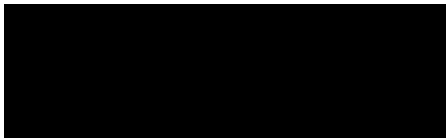
1.12 The imposition of conditions or restrictions on the way the proposal is to be carried out has been considered and it is ascertained that:

~~*a) conditions or restrictions cannot overcome the adverse effects on the integrity of the site.~~

Or

b) the conditions listed in section 8 of this document would avoid adverse effects on the integrity of the site.

Signed



Date 03 April 2017

Andrew Taylor

Designation: Project Officer (Ecologist)

2 Introduction

- 2.1 PA/2016/649 is a planning application to create habitat, primarily wet grassland, at Halton Marshes. The habitat is required primarily to provide for passage and wintering waterbirds displaced by the Able Logistics Park (ALP) and Able Marine Energy Park (AMEP) projects. Although the project is required as mitigation and compensation under the Habitats Regulations, the delivery of the project itself could cause noise and visual disturbance of waterbirds. It is also important to ensure that the project will fully deliver the mitigation and compensation requirements of the other projects. For these reasons, an appropriate assessment is required.
- 2.2 North Lincolnshire Council has determined that:
- 2.2.1 The plan or project is not directly connected with, or necessary to, the management of the Humber Estuary Special Protection Area (SPA) and Ramsar site or Humber Estuary Special Conservation Area (SAC) for nature conservation.
 - 2.2.2 The plan or project is likely to have a significant effect alone or in combination with other plans and projects on the Humber Estuary Special Protection Area (SPA) and Ramsar site.
 - 2.2.3 The plan or project is not likely to have a significant effect alone or in combination with other plans and projects on the Humber Estuary Special Conservation Area (SAC).
- 2.3 Therefore, as the Competent Authority for the plan or project, North Lincolnshire Council must carry out an appropriate assessment in accordance with Regulation 61 of The Conservation of Habitats and Species Regulations 2010
- 2.4 This document is the formal record of that process.

3 The Appropriate Assessment Process

- 3.1 The process is described in detail in Circular 06/2005. The Council has followed the Circular as closely as possible. The main stages in the process are as follows. Note that if there are no harmful effects on the features of the Humber Estuary, or if these effects can be prevented, not all of the stages will be required.
- 3.1.1 Determination of Likely Significant Effect
 - 3.1.2 Appropriate Assessment with regard to site Conservation Objectives.
 - 3.1.2.1 Determine whether there will be an Adverse Effect on the Integrity (AEOI) of the International Nature Conservation Sites with reference to all the relevant interest features.
 - 3.1.2.2 Consider possible restrictions and conditions.
 - 3.1.2.3 Consider alternative approaches.
 - 3.1.2.4 Consider any Imperative Reasons of Over-riding Public Interest (IROPI).
- 3.2 Put simply, the Local Planning Authority can only grant planning permission if, at a given stage in 3.1 above, it can be ascertained that the proposal would not

adversely affect the integrity of the International Nature Conservation Sites. Even if, at a late stage in considerations, IROPI were found to apply, compensatory measures would need to be provided.

3.3 Circular 06/2005 describes the key decision to be made as follows:

3.3.1 “In the light of the conclusions of the assessment of the project’s effects on the site’s conservation objectives, the decision-taker must determine whether it can ascertain that the proposal will not adversely affect the integrity of the site(s). The integrity of a site is the coherence of its ecological structure and function, across its whole area, that enables it to sustain the habitat, complex of habitats and/or the levels of populations of the species for which it was classified. It is not for the decision-taker to show that the proposal would harm the site, in order to refuse the application or appeal. It is for the decision-taker to consider the likely and reasonably foreseeable effects and to ascertain that the proposal will not have an adverse effect on the integrity of the site before it may grant permission. If the proposal would adversely affect integrity, or the effects on integrity are uncertain but could be significant, the decision-taker should not grant permission, subject to the provisions of regulations 49 and 53 as described below.”

3.3.2 “..In the Waddenzee judgment, the European Court of Justice ruled that a plan or project may be authorised only if a competent authority has made **certain** that the plan or project will not adversely affect the integrity of the site. “*That is the case where no reasonable scientific doubt remains as to the absence of such effects*”. Competent national authorities must be “**convinced**” that there will not be an adverse affect and where doubt remains as to the absence of adverse affects, the plan or project must not be authorised, subject to the procedure outlined in Article 6(4) of the EC Habitats Directive regarding imperative reasons of overriding public interest.” – ODPM 2005.

3.4 On this “precautionary principle”, English Nature’s Interim Regulation 33 advice for the Humber gives the following guidance:

3.4.1 “All forms of environmental risk should be tested against the precautionary principle which means that where there are real risks to the site, lack of full scientific certainty should not be used as a reason for postponing measures that are likely to be cost effective in preventing such damage. It does not however imply that the suggested cause of such damage must be eradicated unless proved to be harmless and it cannot be used as a licence to invent hypothetical consequences. Moreover, it is important, when considering whether the information available is sufficient, to take account of the associated balance of likely costs, including environmental costs, and benefits (DETR & the Welsh Office, 1998).” – English Nature 2003.

4 Description of Development

4.1 The following description has been adapted from the submitted planning statement:

4.2 Halton Marshes Wet Grassland Scheme (HMWGS)

4.3 Overview

4.3.1 The HMWGS has been developed over several years and is now proposed as a scheme that incorporates advice received from key advisers: North Lincolnshire Council; Natural England; and the RSPB.

4.3.2 The Feasibility Study details the process of developing the HMWGS to fulfil the temporary and permanent spatial requirements of appropriate habitat for the target bird species. Different options have been considered to refine the submitted scheme such that it provides the optimum habitat sought for the target species and fully transposes objectives of the approved mitigation and compensation schemes.

4.3.3 The HMWGS provides 90.2ha of mitigation. This total area comprises:

- 52ha of core area; and
- 38.2ha of buffer, distributed as appropriate around the core area.

4.4 Design

4.4.1 In short, the HMWGS comprises a series of tiered scrapes with a back-up facility to draw water from Halton Drain as required (i.e. to ensure appropriate water levels in dry years). The main engineering works will be focussed on the southerly fields.

4.4.2 Works in the northern field will be limited to blocking the field drain system and including a small drain to allow drainage of a depression in the land over the winter months. This field typically holds good numbers of Golden Plovers during the winter months, which prefer drier ground; it is suitable in its current state and will be enhanced by removal of identified hedgerows and by blocking field drains.

4.4.3 The buffer around the northern perimeter of the site will be augmented by the creation of 3.06 ha of neutral grassland, part of the habitat relocated from AMEP Mitigation Area A.³

4.4.4 On the north-eastern boundary, a ditch will be created parallel to the sea wall; this is intended to discourage dogs from accessing the site. Along the seaward side of that ditch a new hedge will be planted, to provide screening for the new wetland area.

4.4.5 An operational buffer will be provided to the west of Halton Drain. It is proposed its use will be restricted, through an appropriate planning condition, to non-disturbing activity.

4.4.6 The scrapes will be separated with saddles to ensure that water is retained throughout the system and doesn't simply flow to the lowest point. The

³ Note that planning permission PA/2016/649, if granted, will not confer the right to relocate mitigation Area A from Killingholme Marsh. This will require other consenting processes.

saddles will essentially comprise an earth core that is protected from erosion by a geogrid or concrete pavement.

- 4.4.7 To avoid excessive water standing on site, the scrape system incorporates a series of release bungs. These are simply pipes fitted with a bung that can be manually fitted or removed. The system of release bungs allows the connected scrapes to act as drains and discharge water to the retained field boundary drains when the bungs are removed. The scheme is designed for flexibility and an adaptive management approach.
- 4.4.8 Hedgerows on the northern and southern boundaries will be retained and planted up, to provide enhanced screening for the new wetland area. These will also continue to support the bat species that have been recorded foraging within the site. All other hedgerows within the site will be removed to improve visibility for the birds. Removal of these hedgerows will have minimal impact on the ecological value of the site and should be readily undertaken during construction.
- 4.4.9 The development programme initially aimed for construction through September and October 2016, such that the site would be ready for use through Winter 2016/17. However, in reality, construction will be delayed at least until consultees' concerns are overcome so that the planning application can be determined. Construction hours of operation are proposed to be those of condition 39 of consent reference PA/2015/1264:
- Where the work is within 200 metres of any residential property: 8am to 6pm Monday to Friday; 8am to 2pm on Saturday; and not at all on Sunday, Bank Holidays or national holidays;
 - Where work is greater than 200 metres from any residential property: 7am to 9pm Monday to Saturday; and not at all on Sunday, Bank Holidays or national holidays.

4.5 Habitats Created and Future Maintenance

- 4.5.1 The core area covers 52ha, Surrounding the core area are the buffers, covering a total of 38.2ha comprising:
- 31.6ha of wet grassland buffer;
 - 3.06ha of neutral grassland buffer; and
 - 4.9ha of operational buffer (restricted to non-disturbing activity).
- 4.5.2 The focus for the HMWGS has been on the creation of wet grassland. However, the project includes the wider objectives of AMEP Mitigation Area A⁴, also providing: foraging habitat for bats; neutral grassland; tussocky swards for nesting skylarks and meadow pipit; and clearance of vegetation where it results in overshadowing or cover for natural predators.
- 4.5.3 Details of management and maintenance of the HMWGS are set out at sections 6.2 and 6.4.6 of the JBA Report; in addition, the habitat would be subject to the objectives of the TEMMP, which would be revised to suit the relocated site and re-submitted for approval.
- 4.5.4 The site will have the appearance of open wet grassland and it is expected that the bird species will range across it, taking advantage of seasonal

^{4 4} Note that planning permission PA/2016/649, if granted, will not confer the right to relocate mitigation Area A from Killingholme Marsh. This will require other consenting processes.

changes in the water levels. There will be further habitats provided including: bats will benefit from ponds and scrapes as foraging habitats; passerines, such as Skylark and Meadow Pipit will benefit from the dry areas to breed and forage in.

- 4.5.5 Grazing is proposed throughout the year, and across the site, using different animals to provide the correct sward conditions and to protect the ground and any nesting birds. The area of neutral grassland will be mowed once a year.

4.6 Relationship with approved mitigation

- 4.6.1 As proposed by Able UK, the HMWGS provides 52ha of core area, amalgamating the objectives of the three approved schemes. One of the functions of the Habitats Regulations Assessment is to determine whether the proposal will meet the following objectives:

- ALP Option 2

12 of the 32 hectares of core area required under ALP Option 2 will be provided in the HMWGS. As part of a much larger core area (52ha in total) this will facilitate implementation of Phase 1 of the ALP;

- AMEP Mitigation Area A

The 16.7ha core area of AMEP Mitigation Area A could be relocated to the HMWGS, and increased (by 3.3ha) to 20ha of core area, so providing mitigation for the development of the current site of Mitigation Area A and any further development on Killingholme Marshes;⁵

- AMEP Further Overcompensation

A further 20ha of core area could be provided for the future delivery of the AMEP Further Overcompensation scheme for the Black-tailed godwit. The core area is surrounded by appropriately sized buffer zones, as shown on Figure 2-3 of the JBA Report:

- 50m to the north, the adjacent land use (flood defence and the Humber Estuary) cannot change.
- 50m to the east, the adjacent land use (flood defence and the Humber Estuary) cannot change.
- 50m to the south, the adjacent land use (hedgerow and recreational fishery within the local site of interest for nature conservation) cannot reasonably be expected to change. ABLE now holds the shooting rights over Winter's Ponds/Clay Pits; consequently, the cessation of this activity is within the applicant's control.
- 150m to the west, the fullest extent of buffer is provided here as this boundary borders with the ALP.

- 4.6.2 Note that Natural England does not describe the overcompensation in terms of a core plus buffer. Instead, they view the provision as a response

⁵ Note that planning permission PA/2016/649, if granted, will not confer the right to relocate mitigation Area A from Killingholme Marsh. This will require other consenting processes.

to the Secretary of State's requirement for 38.5 hectares of wetland habitat.

- 4.6.3 In practical terms, the mitigation areas are being provided in slightly different locations than as approved; the ALP mitigation is moving north, with the AMEP Further Overcompensation moving south.
- 4.6.4 In time, an additional 20ha of core area will be provided so as to facilitate implementation of the rest of the ALP. This can be provided:
- at an agreed location off-site; or
 - once it is demonstrated that the compensatory habitat at Cherry Cobb Sands has achieved functionality such that the Further Overcompensation is not required, it can instead be banked, potentially being used for the remaining 20ha of ALP mitigation.
- 4.6.5 The appropriate details would need to be agreed prior to any development of the ALP north of the railway line.

4.7 Relationship with flood defence works

- 4.7.1 The ALP consents include a requirement to undertake works to the sea wall, thus ensuring flood protection to this area into the long term. The approved works have not commenced to date and consequently will be programmed after the construction works necessary to create the HMWGS. A buffer of 150m is desired between the flood defence works and the core area.
- 4.7.2 The approved phasing of the ALP means that development:
- located north of the railway line cannot commence until mitigation areas are agreed; and
 - comprising the erection of a building located in flood zone 3 cannot commence until those flood defence improvements are completed.
- 4.7.3 Land to the west of the HMWGS will not be developed prior to completion of the flood defence works, which is entirely in the control of the applicant. Able UK proposes to temporarily move the core area of the HMWGS to the west whilst construction work on the sea wall is progressing, so providing a 150m buffer to those works. The core area would return to its original position on completion of the sea wall. Another of the functions of the Habitats Regulations Assessment is to determine whether this temporary westward movement of the mitigation area is viable in the context of ongoing agricultural operations.

5 Summary of Likely Significant Effects on the International Nature Conservation Sites.

- 5.1 Disturbance of wintering and passage waterbirds during the construction phase of the proposal.
- 5.2 Risk of inadequate delivery of waterbird mitigation and compensation requirements arising from the Able Logistics Park and Able Marine Energy Park.

6 Disturbance of wintering and passage waterbirds during the construction phase of the proposal.

6.1 Background

6.1.1 Construction works can clearly cause temporary disturbance and displacement of SPA birds. Various factors need to be considered to give greater clarity as to whether a given source or combination of sources of construction-related disturbance could have an adverse effect on the SPA. For example, Habitats Regulations Guidance Note 3 (HRGN3) requires a competent authority to consider the “magnitude, likely duration and reversibility or irreversibility” of each potential effect on a Conservation Objective before determining whether each effect is a LSE. HRGN1 requires us to consider the “nature, scale, geographic extent, timing, duration and magnitude of direct and indirect effects” as well as considering mitigation measures. Disturbance and displacement due to construction works are clearly reversible. The other factors require more detailed consideration on a case-by-case basis. Any determination of AEOI here must relate to evidence that disturbance and displacement can have an effect on the estuary-wide distribution of birds, an impact at the population level or at least scientific doubt that a population level effect can be ruled out.

6.2 Likely Significant Effects

6.2.1 Construction disturbance of birds using the intertidal area.

6.2.1.1 Large numbers of birds, particularly Lapwing, have been recorded using the intertidal WeBS sector ISI that is adjacent to the application site. However, the majority of these birds use the southern half of the sector, away from the application site, where there is a wider expanse of mudflat (Catley 2007, 2008). Waterbirds using the northern section of ISI, along the Able UK frontage tend to be concentrated largely within and up to 500 metres south of East Halton Skitter (ibid, pers obs.). Species recorded here include teal, black-tailed godwit (in small numbers), redshank and shelduck- largely between October and February. The harsh weather events recorded in surveys were in the coldest months of December and January. Recorded numbers of birds using intertidal area ISI are given in Taylor (2010b)

6.2.1.2 Those birds that do use the intertidal area next to the application site could be disturbed or displaced by any noisy earth movements that take place in the passage and wintering periods. Monitoring works carried out by the Environment Agency, however, have shown that redshank flocks will feed and roost normally within 100-125 metres of vibration piling works (Cutts, N 2009). Any effects of such displacement will generally be very local (within a few hundred metres) and temporary and would not lead to any effects at the population level. However, there remains a chance that disturbance around the more confined area of East Halton Skitter during periods of hard frost could restrict birds’ ability to feed and lead to greater energy loss through flight movements.

6.2.2 Construction disturbance of birds using existing farmland and wetlands for feeding, roosting and loafing.

6.2.2.1 Construction works have the potential to disturb and/or displace

waterbirds using East Halton Pits and the existing farmland in significant numbers.

6.2.3 Construction disturbance of birds using created wetland habitats.

- 6.2.3.1 Depending on the length of time taken to complete works, wetlands for SPA birds, to be created in the early stages of the proposed development could be subjected to construction disturbance during subsequent works. The intention is that the wetland areas should provide for waterbirds displaced from other parts of the site. Therefore, if these areas are themselves subject to disturbance, this could be a LSE.

6.3 In-combination effects.

- 6.3.1 Birds disturbed and displaced from feeding, roosting and loafing areas on or around one part of the application site may normally move to other parts of the application site; other agricultural fields or areas of intertidal habitat; existing wetlands; mitigation wetlands (once created) or other parts of the South Humber Gateway. Other construction projects proposed in the south Humber Gateway at the same time could in theory reduce the area of habitat available that is free of disturbance, thus reducing one of these options. However, movements to the other areas described above will generally remain possible.

- 6.3.2 Projects likely to take place in the South Humber Bank Area over the next few years are described below:

6.3.3 Able Logistics Park (ALP)- PA/2009/0600 & PA/2015/1264

- 6.3.3.1 This project has full planning permission. If implemented, it will result in the development of much of Halton Marsh. Mitigation for loss of waterbird feeding and roosting habitat for this project forms the basis of much of the strategic mitigation for North Lincolnshire and is the subject of the current proposal (PA/2016/649). Planning conditions have been used to address other likely significant effects, including direct loss of mudflat, water pollution and construction and ongoing disturbance of birds. In terms of noise and visual disturbance of birds, this project could act in combination with PA/2016/649. If both projects comply with previously agreed phasing and similar planning conditions, it should be possible to avoid adverse effects on the integrity of the international nature conservation sites.

6.3.4 Able Marine Energy Park (AMEP)

- 6.3.4.1 This project, to create a large new quay over a large area of intertidal and subtidal habitat, would have an Adverse Effect on the Integrity (AEOI) of the Humber Estuary SAC, SPA and Ramsar site alone with regard to impacts on these habitats and the species supported by the habitats. It is not appropriate to consider this project in combination with other plans or projects, in terms of these impacts.

- 6.3.4.2 AMEP may have other effects, such as noise, light and visual disturbance and the potential for pollution of estuarine waters. The appropriate assessment of AMEP found that these impacts would have no AEOI alone on the International Natures Conservation Sites. Therefore these impacts may need to be considered in combination

with the current project. With the AMEP wet grassland mitigation moving to Halton Marsh, this in-combination assessment is particularly pertinent.

6.3.5 Able Marine Energy Park Enabling Works PA/2013/0519 & PA/2014/0512

6.3.5.1 These proposals mainly entail land-raising and compaction of stone fill material within the AMEP site. Either or both projects could lead to noise and visual disturbance of curlew in the construction phase. Through the use of soil bunds and the provision of alternative feeding areas for the duration of construction, it has been possible to record that these projects would have no adverse effect on the integrity of the Humber Estuary SPA and Ramsar site. These projects will not act in combination with PA/2016/649

6.3.6 North Killingholme Power Project- CGen Killingholme Ltd.

6.3.6.1 This project to build a new power station at North Killingholme could have impacts on Humber Estuary SAC, SPA and/or Ramsar features through fish impingement, discharge of cooling water into the estuary, air pollution and construction and operational disturbance effects. The requirements and conditions in the development consent order should ensure that the project will have no adverse effect on the integrity of the Humber Estuary SAC, SPA and Ramsar site. The situation relating to residual effects is not clear.

6.3.7 SMART wind Projects 1 & 2

6.3.7.1 These offshore windfarm projects will have a number of offshore effects unrelated to the designated features of the Humber Estuary. Where the cable connection makes its landfall at horseshoe point, there will be a number of likely significant effects on the designated features of the Humber Estuary, including temporary loss of subtidal and intertidal habitat, temporary loss of prey for waterbirds from intertidal and subtidal habitat and construction disturbance to SPA./Ramsar waterbirds. The submitted information concludes that there will be no Adverse Effect on the Integrity of the Humber Estuary SAC/SPA/Ramsar site overall (SMARTwind 2015 & Infrastructure Planning). These projects are not likely to act in combination with the proposal being assessed here.

6.3.8 River Humber Gas Pipeline Replacement Project and Associated Enabling Works

6.3.8.1 This project will entail land-based drilling works at Paull, on the north bank of the Humber, and at Goxhill. At Goxhill, up to 1000 golden plover and significant numbers of lapwing and curlew are occasionally recorded in the zone that could be affected by direct displacement, noise or visual disturbance (Hyder 2015) Applying the precautionary principle, this could be a likely significant effect on the Humber Estuary SPA and Ramsar site.

6.3.8.2 For the enabling works, a waterbird and construction method statement has been agreed in writing with the local planning authority to minimise the risks. For the main project, works will be carried out strictly in accordance with a construction and environmental management plan. With these measures in place, these projects are

not likely to act in combination with the proposal being assessed here.

6.3.9 Killingholme Marsh Drainage Scheme

- 6.3.9.1 Works are proposed on Killingholme Marshes, south of North Killingholme Haven Pits and north of Killingholme Lighthouse. The works will entail drainage channel construction, construction of access roads and the construction of a pumping station with an outfall in the intertidal area. The creation of access routes near fields known to be used by feeding and roosting curlew and works to the pumping station outfall are proposed for the summer months, outside the period when passage and wintering waterbirds are present.
- 6.3.9.2 Given the mitigation and avoidance measures proposed, the residual effect will be of negligible disturbance and displacement of passage and wintering waterbirds. Therefore, the drainage scheme will not act in combination with the Able UK application in terms of construction disturbance to waterbirds.

6.4 Measures taken to minimise disturbance.

6.4.1 Construction disturbance of birds using the intertidal area.

- 6.4.1.1 Assessment of the ALP project revealed that construction works could take place near the floodbank, occasionally exceeding 55dB within the SPA in terms of noise. Significant numbers of birds are concentrated within and up to 500 metres to the south of East Halton Skitter, between the months of October and February (Catley 2007a, 2008a). It is anticipated that works for PA/2016/649 would employ similar machinery with similar noise ratings to the ALP proposals. However works to the northernmost field will be limited to blocking drains and digging a small new drain. It is unlikely that the birds on the intertidal habitat near East Halton Skitter will be affected by such works.
- 6.4.1.2 Furthermore, it is worth noting that the 55dB noise threshold is used as a precautionary restriction to avoid harm to birds in harsh winter weather. Able UK has submitted supporting information indicating that the existing noise climate around East Halton Marsh is frequently around 65dB L_{Amax} (Able UK letter 30 September 2016). Birds are less likely to respond to such noise than to human presence. Any periods of severe and prolonged frost are only likely to occur between October and February.

6.4.2 Construction disturbance of birds using existing farmland and wetlands for feeding, roosting and loafing.

- 6.4.2.1 Phasing of works alongside ALP will ensure that different areas of the site are available for feeding, roosting and loafing at different stages of the developments.
- 6.4.2.2 Some temporary disturbance and displacement of waterbirds on or near the wet grassland creation area is inevitable with a construction project of the type proposed. Habitat Regulations Guidance Notes 1 and 3 guide competent authorities to consider the magnitude, duration and reversibility of such effects.
- 6.4.2.3 Clearly the construction disturbance is temporary (proposed over a few months) and reversible to the extent that, after the construction

period, waterbirds will no longer be subjected to construction activities. At Far Ings and Waters' Edge, Barton upon Humber, waders including curlew, lapwing and redshank were found to continue using the construction sites while earth-moving and localised construction works were taking place (Catley 2000-2003). Waterfowl using nearby waterbodies were not significantly affected (ibid).

6.4.2.4 Nevertheless, there is a likelihood that waterbirds currently using farmland and wetland will be disturbed and displaced. In the case of ruff and curlew, analysis of the Humber INCA bird reports suggests that these birds are strongly linked to the application site, whereas golden plover, lapwing and the less numerous species appear to be more wide ranging and less dependent on the application site.

6.4.2.5 Conditions will be required to ensure that habitat continues to be available for ruff and curlew in particular during site works. This requirement will be most acute when works are taking place around East Halton Pits. These conditions need to ensure that land in phases 3, 4, 5 and 6 of ALP is available for waterbirds while the mitigation wetlands are being developed. As well as ensuring continued provision for ruff and curlew, this approach is expected to benefit lapwing, golden plover and smaller numbers of other waders and wildfowl.

6.5 Conditions or restrictions required.

6.5.1 Conditions are required to secure the sensitive construction methods and timings described in section 6.4.2.5 above- see section 8 of this document.

6.6 Determination of AEOI.

6.6.1 In relation to disturbance and displacement, The Humber Estuary Final Draft Conservation Objectives for the SPA and Ramsar Site require, "No significant reduction in bird numbers either on the site, or from one part of the site to another attributable to anthropogenic factors... A 'significant' reduction will be determined on a case by case basis, however a decline of 1% or greater should be taken as a guide."

6.6.2 Construction works may lead to noise and visual displacement of birds using existing fields, wetland habitat or intertidal habitat. This was considered to be a likely significant effect for this project.

6.6.3 Provided that sensitive construction methods are followed, this residual disturbance effect will be negligible and will be extremely unlikely to lead to lasting effects on waterbird populations.

6.6.4 Provided that mitigation measures are secured by planning conditions and implemented in full, there will be no Adverse Effect on the Integrity of the Humber Estuary SPA and Ramsar site due to noise and visual disturbance in the construction phase of development.

7 Risk of inadequate delivery of waterbird mitigation and compensation requirements arising from the Able Logistics Park and Able Marine Energy Park.

7.1 Background

7.1.1 The Able Logistics Park and Able Marine Energy Park proposals have given rise to a number of likely significant effects relating to the disturbance and displacement of waterbirds from habitat within and supporting the Humber

Estuary SPA and Ramsar Site. Some of the effects with the greatest impact relate to the permanent loss of feeding, roosting and loafing habitat. These projects have requirements, restrictions and conditions securing mitigation and compensation measures to address these effects to the satisfaction of the competent authorities. Some of the most significant measures relate to the provision of replacement wet grassland habitat for waterbirds.

7.1.2 The Halton Marshes Wet Grassland Scheme needs to be assessed in combination with these projects to determine whether the overall provision of wet grassland mitigation and compensation is adequate to avoid an adverse effect on the integrity of the Humber Estuary SPA and Ramsar site.

7.1.3 The different disturbance, displacement and habitat loss effects are described in detail in the Habitats Regulations Assessment documents for each project. Whilst the projects need to be assessed in combination, it is not necessary or useful to revisit each significant effect in this document. As the effects have already been assessed, and the necessary mitigation and compensation measures described and quantified, all that is required is to assess whether the same scale and efficacy of mitigation and compensation can be delivered under the new proposals represented by the Halton Marshes Wet Grassland Scheme.

7.2 Able Logistics Park (ALP)

7.2.1 The background to the wet grassland proposal in relation to ALP is accurately summarised in the submitted Planning Statement:

7.2.1.1 “The ALP first gained planning consent on 10 July 2013 (reference PA/2009/0600). This permission was recently amended by planning consent granted on 1 February 2016 (PA/2015/1264). Within [the] planning statement, these are described as ‘the ALP consents’.

7.2.1.2 The ALP comprises: extensive warehousing, external storage and transportation depots; café/restaurant and hotel premises; and associated service facilities, amenity landscaping and habitat creation.

7.2.1.3 Two habitat creation options are approved under the ALP consents, both using the southern half of the HMWGS application area now proposed (drawings referenced ALP-08024 Rev A (Option 1) and ALP-08025 Rev A (Option 2) both dated 15 February 2011).

7.2.1.4 Option 1 requires a core area of 20ha with a buffer. If this option were chosen an appropriate area of off-site mitigation (20ha) would also need to be provided. 20ha is considered by Natural England to be the minimum area that can fully function as a core area. Option 2 consists of a core area of 32ha surrounded by buffer, no additional off-site mitigation would be required. The mitigation is required to be provided as an element of phase 1 of the ALP; no part of the ALP is consented to commence north of the railway line until the SPA waterbird mitigation works have been satisfactorily completed.”

7.2.2 Under PA/2016/649, the proposal is to provide 12 of the 32 hectares of core area required under ALP Option 2 in the HMWGS. This is intended to provide the mitigation required to allow the ALP area to be developed south of the East Halton railway line.

7.2.3 Before phases 3, 4, 5 and 6 of ALP are developed, a further 20 hectares of wet grassland habitat plus buffer will need to be provided, in accordance with

planning condition 49 of PA/2015/1264.

7.2.4 The HRA for ALP (Taylor 2011) states that:

9.4.2.3 “Field usage maps produced by Mott Macdonald (2009), suggest that for golden plover, lapwing and ruff, the most heavily used fields on the application site are north of the disused railway line. Curlew use fields north and south of the railway line, but the Catley reports 2007a, 2008a) reveal that, much of the time, fields south of the railway line are subject to disturbance and the northern curlew flocks use the fields north of the railway line roughly twice as much as those south of the railway line (2007/08 figures), or fourteen times as much if 2007 figures are applied.”

7.2.5 32 ha of core habitat is required to mitigate for the loss of wader habitat in ALP as a whole. Taking a precautionary approach, using 2007/08 rather than 2007 figures for curlew, then usage of land south of the railway line may be assumed to account for about one third of this requirement i.e. around 10.67 hectares. Nearly all use of land by lapwing, golden plover, ruff and black-tailed godwit relates to land north of the railway line.

7.2.6 Therefore, applying readily available data, the assertion that a 12ha core area plus buffers is sufficient to mitigate for the impact of developing the Able Logistics Park (ALP) up to the railway line appears reasonable.

7.3 Able Marine Energy Park (AMEP) Area A

7.3.1 The background to the wet grassland proposal in relation to AMEP Area A is also accurately summarised in the submitted Planning Statement:

7.3.1.1 “The AMEP was granted permission as a development consent order on 29 October 2014 (reference SI 2014 No: 2935).

7.3.1.2 This extensive development would provide almost 1,300 metres of new deep water quays, designed specifically for the renewables sector and to provide a multi-user facility for the manufacture, storage, assembly and deployment of offshore wind turbines and their associated supply chains.

7.3.1.3 To address the recognised ecological impacts of AMEP, a package of mitigation and compensation measure have been approved, including five new habitats:

- Mitigation Area A;
- Mitigation Area B;
- Cherry Cobb Sands, compensation and over-compensation; and
- Further Overcompensation (sic) at Halton Marshes.

7.3.1.4 Mitigation Area A, adjacent to the southern edge of the AMEP site, was approved to provide wet grassland habitat for the use of feeding and roosting birds (primarily Curlew) and to replace the loss of Station Road Local Wildlife Site. The plot comprises a core area of 16.7ha, habitat buffers and a sown neutral grassland area.”

7.3.2 PA/2016/649 has been designed with the intention that in the future, the 16.7ha core area of AMEP Mitigation Area A could be relocated to the HMWGS, and increased (by 3.3ha) to 20ha of core area, so providing mitigation for the development of the current site of Mitigation Area A and any

further development on Killingholme Marshes.⁶

- 7.3.3 In October 2011, Natural England wrote to the applicant, indicating that provision of mitigation habitat within the ALP area would enable the impact of the loss of feeding and roosting habitat from Killingholme Marshes to be mitigated (Letter dated 28 October, Appendix 4).
- 7.3.4 The South Humber Gateway Strategic Mitigation Strategy, referenced in the North Lincolnshire Core Strategy and Housing and Employment Allocations Development Plan Documents indicates that wet grassland mitigation habitat should be delivered both on Killingholme Marsh and Halton Marsh. However, it does also describe the potential for some of the mitigation requirement relating to Killingholme Marsh to be delivered at Halton Marsh.
- 7.3.5 The Housing and Employment Allocations Development Plan Document (adopted March 2016) includes the following supporting text for allocation SHBE-1 “South Humber Bank”:
- 7.3.5.1 “The preferred alternative locations for waterbird mitigation at Halton Marsh and Killingholme Marsh have been indicated on Inset 57. The current locations for waterbird mitigation have been arrived at through the Mitigation Strategy Group assessing the best available evidence.
- 7.3.5.2 Developers could bring forward other alternative mitigation proposals, of at least equivalent area to that agreed under the ALP and AMEP projects, provided that they have an evidence base sufficient to demonstrate the ability of such waterbird mitigation to contribute to the overall mitigation strategy and avoid Adverse Effects on the integrity of the SPA/Ramsar site. This approach will enable to keep Policy SHBE-1 flexible and give the policy longevity, without future cause to involve formal amendments to the DPD or possible DPD departure procedures.”
- 7.3.6 This gives policy support for the approach described in the 2011 Natural England letter. Within the Habitats Regulations Assessment of The Housing and Employment Allocations Development Plan Document, Policy SHBE-1. was assessed as follows:
- 7.3.6.1 “With these safeguards, Policy SHBE-1 will have no adverse effect on the integrity of the Humber SPA and Ramsar site in terms of disturbance to and permanent loss of terrestrial habitat supporting feeding, roosting and loafing SPA/Ramsar waterbirds.”
- 7.3.7 The area proposed for HMWGS lies about 4km from AMEP Area A and a similar distance from the intertidal habitat at Killingholme frontage that will remain following the AMEP development. A search of the readily available literature suggests that wintering curlews will readily commute such a distance between estuaries and inland fields or between foraging sites (A.S. Holmes in Cramp (ed.) 1983, Wilson 1973, Bainbridge and Minton 1978 and Tasker & Milsom 1979 in Townshend 1981). Inter-refuge distances of around 3-6 km have been proposed for other wader species, such as grey plover and dunlin (Rehfishch et al. 1993).
- 7.3.8 Taking into account Natural England advice and the recorded commuting distances for curlew, it is reasonable to conclude that the mitigation for loss

⁶ Note that planning permission PA/2016/649, if granted, will not confer the right to relocate mitigation Area A from Killingholme Marsh. This will require other consenting processes.

of feeding, roosting and loafing habitat for curlew from Killingholme Marsh, that would have been provided by Area A, can effectively be delivered by the provision of 20 hectares of core habitat, along with appropriate buffers at HMWGS.⁷

7.4 Compensation/Overcompensation for displacement of Black-tailed godwits by AMEP.

7.4.1 The principle of providing compensation for feeding black-tailed godwits on wet grassland at Halton Marsh was established by the Secretary of State in a letter of December 2013. The associated HRA notes the following at Section 25:

7.4.1.1 ANNEX 1- PLANNING ACT 2008: APPLICATION FOR THE PROPOSED ABLE MARINE ENERGY PARK DEVELOPMENT CONSENT ORDER

THE SECRETARY OF STATE'S ASSESSMENT IN ACCORDANCE WITH THE CONSERVATION OF HABITATS AND SPECIES REGULATIONS 2010

7.4.1.2 25. The Panel recommended that the East Halton Marshes scheme should be included as a compensatory measure to provide as much available feeding ground as possible, given the disagreement between the applicant, Natural England and the RSPB during the examination about how much food-stock was required to replace the existing resource at North Killingholme Marshes (PR 10.158-164). Although the East Halton Marshes scheme was not included in the Compensation EMMP dated March 2013, the Secretary of State notes from the applicant's further information submitted on 15 October 2013 that it has now agreed to provide its land at East Halton Marshes for compensation. The applicant has also proposed improvements to its design proposals for the site to benefit BTG and other estuary birds such as surface water features and islands in scrapes to serve as secure roosts in winter. The applicant has agreed that delivery of these proposals could be secured by an amendment to the Compensation EMMP, which will have to be finally approved by Natural England under requirement 17(1) of Schedule 11 to the Order

7.4.2 No targets for numbers of black-tailed godwits on Halton Marsh have been set. However, paragraph 25 (7.4.2.1) above indicates that the area should "provide as much available feeding ground as possible" and that there should be "improvements to [Able UK's] design proposals for the site to benefit BTG and other estuary birds such as surface water features and islands in scrapes to serve as secure roosts in winter."

7.4.3 This document therefore needs to provide a qualitative assessment as to whether the submitted proposals meet these criteria.

7.4.4 Having considered Able UK's e-mail of 04 November (reproduced here in Appendix 4), Natural England advises that the overall area now proposed as compensation for black-tailed godwits is as sufficient as the original proposal.

7.4.5 Ability of wet grassland at HMWGS to provide as much feeding ground as possible for black-tailed godwits.

⁷ Note that planning permission PA/2016/649, if granted, will not confer the right to relocate mitigation Area A from Killingholme Marsh. This will require other consenting processes.

- 7.4.5.1 Use of Wet Grassland by Black-tailed godwits
- 7.4.5.2 Wintering birds of the Icelandic race of black-tailed godwit *Limosa limosa islandica* are thought to feed preferentially on intertidal mud, with grasslands and other terrestrial habitats being less favoured (Alves et al. 2010). For this reason, the RSPB has questioned whether wet grassland can justifiably be used to contribute to compensation for the loss of intertidal mud. However, the principle of providing wet grassland has already been agreed (see above). Whilst this habitat is not a like-for-like replacement for intertidal mud, if a large enough area is provided to support significant numbers of feeding black-tailed godwit, then it can make a substantive contribution.
- 7.4.5.3 The South Humber Gateway 2010/11 surveys (Catley 2011) revealed significant use of fields by black-tailed godwits:
- 7.4.5.4 “In the early autumn during September significant numbers of Black-tailed Godwits were using some of the fields adjacent to the estuary for feeding. Most of the birds involved were juveniles that part of the population that is usually outcompeted by adults in use of prime feeding sites. Most of the fields used were dragged stubbles where the birds were presumably feeding on worms and invertebrates. The primary fields used were those from Goxhill Haven to East Halton Skitter and were immediately inland of the sea wall. Flocks of birds were observed moving between the roost at North Killingholme pits and the fields on a regular basis not just at high tide with some individuals possibly commuting on more than two occasions on a tidal cycle. Details of some of these observations are given below. Later in the winter period virtually all of the Black-tailed Godwits found on the fields were those that joined roosting Curlew on the old Huntsman site where they roosting at high water.
- 7.4.5.5 In week 2 during a very strong south-easterly wind a total of 392 birds was feeding in field 138 [within the proposed wet grassland area] in a narrow strip of dragged stubble sheltered from the wind at the southern side of the field. 85% of the birds were juveniles.
- 7.4.5.6 Subsequently in week 3 a flock of 360 birds was feeding on four fields in Goxhill Marsh, 116, 118, both mown hay fields, and 120 and 122 the latter being dragged, rape stubble, and 120 wheat stubble with a small strip dragged on the southern side. 90% of the birds were juveniles and they were actively feeding in all of the fields before at and after high tide. Some of the birds commuted to the adjacent inter-tidal when this was available but at high tide flocks moved to North Killingholme pits and back again so it was not possible to ascertain whether the same birds were involved and the total number of birds using the fields could have been higher than that recorded.
- 7.4.5.7 In week four the activity noted in week three was repeated with a minimum of 338 birds being seen at one time. Two colour ringed birds were seen; one Red Yellow Red Red flag was feeding in the same spot off Goxhill Skitter Ness where it spent most of the previous winter as a juvenile bird being last seen on February 16th 2010; the second bird Black Green Orange flag Black was a French ringed bird recorded in the autumn of 2010 at North Killingholme pits from August 2nd.”

7.4.5.8 This indicates that Black-tailed Godwits may be expected to use the HMWGS in significant numbers. Other examples of this species using wet grassland are provided by an IECS Report “Able Marine Energy Park Environmental Management and Monitoring Plan: 3. Compensation habitat – Cherry Cobb Sands RTE/managed realignment site and associated wet grassland area” (IECS 2012):

7.4.5.8.1 “Evidence of the value of grassland fields for foraging Black-tailed Godwits comes from a variety of sources including:

- at Clonakilty Bay in County Cork, where birds spend part of their time inland foraging on grassland fields from November onwards, supplementing the food obtained from the estuary mudflats (Hutchinson & O’Halloran, 1994); and
- at Poole harbour where terrestrial fields were considered of vital importance for shorebirds such as black-tailed godwit (Durell et al., 2006).”

7.4.5.9 The Birds of the Western Palearctic (Cramp (ed.) 1983) mainly describes the breeding habits and habitats of Black-tailed godwits. However, it does state that “..On land, probes soft soil, but also pecks food from surface and vegetation.”

7.4.5.10 The European Commission Management Plan For Black-Tailed Godwit (*Limosa limosa*) 2007–2009 recognises the importance of flooded grasslands for wintering black-tailed godwits in Portugal (European Communities, 2007).

7.4.5.11 Taken together, the above evidence indicates that wintering black-tailed godwits will use wet grassland for feeding.

7.4.6 Assessment of design features and proposed management for black-tailed godwit.

7.4.6.1 Brewis (2015) identified the primary objectives for management of wet grassland for black-tailed godwit as follows:

- Objective WG1: The site will contain wide, open expanses of wet grassland habitat with unobscured views of the surrounding area
- Objective WG2: The site should contain open water with at least one island suitable for roosting black-tailed godwits at high tide
- Objective WG3: The soil will be moist throughout the months of August to April to concentrate invertebrates at the surface and to ensure that the soil remains soft enough to be probed by waders
- Objective WG4: The site should be largely free of winter flooding to prevent floodwaters from killing soil invertebrates.
- Objective WG5: The site will have a high density of macro-invertebrate fauna to provide food for wading birds.
- Objective WG6: The wet grassland will be managed to give a suitable sward for wading birds throughout the months of August to March.

- 7.4.6.2 The target for black-tailed godwit within the Compensation Environmental Monitoring and Management Plan (CEMMP) for the wet grassland compensation at Cherry Cobb Sands is for a sward height of 10cm with livestock grazing proposed. A similar target would be appropriate for Halton Marsh.
- 7.4.6.3 To meet the requirements set by the Secretary of State's Habitats Regulations Assessment, the area of wet grassland provided should be of a comparable size to the area proposed in October 2013, should have design proposals "such as surface water features and islands in scrapes to serve as secure roosts in winter" and should "provide as much available feeding ground as possible".
- 7.4.6.4 The submitted Halton Marsh Wetland Feasibility Study (Jones & Sheehan 2016) sets out the key proposals for the design and management of wet grassland at Halton Marsh. The document is confusing in places, as it gives undue prominence to the breeding requirements of species that are not targets for the site and are not likely to breed in North Lincolnshire. However, the document does also set out targets and proposals for wintering waterbirds, including black-tailed godwit.
- 7.4.6.5 The proposals seem appropriate to provide the key requirements of appropriate grassland sward height, water at or near the soil surface, surface water features and islands. Furthermore, the proposals have been refined further in response to consultee's queries. Site monitoring, management plan updates and a proactive Steering Group are also proposed to encourage further refinement of site management to favour key targets. The consultees queries and the responses to them are set out in summary form in Appendix 6.
- 7.4.6.6 On that basis, it can be concluded that the proposals, with associated safeguards, will meet the requirements of the Secretary of State and will provide as much available feeding ground as possible.

8. Register of conditions or restrictions required.

8.1. Abstraction Licence (New condition)

Condition 1. No development shall take place until a long duration water abstraction licence to extract water from Halton Drain has been secured from the Environment Agency. The terms of the licence shall be adequate to meet the requirements of the water budget in at least 28 out of 30 reference years as set out in the Halton Marsh Wetland Feasibility Study.

8.2 Revised Management Plan (adapted from ALP PA/2009/0600 & PA/2016/1264)

Condition 2.⁸ Within six months of the date of this decision, a conservation management plan for waterbird mitigation areas shall be submitted to and agreed in writing with the local planning authority. The plan shall include:

- a) the aims and objectives of the plan, including proposed indicators of success;
- b) details of the ecological requirements of target species and the ecological trends affecting them;
- c) plans and details of habitats to be created and managed to support the target species, including details of earthworks, ground levels, islands, scrapes, soil properties, water control structures, ditches, waterbodies, target grassland sward types and any screening banks, hedgerows or reedbeds;
- d) ongoing management measures to be implemented to maintain habitats in favourable condition;
- e) detailed grazing prescriptions for wetland mitigation areas, including the means by which cattle shall have access to the proposed grassland areas;
- f) details of measures required to ensure the welfare of grazing animals;
- g) confirmation that areas of grass, rush and sedge shall be managed by cattle grazing, rather than mowing, unless agreed in writing by the local planning authority;
- h) detailed prescriptions for control of water levels, inputs and output, including water budgets for average, dry and wet years;
- i) timing of proposed works;
- j) details of remedial measures to be carried out in the event of water levels or other target measures rising or falling beyond agreed limits;
- k) persons responsible for:
 - compliance with legal consents relating to nature conservation;
 - compliance with planning conditions relating to nature conservation;
 - installation of physical protection measures during construction;
 - implementation of sensitive working practices during construction;
 - regular inspection and maintenance of physical protection measures and

⁸ North Lincolnshire Council, as Local Planning Authority, would expect the management plan to be prepared incorporating the relevant requirements of the Able Marine Energy Park (AMEP) Terrestrial Environmental Management and Monitoring Plan (TEMMP), particularly if the site is ultimately to be used for the delivery of AMEP overcompensation and the relocation of AMEP Area A. Natural England will be consulted on the discharge of this planning condition.

monitoring of working practices during construction;

- implementation of the management plan.

The conservation management plan shall be reviewed by the applicant or their successor in title every five years in order to achieve the stated aims and objectives. Following such five yearly reviews, any changes agreed between the applicant or their successor in title and the local planning authority shall be incorporated into a revised conservation management plan which shall thereafter be the conservation management plan for the purposes of all associated planning conditions.

Condition 3. The agreed conservation management plan shall be implemented in its entirety, in accordance with agreed timings, unless otherwise agreed in writing by the local planning authority. The features provided through implementation of the plan shall be retained and managed as agreed thereafter.

8.3 Construction methods (adapted from National Grid Enabling Works, Goxhill)

Condition 4. Works hereby permitted shall only be carried out between the months of March and September inclusive within any calendar year, unless a waterbird and construction method statement has been agreed in writing with the local planning authority. The submitted waterbird and construction method statement must include the following:

- (i) details of measures that shall be put in place to avoid impacts upon waterbirds from noise or visual disturbance;
- (ii) a programme of construction noise and visual disturbance monitoring and bird disturbance studies to be carried out with results to be submitted to the local planning authority weekly for the duration of site works;
- (iii) details of thresholds for disturbance and/or displacement of waterbirds that shall trigger amendment of working methods in response to monitoring results;
- (iv) details of the means by which amended sensitive working methods shall be agreed with the local planning authority;
- (v) details of measures to control construction-phase light pollution.

Condition 5. All works carried out between October and February inclusive shall be carried out strictly in accordance with the agreed waterbird and construction method statement unless otherwise agreed in writing by the local planning authority. Prior to the completion of the approved development, the applicant or their successor in title shall submit a report to the local planning authority, providing evidence of compliance with the waterbird and construction method statement.

8.4 Monitoring (adapted from ALP PA/2009/0600 & PA/2016/1264)⁹

Condition 6. Within six months of the date of this decision, a bird monitoring programme shall be submitted to and agreed in writing with the local planning authority. The plan shall include

- (i) bird monitoring methods and prescriptions for created wetland mitigation and

⁹ North Lincolnshire Council, as Local Planning Authority, would expect the monitoring programme to be prepared incorporating the relevant requirements of the Able Marine Energy Park (AMEP) Terrestrial Environmental Management and Monitoring Plan (TEMMP), particularly if the site is ultimately to be used for the delivery of AMEP overcompensation and the relocation of AMEP Area A. Natural England will be consulted on the discharge of this planning condition.

compensation areas and their functionally related areas of intertidal habitat;

(ii) timing of bird monitoring including seasonal timing, frequency of counts, tidal state during counts, starting points and end points;

(iii) reporting standards, including format of annual reports, interim reports and measures to be derived from the raw data;

(iv) measures of favourable condition with reference to bird populations and assemblages using the created wetland mitigation and compensation areas and their functionally related areas of intertidal habitat;

(v) bird population and assemblage thresholds that indicate the presence or absence of adverse effect on the integrity of the Humber Estuary SPA and Ramsar sites

(vi) mechanisms for implementing any necessary remedial measures;

Condition 7. The agreed bird monitoring programme shall be implemented in its entirety, in accordance with agreed timings and methods, unless otherwise agreed in writing by the local planning authority.

8.5 Steering Group (adapted from ALP PA/2009/0600 & PA/2016/1264)

Condition 8. Prior to the commencement of development, the applicant or its successors in title shall agree in writing with the Local Planning Authority the terms of reference for an Environmental Steering Group to oversee implementation of mitigation measures and sensitive working practices. The Steering Group shall comprise suitably experienced representatives of the applicant or its successor, the local planning authority and other appropriate organisations by agreement. The steering group shall meet at least annually from the commencement of development to at least five years after the completion of all wetland mitigation areas for an annual monitoring review, unless otherwise agreed in writing with the local planning authority. Prior to the meeting, an environmental report, completed to an agreed standard, shall be provided by the applicant or their successor in title to all steering group members. Environmental actions agreed by the Environmental Steering Group shall be implemented in full in accordance with agreed timescales.

[Note: Condition 8 does not necessarily require the formation of a new Steering Group. It shall be possible, though not essential, to discharge the requirements of condition 8 through the operation of the ALP and AMEP Steering Groups. The potential for a new Steering Group is retained to cover the unlikely event of the land transferring to a different landowner]

8.6 Shooting

Condition 9 No wildfowling or sporting/ game shooting activities are to occur within the area demarked by the black line on drawing ALP-002-00024.

[see Appendix 4 for a copy of the drawing]

8.7 Reason (in each case)

To protect features of the Humber Estuary SPA and Ramsar Site in accordance with policies LC1 and LC2 of the North Lincolnshire Local Plan, Policy CS17 of the North Lincolnshire Core Strategy and Policy SHBE-1 of The Housing and Employment Allocations Development Plan Document

9. Overall determination of AEOI.

9.1. Project without restrictions or conditions.

9.1.1. The proposed project is not necessary for the management of the Humber Estuary SAC, SPA or Ramsar site.

9.1.2. The proposed project would have a likely significant effect on the Humber Estuary SPA and Ramsar site.

9.1.3. **Without conditions or restrictions, North Lincolnshire Council cannot ascertain that the proposed project would not have an adverse effect on the integrity of the Humber Estuary SPA and Ramsar site.** The sources of the adverse effect on integrity are listed below, along with the International Nature Conservation Site interest features affected:

9.1.3.1. Disturbance of wintering and passage waterbirds during the construction phase of the proposal.

9.1.3.2. Risk of inadequate delivery of waterbird mitigation and compensation requirements arising from the Able Logistics Park and Able Marine Energy Park.

9.2. Project with conditions and other positive measures

9.2.1. The planning conditions required to remove or minimise adverse effects on International Nature Conservation Site interest features are set out in section 8 above.

9.2.2. **Overall, it is possible to ascertain that the proposal will not have an adverse effect on the integrity of the Humber Estuary SPA and Ramsar Site alone or in combination with other plans or projects.**

Appendices

Appendix 1.

Location of Proposals in relation to the International Nature Conservation Site.

Appendix 2. Citations and Conservation Objectives.

European Site Conservation Objectives for Humber Estuary Special Area of Conservation Site code: UK0030170

With regard to the natural habitats and/or species for which the site has been designated („the Qualifying Features“ listed below);

Avoid the deterioration of the qualifying natural habitats and the habitats of qualifying species, and the significant disturbance of those qualifying species, ensuring the integrity of the site is maintained and the site makes a full contribution to achieving Favourable Conservation Status of each of the qualifying features.

Subject to natural change, to maintain or restore:

- The extent and distribution of qualifying natural habitats and habitats of qualifying species;
- The structure and function (including typical species) of qualifying natural habitats and habitats of qualifying species;
- The supporting processes on which qualifying natural habitats and habitats of qualifying species rely;
- The populations of qualifying species;
- The distribution of qualifying species within the site.

Qualifying Features:

H1110. Sandbanks which are slightly covered by sea water all the time; Subtidal sandbanks

H1130. Estuaries

H1140. Mudflats and sandflats not covered by seawater at low tide; Intertidal mudflats and sandflats

H1150. Coastal lagoons*

H1310. *Salicornia* and other annuals colonising mud and sand; Glasswort and other annuals colonising mud and sand

H1330. Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*)

H2110. Embryonic shifting dunes

H2120. Shifting dunes along the shoreline with *Ammophila arenaria* ("white dunes"); Shifting dunes with marram

H2130. Fixed dunes with herbaceous vegetation ("grey dunes"); Dune grassland*

H2160. Dunes with *Hippophae rhamnoides*; Dunes with sea-buckthorn

S1095. *Petromyzon marinus*; Sea lamprey

S1099. *Lampetra fluviatilis*; River lamprey

S1364. *Halichoerus grypus*; Grey seal

* denotes a priority natural habitat or species (supporting explanatory text on following page)

This is a European Marine Site

This site is a part of the Humber Estuary European Marine Site. These conservation objectives should be used in conjunction with the Regulation 35 Conservation Advice Package, for further details please contact Natural England's enquiry service at enquiries@naturalengland.org.uk, or by phone on 0845 600 3078, or visit the Natural England website at:

<http://www.naturalengland.org.uk/ourwork/marine/protectandmanage/mpa/europeansites.aspx>

*** Priority natural habitats or species**

Some of the natural habitats and species listed in the Habitats Directive and for which SACs have been selected are considered to be particular priorities for conservation at a European scale and are subject to special provisions in the Directive and the Habitats Regulations. These priority natural habitats and species are denoted by an asterisk (*) in Annex I and II of the Directive. The term „priority“ is also used in other contexts, for example with reference to particular habitats or species that are prioritised in UK Biodiversity Action Plans. It is important to note however that these are not necessarily the priority natural habitats or species within the meaning of the Habitats Directive or the Habitats Regulations.

Explanatory Notes: European Site Conservation Objectives

European Site Conservation Objectives are those referred to in the Conservation of Habitats and Species Regulations 2010 (the “Habitats Regulations”) and Article 6(3) of the Habitats Directive 1992. They are for use when either the appropriate nature conservation body or competent authority is required to make an Appropriate Assessment under the relevant parts of the respective legislation.

These conservation objectives are set for each habitat or species of a Special Area of Conservation (SAC). Where the objectives are met, the site can be said to demonstrate a high degree of integrity and the site itself makes a full contribution to achieving favourable conservation status for those features.

This document is also intended for those who are preparing information to be used for an appropriate assessment by either the appropriate nature conservation body or a competent authority. As such this document cannot be definitive in how the impacts of a project can be determined. Links to selected sources of information, data and guidance which may be helpful can be found on Natural England's website. This list is far from exhaustive.

European Site Conservation Objectives for Humber Estuary Special Protection Area

Site Code: UK9006111

With regard to the individual species and/or assemblage of species for which the site has been classified (“the Qualifying Features” listed below);

Avoid the deterioration of the habitats of the qualifying features, and the significant disturbance of the qualifying features, ensuring the integrity of the site is maintained and the site makes a full contribution to achieving the aims of the Birds Directive.

Subject to natural change, to maintain or restore:

- The extent and distribution of the habitats of the qualifying features;
- The structure and function of the habitats of the qualifying features;
- The supporting processes on which the habitats of the qualifying features rely;
- The populations of the qualifying features;
- The distribution of the qualifying features within the site.

Qualifying Features:

A021 *Botaurus stellaris*; Great bittern (Non-breeding)

A021 *Botaurus stellaris*; Great bittern (Breeding)

A048 *Tadorna tadorna*; Common shelduck (Non-breeding)

A081 *Circus aeruginosus*; Eurasian marsh harrier (Breeding)

A082 *Circus cyaneus*; Hen harrier (Non-breeding)

A132 *Recurvirostra avosetta*; Pied avocet (Non-breeding)

A132 *Recurvirostra avosetta*; Pied avocet (Breeding)

A140 *Pluvialis apricaria*; European golden plover (Non-breeding)

A143 *Calidris canutus*; Red knot (Non-breeding)

A149 *Calidris alpina alpina*; Dunlin (Non-breeding)

A151 *Philomachus pugnax*; Ruff (Non-breeding)

A156 *Limosa limosa islandica*; Black-tailed godwit (Non-breeding)

A157 *Limosa lapponica*; Bar-tailed godwit (Non-breeding)

A162 *Tringa totanus*; Common redshank (Non-breeding)

A195 *Sterna albifrons*; Little tern (Breeding)

Waterbird assemblage

This is a European Marine Site

This site is a part of the Humber Estuary European Marine Site. These conservation objectives should be used in conjunction with the Regulation 35 Conservation Advice Package, for further details please contact Natural England's enquiry service at enquiries@naturalengland.org.uk, or by phone on 0845 600 3078, or visit the Natural England website at:

<http://www.naturalengland.org.uk/ourwork/marine/protectandmanage/mpa/europeansites.aspx>

Explanatory Notes: European Site Conservation Objectives

European Site Conservation Objectives are those referred to in the Conservation of Habitats and Species Regulations 2010 (the "Habitats Regulations") and Article 6(3) of the Habitats Directive 1992. They are for use when either the appropriate nature conservation body or competent authority is required to make an Appropriate Assessment under the relevant parts of the respective legislation.

These conservation objectives are set for each bird feature for a Special Protection Area (SPA). Where the objectives are met, the site can be said to demonstrate a high degree of integrity and the site itself makes a full contribution to achieving the aims of the Birds Directive for those features. On the first page of this document there may be a list of "Additional Qualifying Features identified by the 2001 UK SPA Review". These are additional features identified by the UK SPA Review published in 2001 and, although not yet legally classified, are as a matter of Government policy treated in the same way as classified features.

This document is also intended for those who are preparing information to be used for an appropriate assessment by either the appropriate nature conservation body or a competent authority. As such this document cannot be definitive in how the impacts of a project can be determined. Links to selected sources of information, data and guidance which may be helpful can be found on Natural England's website. This list is far from exhaustive.

3. The Humber Estuary Ramsar site conservation objectives

3.1 Criterion 2: Conservation objective for the internationally important wetland, hosting an assemblage of threatened coastal and wetland invertebrates

Subject to natural change, maintain* the wetland hosting an assemblage of threatened coastal and wetland invertebrates in favourable condition, in particular:

- 10 Saltmarsh communities
- 11 Coastal lagoons

3.2 Criterion 3: Conservation objective for the internationally important wetland, supporting a breeding colony of grey seals *Halichoerus grypus*

Subject to natural change, maintain* the **wetland hosting a breeding colony of grey seals** in favourable condition, in particular:

- 12 Intertidal mudflats and sandflats

3.3 Criterion 5: Conservation objective for the internationally important wetland, regularly supporting 20,000 or more waterfowl

Subject to natural change, maintain* the **wetland regularly supporting 20,000 or more waterfowl** in favourable condition, in particular:

- 10 Intertidal mudflats and sandflats
- 11 Saltmarsh communities
- 12 Tidal reedbeds
- 13 Coastal lagoons

3.4 Criterion 6: Conservation objective for the internationally important wetland, regularly supporting 1% or more of the individuals in a population of one species or sub-species of waterfowl

Subject to natural change, maintain* the **wetland regularly supporting 1% or more of the individuals in a population of one species or sub-species of waterfowl** in favourable condition, in particular:

- Intertidal mudflats and sandflats
- Saltmarsh communities
- Tidal reedbeds
- Coastal lagoons

Note: The Ramsar site conservation objectives for **critterion 2 & 3** interest focus on the condition of the habitats that support or host species of international importance. Information on the status of the species in terms of national and international population and distribution trends will be used to inform judgements made with regards to the management and protection of the sites.

The Ramsar site conservation objectives for **critterion 5 & 6** interest focus on the condition of the habitats that support the bird populations. This is in recognition of changes in bird populations that may take place as a consequence of national or international trends or events. Annual counts for qualifying species will be used by Natural England in the context of five-year peak means together with other available information on the national and international population and distribution trends to inform judgements regarding the management and protection of the site.

* Maintain implies restoration if the feature is not currently in favourable condition.

Appendix 3 Natural England correspondence

Date: 28 October 2011



Peter Stephenson
Executive Chairman
Able UK Ltd
Able House
Billingham Reach Industrial Estate
Billingham
Teesside
TS23 1PX

Natural England
Touthill Close
City Road
Peterborough
PE1 1XN

Email - pms@ableuk.com

Dear Peter

ABLE UK MARINE ENERGY PARK (AMEP)

Thank you for your email of 24 October and most recent letter, received on 26 October 2011. We welcome your proposal to "agree to disagree" on a number of matters and seek to agree a pragmatic way forward.

I am committed to responding to you this week on two points; the footprint of the development site and the mitigation proposals. Our comments are therefore given below. We will provide a substantive response to the other key points raised in your correspondence next week.

Area of the proposed development site

We acknowledge that the statement under point 1 in our letter of 21 October could have been clearer. We recognise that some of the area proposed for AMEP is currently consented and developed and therefore not all of the AMEP development site footprint is functioning habitat that will be permanently lost to SPA and Ramsar waterbirds. However, there will clearly be a significant change of use from the existing car storage to a new port facility and the impact of this must be adequately assessed under the EIA Regulations and the Habitats Regulations.

The documentation that we have recently received presents a number of differing figures for the land that is currently undeveloped; this figure varies from 102ha in your letter of 29 September to 154ha shown on the drawing attached to your email of 14 October. In your most recent letter it is stated that "planning consent already covers 122ha of that land", however the attachment to that letter lists planning permissions with a total area of 117ha. **We would be grateful if you could provide clarity on these figures.**

However, it is important to clarify that our advice on the amount of mitigation required for the loss of roosting and foraging habitat at Killingholme Marshes is based on the bird monitoring records of the area. This provides information on the actual fields utilised by waterbirds and so the areas already developed were not included in our calculations.

Mitigation principles

As you are aware, it is our advice that a core area of 16.7ha with a buffer of 150m where the adjacent land use is unsecured would be sufficient to mitigate for the loss of terrestrial feeding and roosting habitat within Killingholme Marshes. We welcome your acceptance of our advice and proposal "to include a 16.7ha core mitigation area within the red line boundary that we have used in our statutory consultations".

As discussed at our meeting in Peterborough it may be possible to reduce the 150m buffer along the sides adjacent to the fuel depot and the development site to 100m if further information is provided on the levels and types of activity that will be carried out on these sites. **We would be grateful if you could send this information through to us, as agreed in Peterborough, as soon as possible for our consideration.**

It is unclear what is meant by your statement that the core area will be buffered by "150m of farmland". All of the mitigation area, including the buffer must be optimally managed as wet grassland. This has been discussed previously and was one of the principles agreed in the MOU for ALP "Memorandum of Understanding For Able UK East Halton Application, 24th February 2011" signed by yourself, Peter Nottage Natural England and Peter Robertson RSPB. The reason that the entire area must be managed as wet grassland is to ensure that the core area is optimal at all times. If the surrounding buffer was an alternative habitat type then it would be almost impossible to ensure that the water levels and habitat quality within the entire core area was optimal wet grassland. As you are aware, the purpose of the buffer is to reduce disturbance to the core area so that the entire 16.7ha is able to function optimally at all times. It will not be possible therefore to farm the buffer as this will cause disturbance to the SPA/ Ramsar waterbirds. Subject to your confirmation on these points,

It is Natural England's opinion that this option of delivering sufficient mitigation within the footprint of AMEP would meet the requirements of the Habitats Regulations and mitigate the loss of feeding and roosting habitat from Killingholme Marshes.

Alternative mitigation options

Whilst the mitigation option described above would, in our view, meet the requirements of the Habitats Regulations, you have made it clear that you wish (and will plan) to mitigate for the loss of Killingholme Marshes at AMEP alongside the mitigation that you are providing for ALP. As discussed in Peterborough, we accept that there are alternative options where mitigation can be delivered in close proximity to AMEP but still within the South Humber Gateway and therefore these options would also meet the requirements of the Habitats Regulations and mitigate for the loss of feeding and roosting habitat at Killingholme Marshes.

Option 1

The option that was discussed in Peterborough was for the provision of a 20ha core area to partially mitigate for ALP and a 16.7ha core area to mitigate for AMEP – ie a 36.7ha core area. This would be surrounded by a 150m buffer, except adjacent to the seawall where a buffer of 50m was agreed if public access was screened. To complete the mitigation for ALP, this option also requires a 20ha core area surrounded by 150m buffers where the adjacent land is unsecured, outside of the South Humber Gateway. The location of this offsite

mitigation would be agreed with Natural England and would need to follow the principles of the South Humber Gateway and the Habitats Regulations in respect of delivering the conservation objectives for the site. All of the land should be optimally managed as wet grassland.

Option 2

Drawing No. ALP 08039 A attached to Neil Etherington's email of 14 October shows a core area of 48ha and as stated in our previous letter, if the core area is amended to 32ha + 16.7ha – ie a total core area of 48.7ha with a 150m buffer, except adjacent to the seawall where a buffer of 50m was agreed if public access was screened, then Natural England is of the opinion that this option would also meet the requirements of the Habitats Regulations.

Our advice is that option 2 represents the best option for the designated site, as it would create a large mitigation area in the closest proximity to the impacts of ALP and AMEP. However we advise that **there are three options – one on AMEP and two on ALP that we believe would all enable the impact of the loss of feeding and roosting habitat from Killingholme Marshes to be mitigated.**

Able UK has also put forward a number of other options that result in a reduction in the area of mitigation provided on the ALP site. As Natural England provided clear advice at our meeting in Peterborough that mitigation for AMEP could be moved to ALP, not to a location outside the South Humber Gateway, we assume that these options are proposals to amend the existing planning permission for ALP.

Your letter also states that "other alternatives may emerge and we would hope that you maintain an open mind in any future discussions". Obviously, Natural England is happy to keep an open mind and work with you on mitigation proposals, but we understood that there was a pressing timeframe to deliver AMEP and therefore submission to the IPC was imminent. We have provided advice on 3 options that, in our view, would meet the requirements of the Habitats Regulations; therefore we would welcome your decision over which one of these options to progress, rather than continued debate of alternative proposals.

In the interests of resolving our discussions on developments within the South Humber Gateway, we do not wish to reopen long and protracted discussions on previous cases. As you will be aware, resolution of ALP took considerable time and effort from a number of parties – Able UK, Natural England, RSPB, North Lincolnshire Council and Peter Barham Environment Ltd. If the mitigation for ALP was considerably revised then North Lincolnshire Council would need to undertake a new assessment under the Habitats Regulations and those parties that signed the MOU would need to be reconsulted and new agreements drawn up. It would seem that the public purse would be better served by advancing a positive outcome for the AMEP proposal that does not rely on significant amendments to the planning permission for ALP which threaten to undo much of the hard work put into that application.

Compensation

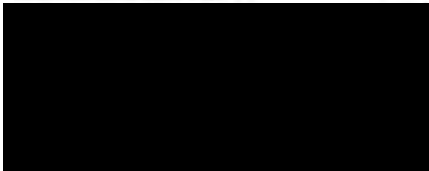
We will respond to the compensation proposals in our letter of detail next week.

Drax

As we stated in our previous letter, we are looking into the details of this case and will respond in detail in due course. However, we can assure you that it is unlikely that this will change the advice we have given for AMEP.

I would like to reassure you that we remain committed to regular open and transparent dialogue with Able UK to bring this proposal forward to the point of submission to the IPC as soon as possible. As you are aware, we have a teleconference set up on Wednesday with your team to discuss any outstanding matters.

Yours sincerely



Alan Law
Director, Land Use



Date: 21 June 2016
Our ref: 186827
Your ref: PA/2016/649



Andrew Law
North Lincolnshire Council
Civic Centre
Ashby Road
Scunthorpe
North Lincolnshire DN16 1AB

Customer Services
Hornbeam House
Crewe Business Park
Electra Way
Crewe
Cheshire
CW1 6GJ

T 0300 060 3900

BY EMAIL ONLY

Dear Andrew

**Planning consultation: Planning permission for creation of habitat, primarily wet grassland
Location: Land to the East of Skitter Road, Halton Marshes, East Halton**

Thank you for your consultation on the above dated 26 May 2016 which was received by Natural England on the same date.

Natural England is a non-departmental public body. Our statutory purpose is to ensure that the natural environment is conserved, enhanced, and managed for the benefit of present and future generations, thereby contributing to sustainable development.

**ARTICLE 16 OF THE TOWN AND COUNTRY PLANNING (DEVELOPMENT MANAGEMENT PROCEDURE) ORDER 2010
THE CONSERVATION OF HABITATS AND SPECIES REGULATIONS 2010 (AS AMENDED)
SECTION 28I OF THE WILDLIFE AND COUNTRYSIDE ACT 1981 (AS AMENDED)**

Internationally and nationally designated sites

The application site is within or in close proximity to a European designated site (also commonly referred to as Natura 2000 sites), and therefore has the potential to affect its interest features. European sites are afforded protection under the Conservation of Habitats and Species Regulations 2010, as amended (the 'Habitats Regulations'). The application site is in close proximity to the Humber Estuary Special Protection Area (SPA) and Special Area of Conservation (SAC) which is a European site. The site is also listed as Humber Estuary Ramsar site¹ and also notified at a national level as Humber Estuary Site of Special Scientific Interest (SSSI). Please see the subsequent sections of this letter for our advice relating to SSSI features.

In considering the European site interest, Natural England advises that you, as a competent authority under the provisions of the Habitats Regulations, should have regard for any potential impacts that a plan or project may have². The [Conservation objectives](#) for each European site explain how the site should be restored and/or maintained and may be helpful in assessing what, if any, potential impacts a plan or project may have.

¹ Listed or proposed Wetlands of International Importance under the Ramsar Convention (Ramsar) sites are protected as a matter of Government policy. Paragraph 118 of the National Planning Policy Framework applies the same protection measures as those in place for European sites.

² Requirements are set out within Regulations 61 and 62 of the Habitats Regulations, where a series of steps and tests are followed for plans or projects that could potentially affect a European site. The steps and tests set out within Regulations 61 and 62 are commonly referred to as the 'Habitats Regulations Assessment' process.

The Government has produced core guidance for competent authorities and developers to assist with the Habitats Regulations Assessment process. This can be found on the Defra website. <http://www.defra.gov.uk/habitats-review/implementation/process-guidance/guidance/sites/>

Natura 2000 - Further information required

The consultation documents provided by your authority do not include information to demonstrate that the requirements of Regulations 61 and 62 of the Habitats Regulations have been considered by your authority, i.e. the consultation does not include a Habitats Regulations Assessment.

In advising your authority on the requirements relating to Habitats Regulations Assessment, it is Natural England's advice that the proposal is not necessary for the management of the European site. Your authority should therefore determine whether the proposal is likely to have a significant effect on any European site, proceeding to the Appropriate Assessment stage where significant effects cannot be ruled out. Natural England advises that there is currently not enough information to determine whether the likelihood of significant effects can be ruled out. We recommend you use the following information to help you undertake a Habitats Regulations Assessment:

General comments

- The Hendeca documents demonstrate a good understanding of what is a complex situation. These documents are comprehensive and easy to read.
- The HRA will need to determine whether a 12ha core area plus buffers is sufficient to mitigate for the impact of developing the Able Logistics Park (ALP) up to the railway line.
- There are various documents and permissions which overlap for this area in relation to habitat management. It would be useful to understand how Able plan to implement the various overlapping documents. At the Development Control Order (DCO) meeting on 14th June, it was suggested that the number of documents should be rationalised and Able would review the planning requirements for Able's Marine Energy Park (AMEP) and ALP to determine commonalities. Natural England suggested that each required document should then be completed to meet the most comprehensive requirement; the same document could then be used to discharge the conditions for ALP and the requirements for AMEP.
- Detailed thought appears to have been applied to the wet grassland design and management for the target species, this opinion is based on the provision that we are still awaiting comments from our hydrologist which will be provided at the earliest opportunity.
- A calendar across the year showing what the site management would be to meet the objectives for each month/each area/each species would be useful so that it is clear what the site management must achieve.
- It is unclear why there is still detailed discussion of breeding bird requirements as Natural England has flagged up many times that this is not the purpose of the wet grassland habitat. The introductory paragraphs of the Feasibility Study clearly state that the impacts are on wintering or passage birds, but the subsequent text focuses on habitat requirements for breeding birds. Clarification should be provided as to whether the management requirements stated are for breeding birds, or overwintering and passage birds (or a mixture). For example, table 2-2 states that black-tailed godwits require taller, ungrazed swards. It is assumed that this is a breeding bird requirement as the target for black-tailed godwit within the Compensation Environmental Monitoring and Management Plan (CEMMP) for the wet grassland compensation at Cherry Cobb Sands is for a sward height of 10cm with livestock grazing proposed. The objectives and targets in the CEMMP and Terrestrial Environmental Monitoring and Management Plan (TEMMP) should be referred where appropriate to improve clarity.
- In addition to Andrew Taylor's comments dated 7 June 2016 regarding additional requirements related to the discharge of PA/2009/0600; targets and objectives from the TEMMP also need to be factored into this application. For example objective BB1 of the TEMMP requires habitat provision at mitigation area A for farmland birds; this is not mentioned in the submitted documents. If mitigation area A is moved to Halton Marshes, Able need to ensure they can deliver all the required aspects at this new location. Natural England advises Able to review the TEMMP and provide further information regarding how all these requirements will be met in the new location.
- Winters Pond Local Wildlife Site (LWS) was previously an important site for ruff (an SPA/Ramsar site species). Natural England advises that the management for this site should be incorporated as part of the management for Halton Marshes.

- At the DCO meeting on 14th June, it was understood that a number of amendments would be made to the submitted documents; namely the addition of a wind pump, a reference to the retention of hedgerows from the planting plan would be corrected, and references to the area of neutral grassland habitat to be provided would be increased in line with Andrew Taylor's calculation.

Specific comments

Design and Access Statement

- As stated above, we found this document to be a clear, concise summary of a complex situation. The only comment we would make is the reference in several places in this document and the Planning Statement to "*greatly exceeding the 20ha minimum*" and "*extending the area covered by previous mitigation schemes.*" The proposed block of wet grassland habitat covered by this consultation is a large area for two reasons:
 - 1) the scale of the impacts from the two developments are significant, and
 - 2) it brings together the mitigation, compensation and overcompensation for the two developments
 i.e. there is no additional habitat provided by this proposal.

Planning Statement

- 2.2.8 – It is not understood what is meant by "*However, it is not intended that the HMWGS should supersede the ALP consents or prevent the potential for implementing the development, as approved within this area, at some point in the future*". This appears to be stating that the two planning permissions would still be active and both could be implemented for the same area of land. Natural England therefore seeks confirmation regarding the legal mechanism that will secure the wet grassland habitat as this is required to meet the requirements of the Habitats Regulations if ALP and AMEP are developed. Whilst it may be possible in theory to relocate the wet grassland in future, Natural England would strongly discourage this suggestion. Not only have these proposals been discussed in great detail for a considerable period of time; Able is aware that the wet grassland habitat will take time to become fully functional and for the site manager to get the water level management and grazing/sward height management correct. If Able propose to develop the land at Halton Marshes and move the wet grassland habitat; the new site would need to be fully functional before the existing site is developed. This would require Able to manage two wet grassland sites for a period of time; likely to be several years. It is also worth noting that the AMEP objectives for the wet grassland are contained within the TEMMP and this document is approved by Natural England and secured by legal agreement which includes the provision of a steering group. The legal agreement states "*Where Able proposes alterations to the Measures..... **and those proposals are accepted by the Steering Group**, Able shall implement those alterations*" (emphasis added). This also raises the question about how this change will be communicated to the steering group and how Able will obtain the acceptance of the Steering Group.
- 3.1.5 – This paragraph states that additional water may be required from Halton Drain. We note that the response from the Environment Agency dated 7 June 2016 advises that additional work is required regarding the need for a water abstraction licence. Natural England advises that this work is completed prior to determination of this application to demonstrate that sufficient water for the site can be provided.
- 3.1.9 – Further information is required on the proposed operational buffer which should include what activity/level of activity/noise levels are proposed to take place in this area.
- 3.1.10 – It is unclear if the area covered by the saddles would be unsuitable for use by birds. This should be assessed with the area deemed to be unsuitable provided and taken into account in the extent calculations.
- 3.2.2 – It is not clear from the wording of this paragraph whether shooting has actually stopped at Winters Pond; this should be confirmed.
- 3.2.8 – This refers to moving the core area to the west whilst the flood defence works are underway. Whilst Natural England agrees with this in principle, we note that the Environment Agency states in its letter of 7 June 2016 "*It cannot be emphasised strongly enough that the tidal flood defences along this reach are in need of urgent significant repair/upgrade.*"

Regardless of the future alignment of flood defences in this area, the imminent need of large scale engineering works will be required. The presence of the habitat compensation site should both consider the impacts/disturbance from these necessary activities, and should not impact or hinder the delivery of flood risk management improvement works." Given that the core area of wet grassland habitat must be fully functional for the SPA/Ramsar site waterbirds when required, Natural England advises that the area to the west is included in the habitat creation and management now whilst machinery is on site. This will mean that there is no delay to the flood defence works.

Feasibility Study

- 2.1 – This states "*The Secretary of State's appropriate assessment for AMEP, took account of 38.5ha of land at Halton Marshes being provided as part of the compensation for the loss of inter-tidal foraging habitat on Black-tailed Godwits*". The wet grassland design now only refers to a 20ha core area as overcompensation and so confirmation is required that the total area provided as overcompensation is still ≥ 38.5 ha.
- 6.2.1 – Natural England welcomes the proposal to graze the site with cattle and sheep; however we are not aware that livestock features have been incorporated into the design, such as fencing and a corral. These features are important to determine how the livestock will access the site and be managed within it. Natural England is also concerned by the statement "*Winter grazing needs to take account of the fact that much of the site, not included within the core area for Black-tailed Godwits, will be surface flooded.*" This is inconsistent with section 2.4 which states that one of the principle requirements is for "*Areas with no surface flooding in winter to promote foraging (all species)*" and the statement that golden plover "*prefer drier ground.*"
- 6.4 – This states that tiered scrapes are the preferred option; Natural England questions whether these can be delivered as the earlier information states that the site is relatively flat. Therefore details on whether earth moving is required during the design stage should be provided.
- 6.4.6.2 – This states "*From late summer into early autumn there is a requirement for open water for Blacktailed Godwits.*" Clarification should be provided to confirm if this is within specific areas opposed to across the whole site.
- 7 – The conclusion states that "*An outline wet grassland scheme has been presented...*" It is unclear if this means that there could still be significant changes to the scheme which would affect the conclusions of the HRA. Therefore confirmation is required as to when a finalised wet grassland scheme will be provided.

Site layout

- This states that fields will be sown with seed mix but the Feasibility Study states that this will not be done, therefore this inconsistency should be corrected.

SSSI - Further Information Required

Our concerns regarding the potential impacts upon the Humber Estuary SSSI coincides with our concerns regarding the potential impacts upon the Humber Estuary SAC, SPA and Ramsar site and are detailed above.

Should the application change, or if the applicant submits further information relating to the impact of this proposal on the SSSI aimed at reducing the damage likely to be caused, Natural England will be happy to consider it, and amend our position as appropriate.

If your Authority is minded to grant consent for this application contrary to the advice relating to Northumberland Shore contained in this letter, we refer you to Section 281 (6) of the *Wildlife and Countryside Act 1981* (as amended), specifically the duty placed upon your authority, requiring that your Authority;

- Provide notice to Natural England of the permission, and of its terms, the notice to include a statement of how (if at all) your authority has taken account of Natural England's advice, and

- Shall not grant a permission which would allow the operations to start before the end of a period of 21 days beginning with the date of that notice.

We would be happy to comment further should the need arise but if in the meantime you have any queries please do not hesitate to contact us.

For any queries relating to the specific advice in this letter only please contact Alastair Welch on 0208 0265530. For any new consultations, or to provide further information on this consultation please send your correspondences to consultations@naturalengland.org.uk.

We really value your feedback to help us improve the service we offer. We have attached a feedback form to this letter and welcome any comments you might have about our service.

We also welcome your feedback on Natural England's revised standing advice in terms of its usability (ease of access, presentation), quality of content and, its clarity and effectiveness as a tool in guiding decision-making. Please provide this, with any suggested improvements, by filling in the attached customer feedback form or by emailing your feedback direct to consultations@naturalengland.org.uk.

Yours sincerely

Alastair Welch
Yorkshire and northern Lincolnshire Area Team

186827 PA/2016/649 Creation of habitat, Halton Marshes

[REDACTED]

Wed 13/07/2016 16:13

To: Planning <Planning@northlincs.gov.uk>;

[REDACTED]

Dear Andrew (Andrew, Dave for info),

Following on from our response of 21 June 2016 in relation to the creation of habitat at Halton Marshes where I stated that “we are still awaiting comments from our hydrologist which will be provided at the earliest opportunity,” I now include these comments. Apologies for the delay, our hydrologist did not have capacity to respond by the initial deadline and it has taken until now to be able to assimilate these into a response. The main points are included below:

- The Feasibility Study including the water balance calculations is much improved. There is now a greater reassurance that the scheme will work, except in the driest conditions (e.g. inter-year drought/dry winters).
- We note that the detailed calculations have not been included as part of the Feasibility Study. Although the analysis appears robust it would be useful if these were provided to confirm this.
- There does not appear to have been any assessment of the impacts of climate change and so it is difficult to assess how resilient the system will be in the longer term. Therefore we advise that you should consider if/how you will take account of climate change.
- The most robust option will be a system that will require management, for example re-profiling of scrapes. Therefore we advise that there should be a guarantee of appropriate management in the longer term.
- Monitoring will be required to make sure the system is working as anticipated and then adapted if necessary.
- It appears that the most robust option has been put forward, however anything less is unlikely to provide a system that can deliver what is needed consistently. As per one of my points in my response of 21 June 2016, if this is not the finalised scheme, confirmation as to when a finalised wet grassland scheme will be provided is required and this should be as robust as the scheme presented here.

Best regards,

Alastair

Alastair Welch
Lead Adviser and Associate of the RTPi
Sustainable Development & Marine
Yorkshire & Northern Lincolnshire Area Team
Natural England
Lancaster House, Hampshire Court,
Newcastle upon Tyne, NE4 7YH

Date: 09 September 2016
Our ref: 193994
Your ref: PA/2016/649



Shaun Robson
North Lincolnshire Council
Civic Centre
Ashby Road
Scunthorpe
North Lincolnshire DN16 1AB

Customer Services
Hornbeam House
Crewe Business Park
Electra Way
Crewe
Cheshire
CW1 6GJ

BY EMAIL ONLY

Dear Shaun

**Planning consultation: Planning permission for creation of habitat, primarily wet grassland
Location: Land to the East of Skitter Road, Halton Marshes, East Halton**

Thank you for your consultation on the above dated 16 August 2016 which was received by Natural England on the same date.

Natural England is a non-departmental public body. Our statutory purpose is to ensure that the natural environment is conserved, enhanced, and managed for the benefit of present and future generations, thereby contributing to sustainable development.

**ARTICLE 16 OF THE TOWN AND COUNTRY PLANNING (DEVELOPMENT MANAGEMENT PROCEDURE) ORDER 2010
THE CONSERVATION OF HABITATS AND SPECIES REGULATIONS 2010 (AS AMENDED)
SECTION 281 OF THE WILDLIFE AND COUNTRYSIDE ACT 1981 (AS AMENDED)**

Internationally and nationally designated sites

The application site is within or in close proximity to a European designated site (also commonly referred to as Natura 2000 sites), and therefore has the potential to affect its interest features. European sites are afforded protection under the Conservation of Habitats and Species Regulations 2010, as amended (the 'Habitats Regulations'). The application site is in close proximity to the Humber Estuary Special Protection Area (SPA) and Special Area of Conservation (SAC) which is a European site. The site is also listed as Humber Estuary Ramsar site¹ and also notified at a national level as Humber Estuary Site of Special Scientific Interest (SSSI). Please see the subsequent sections of this letter for our advice relating to SSSI features.

In considering the European site interest, Natural England advises that you, as a competent authority under the provisions of the Habitats Regulations, should have regard for any potential impacts that a plan or project may have². The [Conservation objectives](#) for each European site explain how the site should be restored and/or maintained and may be helpful in assessing what, if any, potential impacts a plan or project may have.

¹ Listed or proposed Wetlands of International Importance under the Ramsar Convention (Ramsar) sites are protected as a matter of Government policy. Paragraph 118 of the National Planning Policy Framework applies the same protection measures as those in place for European sites.

² Requirements are set out within Regulations 61 and 62 of the Habitats Regulations, where a series of steps and tests are followed for plans or projects that could potentially affect a European site. The steps and tests set out within Regulations 61 and 62 are commonly referred to as the 'Habitats Regulations Assessment' process.

The Government has produced core guidance for competent authorities and developers to assist with the Habitats Regulations Assessment process. This can be found on the Defra website. <http://www.defra.gov.uk/habitats-review/implementation/process-guidance/guidance/sites/>

Natura 2000 - Further information required

The consultation documents provided by your authority do not include information to demonstrate that the requirements of Regulations 61 and 62 of the Habitats Regulations have been considered by your authority, i.e. the consultation does not include a Habitats Regulations Assessment.

In advising your authority on the requirements relating to Habitats Regulations Assessment, it is Natural England's advice that the proposal is not necessary for the management of the European site. Your authority should therefore determine whether the proposal is likely to have a significant effect on any European site, proceeding to the Appropriate Assessment stage where significant effects cannot be ruled out. Natural England advises that there is currently not enough information to determine whether the likelihood of significant effects can be ruled out. We recommend you use the following information to help you undertake a Habitats Regulations Assessment:

General comments

- As advised previously, the HRA will need to determine whether a 12ha core area plus buffers is sufficient to mitigate for the impact of developing the Able Logistics Park (ALP) up to the railway line.
- There are various documents and permissions which overlap for this area in relation to habitat management. It would be useful to understand how Able plan to implement the various overlapping documents. At the Development Control Order (DCO) meeting on 14th June 2016, it was suggested that the number of documents should be rationalised and Able would review the planning requirements for Able's Marine Energy Park (AMEP) and ALP to determine commonalities. Natural England suggested that each required document should then be completed to meet the most comprehensive requirement; the same document could then be used to discharge the conditions for ALP and the requirements for AMEP.
- Natural England advises that the information regarding how all the requirements of the TEMMP will be met in the new location should be included in the Halton Marshes EMMP.
- Natural England requires confirmation that management of the relevant parts of Winters Pond Local Wildlife Site (LWS) will be incorporated as part of the management for Halton Marshes should be included in the Halton Marshes EMMP.
- At the DCO meeting on 14th June 2016, it was understood that references to the area of neutral grassland habitat to be provided would be increased in line with Andrew Taylor's calculation. Able should confirm with Andrew Taylor whether the area of 3.06ha is an initial target or a long term target.

Specific comments

Planning Statement

- 3.1.5 – This paragraph states that additional water may be required from Halton Drain. We note that the response from the Environment Agency dated 7 June 2016 advises that additional work is required regarding the need for a water abstraction licence and that paragraphs 2.4.14-15 of the addendum attempt to address this. Natural England advises that Able should ensure that the Environment Agency is satisfied that this work can be completed prior to determination of this application.
- 3.1.9 – Further information is still required on the proposed operational buffer which should include what activity/level of activity/noise levels are proposed to take place in this area. Paragraph 2.2.21 of the addendum does not go far enough to define the principles of the operational buffer. Once defined this could be secured by a condition.
- 3.1.10 – It is still unclear if the area covered by the saddles would be unsuitable for use by SPA waterbirds. This should be assessed with the area deemed to be unsuitable provided and taken into account in the extent calculations.
- 3.2.2 – It was not clear from the previous wording of this paragraph whether shooting had actually stopped at Winters Pond; however Natural England is pleased that paragraph 2.7.1 of the addendum confirms that shooting has stopped and that Able will not permit future shooting on this site.
- 3.2.8 – With regards to our previous comment about moving the core area to the west whilst the flood defence works are underway, Natural England has discussed this with Richard Cram. We understand that the buffer area will be the same habitat and managed in the

same way so that the core area can become the buffer during the flood defence works. This does mean that the buffer is pushed further west and therefore additional information is required on ongoing activities within this area to ensure the 150m buffer functions effectively.

Planning Etc. Addendum

- 2.3 – proposed Halton Marshes Environmental Management and Monitoring Plan – whilst Natural England welcomes the rationalisation of the various requirements for Halton Marshes into a single management plan, we seek clarification as to how this will interact with the existing plans – for example the TEMMP and the Environmental Steering Group set up by our legal agreement with Able and the ALP Environmental Steering Group.

Feasibility Study

- Table 2.1 is a useful summary of core and buffer areas to be provided through Halton Marshes Wet Grassland Scheme. However, to improve interpretation of this data, Natural England suggest that it would be useful for these areas to be shown on a map.
- 6.4.6.2 – This states “*From late summer into early autumn there is a requirement for open water for Blacktailed Godwits.*” Clarification should be provided to confirm if this is within specific areas opposed to across the whole site.

Halton Marshes Wet Grassland Layout Core Area & Buffers Drawing

- This drawing refers to noise levels not exceeding 65dB(A). We assume this has been taken from the noise limits associated with Killingholme Marshes. As discussed with Richard Cram previously, the agreed noise measurement unit was omitted from the Killingholme Marshes documents and should read 65dB L_{Amax}. The noise levels agreed for Killingholme Marshes were specific to the existing noise levels at that location and therefore this may not be an appropriate noise measure for this location. Natural England are happy to discuss appropriate noise levels further.

Halton Marshes Wet Grassland Proposed General Arrangement Drawing

- The area to the north which is now shown to be black-tailed godwit habitat is inappropriate for this species as it was designed with golden plover in mind rather than black-tailed godwit during the autumn. The drawing states that the “Northern field existing grassland to be retained and managed to encourage diverse neutral grassland sward inter sowing with 'wildflower' species if required. Field drains to be blocked to achieve suitable habitat. TEMMP OBJ BB1, SPA1.” It appears therefore that very limited habitat creation works will take place and Natural England do not believe the objectives for the overcompensation site can be met on this field.
- It is unclear why the hedgerow is shown to be retained; we understood it was to be removed and so all documents showing this should be updated accordingly. If the hedgerow is now to remain this should be justified.
- It would be helpful if the location of the wind pump could be shown on this drawing and all other relevant drawings.

Halton Marshes Wet Grassland Planting Plan Drawing

- This drawing shows the stock fencing inside the buffer and so an explanation as to how the buffer will be managed should be provided as this habitat should be the same as the core area.
- We would be grateful for an explanation as to what is in the red line boundary to the south (outside the wet grassland habitat).

SSSI - Further information required

Our concerns regarding the potential impacts upon the Humber Estuary SSSI coincides with our concerns regarding the potential impacts upon the Humber Estuary SAC, SPA and Ramsar site and are detailed above.

Should the application change, or if the applicant submits further information relating to the impact of this proposal on the SSSI aimed at reducing the damage likely to be caused, Natural England will be happy to consider it, and amend our position as appropriate.

If your Authority is minded to grant consent for this application contrary to the advice relating to the Humber Estuary contained in this letter, we refer you to Section 28I (6) of the *Wildlife and Countryside Act 1981* (as amended), specifically the duty placed upon your authority, requiring that your Authority;

- Provide notice to Natural England of the permission, and of its terms, the notice to include a statement of how (if at all) your authority has taken account of Natural England's advice, and
- Shall not grant a permission which would allow the operations to start before the end of a period of 21 days beginning with the date of that notice.

We would be happy to comment further should the need arise but if in the meantime you have any queries please do not hesitate to contact us.

For any queries relating to the specific advice in this letter only please contact Alastair Welch on 0208 0265530. For any new consultations, or to provide further information on this consultation please send your correspondences to consultations@naturalengland.org.uk.

We really value your feedback to help us improve the service we offer. We have attached a feedback form to this letter and welcome any comments you might have about our service.

We also welcome your feedback on Natural England's revised standing advice in terms of its usability (ease of access, presentation), quality of content and, its clarity and effectiveness as a tool in guiding decision-making. Please provide this, with any suggested improvements, by filling in the attached customer feedback form or by emailing your feedback direct to consultations@naturalengland.org.uk.

Yours sincerely

Alastair Welch
Yorkshire and northern Lincolnshire Area Team

To: Andrew Taylor;

Cc: Hawthorne, Emma (NE) <Emma.Hawthorne@naturalengland.org.uk>;

David Sargent <DSargent@ableuk.com>;

Good afternoon Andrew,

Emma and I have had a meeting with Able today. Able have agreed to amend the wording of the clause (addition in red) to "No wildfowling or sporting/ game shooting activities are to occur within the area demarked by the black line on drawing ALP-002-00024."

If this wording is included with the amended we will be able to agree to the AA.

Best regards,

Alastair

Appendix 4 Applicant correspondence

Hendeca 2016a Halton Marshes Wet Grassland Scheme Design and Access Statement

Hendeca 2016b Halton Marshes Wet Grassland Scheme Planning etc. Addendum



Able UK Ltd

Head Office: Able House
Billingham Reach Industrial Estate
BILLINGHAM
Teesside TS23 1PX
United Kingdom

☎ 01642 806080
Fax 01642 655655
Email info@ableuk.com
Web www.ableuk.com

North Lincolnshire Council
Civic Centre
Ashby Road
Scunthorpe
North Lincolnshire
DH16 1AB
BY EMAIL ONLY

Your Ref: **

Our Ref: DS.AMEP.HMWG.
NLC.L16/00020

Date: 22nd September 2016

For the attention of Shaun Robson

Dear Shaun,

PA/201/649 Application for planning permission for creation of habitat, primarily wet grassland – AMENDED Information. Land off Skitter Road, Halton Marshes, East Halton. Able Humber Ports Limited.

Able Humber Ports Response to RSPB comments letter dated 9th September 2016.

In advance of a formal response to all the most recent comments in relation to the above planning application we thought it helpful to address those made by the RSPB. We will respond to all the detailed comments once our planning consultant returns from holiday.

"Reallocation of Overcompensation and Mitigation Areas"

Drawing ALP-002-00011 shows, schematically, the required core areas and associated buffers for the three parcels of mitigation and over-compensation that are being brought together under this application. As such, it demonstrates that the 'core' spatial requirements for the three land parcels are satisfied within the total area of land. The detailed layout of the habitats is shown on drawing ALP-002-00012 and the applicant agrees with the RSPB that the northern area of the site will be more valuable to Golden Plover and that the more engineered habitat to the south will be more suited to curlew and blacktailed godwit; this is the case whatever hatching is shown on the drawing. In short, the proposal must obviously be considered holistically, and the issue is whether the site as a whole can provide the habitat for the target species. The illustrative hatching is not therefore indicative of a 'fatal flaw' in the site design as purported by RSPB.

RSPB specifically query the spatial 'sufficiency of the overcompensation'. We confirm that the core area of 20ha exceeds the core area that would be provided if the 38.8ha northern field was provided in isolation as originally intended. Refer to the drawing attached to this letter.



Mr Shaun Robson
North Lincolnshire Council
Civic Centre
Ashby Road
Scunthorpe
North Lincolnshire
DH16 1AB

Your Ref: **
Our Ref: DS.AMEP.HMWG.
NLC.L16/00020
Date: 22nd September 2016

The 'legal' Argument

RSPB make a somewhat convoluted legal argument without identifying the source of their legal opinion or whether expert legal opinion has actually been obtained by them at all. It is however a hopeless argument as the premise of it is that NLC cannot amend the DCO and therefore cannot give planning permission for HMWG. The argument is invalid because any consent given by NLC for HMWG will not actually amend the DCO in any way at all, hence the argument fails on its fundamental premise. It is not necessary for NLC to look beyond that simple fact.

It is however legitimate to acknowledge that the applicant will, subject to planning consent being granted for HMWG, apply at some point to relocate some mitigation for AMEP to the HMWG scheme. The HMWG scheme is therefore designed in such a way that should, in the future, the applicant wish to submit a formal application to develop what is identified as Mitigation Area A, then the functional habitat and area requirements will have been established within the features forming this current application.

Yours sincerely

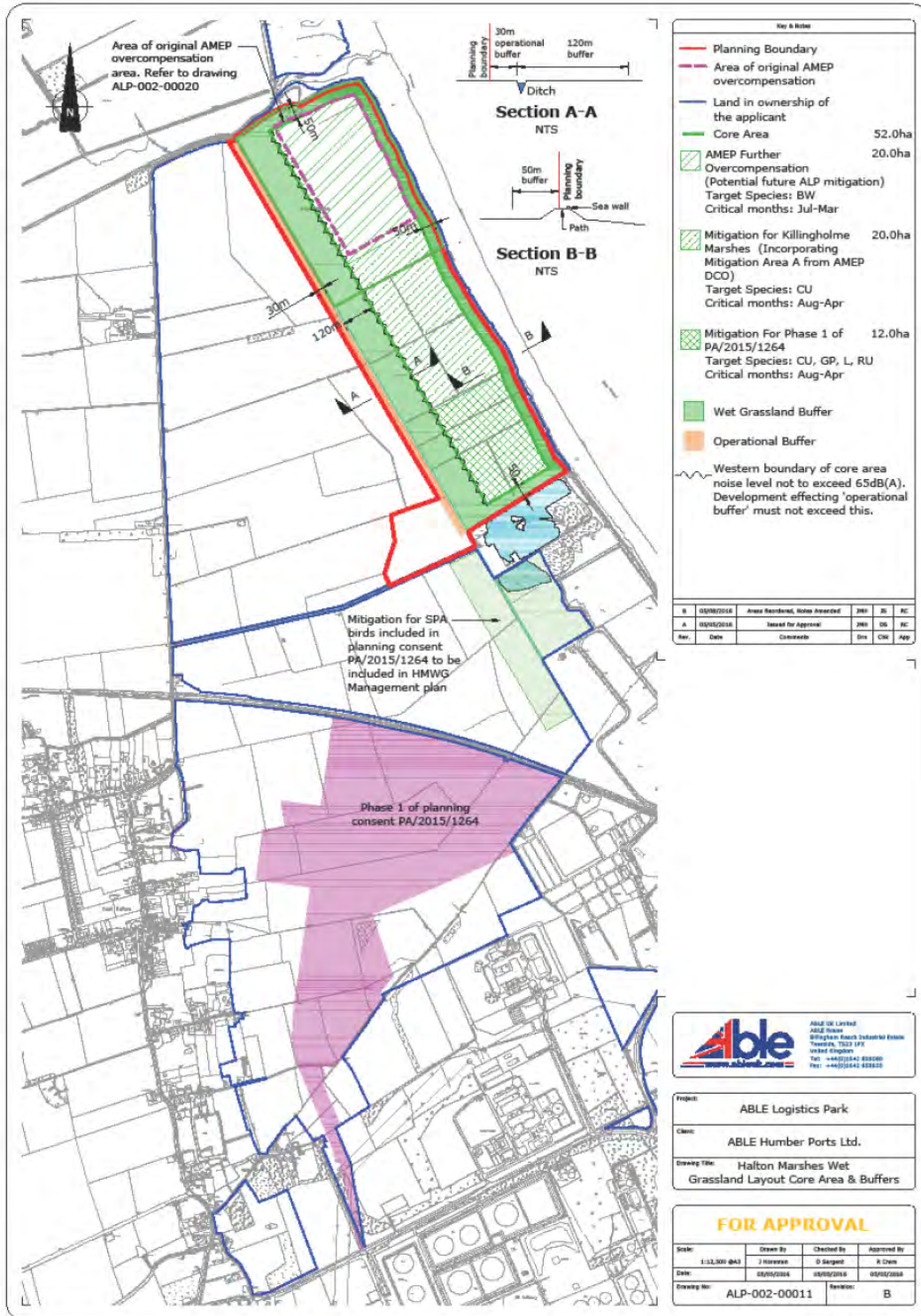


Environmental Manager

cc. Richard Cram
Kirsten Berry

Mr Shaun Robson
 North Lincolnshire Council
 Civic Centre
 Ashby Road
 Scunthorpe
 North Lincolnshire
 DH16 1AB

Your Ref: **
 Our Ref: DS.AMEP.HMWG.
 NLC.L16/00020
 Date: 22nd September 2016





Able UK Ltd

Head Office: Able House
Billingham Reach Industrial Estate
BILLINGHAM
Teesside TS23 1PX
United Kingdom

01642 806080
Fax 01642 655655
Email info@ableuk.com
Web www.ableuk.com

North Lincolnshire Council
Civic Centre
Ashby Road
Scunthorpe
North Lincolnshire
DH16 1AB
BY EMAIL ONLY

Your Ref: **

Our Ref: DS.AMEP.HMWG.
NLC.L16/00023

Date: 30th September 2016

For the attention of Shaun Robson

Dear Shaun,

PA/2016/649 Application for planning permission for creation of habitat, primarily wet grassland – AMENDED Information. Land off Skitter Road, Halton Marshes, East Halton. Able Humber Ports Limited.

Able Humber Ports Response to Natural England comments letter dated 9th September 2016.

Below are set out the comments raised by Natural England, shown in *italics* and then followed by the response from ABLE shown in **bold text**.

General comments

- As advised previously, the HRA will need to determine whether a 12ha core area plus buffers is sufficient to mitigate for the impact of developing the Able Logistics Park (ALP) up to the railway line.*
ABLE UK; this issue to be addressed by NLC.
- There are various documents and permissions which overlap for this area in relation to habitat management. It would be useful to understand how Able plan to implement the various overlapping documents. At the Development Control Order (DCO) meeting on 14th June 2016, it was suggested that the number of documents should be rationalised and Able would review the planning requirements for Able's Marine Energy Park (AMEP) and ALP to determine commonalities. Natural England suggested that each required document should then be completed to meet the most comprehensive requirement; the same document could then be used to discharge the conditions for ALP and the requirements for AMEP.*
ABLE UK; agreed, this item is currently being addressed. NE will be required to agree the final documents so will retain control.
- Natural England advises that the information regarding how all the requirements of the TEMMP will be met in the new location should be included in the Halton Marshes EMMP.*
ABLE UK; agreed, HMEMMP can be conditioned by NLC.



Mr Shaun Robson
North Lincolnshire Council
Civic Centre
Ashby Road
Scunthorpe
North Lincolnshire
DH16 1AB

Your Ref: **
Our Ref: DS.AMEP.HMWG.
NLC.L16/00023
Date: 30th September 2016

- *Natural England requires confirmation that management of the relevant parts of Winters Pond Local Wildlife Site (LWS) will be incorporated as part of the management for Halton Marshes should be included in the Halton Marshes EMMP.*

ABLE UK; your attention is drawn to drawing ALP-002-00011 as well as paragraph 2.7.2 on page 2-11 of the Halton Marshes Wet Grassland Planning Etc addendum where this issue has been expressly addressed.

2.7.2 At present the protection and management of the Local Wildlife Site falls partly under the ALP consents. It is proposed that the management of the associated fields within the Local Wildlife Site designation is incorporated in the proposed HMEMMP.

- *At the DCO meeting on 14th June 2016, it was understood that references to the area of neutral grassland habitat to be provided would be increased in line with Andrew Taylor's calculation. Able should confirm with Andrew Taylor whether the area of 3.06ha is an initial target or a long term target.*

ABLE UK; agreed, it has been confirmed with Andrew Taylor that the requirement is for the provision of 3.06ha of neutral grassland in the long term.

Specific comments

Planning Statement

- *3.1.5 – This paragraph states that additional water may be required from Halton Drain. We note that the response from the Environment Agency dated 7 June 2016 advises that additional work is required regarding the need for a water abstraction licence and that paragraphs 2.4.14-15 of the addendum attempt to address this. Natural England advises that Able should ensure that the Environment Agency is satisfied that this work can be completed prior to determination of this application.*

ABLE UK; The requirement to obtain an abstraction licence can be conditioned by NLC. Able confirm that the pre-application documentation has been submitted: Enquiry number - NPS/WR/024622 Site reference - Halton Marshes

- *3.1.9 – Further information is still required on the proposed operational buffer which should include what activity/level of activity/noise levels are proposed to take place in this area. Paragraph 2.2.21 of the addendum does not go far enough to define the principles of the operational buffer. Once defined this could be secured by a condition.*

ABLE UK; the principal of the operational buffer was set out in the AMEP DCO Application, we are simply reproducing this situation. The level of disturbance is defined by the outcome of the activity NOT by detailed description of the activity itself. It would be impossible to produce an exhaustive list. We refer once again to the SoS Appropriate Assessment paragraph 14.

Mr Shaun Robson
North Lincolnshire Council
Civic Centre
Ashby Road
Scunthorpe
North Lincolnshire
DH16 1AB

Your Ref: **
Our Ref: DS.AMEP.HMWG.
NLC.L16/00023
Date: 30th September 2016

- 3.1.10 – *It is still unclear if the area covered by the saddles would be unsuitable for use by SPA waterbirds. This should be assessed with the area deemed to be unsuitable provided and taken into account in the extent calculations.*

ABLE UK; we draw attention to the Halton Marshes wet Grassland – planning etc addendum dated august 2016 and in particular section 3.6.6;

The design includes the use of 18 saddles, with each one unlikely to cover more than 6m², giving a gross total area of 108m². This represents ~0.02% of the total core area (52ha).

0.02% of the area is considered to be trivial.

- 3.2.2 – *It was not clear from the previous wording of this paragraph whether shooting had actually stopped at Winters Pond; however Natural England is pleased that paragraph 2.7.1 of the addendum confirms that shooting has stopped and that Able will not permit future shooting on this site.*

ABLE UK; AGREED

- 3.2.8 – *With regards to our previous comment about moving the core area to the west whilst the flood defence works are underway, Natural England has discussed this with Richard Cram. We understand that the buffer area will be the same habitat and managed in the same way so that the core area can become the buffer during the flood defence works. This does mean that the buffer is pushed further west and therefore additional information is required on ongoing activities within this area to ensure the 150m buffer functions effectively.*

ABLE UK; during the proposed flood defence works the only activity which may be ongoing within the land to the west of the site will be related to agricultural land management.

Planning Etc. Addendum

- 2.3 – *proposed Halton Marshes Environmental Management and Monitoring Plan – whilst Natural England welcomes the rationalisation of the various requirements for Halton Marshes into a single management plan, we seek clarification as to how this will interact with the existing plans – for example the TEMMP and the Environmental Steering Group set up by our legal agreement with Able and the ALP Environmental Steering Group.*

ABLE UK; the HMEMMP will contain the same objectives from the TEMMP so will therefore be consistent. The HMEMMP could be viewed as a “chapter” within the TEMMP. The steering groups for ALP and AMEP will most likely run in parallel on the same meeting day or may even become amalgamated into a single meeting as it’s envisaged that a proportion of the consultees will be common to both meetings. The ALP also has planning condition which discharge the same issues as the TEMMP. The DCO and the ALP Planning Consent are both legal documents and must be administered accordingly. Natural England retains the authority over

Mr Shaun Robson
North Lincolnshire Council
Civic Centre
Ashby Road
Scunthorpe
North Lincolnshire
DH16 1AB

Your Ref: **
Our Ref: DS.AMEP.HMWG.
NLC.L16/00023
Date: 30th September 2016

the TEMMP and as such ABLE UK are bound to comply with their reasonable requirements.

Feasibility Study

- *Table 2.1 is a useful summary of core and buffer areas to be provided through Halton Marshes Wet Grassland Scheme. However, to improve interpretation of this data, Natural England suggest that it would be useful for these areas to be shown on a map.*

ABLE UK; we draw attention the application drawing ALP-002-00011 which shows the sites ability to provide the required total areas. The habitat provision is shown on application drawing ALP-002-12

- *6.4.6.2 – This states "From late summer into early autumn there is a requirement for open water for Blacktailed Godwits." Clarification should be provided to confirm if this is within specific areas opposed to across the whole site.*

ABLE UK; we draw your attention to section 3.2 of the Planning Etc Addendum, and in particular sections 3.2.4 to 3.2.6 where this issue was expressly addressed, see below;

3.2.4 Natural England has also raised concern about the extent of possible flooding introduced by the design.

3.2.5 During periods of high rainfall, there will be surface flooding on the site due to its inherent characteristics (a relatively flat lying site underlain by low permeability clay deposits). Where there are slight depressions across the site, some surface flooding can be readily observed through winter, but these are not permanent pools of water. This is consistent with many areas of managed and created grassland through the UK where wading species are encouraged.

3.2.6 The purpose of the wet grassland design is not to encourage or cause widespread flooding of the site. Instead, the design includes the creation of scrapes within the southern field, making use of the existing topography (localised depressions) to create discrete areas where water will be retained and drawn down slowly through on-going management. In addition, the site includes raised areas, where water will not pool. This means the site as a whole will not be subject to widespread flooding. Within the northern field, where good numbers of Golden Plover have been observed, the existing site topography will be maintained.

Halton Marshes Wet Grassland Layout Core Area & Buffers Drawing

- *This drawing refers to noise levels not exceeding 65dB(A). We assume this has been taken from the noise limits associated with Killingholme Marshes. As discussed with Richard Cram previously, the agreed noise measurement unit was omitted from the Killingholme Marshes documents and should read 65dB L_{Amax}. The noise levels agreed for Killingholme Marshes were specific to the existing noise levels at that location and therefore this may not be an appropriate noise measure for this location. Natural England are happy to discuss appropriate noise levels further.*

ABLE UK; we refer to the ALP Environmental statement, and in particular section 13 – noise. Extracted below are tables 13.3 and 13.4 of the ES, which set out the existing noise levels. We would not therefore expect the “disturbance” threshold to be fixed at anything less than 65dB (L_{max}) The monitoring locations are shown on the drawing attached to this letter.

Table 13.3: Schedule of Noise Monitoring Points and their objectives

Noise Monitoring point	Grid Ref.	Location	Purpose
NMP1	TA 147228	Farmland adjacent to the toe of the flood defence wall overlooking the Skitter.	To assess the existing noise climate at the edge of the site adjacent to the SPA.
NMP2	TA 150223	Farmland adjacent to the toe of the flood defence wall at the eastern margin of the site.	
NMP2a	TA 151223	The foreshore close to NMP2, at the toe of the flood defence wall.	
NMP3	TA 153218	Farmland adjacent to the toe of the flood defence wall at the eastern margin of the site.	
NMP4	TA 155214	Farmland adjacent to the toe of the corner of the flood defence wall overlooking the lakes.	
NMP5	TA 140216	At the junction of a farm track and Skitter Road.	To assess general noise levels and traffic noise on Skitter Road.
NMP6	TA 147208	A field entrance at the bend in the landing stage road.	To assess general noise levels within the centre of the site.
NMP7	TA 141203	The junction of Skitter Road with Footpath 74.	To assess general noise levels along the margin of the site with East Halton Village.
NMP8	TA 152202	A field entrance at the point where the railway becomes defunct.	To assess general noise levels within the centre of the site.

Table 13.4: Existing Noise Climate across the Site (chief parameters in grey)

Location	L _{Peak} dB(A)	L _{max} dB(A)	L ₁₀ dB(A)	L ₅₀ dB(A)	L _{eq} dB(A)	L ₉₀ dB(A)	L _{min} dB(A)
NMP1	107.8	65.1	49.1	38.7	46.0	34.2	31.7
NMP2	92.8	64.5	46.1	36.1	44.9	32.4	29.2
NMP2a	94.2	69.1	53.0	45.0	51.1	42.9	40.6
NMP3	90.0	64.7	50.9	43.4	47.7	41.4	39.3
NMP4	98.6	58.5	44.3	39.3	42.1	36.6	33.4
NMP5	92.4	72.9	46.1	38.9	48.5	36.0	32.9
NMP6	99.8	79.0	49.8	43.5	52.6	41.6	39.3
NMP7	94.1	72.4	47.6	41.8	49.9	40.3	37.6
NMP8	99.3	64.9	52.3	47.3	50.6	44.8	41.5

Halton Marshes Wet Grassland Proposed General Arrangement Drawing

- *The area to the north which is now shown to be black-tailed godwit habitat is inappropriate for this species as it was designed with golden plover in mind rather than black-tailed godwit during the autumn. The drawing states that the "Northern field existing grassland to be retained and managed to encourage diverse neutral grassland sward inter sowing with 'wildflower' species if required. Field drains to be blocked to achieve suitable habitat. TEMMP OBJ BB1, SPA1." It appears therefore that very limited habitat creation works will take place and Natural England do not believe the objectives for the overcompensation site can be met on this field.*

ABLE UK; Drawing ALP-002-00011 shows, schematically, the required core areas and associated buffers for the three parcels of mitigation and over-compensation that are being brought together under this application. As such, it demonstrates that the 'core' spatial requirements for the three land parcels are satisfied within the total area of land. The detailed layout of the habitats is shown on drawing ALP-002-00012 and the applicant agrees with Natural England that the northern area of the site will be more valuable to Golden Plover and that the more engineered habitat to the south will be more suited to curlew and blacktailed godwit; this is the case whatever hatching is shown on the drawing. In short, the proposal must obviously be considered holistically, and the issue is whether the site as a whole can provide the habitat for the target species. There does not appear to be any dispute that it does.

- *It is unclear why the hedgerow is shown to be retained; we understood it was to be removed and so all documents showing this should be updated accordingly. If the hedgerow is now to remain this should be justified.*

ABLEUK; it is unclear which hedgerow is being referred to. All "internal" hedgerows are due to be removed and the hedgerow along the existing soke dyke was always to be retained as a visual screen. There is line of

Mr Shaun Robson
North Lincolnshire Council
Civic Centre
Ashby Road
Scunthorpe
North Lincolnshire
DH16 1AB

Your Ref: **
Our Ref: DS.AMEP.HMWG.
NLC.L16/00023
Date: 30th September 2016

trees to the north of the site which are situated on an archaeological feature and are retained to provide screening of the proposed habitat from the north. This proposal has remained consistent throughout the application process..

- *It would be helpful if the location of the wind pump could be shown on this drawing and all other relevant drawings.*
ABLE UK; the wind pump is shown on drawing ALP – 002 – 00016 Schematic layout of scrapes as this is where all the water controls are illustrated.

Halton Marshes Wet Grassland Planting Plan Drawing


- *This drawing shows the stock fencing inside the buffer and so an explanation as to how the buffer will be managed should be provided as this habitat should be the same as the core area.*
ABLE UK; fencelines on the plan are identified as indicative. The exact location will be determined during the detailed design. The neutral grassland identified will be provided extensively within the development, and more specifically within the northern section of the site. Should fencelines "exclude" habitats from the general grazing regime (such as this potential public access/stock conflict along the eastern boundary) then the habitat will be managed by other means in order to achieve the specific aims.
- *We would be grateful for an explanation as to what is in the red line boundary to the south (outside the wet grassland habitat).*
ABLE UK; Nothing. It's an arable field included within the application boundary in order to ensure access is available for the construction of the habitat scheme.

We do not intend to update and re-issue any of the application drawings in light of comments received, choosing instead to clarify matters by explanation.

The exact details/layouts/fencelines/hedge lines etc (detailed design) can be agreed in the HMEMMP prior to commencement, or as part of the requirements of the management plan.

I trust this addresses the comments received. If you require further information or clarification, please don't hesitate to contact me.

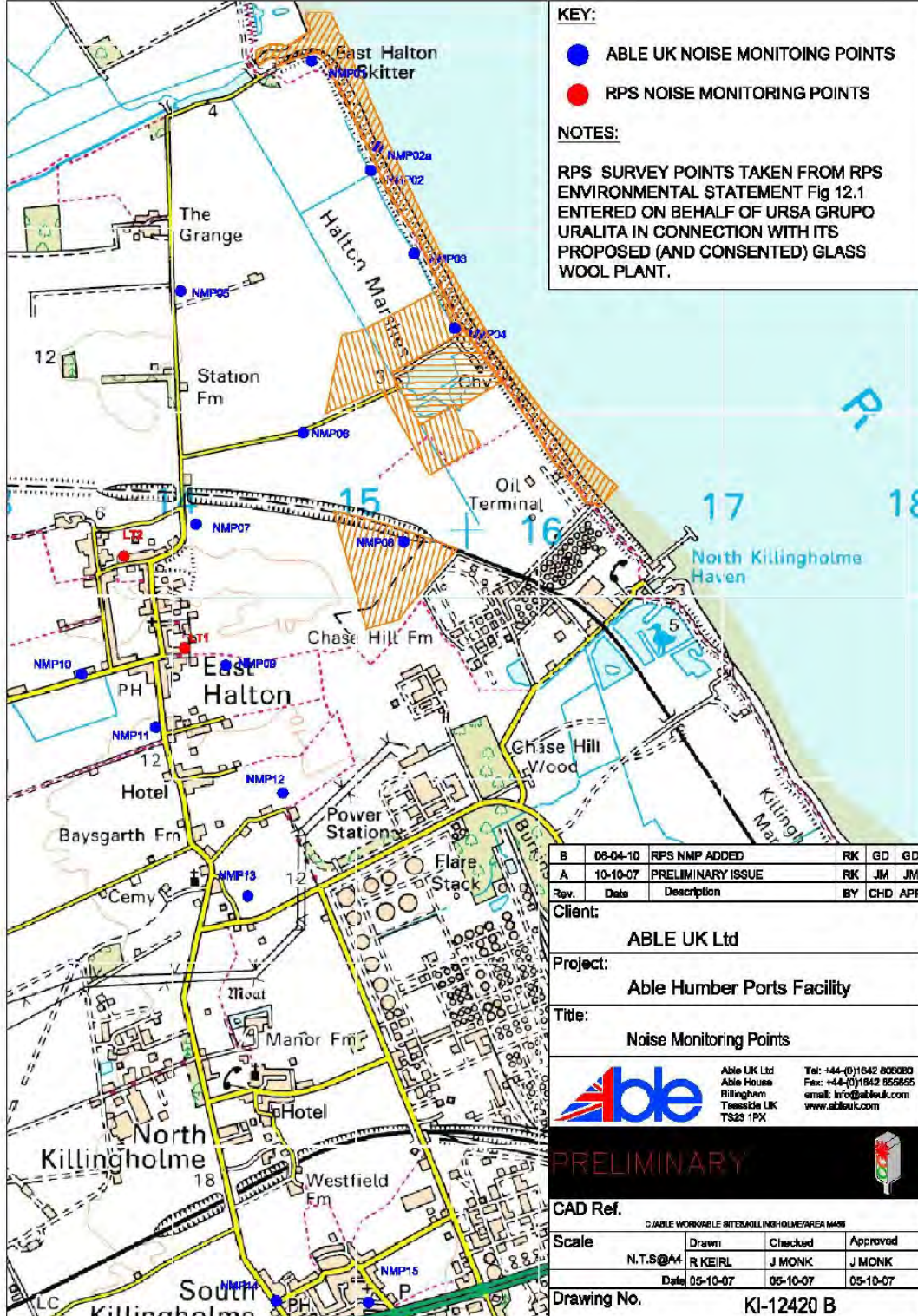
Yours sincerely


Environmental Manager

cc. Richard Cram
Kirsten Berry

Mr Shaun Robson
 North Lincolnshire Council
 Civic Centre
 Ashby Road
 Scunthorpe
 North Lincolnshire
 DH16 1AB

Your Ref: **
 Our Ref: DS.AMEP.HMWG.
 NLC.L16/00023
 Date: 30th September 2016



Good Morning Andrew and Emma.

In order to try and clarify the situation and the evolution of the compensation provision, may we draw your attention to our "planning Etc Addendum" August 2016 and the information contained within.

Within that document we examine the provision of compensation. Figure 2.1 illustrates the original site proposed and what would have been the "core area" provision should that site have been developed as compensation wet grassland. A "core" of circa 17ha.

We also refer in particular the SoS decision letter and also the subsequent improvements to the original proposal.

In particular I would like to highlight SoS decision letter paragraph 21 and 25, which serves to illustrate the situation at the close of the enquiry.

This then leads to the additional work undertaken, detailed design by Thompson ecology presented in "examiners' requirements for further overcompensation" dated October 2013.. It is within this document that the provision of a 20 ha core area is established, based on accepted principals, with additional "buffers" to reduce disturbance within the core area, as it is the 20ha threshold of functionality which is the guide to success, rather than "what's left over" when buffers are subtracted from a parcel of land.

I would like to highlight a misleading word within a sentence on your email "*The wet grassland design now **only** refers to a 20ha core area as overcompensation ...*" This implies a calculated/assessed/definite reduction or a negative.. The allocation of a 20 ha core is, in fact, LARGER than the original core within the 38.8 ha field.

Hopefully this will help clarify the situation, if you wish to discuss any issue, please don't hesitate to contact me

Many thanks

Kind regards

Dave Sargent
Environmental Manager

Able UK Ltd
Tel: 01642-806080
Email: DSargent@ableuk.com

Halton Marshes Wet Grassland Scheme - Application reference PA/2016/649

Mon 23/01/2017 08:41

Dear Shaun and Andrew

I am writing on behalf of Able UK and further to the telephone conference held on 20 January 2017, with Natural England, to confirm the various elements of the HMWGS that we discussed.

We acknowledge, and do not disagree with, the remaining concerns raised by Natural England, but we do not agree that they should be any reason to prevent granting consent for the HMWGS as some matters are, as agreed, not relevant to this application.

Purpose of the HMWGS

Able has previously confirmed that the current application to implement the wet grassland scheme at Halton Marshes does not gain the consent necessary to relocate the AMEP Mitigation Area A, see Planning Clarification November 2016. We repeat this statement of fact and use this email to clarify any remaining confusion as to its purpose and extent.

The totality of the site area (90ha) has been included in the planning application so as to provide Able with a land area at which to provide a range of mitigation and compensation schemes as may be required in the future.

The current need, and the basis on which the HMWGS application should be assessed, is to provide 12ha of mitigation to enable the development of ALP Phase 1.

In implementing the AMEP DCO, it will be necessary to discharge the relevant Requirements of that consent for both: Mitigation Area A; and Further Over-Compensation at Halton Marshes. Able believes that the size of the HMWGS application area and the design of the Scheme will provide suitable habitat for both Mitigation Area A (should it be relocated) and the Further Over-Compensation (should it be required). However, in response to the HMWGS application, we have received NE's advice on the matter, and recognise that it seeks further information to demonstrate that the habitat created will be suitable for these purposes, principally in relation to timing of the provision. It was clarified during our telephone conference, and I believe agreed, that:

1. approval of any delivery of Mitigation Area A (whether in the current approved location or relocated to Halton Marshes) will be the subject of a separate consenting process;
2. the provision of further overcompensation at Halton Marshes is only triggered at the stage of quay construction;
3. neither of these mitigation/compensation schemes are currently required, they are not expressly included as being delivered through this HMWGS application.

Consequently neither of these mitigation/compensation schemes requirements/ interfaces/ managements should be considered in determining the HMWGS application.

At a future date, should Able seek to use land at the HMWGS to deliver either Mitigation Area A or Further Over-Compensation, it will need to demonstrate how NE's current concerns have been addressed and how the scheme proposed at that time will meet the requirements of the mitigation/compensation sought. That is the time to address NE's concerns, as they will then be specifically relevant to those applications.

We note that NE has reservations regarding the "dovetailing" of various management plans and with regarding the means of approval and legal "title". We believe the approach developed to date will adequately address this, but again, the issue is not relevant to the determination of the current application.

The HMWG Management Plan as is expected to be required by condition will be produced to cover the whole of the HMWGS application area, and be written such that the aims and objectives will be in accordance with the CEMMP/TEMMP such that in the future if required, the document can embrace all requirements. Once again this aspect cannot be linked to any consent at this stage.

Disturbance

There has been much emphasis and discussion regarding the level of disturbance during construction of the wet grassland scheme.

The Humber estuary is 37,630.24 hectares in area, the HMWGS application covers a maximum total of (circa) 90ha and does not lie within the SPA. Vast areas of similar habitat are also available in the immediate vicinity and will remain available in the foreseeable future. Surely there can be no valid argument that the works associated with 'constructing' this conservation scheme risks having any detrimental effect on the integrity of the SPA. Further, the creation of a 90ha wet grassland to provide managed habitat, in an area currently without conservation management, on the boundary of the SPA cannot be understood as having any long term detrimental impact.

The works to create the wet grassland scheme are, in fact, not dissimilar from normal agricultural practices routinely undertaken on land adjacent to the SPA and/or what may be envisaged during routine drainage board maintenance of drains – neither activity would require any specific permission/notification. However, in recognition of what was discussed earlier, and to 'benchmark' the scale of the activity, we have discussed the plans with the designers and, from previous schemes it is felt that it may be too restrictive to provide a detailed method statement at this point as the contract has not been let, and also we need to ensure some flexibility in the work approach to cater for unforeseen events.

The number of machines that could be deployed is largely a function of the timescales, i.e. 1 excavator and 1 dumper may take (say) 5 weeks to undertake a scheme, leading to a low level effect in the local area for 5 weeks; but 4 excavators and 4 dumpers may lead to a slightly increased local effect but for (say) only one week. For the purposes of assessing the likely amount of plant and machinery required to undertake the construction and upon which the assessment of disturbance should be based (not all effects actually being 'disturbance' in the legal sense) is:

- 2 no. 360 degree tracked excavators, maximum size not likely to exceed 28 tonne.
- 2 no. dumpers, possibly wheeled, possibly tracked.

We would envisage any condition, if one is to be applied at all, to be proportionate to the magnitude of the proposed works and reasonable in all other respects. We note the massive engineering being undertaken in the near vicinity by National Grid, apparently without causing any disturbance events.

Abstraction licence

It was agreed that this aspect could not be a reason for the refusal of consent, but could be required as a condition. The EA has now confirmed it has no objection has requested that the formal application be submitted. The EA has highlighted that the Drainage Board would determine any hands-off or restrictions on abstraction. Able consulted NELDB at pre-application planning, and it had no objection to the HMWGS.

I trust this provides you both with the final confirmation and clarification required to approve the HMWGS; a minor scheme that has been awaiting determination since May 2016.

Regards, Kirsten

Kirsten Berry
Director

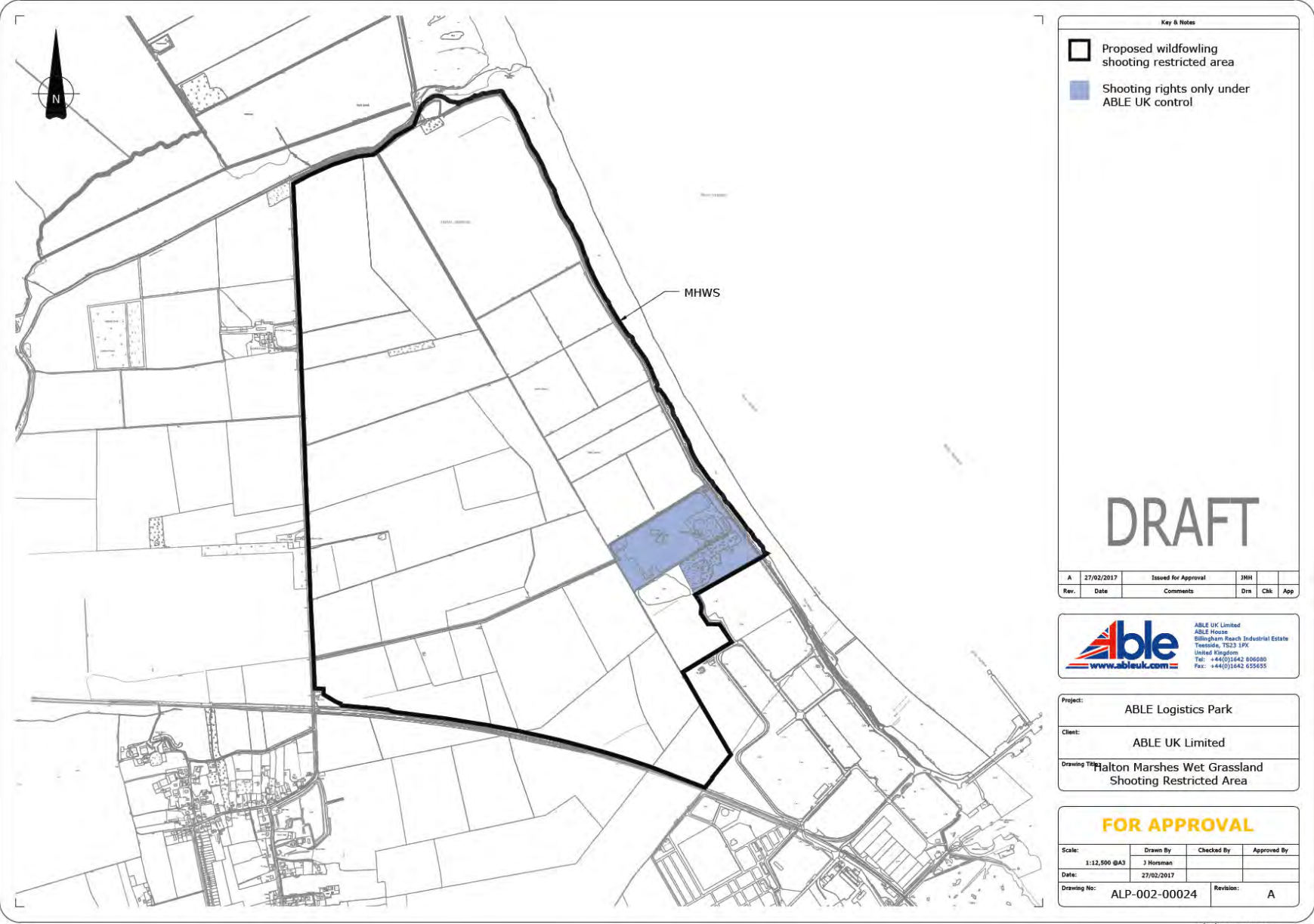

e:..kirsten@hendeca.co.uk..

Logo-newcolour-email

Company number: 9601610

Registered address: Harvestway House, 28 High Street, Witney, Oxfordshire, OX28 6RA

Drawing referenced in recommended condition, Paragraph 8.6



- Key & Notes**
- Proposed wildfowling shooting restricted area
 - Shooting rights only under ABLE UK control

DRAFT

A	27/02/2017	Issued for Approval	JHM		
Rev.	Date	Comments	Drn	Clk	App

ABLE UK Limited
 ABLE House
 Billingham Reach Industrial Estate
 Teeside, TS23 1PX
 United Kingdom
 Tel: +44(0)1642 806080
 Fax: +44(0)1642 925635

Project:	ABLE Logistics Park
Client:	ABLE UK Limited
Drawing Title:	Malton Marshes Wet Grassland Shooting Restricted Area

FOR APPROVAL			
Scale:	Drawn By:	Checked By:	Approved By:
1:12,500 @A3	J Horsman		
Date:	27/02/2017		
Drawing No:	ALP-002-00024	Revision:	A

Appendix 5. Consultee responses.

PA/2016/649 Able UK Halton Marshes Wet Grassland Scheme. Consultee Responses.

Summarised Responses	Natural England	RSPB	Lincs Wildlife Trust	Env. Agency	Able UK
HRA Issues:					
1. The HRA will need to determine whether a 12ha core area plus buffers is sufficient to mitigate for the impact of developing the Able Logistics Park (ALP) up to the railway line.	✓	✓			
2. It would be useful to understand how Able plan to implement the various overlapping documents and permissions.	✓	✓			
3. A calendar across the year showing what the site management would be to meet the objectives for each month/each area/each species would be useful so that it is clear what the site management must achieve.	✓	✓			
4. It is unclear why there is still detailed discussion of breeding bird requirements	✓	✓			
5. The target for black-tailed godwit within the Compensation Environmental Monitoring and Management Plan (CEMMP) for the wet grassland compensation at Cherry Cobb Sands is for a sward height of 10cm with livestock grazing proposed.	✓				
6. The best management for lapwings, golden plovers and curlews on grassland in winter is to provide a short (less than approximately 12 cm high) sward, although curlews are less restricted to very short swards compared to the other two species. Tussocky habitat is not required.		✓			
7. Winters Pond Local Wildlife Site (LWS) was previously an important site for ruff (an SPA/Ramsar site species). Natural England advises that the management for this site should be incorporated as part of the management for Halton Marshes.	✓				
8. At the DCO meeting on 14 th June, it was understood that a number of amendments would be made to the submitted documents	✓				
9. Clarification required re provision of wind pump	✓	✓			
10. Concern about proposals to move part of the mitigation habitat and develop the site for industry in the future.	✓	✓			
11. Halton Drain abstraction licence require prior to determination of the application. Or secure by pre-commencement condition	✓	✓		✓	
12. Further information is required on the proposed operational buffer which should include what activity/level	✓	✓			

of activity/noise levels are proposed to take place in this area. See Below	✓	✓			
13. Justification required for noise levels of 65dB L _{Amax} on western side of buffer. This limit needs to be secured by a condition.	✓	✓			
14. It is unclear if the area covered by the saddles would be unsuitable for use by birds. This should be assessed with the area deemed to be unsuitable provided and taken into account in the extent calculations.	✓	✓			
15.3.2.2 – It is not clear from the wording of this paragraph whether shooting has actually stopped at Winters Pond; this should be confirmed. NOW RESOLVED- Sept. But needs a condition	✓	✓			
16. Evidence required to demonstrate that the core mitigation area can move to the west whilst flood defence works are being undertaken.	✓	✓			
17. <i>The Secretary of State's appropriate assessment for AMEP, took account of 38.5ha of land at Halton Marshes being provided as part of the compensation for the loss of inter-tidal foraging habitat on Black-tailed Godwits</i> ". The wet grassland design now only refers to a 20ha core area as overcompensation and so confirmation is required that the total area provided as overcompensation is still ≥ 38.5 ha.	✓	✓			
18. Stock grazing features e.g. fencing, corral are required.	✓	✓			
19. Surface flooding in winter must not prevent use of the site by feeding waders.	✓				
20. Can tiered scrapes be delivered on a relatively flat site?	✓	✓			
21. Clarify whether the management plan will be developed further	✓				
22. Detailed hydrological calculations have not been included as part of the Feasibility Study. Although the analysis appears robust it would be useful if these were provided to confirm this	✓	✓			
23. There does not appear to have been any assessment of the impacts of climate change and so it is difficult to assess how resilient the system will be in the longer term.	✓				
24. There should be a guarantee of appropriate management in the longer term (with regard to hydrology).	✓				
25. Monitoring will be required to make sure the system is working as anticipated and then adapted if necessary (with regard to hydrology).	✓	✓			
26. BTGs will only feed on grasslands in situations when food supplies in estuaries are no longer sufficient to support them		✓			
27. In the autumn, when the overcompensation for BTG is needed, water levels will be too low to force prey items to the soil surface.		✓			
28. Concern whether eastern buffer and screening along sea wall would deter birds		✓			

29.The RSPB queries whether the use of a planning permission from North Lincolnshire Council to make the desired changes to the AMEP mitigation would provide Able UK with a lawful consent for this purpose.		✓			
30.EMMP should be developed and overseen by a steering group		✓	✓		
31.Objectives for Black-tailed godwit cannot be met on northern field	✓	✓	✓		
32.How will buffer be managed? (Outside stock fence)	✓		✓		
33.Query over retained hedgerow	✓				
Non-HRA Issues:					
34.Objective BB1 of the TEMMP requires habitat provision at mitigation area A for farmland birds;	✓	✓			
35.If mitigation area A is moved to Halton Marshes, Able need to ensure they can deliver all the required aspects at this new location	✓				
36. Use of seed mixes requires clarification	✓				
37. 3.06 ha of lowland meadow are required to compensate for the loss of 1.7ha. It needs to be clear how this area would be managed.	✓		✓		

Responses to Queries

1. The HRA will need to determine whether a 12ha core area plus buffers is sufficient to mitigate for the impact of developing the Able Logistics Park (ALP) up to the railway line.

Hendeca Aug 2016- 2.2.4-2.2.6 Principle already established 'Examiners' Requirements for Further Overcompensation (October 2013).

The HRA for ALP (Taylor 2011) states:

9.4.2.3 Field usage maps produced by Mott Macdonald (2009), suggest that for golden plover, lapwing and ruff, the most heavily used fields on the application site are north of the disused railway line. Curlew use fields north and south of the railway line, but the Catley reports 2007a, 2008a) reveal that, much of the time, fields south of the railway line are subject to disturbance and the northern curlew flocks use the fields north of the railway line roughly twice as much as those south of the railway line (2007/08 figures), or fourteen times as much if 2007 figures are applied.

32 ha of core habitat is required to mitigate for the loss of wader habitat in ALP as a whole. Taking a precautionary approach, using 2007/08 rather than 2007 figures for curlew, then usage of land south of the railway line may be assumed to account for about one third of this requirement i.e. around 10.67 hectares. Nearly all use of land by lapwing, golden plover, ruff and black-tailed godwit relates to land north of the railway line.

Therefore, applying readily available data, the assertion that a 12ha core area plus buffers is sufficient to mitigate for the impact of developing the Able Logistics Park (ALP) up to the railway line appears reasonable. It may be possible to calculate more accurate and up-to-date figures by analysing the 2010/11 South Humber Bank survey data in detail, with reference to recorded “wader-days” north and south of the railway line.

CONCLUSION: Query resolved.

2. It would be useful to understand how Able plan to implement the various overlapping documents and permissions.

NE- At the Development Control Order (DCO) meeting on 14th June 2016, it was suggested that the number of documents should be rationalised and Able would review the planning requirements for Able’s Marine Energy Park (AMEP) and ALP to determine commonalities. Natural England suggested that each required document should then be completed to meet the most comprehensive requirement; the same document could then be used to discharge the conditions for ALP and the requirements for AMEP.

ABLE UK; agreed, this item is currently being addressed. NE will be required to agree the final documents so will retain control. (Draft documents circulated 31/10/16)

CONCLUSION: Way forward agreed.

3. A calendar across the year showing what the site management would be to meet the objectives for each month/each area/each species would be useful so that it is clear what the site management must achieve.

Hendeca Aug 2016: 3.5.2 As requested, a calendar has been provided at Table 3.2 to present the management regime for the HMWGS over a 12 month period. This has focussed on water control and stock grazing, providing a summary of the key wetland design features, their seasonal functioning and the habitat they will provide. The HMEMMP would provide more detail as appropriate.

Need to check whether consultees accept the proposed calendar. NLC Ecologist’s view is that grazing and wind pump proposals appear somewhat theoretical, rather than based on experience. In reality, grazing with complex arrangements of sheep and cattle is not likely to be practical. If simplified, cattle-only grazing would be better than sheep-only. Resolution of queries 21 and 25 may help here.

Details can be agreed through the EMMP and Steering Group.

CONCLUSION: Query resolved.

4. It is unclear why there is still detailed discussion of breeding bird requirements

Hendeca Aug 2016: 3.2.3 The HMWGS will be actively managed for overwintering birds, with the additional breeding bird habitat being incidental; there is no inherent contradiction in trying to encourage wading birds to breed on the site, whilst managing the site for overwintering wading species.

NLC: In updating the plan (issues 21 & 25), care needs to be taken to ensure that the wintering requirements of waterbirds (as set out by the RSPB) are highlighted and prioritised. Breeding wader requirements should be secondary, relating largely to a mitigation requirement for small numbers of breeding lapwing, various farmland birds and biodiversity enhancement measures. Breeding requirements for ruff and black-tailed godwit should be omitted. Table 3.2 (the management calendar) could usefully be updated with target sward heights.

Details can be agreed through the EMMP and Steering Group.

CONCLUSION: Query resolved.

5. The target for black-tailed godwit within the Compensation Environmental Monitoring and Management Plan (CEMMP) for the wet grassland compensation at Cherry Cobb Sands is for a sward height of 10cm with livestock grazing proposed.

Details can be agreed through the EMMP and Steering Group.

CONCLUSION: Query resolved.

6. The best management for lapwings, golden plovers and curlews on grassland in winter is to provide a short (less than approximately 12 cm high) sward, although curlews are less restricted to very short swards compared to the other two species. Tussocky habitat is not required.

Details can be agreed through the EMMP and Steering Group.

CONCLUSION: Query resolved.

7. Winters Pond Local Wildlife Site (LWS) was previously an important site for ruff (an SPA/Ramsar site species). Natural England advises that the management for this site should be incorporated as part of the management for Halton Marshes.

ABLE UK- September 2016; your attention is drawn to drawing ALP-002-00011 as well as paragraph 2.7.2 on page 2-11 of the Halton Marshes Wet Grassland Planning Etc addendum where this issue has been expressly addressed. 2.7.2 At present the protection and management of the Local Wildlife Site falls partly under the ALP consents. It is proposed that the management of the associated fields within the Local Wildlife Site designation is incorporated in the proposed HMEMMP.

CONCLUSION: Query resolved.

8. At the DCO meeting on 14th June, it was understood that a number of amendments would be made to the submitted documents
CONCLUSION: Way forward agreed.
9. Clarification required re provision of wind pump
ABLE UK September 2016; the wind pump is shown on drawing ALP – 002 – 00016 Schematic layout of scrapes as this is where all the water controls are illustrated. [see also calendar, Table 3.2].
CONCLUSION: Query resolved.
10. Concern about proposals to move part of the mitigation habitat and develop the site for industry in the future.
Hendeca Aug 2016: Section 2.5 seeks to address this point. It is not clear whether consultees accept the points made. However, granting permission for the current application would not confer consent for mitigation habitat to be converted to other uses. Therefore, the issue is not relevant to the HRA or to determination of the application.
CONCLUSION: Query resolved.
11. Halton Drain abstraction licence required prior to determination of the application. Or secured by pre-commencement condition.
Phone call with Able UK 01/11/2016: Abstraction licence timescales are dependent upon the Environment Agency. It may not be possible to secure a licence prior to determination of the planning application. However, Able UK would be content with a pre-commencement planning condition, requiring an abstraction licence.
CONCLUSION: Query resolved.
12. Further information is required on the proposed operational buffer which should include what activity/level of activity/noise levels are proposed to take place in this area.
Hendeca Aug 2016: 2.2.20-2.2.24 Explains the nature of buffer on the western side: 120m of buffer (i.e. all but 30 metres) will be wet grassland, up to an existing ditch. The remaining buffer will be restricted to non-disturbing activities- details to be set by monitoring and referral to Steering Group.
Natural England requires greater certainty than this. Control by condition c.f. ALP conditions
CONCLUSION: Query resolved.
13. Justification required for noise levels of 65dB LAmax on western side of buffer. This limit needs to be secured by a condition.
ABLE UK- September 2016: Table 13.3 of this letter and the ALP Environmental Statement lists baseline sound power levels (recorded as LAmax) at various points around the ALP sites. These figures are generally 65dB LAmax.
NLC- Applying BS:5228 “Noise and vibration control on construction and open sites”, noise attenuation over 120 metres of soft

ground (grassland in this case) is around 25dB. Therefore, activities within the operational buffer would need to be restricted to 90 dB LA max at source. Such levels could readily be exceeded by the use of equipment such as bulldozers, piling equipment, dump trucks etc. Therefore activities and sound levels within the operational buffer will need to be controlled by conditions. Conditions 47, 50 and 51 of ALP permission PA/2015/1264 may be helpful in controlling construction and operational disturbance and providing a mechanism for monitoring and the implementation of remedial measures.

CONCLUSION: Query resolved with conditions.

14. It is unclear if the area covered by the saddles would be unsuitable for use by birds. This should be assessed with the area deemed to be unsuitable provided and taken into account in the extent calculations.

Hendeca Aug 2016: 3.6.6 The design includes the use of 18 saddles, with each one unlikely to cover more than 6m², giving a gross total area of 108m². This represents ~0.02% of the total core area (52ha).

ABLE UK- September 2016: 0.02% of the area is considered to be trivial.

Natural England 25 October 2016: Agreed

CONCLUSION: Query resolved.

15. 3.2.2 – It is not clear from the wording of this paragraph whether shooting has actually stopped at Winters Pond; this should be confirmed. NOW RESOLVED- Sept. But needs a condition (RSPB)

CONCLUSION: Query resolved. Prohibition on shooting can be written into conditions/plans.

16. Evidence required to demonstrate that the core mitigation area can move to the west whilst flood defence works are being undertaken.

Natural England October 2016: Agricultural operations in the 150m buffer, once moved westwards, need to be specified and controlled.

NLC: Ensure same restrictions and conditions apply to the relocated buffer as to the “normal “ buffer.

CONCLUSION: Query resolved.

17. The Secretary of State’s appropriate assessment for AMEP, took account of 38.5ha of land at Halton Marshes being provided as part of the compensation for the loss of inter-tidal foraging habitat on Black-tailed Godwits”. The wet grassland design now only refers to a 20ha core area as overcompensation and so confirmation is required that the total area provided as overcompensation is still ≥ 38.5 ha.

Natural England 29 November 2016: Having considered Able UK’s e-mail of 04 November (reproduced here in Appendix 4) Natural England now advises that the reduced overall area is as sufficient as the original proposal for overcompensation.

CONCLUSION: Query resolved.

18. Stock grazing features e.g. fencing, corral are required.

Able UK Response: Drawing ALP-002-00012 Rev B shows a first draft proposal for stock fencing and a stock handling area. This has led to queries about the management of grassland outside the fence (this can be mown).

NLC: The drawing indicates a commitment to fence and graze the site appropriately. Fine details would best be agreed through the revised management plan, steering group and monitoring and review approaches.

CONCLUSION: Query resolved.

19. Surface flooding in winter must not prevent use of the site by feeding waders.

Hendeca Aug 2016: 3.2.4-3.2.6 clarifies that the existing topography will be retained in the northern field and that other areas have not been designed to permit widespread flooding.

Natural England 25 October 2016: Agreed. EMMP approach will ensure that wet grassland functions as required.

CONCLUSION: Query resolved.

20. Can tiered scrapes be delivered on a relatively flat site?

Hendeca Aug 2016: 3.6.1-3.6.5 explains how the tiered scrapes relate to existing topography.

CONCLUSION: Query resolved. EMMP approach will ensure that wet grassland functions as required.

21. Clarify whether the management plan will be developed further

ABLE UK- September 2016: Halton Marshes EMMP can be conditioned by NLC.

NLC: Condition 2 requires the provision of a revised management plan.

CONCLUSION: Query resolved.

22. Detailed hydrological calculations have not been included as part of the Feasibility Study. Although the analysis appears robust it would be useful if these were provided to confirm this

Hendeca Aug 2016: 4.3.4-4.3.8 gives further details of the calculations, design features and assumptions made. Detailed calculations are available in an appendix.

CONCLUSION: Query resolved.

23. There does not appear to have been any assessment of the impacts of climate change and so it is difficult to assess how resilient the system will be in the longer term.

Hendeca Aug 2016:4.4.1-4.4.5 Deep scrapes and the ability to abstract water from Halton Drain will mitigate against dry years. The CEH Wetland Tool indicates that the HMWGS will not be sensitive to the effects of climate change over a 30 year timescale.

CONCLUSION: Query resolved.

24. There should be a guarantee of appropriate management in the longer term (with regard to hydrology).

NLC: For PA/2015/1264 long-term management is secured by planning conditions. This is compatible with Planning Circular 11/95 and BS:42020 Biodiversity — Code of practice for planning and development. Alternative approaches include a Section 106 planning agreement or a management agreement under Section 39 of the Wildlife and Countryside Act 1981, as amended.

CONCLUSION: Query can be resolved by use of the most appropriate management agreement.

25. Monitoring will be required to make sure the system is working as anticipated and then adapted if necessary (with regard to hydrology).

ABLE UK- September 2016: Halton Marshes EMMP can be conditioned by NLC.

NLC: Condition 2 requires monitoring and review of the management plan. Condition 8 allows the Steering Group to agree adaptations.

CONCLUSION: Query resolved.

26. BTGs will only feed on grasslands in situations when food supplies in estuaries are no longer sufficient to support them.

The principle of providing compensation for feeding black-tailed godwits on wet grassland at Halton Marsh was established by SoS in a letter of December 2013. The associated HRA notes the following at Section 25:

ANNEX 1

PLANNING ACT 2008: APPLICATION FOR THE PROPOSED ABLE MARINE ENERGY PARK DEVELOPMENT CONSENT ORDER THE SECRETARY OF STATE'S ASSESSMENT IN ACCORDANCE WITH THE CONSERVATION OF HABITATS AND SPECIES REGULATIONS 2010

25. The Panel recommended that the East Halton Marshes scheme should be included as a compensatory measure to provide as much available feeding ground as possible, given the disagreement between the applicant, Natural England and the RSPB during the examination about how much food-stock was required to replace the existing resource at North Killingholme Marshes (PR 10.158-164). Although the East Halton Marshes scheme was not included in the Compensation EMMP dated March 2013, the Secretary of State notes from the applicant's further information submitted on 15 October 2013 that it has now agreed to provide its land at East Halton Marshes for compensation. The applicant has also proposed improvements to its design proposals for the site to benefit BTG and other estuary birds such as surface water features and islands in scrapes to serve as secure roosts in winter. The applicant has agreed that delivery of these proposals could be

secured by an amendment to the Compensation EMMP, which will have to be finally approved by Natural England under requirement 17(1) of Schedule 11 to the Order

The South Humber Gateway 2010/11 surveys (Catley 2011) revealed significant use of fields by black-tailed godwits:

“In the early autumn during September significant numbers of Black-tailed Godwits were using some of the fields adjacent to the estuary for feeding. Most of the birds involved were juveniles that part of the population that is usually outcompeted by adults in use of prime feeding sites. Most of the fields used were dragged stubbles where the birds were presumably feeding on worms and invertebrates. The primary fields used were those from Goxhill Haven to East Halton Skitter and were immediately inland of the sea wall. Flocks of birds were observed moving between the roost at North Killingholme pits and the fields on a regular basis not just at high tide with some individuals possibly commuting on more than two occasions on a tidal cycle. Details of some of these observations are given below. Later in the winter period virtually all of the Black-tailed Godwits found on the fields were those that joined roosting Curlew on the old Huntsman site where they roosting at high water.

In week 2 during a very strong south-easterly wind a total of 392 birds was feeding in field 138 [within the proposed wet grassland area] in a narrow strip of dragged stubble sheltered from the wind at the southern side of the field. 85% of the birds were juveniles.

Subsequently in week 3 a flock of 360 birds was feeding on four fields in Goxhill Marsh, 116, 118, both mown hay fields, and 120 and 122 the latter being dragged, rape stubble, and 120 wheat stubble with a small strip dragged on the southern side. 90% of the birds were juveniles and they were actively feeding in all of the fields before at and after high tide. Some of the birds commuted to the adjacent inter-tidal when this was available but at high tide flocks moved to North Killingholme pits and back again so it was not possible to ascertain whether the same birds were involved and the total number of birds using the fields could have been higher than that recorded.

In week four the activity noted in week three was repeated with a minimum of 338 birds being seen at one time. Two colour ringed birds were seen; one Red Yellow Red Red flag was feeding in the same spot off Goxhill Skitter Ness where it spent most of the previous winter as a juvenile bird being last seen on February 16th 2010; the second bird Black Green Orange flag Black was a French ringed bird recorded in the autumn of 2010 at North Killingholme pits from August 2nd.”

This indicates that Black-tailed Godwits may be expected to use the HMWGS. Other examples of this species using wet grassland are provided by an IECS Report “Able Marine Energy Park Environmental Management and Monitoring Plan: 3. Compensation habitat – Cherry Cobb Sands RTE/managed realignment site and associated wet grassland area” (IECS 2012).

No targets for numbers of black-tailed godwits on Halton Marsh have been set. However, paragraph 25 above indicates that the area should “provide as much available feeding ground as possible” and that there should be “improvements to [Able UK’s] design proposals for the site to benefit BTG and other estuary birds such as surface water features and islands in scrapes to serve as

secure roosts in winter.”

The HRA for PA/2016/649 therefore needs to include a qualitative assessment as to whether the submitted proposals meet these criteria.

CONCLUSION: Way forward agreed.

27. In the autumn, when the overcompensation for BTG is needed, water levels will be too low to force prey items to the soil surface.

NLC: The South Humber Gateway 2010/11 surveys (Catley 2011) revealed significant use of fields by black-tailed godwits. This was in the early autumn (see above), suggesting that feeding Black-tailed godwits can be supported at this time. The report states that September 2010 was, “ A changeable month with plenty of rain, especially across the northern half of Britain, but also some more settled spells... Rainfall varied from over 150% of the normal amount in much of Northern Ireland, parts of eastern Scotland and northern England to less than 75% of normal in parts of south-east England and the south Midlands.” The report does not appear to indicate that high water levels were necessary to permit the feeding behaviour.

CONCLUSION: Query resolved.

28. Concern whether eastern buffer and screening along sea wall would deter birds.

NLC: Natural England has queried the northern hedgerow, but not the hedgerow along the soke dike.

Bird monitoring carried out at Killingholme Marsh for Humber International Terminal indicates that lapwing, black-tailed godwit and especially curlew may use fields that are relatively enclosed by hedgerows.

Given the large scale of the buffers and core mitigation areas proposed, the deterrent effect of screening hedgerows is not likely to be a significant problem. Given the EMMP, management monitoring and Steering Group approach proposed, monitoring of the HMWGS may be expected to reveal whether hedgerows and screening have a deterrent effect. If this is the case, remedial measures, such as trimming, coppicing or removing the hedgerows may be considered.

CONCLUSION: Query resolved.

29. The RSPB queries whether the use of a planning permission from North Lincolnshire Council to make the desired changes to the AMEP mitigation would provide Able UK with a lawful consent for this purpose.

Able UK: September 2016: any consent given by NLC for HMWG will not actually amend the DCO in any way at all...

..It is however legitimate to acknowledge that the applicant will, subject to planning consent being granted for HMWG, apply at some point to relocate some mitigation for AMEP to the HMWG scheme. The HMWG scheme is therefore designed in such a way that should, in the future, the applicant wish to submit a formal application to develop what is identified as Mitigation Area A, then the functional habitat and area requirements will have been established within the features forming this current application.

NLC agrees with the view that the current application does not seek to amend the DCO.

CONCLUSION: Query resolved.

30. EMMP should be developed and overseen by a steering group

Agreed by all. Able UK suggest that, rather than creating a new Steering Group, a planning condition should be used linking HMWGS to the ALP and AMEP Steering Groups.

CONCLUSION: Query resolved.

31. Objectives for Black-tailed godwit cannot be met on northern field.

Agreed by all. Able UK (September 2016) clarified that drawings implying that Black-tailed godwits should use the northern field should not be taken literally, the intention was purely to illustrate that adequate areas has been provided for all the necessary core areas and buffers. The mitigations areas should be viewed holistically. It is anticipated that black-tailed godwits will make greatest use of the re-profiled areas further south.

Natural England(October 2016):General agreement with this approach.

CONCLUSION: Query resolved.

32. How will buffer be managed? (Outside stock fence)

ABLE UK (September 2016); fencelines on the plan are identified as indicative. The exact location will be determined during the detailed design. The neutral grassland identified will be provided extensively within the development, and more specifically within the northern section of the site. Should fencelines “exclude” habitats from the general grazing regime (such as this potential public access/stock conflict along the eastern boundary) then the habitat will be managed by other means in order to achieve the specific aims.

NLC: We assume that this indicates that areas outside the stock fence will be mown, with collection of arisings, to achieve target sward heights in the passage and winter periods. Details can be agreed through the EMMP and Steering Group.

CONCLUSION: Query resolved.

33. Query over retained hedgerow

Able UK (September 2016) and Natural England (October 2016) both appear to be referring to a hedgerow/line of trees on an archaeological feature towards the north of the application site. Given that the northern field currently supports some of the largest recorded flocks of golden plover, lapwing and black-tailed godwit, the deterrent effect of this hedgerow is not likely to be a significant problem. Given the EMMP, management monitoring and Steering Group approach proposed, monitoring of the HMWGS may be expected to reveal whether hedgerows and screening have a deterrent effect. If this is the case, remedial measures, such as trimming, coppicing or removing the hedgerows may be considered.

CONCLUSION: Query resolved.

Non-HRA Issues:

- 34. Objective BB1 of the TEMMP requires habitat provision at mitigation area A for farmland birds; AND
 - 35. If mitigation area A is moved to Halton Marshes, Able need to ensure they can deliver all the required aspects at this new location
- 34 & 35 Agreed by all. Hendeca Aug 2016; Section 3.4 and Table 3.1 confirm the requirement to deliver all mitigation requirements. Details can be agreed through the EMMP and Steering Group.

CONCLUSION: Query resolved.

- 36. Use of seed mixes requires clarification
- Hendeca Aug 2016: Section 3.3 provides clarification. Details can be agreed through the EMMP and Steering Group.

CONCLUSION: Query resolved.

- 37. 3.06 ha of lowland meadow are required to compensate for the loss of 1.7ha. It needs to be clear how this area would be managed.
- ABLE UK September 2016; agreed, it has been confirmed with Andrew Taylor that the requirement is for the provision of 3.06ha of neutral grassland in the long term.

CONCLUSION: Query resolved.

.

Appendix 6. References.

Alves, J.A., Lourenço, P.M., Piersma, T., Sutherland, W.J. & Gill, J.A. (2010) Population overlap and habitat segregation in wintering Black-tailed Godwits *Limosa limosa*, *Bird Study*, 57:3, 381-391

Brewis, C. 2015 Able Marine Energy Park. Compensation Environmental Management & Monitoring Plan

Catley G. 2000-2003 Waters Edge and Far Ings Bird Disturbance Reports

Catley, G. 2007 Winter bird survey of East Halton and Killingholme Marshes and inland fields encompassed by North Lincolnshire Council boundary; January to March 2007

Catley, G. 2008 Winter bird survey of East Halton and Killingholme Marshes and inland fields encompassed by North Lincolnshire Council boundary; July 1st to March 31st 2007 – 2008

Catley, G. 2011 SHB Wintering Birds 2010-2011

Cramp, S. (ed.) 1983 Handbook of the Birds of Europe, the Middle East and North Africa. The Birds of the Western Palearctic. Volume III Waders to Gulls.

Cutts, N. 2009 E-mail to Faith Spencer, Environment Agency re Swinefleet Monitoring

European Communities 2007 The European Commission Management Plan For Black-Tailed Godwit (*Limosa limosa*) 2007–2009. Technical Report - 019 - 2007

Holt et al. 2012 Waterbirds in the UK 2010/11 The Wetland Bird Survey

Hyder 2015 Habitats Regulations Assessment- Part 1 of 2. River Humber Gas Pipeline Replacement Project. Unpublished report.

IECS 2011 Marine Energy Park: Bird Survey Results – April 2010 to April 2011

IECS 2012 Able Marine Energy Park Environmental Management and Monitoring Plan: 3. Compensation habitat – Cherry Cobb Sands RTE/managed realignment site and associated wet grassland area. Report to Able UK Ltd. Institute of Estuarine and Coastal Studies, University of Hull

IECS 2014 Able AMEP Development: Planning Application PA/2013/0519. Proposed Specification for Noise Related Waterbird Disturbance Baseline Setting and Surveillance

Jones, A. & Sheehan, K. 2016 Halton Marsh Wetland Feasibility Study. Unpublished report.

Mott Macdonald 2009 South Humber Bank Zone Final Report: Field Usage by Bird Species from the Humber Estuary SPA

Rehfish, M.M., Langston, R.H.W, Clark, N.A. & Forrest, C. 1993 A Guide to the Provision of Refuges for Roosting Waders. BTO Research Report N^o 120.

Roberts Powell, H. 2014 AMEP Enabling Works: East. Able UK Limited. Construction Noise Predictions. Jacobs

Shepherd, I. (2013) Waterbird Usage of H.I.T. Triangle Site Field and Adjacent Intertidal Mudflats, October 2012 to March 2013

Smartwind 2015 Hornsea Offshore Wind Farm Project Two – Application for Development

Consent. Draft Development Consent Order


Taylor, A. 2010b PA/2009/0600 Able UK, Land between East Halton Skitter and Chase Hill Road, North Killingholme. A quantitative assessment of the use of the application site as feeding habitat by five species of passage and wintering waterbirds and associated estimate of the carrying capacity of the proposed wetland mitigation sites for these species.

Taylor, A. 2011 Able UK, Land between East Halton Skitter and Chase Hill Road, North Killingholme. Planning permission to erect buildings and use land for purposes within Use Classes A3, C1, B1, B2 and B8 for port related storage and associated service facilities together with amenity landscaping and habitat creation, including flood defences, new railway siding, estate roads, sewage and drainage facilities, floodlighting, waste processing facility, hydrogen pipeline spur and two 20m telecom masts. Appropriate Assessment under the under The Conservation of Habitats and Species Regulations 2010

Townshend, D.J.1981 The Use of Intertidal Habitats by Shorebird Populations, With Special Reference to Grey Plover (*Pluvialis squatarola*) and Curlew (*Numenius arquata*). PhD Thesis, University of Durham.

2014 No. 2434 INFRASTRUCTURE PLANNING The North Killingholme (Generating Station) Order 2014

2014 No. 3331 INFRASTRUCTURE PLANNING The Hornsea One Offshore Wind Farm Order 2014

 amep able marine energy park	ABLE MARINE ENERGY PARK APPLICATION FOR A NON-MATERIAL CHANGE	NOV 2020
--	--	-----------------

APPENDIX D

Correspondence with Natural England on Outline Design of Halton Marshes Wet
Grassland

Date: 21 October 2011



Peter Stephenson
Executive Chairman
Able UK Ltd
Able House
Billingham Reach Industrial Estate
Billingham
Teesside
TS23 1PX

Natural England
Touthill Close
City Road
Peterborough
PE1 1XN

Email - pms@ableuk.com

Dear Peter

ABLE UK MARINE ENERGY PARK (AMEP)

Thank you for your letter of 29th September and emails of 14 October 2011 concerning the ongoing discussions regarding AMEP. Let me state at the outset that Natural England recognises the potential significance of the AMEP proposal for jobs and economic recovery in Yorkshire and the Humber. You will I hope recognise how hard we have worked to help advise Able UK to ensure that your application is accompanied by sufficient information to enable its effects to be assessed in accordance with legal environmental requirements.

This letter responds to the specific points in your letter, as well as confirming Natural England's advice on the proposed mitigation (South Bank) and compensatory measures (North Bank). We also provide our advice on the matter of European Protected Species (EPS) licensing. As the letter provides both detailed responses to points in your correspondence with us and our position on the state of progress with your application, it is understandably lengthy. For clarity of understanding we have provided a short summary.

We advise that:

- Good progress was made at our workshop on 12 October
- Several mitigation options were discussed at that workshop which would enable the competent authority to conclude that there will be no adverse effect on the integrity of the SPA and Ramsar site from the loss of terrestrial feeding and roosting habitat at Killingholme Marshes. Able UK now needs to confirm and finalise an appropriate proposal; we will be happy to provide our advice on this. We advise that this is progressed as described in further detail below.
- In general the compensation proposals appear adequate to meet the requirements of the Habitats Regulations, although there is some additional work and clarification required by Able UK on the final proposed size of the managed realignment site and the proposed wet grassland at Little Humber Farm.

- To ensure that the submission enables the IPC to comprehensively assess the relevant environmental effects and form a view on them, Natural England advises again that there is remaining work for Able to do on a number of outstanding matters; these are described in detail below.
- In conclusion, Able's swift confirmation of your proposals and completion of a number of outstanding actions would enable this case to progress promptly.

Please note that the advice in this letter is given without prejudice to any advice Natural England may offer the competent authority in accordance with our statutory roles under the Conservation of Habitats and Species Regulations 2010.

Letter of 29 September 2011

We have answered your points using the numbers in your letter:

South Bank Mitigation

1. The Unsecured Value of Farmland Habitat

Farming practice is an unregulated activity. Whilst we accept that the land owner may change to a more detrimental (or indeed more beneficial) farming practice at any point, the likelihood or otherwise of this cannot be used to state that the proposed mitigation land provides „a significant benefit“ to the SPA and Ramsar waterbirds. Currently waterbirds are able to utilise several hundred hectares of land within the South Humber Gateway; it is unlikely that farming practices would render all of this land unavailable at the same time, therefore if one field becomes unsuitable the birds are currently able to move to another. The AMEP is described as a project under the Habitats Regulations and therefore the impact of the proposed development – a permanent loss of 250ha of land - must be assessed under this legislation. Mitigation must be provided that will avoid an adverse effect on site integrity; this is not a benefit.

2. Site Statistics

The mitigation discussion has indeed focussed upon curlew. As we have emphasised on previous occasions, the debate must not be exclusively confined to this one species as the mitigation area must mitigate for SPA and Ramsar species that may be adversely affected by the proposed AMEP alone and in combination with other developments. This will be determined by the Habitats Regulations Assessment. As has been explained in detail previously, we advise that for the core area to be effective, it must be surrounded by an adequate buffer where the adjacent land use is unsecured. This ensures that the core area is undisturbed at all times once the adjacent land is developed. The 150m buffer we have advised has been evidenced from the literature by Natural England's paper sent to you in July 2011. As demonstrated in that paper, we have taken a pragmatic approach as 150m is smaller than some accounts of the SPA/ Ramsar waterbird minimum disturbance distances. However in offering our advice on suitable buffers we have also taken account of the local situation, which includes Graham Catley's observations of reduced disturbance distances.

Whilst we acknowledge that field 240 is heavily utilised by curlew and is adjacent to a public footpath which may lead to disturbance, the degree of existing disturbance is anecdotal and not quantified. Therefore, it is difficult to make any comparison between disturbance from the use of a public footpath and a new port development. As has been discussed previously, curlew may be disturbed from field 240; however they currently have other fields in Killingholme Marshes that they can move to. The proposed AMEP development will change the landscape, habitats and

levels of disturbance in this area beyond all current recognition and as required under the Habitats Regulations, the proposed mitigation must be secured and ecologically functional to ensure that there is no adverse effect on the SPA/ Ramsar waterbirds. It is Natural England's advice that to ensure this requirement is met an area of optimally managed wet grassland, to include a core area plus a buffer of 150m is required.

3. Use of Killingholme Marshes for Feeding and Roosting

Natural England did state that the impact of the development was on feeding curlew as this was the information that was provided in the report attached to your email of 8 September 2011. If there is a reference to demonstrate that an area of wet grassland can sustain prey / worm densities at a sufficient level in order to support densities of feeding curlew up to 100 birds per hectare in the long-term, without any competitive interactions and density dependent functions operating we would be grateful if you could provide this to us.

We re-iterate our advice that the „test“ that the competent authority is required to apply is whether the proposal avoids an adverse effect on the site integrity of the Humber Estuary. It is not whether the habitat is more secure than, or as disturbed as, a field that the birds utilised previously.

4. Wader Day Calculations

As you are aware, the calculation for the core area of wet grassland mitigation based on wader days was proposed by North Lincolnshire Council's ecologist. If this approach is adopted but without inappropriately reducing the area calculated by i) only selecting areas of highest curlew density to input into the formula, and ii) dividing the resultant area calculated in half owing to site usage by roosting birds, then the resultant core area this method provides is larger than that currently advised.

Despite the higher area calculated by the use of wader days, as stated in our letter of 20 September 2011, Natural England's advice is that a core area of 16.7ha is nevertheless sufficient to mitigate for the loss of terrestrial feeding and roosting habitat within Killingholme Marshes. This figure is not based on wader day calculations, but on the INCA bird survey data for the South Humber Gateway and the expert opinion of national Natural England and RSPB staff.

Thank you for clarifying that the bird records did not include birds flying over the sites as stated in the report attached to your email of 8 September 2011.

5. Area of Killingholme Marshes in Use by Curlew

As stated in our letter of 20 September 2011, NE's assessment was taken from GIS mapping of the fields in Killingholme Marshes shown by the data provided by Able UK to support curlew. We are happy to share this mapping with you.

Two contradictory arguments appear to be presented in points 3 and 5. Point 3 states that field 240, measuring 8.5ha, supports 78% of curlew days and therefore a mitigation area of 10.9ha could accommodate 100% of curlew usage. However point 5 states that field 240 and 235 combined, support just 49% of curlew days i.e. 29% less curlew days than field 240 supports in isolation according to point 3. We assume that this is an error.

Field 226 is permanent pasture and already supports significant numbers of curlew; therefore the ability to significantly enhance its capacity to support additional birds is likely to be limited; this point does not appear to have been factored in to any of these calculations.

6. Core and Buffer Areas

With regards to the requirement for a core area and 150m buffers, I refer you to our previous points.

As you are aware, the Lincolnshire Coast grazing marsh calculations were proposed by North Lincolnshire Council's ecologist to enable us to reach agreement over Able's development at East Halton Skitter. Whilst Natural England was content for the wader day calculation to be utilised for this development, this was only acceptable when combined with the South Humber Gateway principles – ie for the calculation of the core area, which should then be surrounded by a 150m buffer where the adjacent land use is unsecured.

7. Core Area Requirements

I refer you to our points made above.

8. Able View on Mitigation for SPA Birds

Our advice to you has been clear, consistent and clearly evidenced.

We acknowledge that our advice for strategic mitigation within the South Humber Gateway (4 x 50ha blocks) is not agreed, however this is Natural England's advice on what is required under the Habitats Regulations to ensure that an adverse effect on site integrity is avoided. As you will be aware, the RSPB share this view.

It should also be clarified that the views expressed by HINCA were in the context of discussions relating to strategic mitigation as part of the South Humber Gateway strategy rather than the AMEP development specifically. We agree that Able UK only need to mitigate for the impacts of their development alone and in combination, and in the context of the strategic mitigation.

9. Able Proposal

The use of the word "offer" is inappropriate in this situation. As you are aware, it is Natural England's advice that the mitigation proposed in your letter – ie 22ha is insufficient to avoid an adverse effect on the site integrity of the SPA and Ramsar site from the loss of roosting and foraging habitat at Killingholme Marshes.

North Bank Compensation

10. We should be clear that it is not Natural England's role to „support“ the compensation proposal. It is our advice, based on the information before us and without prejudice to the decisions on alternatives and imperative reasons of overriding public interest that are required to be made by the competent authority, that a proposed realignment site of 110ha would ensure that the overall coherence of Natura 2000 is protected.

11. It is correct that Natural England advise that the wet grassland must be established prior to the development breaking ground. The proposal for an area of wet grassland was put forward by

Able UK as it is recognised that the managed realignment site will not provide feeding habitat for birds as soon as the site is breached; this functionality will develop over several years. We agree with ERM's compensation note dated September 2011 that states "to ensure that there is no reduction in the feeding potential for the birds in the short term, an area of terrestrial habitat (grassland) should be managed to provide a supplementary food resource". It is our understanding that the land at Little Humber Farm is already owned by Able UK and is currently in arable use. It is unclear how the land will achieve its stated aim of providing feeding habitat for SPA/ Ramsar waterbirds in the short term if it is not created in advance.

With regards to Quay 2005 and Immingham Outer Harbour; all developments are considered on a case by case basis and these developments affected considerably fewer birds than Able's MEP.

12. We should clarify that the phrase "No longer required" in this context means that this habitat has become redundant in its role in delivering part of the compensation package as this will have been superseded by the development of full capacity of the realignment site as shown by the results of an agreed and detailed monitoring programme. As we have advised previously, wet grassland habitat may also be required to mitigate for the loss of high tide roosting and foraging habitat at Cherry Cobb Sands. It is possible that this habitat will be required in perpetuity unless it can be shown that the managed realignment site is delivering roosting function. The requirement for mitigation will be determined by the Habitats Regulations Assessment.
13. As advised on several occasions previously, **a Habitats Regulations Assessment is required** to determine the impact of the proposed managed realignment site on the features of the Humber Estuary designated site. This must include an assessment of any impacts on the roosting and foraging birds currently utilising the terrestrial habitat. To avoid any delays, we advise that this is undertaken as soon as possible so we can offer our advice on its conclusions. As discussed previously, it is not reasonable or acceptable to assume that any displaced birds can utilise adjacent agricultural land. This land is not secured and therefore will not allow the competent authority to determine, with certainty, that there will be no adverse effect on the integrity of the SPA and Ramsar site.

We can confirm that an HRA was carried out to assess the impacts of the compensation schemes for Immingham Outer Harbour and Quay 2005.

14. Natural England request confirmation as to whether the amendment to quay design and size will affect the modelling work that has been carried out.

15, 16 and 17.

We would be grateful if you could confirm whether the figures for indirect impacts are the worst case scenario. We had advised previously that confidence limits should be added to these figures as we understand them to be accurate to +/- 50%. It is important that the scale of these impacts is clearly documented. We advise the same precautionary approach with the predicted 2ha loss of saltmarsh and gain of mudflat at the proposed breach. Experience from other realignment sites on the Humber has demonstrated that the breach may require modification after breaching. If these are worst case scenario figures, we would agree with the calculations shown in the tables under point 16.

With regards to the proposed wet grassland at Old Little Humber Farm, as stated previously, it is not possible for Natural England to provide advice on the amount of wet grassland required until the effects of the managed realignment site on the European site have been assessed.

18. We would be grateful if you could clarify the proposed area of managed realignment site as it is stated as 100ha under point 17, however point 18 states that Steve Percival's report "does provide evidence that the 110ha intertidal site should be fully capable of compensating...." **If the proposal is now reduced to 100ha, we advise that Steve Percival's report is revisited to determine whether the 100ha site is also capable of providing sufficient compensation. The documents attached to your email of 8 September 2011 will also require reassessment as they also provide evidence that a managed realignment site of 110ha would deliver the necessary compensation.**
19. We are unclear as to the purpose of this comment. As part of the agreed compensation scheme, Able will be required to undertake a detailed, long-term monitoring programme to determine whether the managed realignment site is meeting its compensation objectives. We would expect remedial action to be taken if the site does not deliver these.

Emails received on 14 October 2011

AMEP mitigation: draft agreement

Thank you for your email and attachments setting out some of the options for the South Bank mitigation as discussed when we met with Able UK, your consultants ERM and North Lincolnshire Council on Wednesday 12 October in Peterborough. Some alternative options were also attached and we provide our advice on all these options below.

1. As stated at our meeting, **it is Natural England's advice that a 16.7ha core, plus 150m buffers where the adjacent land use is unsecured would be sufficient** to avoid the adverse effect on the integrity of the SPA and Ramsar site from the loss of terrestrial feeding and roosting habitat at Killingholme Marshes. **As you are aware, all of this land should be located within Killingholme Marshes and be optimally managed as wet grassland.** As we discussed in Peterborough, it may be possible to reduce the buffer to 100m on the sides adjacent to the tank farm and the development site if further information is provided on the level of activity that will occur in these areas. If this mitigation proposal is submitted with the application to the IPC, we advise that it will enable them to conclude that the adverse effect identified above will be avoided.
2. Natural England also accepts that it is possible to mitigate for this impact by utilising land on Able's previous development site, ALP. The option that was discussed in Peterborough was for the provision of a 20ha core area to partially mitigate for ALP and a 16.7ha core area to mitigate for AMEP – ie a 36.7ha core area. This would be surrounded by a 150m buffer, except adjacent to the seawall where a buffer of 50m was agreed if public access was screened. To complete the mitigation for ALP, this option also requires a 20ha core area surrounded by 150m buffers where the adjacent land is unsecured, outside of the South Humber Gateway. The location of this offsite mitigation would be agreed with Natural England and would need to follow the principles of the South Humber Gateway. All of the land should be optimally managed as wet grassland. We understand that this option is a future aspiration and cannot be submitted to the IPC as Able cannot currently deliver any offsite land.

3. AMEP mitigation option 1

Drawing No. ALP 08039 A shows a core area of 48ha and therefore we assume that this proposal is for full mitigation for ALP and AMEP to be provided within the footprint of ALP. If the core area is amended to 32ha + 16.7ha – ie a total core area of 48.7ha, then Natural England is of the opinion that **this option would meet the requirements of the Habitats Regulations**. We understand that this would require an amendment to the existing planning permission for ALP and therefore there is some uncertainty as to whether this option is deliverable within an appropriate timeframe.

4. AMEP mitigation option 2

Drawing No. ALP 08040 A shows a core area of 20ha, plus buffers being delivered within the footprint of ALP and an offsite mitigation area with a core area of 40ha. It is unclear how the figure for the core area for offsite mitigation has been calculated. As you are aware, Natural England was clear in its advice that mitigation for AMEP must be provided in the vicinity of the impact, ie close to Killingholme Marshes. Therefore we assume that this new proposal actually affects the mitigation for ALP; ie moving the mitigation for ALP to a location outside the South Humber Gateway. This would require an amendment to the existing planning permission for ALP and would clearly require a new assessment under the Habitats Regulations. Since this proposal is inconsistent with our previous advice for ALP, it is **Natural England's advice is that this option would not meet the requirements of the Habitats Regulations with regards to ALP**.

5. AMEP Land Side Development Area

Drawing No. AME 08061 A shows that the development site footprint has been increased to include land to the south. Natural England is unsure whether it is possible to include additional land at this late stage in the process. In any event, Natural England is concerned that the effects of any proposal varied in this way are properly and comprehensively assessed in accordance with the requirements of the relevant environmental legislation. It is our current understanding that the information necessary to make the required assessments is not available. **Clarification on this point is therefore needed.**

6. AMEP mitigation draft agreement

Natural England welcomes the efforts made in drawing up this agreement. A number of amendments are required in order to ensure it is consistent with our advice, as follows:

- 3.1 should state 16.7ha of core habitat
- 3.4 should state the entire area (core and buffers) would be optimally managed as wet grassland
- 3.6 states that *"it is agreed that the AMEP mitigation land can also be amended"* and *"it remains the key aspiration of all parties to maximise mitigation on land that is not zoned for industrial use"*. This is not agreed and is contrary to Natural England's view and advice. Natural England has been consistent in its advice that mitigation is required *within* the South Humber Gateway to avoid an adverse effect on the integrity of the SPA and Ramsar site from the loss of roosting and foraging habitat. At our meeting in Peterborough, we agreed that the mitigation for AMEP could be moved to ALP, not to a location outside the South Humber Gateway.

If Able still wish to progress with an agreement, these changes should be incorporated together with a map of the proposed agreed mitigation.

7. AMEP southern boundary: Drax permissions

Thank you for your email of 14 October and attachments regarding land to the south of the AMEP site and which has planning permission for the DRAX Biomass Plant. We will look into the specifics of this other case and respond to you separately.

Other outstanding matters

We would like to take this opportunity to raise a number of other outstanding points, most of which were detailed in our letter dated 26 August 2011. As discussed previously, we would welcome the opportunity to comment on these documents before submission to the IPC:

- Final completed Environmental Statement
- Final completed Habitats Regulations Assessment including any necessary mitigation such as seasonal restrictions
- Final report assessing the impacts on river and sea lamprey and the identification of any mitigation
- In combination assessment. We advise that you will need to liaise with ABP in order to assess the relevant impacts associated with Green Port Hull. We have advised ABP of the same and strongly advise you to work together on your in combination assessments.
- Final proposed „requirements“ (planning conditions).
- Protected species chapter of the Environmental Statement. We request confirmation of whether the comments we provided previously on protected species have been taken into account. There are a number of key issues which we advise should be addressed for the protected species affected by the proposal as follows:
 - i) Great Crested Newts - an assessment of the value of the terrestrial habitat to be lost and calculation of the required area for mitigation. Although there is acknowledgement of the need to obtain an EPS licence for great crested newts (as referred to below) we are concerned that the proposed mitigation of 0.7ha is insufficient to cover both the aquatic and terrestrial habitat needs for this species.
 - ii) Details of the commitment that lost habitats will be replicated to mitigate impacts on foraging/commuting bats and breeding birds
 - iii) Assessment of impacts on badgers at Cherry Cobb Sands for which there may be a need to apply for a licence
 - iv) Assessment of the impacts on bats at Cherry Cobb Sands.

Furthermore, during the assessment of “alternatives” along with any potential consideration of IROPI, we advise that it would be relevant for Able UK to present supporting evidence regarding why the site needs to be so large with specific reference to the purpose for which this application is being made ie a marine energy park. Clearly a reduced development footprint would have lesser environmental impacts.

There is remaining work for Able UK to do on these outstanding matters in order to ensure the application is robust.

European Protected Species Licencing

Natural England informed you on 19 September about the need to obtain pre-application advice as well as a 'letter of comfort' from Natural England to accompany the application to confirm the likelihood that an EPS licence would be issued if the application was successful.

We understand that you have since been advised by the IPC that although a letter of comfort from Natural England *„would be 'nice to have', it is not part of the statutory documentation to be submitted and the absence of such a letter would not render an application unacceptable'.*

Despite this advice **we strongly recommend that you open discussions with Natural England's Regulation team about the type and level of detail required and begin to prepare a full draft licence application (Method Statement including proposed timetable and Reasoned Statement) as soon as possible.** This is important insofar that any substantial changes required of the development proposals in order to meet the requirements for an EPS licence will need to be agreed at the pre-application stage.

In conclusion, we appreciate that our advice in this letter covers an extensive range of matters; this is necessary to ensure that the ecological issues of this development are considered comprehensively as required by statute. I look forward to hearing from you, and to your clarification and confirmation of the remaining outstanding points of detail.

Yours sincerely



Alan Law
Director, Land Use

Unconfirmed Minutes of the first meeting to discuss the Halton Marsh Wet Grassland, held on 24th June 2013 at Natural England, Leeds.

Group Members: Able UK Ltd, Environment Agency (EA), Natural England (NE), North Lincolnshire Council (NLC), R.S.P.B (RSPB) and Thomson Ecology (TE).

Attendees: Timothy Allen (TA), Richard Arnold (RA), Richard Barnard, Emma Hawthorne (EH), Andrew Hearle (AH), Annette Hewitson (AHew), Jonathan Monk (JM), Sue Manson (SM), Tony Prater (TP), and Andrew Taylor (AT).

1. Welcomes, introductions and meeting purpose

- 1.1 JM opened the meeting by welcoming the group members and initiating round table introductions.
- 1.2 JM explained that the meeting was primarily intended as a design workshop for the Halton Marshes Wet Grassland Site (HMWGS). While Able is aware that several significant issues around the application require discussion, Able wishes the design work to proceed on the assumption that those issues can be resolved to the satisfaction of both Able and the Regulators, so that progress can be made. JM recognised that this design work would be progressed at Able UK's risk.
- 1.3 JM then confirmed that Thomson Ecology have been commissioned by Able UK Ltd. to produce the design works for the HMWGS and that he would like to draw on the expertise around the table to help inform the design. Natural England explained that advice and comments offered during this meeting should be considered to be without prejudice. Natural England also advised that the MOU (dated 24 February 2011) and signed by NE, RSPB and Able UK should be considered. This was agreed.

2. Planning Context of ALP and AMEP Wet Grassland

- 2.1 JM informed the meeting participants that planning consent for the ALP is ready to be issued, subject to agreement being reached on the flood defence wall and drainage works issues. In the context of the planning applications for relocating AMEP's mitigation, it is assumed that an agreement on the flood defence works can be reached with the Environment Agency.
- 2.2 JM informed the group that the Halton Marshes Wet Grassland, as currently proposed, is mitigation for the effect of ALP. However, should Able UK receive a DCO for AMEP, Able UK will seek permission to move Mitigation Area A for AMEP to Halton Marshes Grassland. JM acknowledged that this would require an additional area of wet grassland to be created, at an offsite location, if ALP were to be developed north of the railway line, but noted that under the terms of the Memorandum of Understanding dated 24th Feb 2011, ALP could be developed up to the railway line in advance of that time. NE stated that the drawing referred to in the

planning condition clearly shows that phase 1 comprises the land south of the railway line and part of the mitigation for ALP (20ha core plus buffers). If Mitigation Area A is moved to ALP, this is the mitigation for AMEP only. Therefore, the land south of the railway cannot be developed until the phase 1 mitigation area for ALP has also been delivered.

- 2.3 JM replied that Able UK's understanding is that the conditions laid out in the MOU are not a sequential process. Able UK would like to first build the ALP mitigation area under the ALP consent and then submit a planning application for the relocation of AMEP grassland to this site. Able would then address the requirements for identifying further mitigation areas to be ready for such time as ALP develops north of the railway line. Natural England asked for clarification of how much of the ALP mitigation would actually remain, should the relocation of the grassland occur.

Action: JM

- 2.4 JM acknowledged that the proposed planning application to move AMEP's mitigation area reduced the planning options for ALP set out in the MOU from two to one, under Planning Condition 47. NLC noted that an additional planning application would be likely to be required for the offsite mitigation area.
- 2.5 JM and NLC agreed that, at no point, would the legal framework associated with the planning application require use of the 2008 Planning Act. All applications could be submitted through North Lincolnshire Council.
- 2.6 The complete set of Planning Conditions for ALP may be found at http://forms.northlincs.gov.uk/NR/rdonlyres/3FD1A6A1-0650-447E-81D8-CC6678EEB98E/48384/2009_0600.pdf. NLC noted that Able should consult closely with NLC over the application of construction-precedent conditions.

3. Existing ecological, hydrological and soil data

- 3.1 JM asked TE to introduce the agenda item and update the group as to what they had surmised from their site investigations.

Topography

- 3.2 TE reported that the Halton Marsh site is very flat (0.75m variation) and that the low spots have been identified.

Climate

- 3.3 The local climate is relatively dry and warm, receiving 560-600mm of rain/annum.

Soils

- 3.4 The soil is classified as Newchurch 2 (silty clay) and that evidence of brown mottling suggests seasonal water logging of the site. There is also significant evidence of compaction in the top 300mm of soil, contributing to a low level of biomass.

Hydrology

- 3.5 The only source of water on site is resultant from rainfall. The site is efficiently drained and drainage water is discharged into Skitter Beck. This is via a large drain running from South to North. No evidence was found by surveyors to suggest any underground field drains. JM and the RSPB

agreed that it was unlikely there were any underground field drains of note. However, if field drains are found on site, they can be blocked.

Macro-invertebrate biomass

- 3.6 The mean macro-invertebrate biomass for the site has been calculated to be 16.8g/m². The 5 year development target is 65g/m², as set out in the TEMMP.

Ecology

- 3.7 A review of the 2005 ecological survey has confirmed the presence of a number of bird species on site – skylark, yellowhammer, tree sparrow and marsh harrier. There is no evidence of great crested newts or reptiles. Water voles have been recorded in the main south/north drain which passes through the site. Several bat species have been spotted foraging in the hedgerows immediately to the north of the Clay Pits, and foraging is likely to occur throughout the site. Able Conservation Management Plan Nos. 1 & 2, provide a review of species in the area and targets for their enhancement. The proposed wet grassland, once construction had finished, would be unlikely to negatively impact on this.
- 3.8 NLC stated that badgers had established a sett at the Winters' wood shed immediately south-east of the mitigation area, however, TE confirmed that there has been no evidence of badger activity identified on site.
- 3.9 The flora of the site consists of a number of hedgerows, sown grassland and arable fields and there was a reasonable level of flora on the sea wall.

4. Progression of design works

- 4.1 TE introduced the outline design for the Halton Marsh wet grassland. They reminded the group that the wet grassland was designed principally to support winter waders and that it was still very much indicative.

The outline design included:

- Improving macro-invertebrate biomass through soil loosening to 350mm below ground level, and the addition of 15tonne/ha of organic matter.
 - Controlling the water levels through the installation of water control structures in the ditches. The main drain could potentially supply an additional source of water, however, as of this meeting, there were no plans to utilise this resource.
 - Constructing 9 scrapes in the identified low spots of the site to a depth no greater than 0.3m. This would constitute 20% of the site area. Each scrape would have a spillway connected to a ditch in order to prevent flooding in periods of prolonged rainfall. These could be sluice or pipe controlled.
 - Excavated soil would be spread across the surrounding fields, piled around the perimeter or used to infill the ditches.
 - Managing scrapes through grazing or cutting.
- 4.2 After hearing the design layout, the RSPB voiced a concern that maintaining such a large scrape area would require intensive management. They asked Thomson Ecology to produce detailed plans as to how the scrapes would be maintained.

Action: TE

- 4.3 NLC and RSPB stated a preference for managing the vegetation via grazing by cattle.
- 4.4 The RSPB advised fewer, deeper scrapes (two) with islands would be easier to manage and more beneficial for wintering birds.
- 4.5 JM asked whether there were any examples where the RSPB had successfully addressed this problem. The RSPB agreed to make some enquires.
Action: RSPB
- 4.6 NLC stated to the group that producing a wetland that would dry out in the summer might possibly lead to failed breeding attempts. NLC also preferred scrapes with linear features and asked why they were no longer designed as such. TE replied they had not rejected the idea of linear scrapes, however, following the contours of the site resulted in a more naturalistic design.
- 4.7 The RSPB suggested partially connecting the scrapes through a series of spill ways so that there was a gradual drying out of the site during the summer months.
- 4.8 The RPSB also inquired whether there was a soke dyke that ran along the length of the sea wall. TE agreed to look into this.
Action: TE
- 4.9 A full and detailed discussion regarding the influence of the sea wall on the grassland design then ensued. The discussion outcome is as follows:
- It is important to minimise the visibility of people walking along the sea wall;
 - If the footpath along the sea wall is screened, only a 50m buffer zone is necessary, otherwise a 150m buffer zone is required.
 - At no point should woody vegetation be planted on, or next to, the sea wall as it may destabilise the flood defence.
 - One viable option may be to install a wire fence adjacent to the sea wall and plant brambles along its length.
 - Access points along the proposed screening are a necessity. E.A. inspectors must be able to examine the flood defences. The EA agreed to investigate possible screening options.
Action: EA
 - The two large scrapes will need to be re-located away from the sea wall (I and F on the design drawing) and the wet grassland should continue up to the base of the sea wall.
 - JM will inform the meeting participants where in relation to the site the new pumping station is going.
Action: JM
- 4.10 Following the discussion, the RSPB asked Able for specific proposals controlling both disturbance and access to the sea wall buffer zone.
Action: JM
- 4.11 NE reminded JM that in the MOU and in the terms of the ALP planning permission, it was necessary to provide a buffer zone to the Clay Pits wildlife site – this is clearly stated in the MOU as 150m. JM responded that Able would like to propose that, subject to Able securing the shooting

rights for the Clay Pits and thus removing the principal source of disturbance, the buffer zone be removed. NE stated that whilst there had been previous discussions about reducing the buffer to the claypits, they had no recollection of discussing removal of the buffer entirely.

5. Context of AMEP Grassland (continued)

- 5.1 NE asked whether the relocation of the AMEP site would affect the TEMMP provisions. JM confirmed that the Halton Marsh Grassland would aim to transfer the objectives of Area A wholesale, and thus would incorporate a block of neutral grassland and breeding bird habitat to accommodate the relocation.
- 5.2 The RSPB NE raised the issue of retaining a buffer zone at the southern margin of what was Area A, should its development be proposed, to ensure Curlew habitat is maintained, to the south of what was Area A. This buffer could incorporate elements of the Area A mitigation (e.g. neutral grassland and some scrub/hedge habitats) but reduce the area of land available for development. NE also advised that Bristol Ports was a good example of incorporating green infrastructure into port developments. JM stated he would look into this.

Action: JM

- 5.3 NE agreed that a buffer zone between the Curlew habitat and AMEP development was necessary. A planning proposal for the buffer zone would be required as part of any application to develop Area A as the land outside the AMEP red line boundary is currently not mitigated for; there is currently a shortfall of 3.3ha of mitigation area for the North Lincs area of the south Humber bank. JM agreed to assess the options for mitigation for different development scenarios.

Action: JM

- 5.4 JM informed the group that all EMMPs are being amplified by Able to improve access to information. If mitigation area A is relocated, the EMMPs will be updated to reflect this change. JM told the group that he did not yet have the authorisation to release the EMMPs and he was unable to say when they would be published. He did, however, commit to ask again whether these could be issued to the RSPB to allow them to fully consider the revised mitigation proposals.

Action: JM

- 5.5 NLC reminded the group that the Logistics Park had its own EMMP requirements. The RSPB asked for the timings of enabling works to be made available. JM confirmed that the aspiration is to commence construction in Autumn 2013.

6. Mitigation Area B update and Cherry Cobb Sands

- 6.1 JM confirmed that Able have written to North Lincolnshire Council to ask if they require planning consent for the construction of ponds at Mitigation Area B. He has not yet received a response.
- 6.2 NLC agreed to follow up the request.

Action: NLC

- 6.3 JM confirmed that Able UK planned to commence construction of Mitigation Area B in August/September. Able expect to have the DCO for AMEP by 24th July, but was exploring whether separate planning consent was necessary in case the authorisation of the DCO is delayed by legal process.
- 6.4 JM stated that planning consent for Cherry Cobb Sands requires Able UK to return the land to arable use in accordance with a timescale and scheme of working to be submitted to and approved in writing by the LPA in consultation with the AMEP environmental Steering Group.

7. Any Other Business

- 7.1 If the EA and Able reach an agreement on the flood defence works, there will be major disturbance to Halton Marsh Wet Grassland.
- 7.2 JM suggested it might be possible to temporarily shift the core area for the Halton Marsh Grassland to the west whilst construction work on the sea wall was ongoing and include a 150m buffer to the seawall – RSPB agreed that this was a practical approach.
- 7.3 The EA confirmed that flood defence works would likely take at least 2 summer seasons.
- 7.4 The RSPB suggested that any works to the sea wall coincide with the development of the grassland, to try to avoid disturbing it when it is at full functionality.
- 7.5 JM confirmed that any flood defence work would be concluded before the ALP is developed north of the Railway line, so that the area surrounding the wet grassland would be undisturbed at the time of shifting the core area.
- 7.6 NLC stated that the conditions in the ALP planning consent need to be examined to confirm whether they cover any works to the sea wall.

Action: JM

MEETING NOTES

Project Code:	ABL01	Date:	21/11/14
Venue:	Natural England, Lateral House, Leeds	Author:	GB
Participants: Andrew Whitehead (AW), Emma Hawthorne (EH), Jonathan Monk (JM), Richard Cram (RC), Gareth Bradbury (GB)			
Notes:		Action:	
Introductions and presentation of Killingholme Marshes Wet Grassland Outline Design			
<p>GB presented the outline designs and rationale for KMWG.</p> <p>EH asked if the Humber INCA report had been included in the reviewed literature for bird counts within KMWG.</p> <p>RC explained the proposed Rosper Road footpath diversion and the proposed <i>Phragmites</i>/willow screening along this on KMWG.</p> <p>EH discussed the relative importance of the hedgerows in KMWG in light of the prime objective for waterbird (especially Curlew) foraging and roosting habitat. GB confirmed (with reference to site visit and the existing Phase 1 maps) that the hedgerows were generally species poor and many were defunct. The outline design shows all hedgerows within the site being removed, with the exception of the better central hedge with trees running along the overground pipeline which served a screening role for pipeline maintenance activities.</p> <p>GB confirmed the TEMMP listed a target of a peak count of 123 Curlew using the site during the winter.</p> <p>EH requested clarification on what the proposed areas (ha) of wet grassland and neutral grassland were to ensure the buffers and target were appropriately applied.</p>		<p>GB to check Humber INCA data included.</p> <p>NE to confirm that they agree the species poor hedgerows should be removed leaving just the perimeter ones and those along the overground pipeline.</p> <p>GB to check areas in CAD and also check existing bird records to assess whether waterbirds are using areas in closer proximity to hedges.</p>	

Presentation of Halton Marshes Wet Grassland Outline Design	
<p>JM gave an overview of the HMWG proposal which brought together mitigation for ALP, AMEP and AMEP further-overcompensation blocks.</p> <p>EH asked if there would be any EA flood defence work concurrent with ALP development to west. JM confirmed there would not – the land would still be arable/pasture.</p> <p>JM clarified the buffers, including the landscape buffer used.</p> <p>The conflicting issues of disturbance along the sea wall versus planting of screening were discussed. Screening could not be planted on the sea wall or before the soak dyke, however screening may not need to be as high as indicated on the outline designs. GB confirmed from his experience waders will use areas closer to hedges where habitat was good (e.g. feeding on open marshy ground, or even roosting especially if an island was present). The hedgerow also looked very intrusive, but the section represented (A-AA) is only along a quarter of the width of the site, showing from the seawall up to the nearest scrape.</p> <p>Natural England confirmed it would be useful to see existing records of waterbirds (especially Curlew) from smaller fields and nearer hedgerows to confirm that areas near retained or new hedges can be included in buffers.</p> <p>JM confirmed that if further over-compensation was not required, then this would be removed from the southern part of HMWG outline designs and the wild bird cover crop and neutral grassland would be removed.</p> <p>JM confirmed that the ALP mitigation comprised a 12ha core area if it was in a functional block.</p>	<p>NE to confirm they are happy for a screening hedge along here.</p> <p>GB to check all references mapping waterbird usage at KMWG have been used and append as necessary.</p>
General	
<p>Natural England asked what Able's preference was. JM confirmed HMWG was favoured over KMWG. The suggested mechanism for auctioning this was to submit a planning application for HMWG including a revised TEMMP with cross-references to further over-compensation.</p> <p>AW confirmed he would try to compile Natural England's comments, including from Richard Saunders, by Christmas.</p> <p>AW confirmed that similar wet grassland restoration work undertaken by RSPB at Coopers Marsh had seemed very successful.</p>	<p>Able to submit planning application for HMWG.</p> <p>Natural England to produce compiled comments by Christmas</p>

Date: 10 February 2015
Our ref: DAS/5214/124996
Your ref: AMEP Killingholme and Halton Wet Grassland



Mr J. Monk
Environmental Scientist
Able UK Ltd
Able House
Billingham Reach Industrial Estate
Billingham
TS23 1PX

Customer Services
Hornbeam House
Crewe Business Park
Electra Way
Crewe
Cheshire
CW1 6GJ

0300 060 3900

BY EMAIL ONLY

Dear Jonathan

Discretionary Advice Service (Charged Advice)

DAS/5214/124996

Development proposal and location: Able Marine Energy Park, Killingholme, North Lincolnshire – Proposed and Alternative Wet Grassland Mitigation Proposals – Killingholme and Halton Marshes.

Thank you for your consultation on the above dated 30 June 2014.

This advice is being provided as part of Natural England's Discretionary Advice Service. Able UK Ltd has asked Natural England to provide advice upon:

- Meeting at Natural England office (time, date and venue subsequently confirmed as 1pm on Friday 21st November 2014 at Natural England offices, Lateral, Leeds),
- Follow up comments after meeting detailing Natural England's views of the proposals, including Hydrology and Ornithology Specialists' comments.

This advice is provided in accordance with the Quotation and Agreement dated 23rd July 2014, which was signed on 22nd October 2014.

The following advice is based upon the information within:

1. Killingholme Marshes Outline Design, Wildfowl and Wetlands Trust (Consulting) Ltd, June 2014;
2. Halton Marshes Outline Design, Wildfowl and Wetlands Trust (Consulting) Ltd, June 2014;
3. The information provided in our meeting on 21st November 2014 to provide further detail regarding the documents, and to highlight areas where advice would be welcome.

I have separated comments into sections relating to hydrology and ornithology, and have preceded those sections with some general comments that are not specifically related to either of those topics:

General Comments

- There are some discrepancies between the areas of core habitat stated in the two documents – the Killingholme mitigation area is described as being 16.7 hectares, but this reduces to 16.5ha when detailed in the Halton Marshes document. The Able Logistics Park mitigation core area is described as being 12.5ha, but this reduces to 12ha in the revised plans. The correct figure for the core area at Killingholme is 16.7ha, and we understand the correct figure for the core area at Halton is 12ha.

- It is also noted that the wild bird cover crop and neutral grassland have been moved into the core area within the Halton Marsh plans (previously they were located in the buffer), but there has not been a corresponding increase to the area to account for the loss of core area wet grassland to accommodate these other habitats.
- When working up the detailed designs and management for the wet grassland, consideration will need to be given to delivery of the agreed Environmental Management and Monitoring Plans objectives – TEMMP and CEMMP.

Hydrology

- The hydrological analysis does indicate that seasonally wet habitat can be created, although this conclusion is based on the evapotranspiration values used being the most appropriate for the land use, as these values can vary significantly between differing land use types.
- It is worth noting that while wet grassland will provide a greater biodiversity benefit to waterbirds than pasture, particularly for breeding birds, the main SPA species affected are wintering curlew, lapwing and golden plover which will predominantly feed on earthworms, and earthworm biomass will reduce with flooding as ground conditions become anaerobic. Consequently, the focus on high water levels in spring for breeding birds (to ensure that conditions do not become too dry before the end of the breeding season) could dictate that as much water is retained within the site over winter as possible. This could have the effect of reducing the site's potential to support wintering SPA birds unless the management of the site is directed towards this goal, and the necessary water control mechanisms are in place to deliver it. It must be remembered when designing the wet grassland that the primary reason for the delivery of this habitat is to offset the impacts identified in the Habitats Regulations Assessments on SPA birds.
- The hydrological work is focussed on ensuring conditions do not become too dry in the spring/ summer. This work should also consider the potential extent of winter flooding to determine the worst case wettest winter scenario, and not just the worst case driest spring/ summer scenario. As stated above, the reason for the delivery of the wet grassland is to provide alternative habitat for passage and wintering SPA birds.

Wet Grassland

- We note that the buffers at Halton Marsh vary in width – the western buffer is the agreed width of 150m but the north, east and south buffers are all less than 150m. We have previously agreed that these buffer distances could be altered if new evidence was presented to show why a reduced width is acceptable – the documents submitted do not include any additional evidence to support the reduced buffer widths. This justification will need to be provided, or the originally agreed 150m buffer retained.
- We note that the buffer to the north is described as a 'landscape buffer'. It will be necessary to ensure that if any planting is proposed within this buffer, it does not affect the use of the wet grassland core area.
- The cross-section of the 50m buffer to the top of the seawall shows existing scrub at the foot of the seawall, an existing ditch and then a screening hedge on a levee, meaning the buffer is actually less than 50m, as the screening hedge will have the effect of reducing the area of land within the core that is likely to be used by birds. Any screening required here should be located at the foot of the sea wall to minimise the amount of intrusion into the buffer zone. Consideration should also be given to a 'wet fence' at the foot of the sea wall to minimise the potential for dog intrusion into the wet grassland. This would be a better option for discouraging dogs than screening, but it would always need to be wet to ensure it is effective.
- We also have concerns about the height of vegetation required to adequately screen the top of the seawall, which we assume would have to be trees, and so we advise that alternatives are considered, such as moving the footpath to the foot of the seawall, and providing lower

screening.

- As we discussed, the current designs include the retention of hedgerows within the buffer and core areas. These hedgerows would effectively reduce the core areas, as they would have a screening/ buffering effect. Our discussions indicated these hedgerows are primarily hawthorn, and are frequently gappy or defunct, and so removal of these hedgerows, particularly within or close to the core areas would be a reasonable solution, and would remove the potential for further buffering. The loss of these hedgerows could be mitigated through the planting of new trees and hedges close to the outer boundary of the buffer zone, so as to provide screening without impinging upon the core area.
- Comments were specifically requested regarding the proposal to divide the wet grassland into cells – in principle there are no issues with this proposal, but the comments in the hydrology section above also apply here, in that how the site is laid out is not as important as ensuring water levels provide optimum conditions for both wintering SPA birds such as curlew as well as for black-tailed godwit in August and September.
- The comments above relate to the Halton Marshes site and, while the comments relating to hedgerows apply equally to Killingholme Marshes, we have no specific comments relating solely to Killingholme Marshes.

For clarification of any points in this letter, please contact me on 0300 0600978 or andrew.whitehead@naturalengland.org.uk.

This letter concludes Natural England's Advice within the Quotation and Agreement dated 23rd July 2014 and signed on the 22nd October 2014.

As the Discretionary Advice Service is a new service, we would appreciate your feedback to help shape this service. We have attached a feedback form to this letter and would welcome any comments you might have about our service.

The advice provided in this letter has been through Natural England's Quality Assurance process

The advice provided within the Discretionary Advice Service is the professional advice of the Natural England adviser named below. It is the best advice that can be given based on the information provided so far. Its quality and detail is dependent upon the quality and depth of the information which has been provided. It does not constitute a statutory response or decision, which will be made by Natural England acting corporately in its role as statutory consultee to the competent authority after an application has been submitted. The advice given is therefore not binding in any way and is provided without prejudice to the consideration of any statutory consultation response or decision which may be made by Natural England in due course. The final judgement on any proposals by Natural England is reserved until an application is made and will be made on the information then available, including any modifications to the proposal made after receipt of discretionary advice. All pre-application advice is subject to review and revision in the light of changes in relevant considerations, including changes in relation to the facts, scientific knowledge/evidence, policy, guidance or law. Natural England will not accept any liability for the accuracy, adequacy or completeness of, nor will any express or implied warranty be given for, the advice. This exclusion does not extend to any fraudulent misrepresentation made by or on behalf of Natural England.

Yours sincerely

Andy Whitehead
Yorkshire and Northern Lincolnshire Area

Cc commercialservices@naturalengland.org.uk

Date: 29 July 2015
Our ref: DAS/5214/153191
Your ref: AMEP Killingholme and Halton Wet Grassland



Mr R. Cram
Able UK Ltd
Able House
Billingham Reach industrial Estate
Billingham
TS23 1PX

Customer Services
Hornbeam House
Crewe Business Park
Electra Way
Crewe
Cheshire
CW1 6GJ

BY EMAIL ONLY

0300 060 3900

Dear Richard

Discretionary Advice Service (Charged Advice)

DAS/5214/153191

Development proposal and location: Able Marine Energy Park, Killingholme, North Lincolnshire – Proposed and Alternative wet Grassland Mitigation proposals – Killingholme and Halton Marshes.

Thank you for your consultation on the above dated 01 June 2015, which was received on the same day.

This advice is being provided as part of Natural England's Discretionary Advice Service. Able UK Ltd has asked Natural England to provide advice upon:

- Written advice providing comments on the revised outline proposals for wet grassland habitat creation as mitigation for losses resulting from proposed Able Marine Energy Park development.

This advice is provided in accordance with the Quotation and Agreement dated 18 June 2015 and signed on 25 June 2015.

The following advice is based upon the information within:

1. Killingholme Marshes Outline Design, Wildfowl and Wetlands Trust (Consulting) Ltd, March 2015;
2. Halton Marshes Outline Design, Wildfowl and Wetlands Trust (Consulting) Ltd, March 2015

I have separated comments into sections relating to Killingholme and Halton Marshes, and have preceded this with some general comments that apply to both sites:

General Comments

- As raised previously, there are still discrepancies between the areas of core habitat stated in the two documents – the Killingholme mitigation area is described as being 16.7ha if implemented at Killingholme, but this reduces to 16.5ha if relocated to Halton Marshes.
- The area of land required for the various elements to be brought together at Halton Marshes total 83.4ha (12.5+16.7+20+34.2 buffers), yet the total area of the site is described as being 82.2. How will this shortfall in required area be addressed? Given the discrepancies in areas in both documents, I advise a table is created to set out the different requirements for each location. This is important because the use of incorrect areas for modelling raises questions over the validity of the water model.

- It is unclear from the documents how water will be held on site, or moved around as appropriate. The assessment for the wet grassland at Cherry Cobb Sands demonstrated that the site would not be sufficiently wet to deliver the correct conditions for black-tailed godwits during the late summer and early autumn – one of the driest periods of the year. In addition to a storage reservoir, water will be pumped from the adjacent Keyingham Drain. Wet grassland sites are also being developed in North East Lincolnshire for the South Humber Gateway strategic mitigation. These sites will be provided to mitigate impacts on curlew, golden plover and lapwing; all of these sites include water storage reservoirs and a water supply. Given that the sites at Killingholme and Halton will be subject to the same climatic conditions, I assume they will be subject to the same rates of rainfall and evapotranspiration. Further clarification is therefore needed as to why an additional source of water and storage lagoons are not considered necessary at Killingholme and Halton.
- It is unclear what will happen to existing field drains – presumably they will be destroyed/ blocked up?
- The habitat to be created will need to meet the requirements of the TEMMP, namely SPA 1, 2 and 3, and part of it will meet the wet grassland requirements of the CEMMP. Consideration will need to be given as to how to apply the CEMMP to the area of over-compensation for black-tailed godwits.
- **While it was agreed that the mitigation land could be moved from Killingholme Marshes to Halton Marshes** this has not been subject to a Habitats Regulations Assessment. We also note the proposal to only provide a 12ha core as ALP mitigation and develop up to the railway line. Again, this has not been assessed in a Habitats Regulations Assessment and the competent authority (North Lincolnshire Council) will need to determine whether a 12ha core is sufficient to mitigate for the loss of SPA/ Ramsar functionally linked land to the south of the railway line. The phasing plan in the MoU states that Phase 1 of the ALP development consists of development up to the railway line and an area of wet grassland with a 20ha core and surrounded by appropriate buffers. If Able wish to change the mitigation agreed within the MoU, this will need to be agreed with the signatories.

Hydrology

- The hydrological modelling undertaken is simplistic, and using average rainfall over several years minus average evapotranspiration to assess rainfall surplus does not take account of annual variations. It would therefore be useful to compare years as well as analyse the average to take account of inter-annual variability.
- The choice of values for evapotranspiration can also significantly affect the outcome of rainfall surplus calculations. The design proposals include areas of open water which have considerably higher rates of evapotranspiration than those used in the analysis presented. Consequently there may be more rainfall deficit than currently predicted, which lowers confidence in the success of the proposals based on the information provided.
- The soil sampling does indicate that the soils at both sites have been subject to periodic waterlogging, and that water levels may rise to near the surface in some locations; however it is difficult to determine if this happens regularly or just periodically. Ideally water levels would have been monitored across both sites for a number of years to assess patterns of spatial and temporal variability, which would have provided a greater understanding of the existing conditions at each site, and therefore the feasibility of creating wet grassland. We understand that time constraints mean this is not possible, but it may be possible to carry out some simple spatially based numerical modelling using the existing data and proposed designs to test in more detail whether the proposals are feasible.
- The designs include scrapes (although it is not clear how deep these will be) and sluices to hold back water in ditches, which should help retain water on site for a longer period of time. However, if there is insufficient rainfall, particularly at key times of year, these are likely to be

dry unless there are additional water sources, such as groundwater seepage. This has not been analysed, therefore further bringing into question the validity of the model presented.

- The hydrological data and analysis presented is very limited and the results are borderline for the successful creation of seasonally wet grassland – a more detailed analysis of the data available would help (e.g. assessing inter-annual variability and the effects of different levels of evapotranspiration) or incorporating water storage lagoons and an alternative source of freshwater into the design.

Killingholme Marshes

- At 55km RAF Waddington is a considerable distance from the site – ideally a closer site should be used for calculating water budgets that represents a more localised picture of rainfall and climate.
- Paragraph 4.6 – Where the hedgerow screens the pipeline running through the wet grassland retention would be acceptable; however, should it prove a greater barrier to sightlines than the pipeline alone it should be removed to ensure the wet grassland can maximise the quality of habitat to support SPA/ Ramsar birds.

Halton Marshes

- Paragraph 3.45 states ‘if successful wet grassland is to be created or restored an investigation of the hydrological regime is important to understand the moisture deficit the site currently experiences’ – it is unclear from this statement whether this investigation has been done, will be done, or if the design is based solely upon modelling?
- Paragraph 4.2 – the primary habitat area stated here (73.1ha of wet grassland) differs markedly from the area given in the previous iteration of this document (82.2ha of wet grassland). The earlier comments relating to water retention also apply to Halton Marshes; this is particularly important as the site is also required to provide over-compensation to offset the loss of inter-tidal foraging habitat for black-tailed godwits, and so needs to be wet during late summer/ early autumn;
- Paragraph 4.4 – Presumably this refers to neutral grassland adjacent to Halton Marsh Clay Pits Local Wildlife Site rather than North Killingholme Haven Pits?
- Paragraph 4.8 – it is not entirely clear what is meant by ‘provision has been made’ for a shallow ditch reedbed, and whether this will be incorporated into the scheme. Including a wet ditch would deter dogs from entering the site, as advised in my previous letter;
- Paragraph 4.11 – further detail is required in relation to the ‘large landscape bund’. The presence of a large bund could deter bird usage from the northern end of the site;
- Paragraph 4.12 – it was agreed that the buffer to the Humber Estuary could be reduced if the footpath on the flood bank was appropriately screened. It seems likely that if the footpath is primarily used by birdwatchers the number of users will increase once the site becomes operational. Natural England would be pleased to discuss appropriate screening with you in more detail.
- Paragraph 4.13 – a reduction in the southern buffer seems reasonable given the explanation here;
- Figure 14 – again the area of wet grassland is incorrectly stated as being 73.1ha when 82.2ha is required. How tall will the hedgerow on the eastern boundary need to be to screen the footpath on top of the flood bank? The relocation of the neutral grassland to outside of the wet grassland core area is welcomed;
- Does Figure 15 show the wet ditch suggested in my previous letter, or are any enhancements planned to the existing ditch in order for it to act as a barrier to stop dog access into the site?

For clarification of any points in this letter, please contact me on 0300 0600978 or

andrew.whitehead@naturalengland.org.uk.

This letter concludes Natural England's Advice within the Quotation and Agreement dated 18 June 2015 and signed on 25 June 2015.

As the Discretionary Advice Service is a new service, we would appreciate your feedback to help shape this service. We have attached a feedback form to this letter and would welcome any comments you might have about our service.

The advice provided in this letter has been through Natural England's Quality Assurance process.

The advice provided within the Discretionary Advice Service is the professional advice of the Natural England adviser named below. It is the best advice that can be given based on the information provided so far. Its quality and detail is dependent upon the quality and depth of the information which has been provided. It does not constitute a statutory response or decision, which will be made by Natural England acting corporately in its role as statutory consultee to the competent authority after an application has been submitted. The advice given is therefore not binding in any way and is provided without prejudice to the consideration of any statutory consultation response or decision which may be made by Natural England in due course. The final judgement on any proposals by Natural England is reserved until an application is made and will be made on the information then available, including any modifications to the proposal made after receipt of discretionary advice. All pre-application advice is subject to review and revision in the light of changes in relevant considerations, including changes in relation to the facts, scientific knowledge/evidence, policy, guidance or law. Natural England will not accept any liability for the accuracy, adequacy or completeness of, nor will any express or implied warranty be given for, the advice. This exclusion does not extend to any fraudulent misrepresentation made by or on behalf of Natural England.

Yours sincerely

Andrew Whitehead
Yorkshire and Northern Lincolnshire Area

Cc commercialservices@naturalengland.org.uk

Annex 1


European Protected Species

A licence is required in order to carry out any works that involve certain activities such as capturing the animals, disturbance, or damaging or destroying their resting or breeding places. Note that damage or destruction of a breeding site or resting place is an absolute offence and unless the offences can be avoided (e.g. by timing the works appropriately), it should be licensed. In the first instance it is for the developer to decide whether a species licence will be needed. The developer may need to engage specialist advice in making this decision. A licence may be needed to carry out mitigation work as well as for impacts directly connected with a development. Further information can be found in Natural England's ['How to get a licence'](#) publication.

If the application requires planning permission, it is for the local planning authority to consider whether the permission would offend against Article 12(1) of the Habitats Directive, and if so, whether the application would be likely to receive a licence. This should be based on the advice Natural England provides at formal consultation on the likely impacts on favourable conservation status and Natural England's [guidance](#) on how the three tests (no alternative solutions, imperative reasons of overriding public interest and maintenance of favourable conservation status) are applied when considering licence applications.

Natural England's pre-submission Screening Service can screen application drafts prior to formal submission, whether or not the relevant planning permission is already in place. Screening will help applicants by making an assessment of whether the draft application is likely to meet licensing requirements, and, if necessary, provide specific guidance on how to address any shortfalls. The advice should help developers and ecological consultants to better manage the risks or costs they may face in having to wait until the formal submission stage after planning permission is secured, or in responding to requests for further information following an initial formal application.

The service will be available for new applications, resubmissions or modifications – depending on customer requirements. More information can be found on [Natural England's website](#).


 <p>amep able marine energy park</p>	<p>ABLE MARINE ENERGY PARK APPLICATION FOR A NON-MATERIAL CHANGE</p>	<p>NOV 2020</p>
---	---	------------------------

APPENDIX E

Consultation Responses to the Planning Application for HMWG

HMWG CONSULTATION RESPONSES

Consultees	Date	Number of pages
North Lincolnshire Council Environmental Health (Commercial)	24.05.16	1
North Lincolnshire Council Public Rights of Way Officer	31.05.16	1
Humberstone Fire & Rescue Service Access for Fire Service	03.06.16	1
North Lincolnshire Council Highway Development	03.06.16	1
Winters Farm Application Response	03.06.16	1
Environment Agency Principal Planning Adviser	07.06.16	3
Environment Agency Principal Planning Adviser	13.09.16	2
North Lincolnshire Council Development Control	07.06.16	7
Natural England	21.06.16	5
Natural England Area Team	13.07.16	3
Natural England Area Team	09.09.16	4
Lincolnshire Wildlife Trust Conservation Officer	23.06.16	1
Lincolnshire Wildlife Trust Conservation Officer	09.09.16	2
RSPB Conservation Officer	23.06.16	8
RSPB Conservation Officer	09.09.16	6
North Lincolnshire Council Historic Environment Record	28.06.16	4
Planning Application Enquiry	30.09.16	1
Planning Application Enquiry	02.10.16	1
North Lincolnshire Council Historic Environment Record	24.11.16	2

I N T E R	<h1>MEMO</h1>	 NORTH LINCOLNSHIRE COUNCIL
O F F I C E		

To: Andrew Law, Development Management

From: Karen Robinson, Environmental Health (Commercial)

Your Ref: PA/2016/649

Our Ref: PLU 002331

Subject: Planning permission for creation of habitat, primarily wet grassland

Location: Land to East of Skitter Road, East Halton, North Lincolnshire

Date: 24 May 2016

Thank you for consulting this department with regard to the above application. I have the following comments to make.

There is the potential for noise disturbance to nearby residents during the construction period. However, I note proposed hours of operation and vehicle movements during the construction period have been detailed by the applicant in the planning statement, provided these are followed this department has no other concerns. I would therefore suggest the following conditions:

Construction hours of operation:

- Where the work is within 200 metres of any residential property:
8am to 6pm Monday to Friday; 8am to 2pm on Saturday;
and not at all on Sunday, Bank Holidays or national holidays;

- Where work is greater than 200 metres from any residential property:
7am to 9pm Monday to Saturday;
and not at all on Sunday, Bank Holidays or national holidays.

- No deliveries and no heavy goods vehicles or plant movements shall be made to the site outside of the above hours.

PA/2016/649 - Planning Permission for Creation of Habitat, Primarily Wet Grassland


Colin Wilkinson

Tue 31/05/2016 12:08

To: Planning <Planning@northlincs.gov.uk>;

Thank you for giving the Environment Team the opportunity to comment on the above application (land to the east of Skitter Road, Halton Marshes, East Halton) with respect to public rights of way, commons, greens and other forms of public open access.

Paragraph 4.2.2 of the applicant's Design and Access Statement states that "a public footpath runs along the eastern boundary of the site, along the flood embankment. The route of this footpath will remain unaffected by the HMWGS" [Halton Marshes Wet Grassland Scheme]. Providing that this is the case, the Environment Team have no other related comments to make.

Regards,
Colin Wilkinson
Senior Public Rights of Way Officer
Technical and Environment
Directorate of Places
North Lincolnshire Council


Your Ref: PA/2016/649
Our Ref: FS/AW/RM/S2/TCP/000132 (429649)
Date: 03 June 2016



HUMBERSIDE
Fire & Rescue Service



Andrew Law
Planning Department
North Lincolnshire Council
Civic Centre
Ashby Road
Scunthorpe
North Lincolnshire
DN16 1AB

BUSINESS SAFETY
Laneham Street
Scunthorpe
North Lincolnshire
DN15 6JP
www.humbersidefire.gov.uk
The person dealing with this matter is:
Adam Wood
Business Safety Inspector

Dear Sir

TOWN AND COUNTRY PLANNING ACT 1990
PROPOSAL: PLANNING PERMISSION FOR CREATION OF HABITAT, PRIMARILY WET GRASSLAND
PREMISES: LAND EAST HALTON MARSHES
SKITTER ROAD
EAST HALTON

APPLICATION NO: PA/2016/649

Further to your electronic consultation received on 23 May 2016 regarding the above-mentioned application, the following comments are made:-

Access for Fire Service

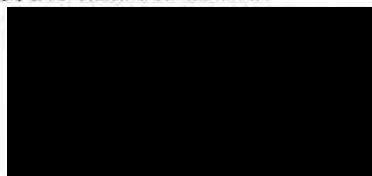
It is a requirement of Approved Document B5, Section 16 Commercial Properties or B5, Section 11 for Domestic Premises that adequate access for fire fighting is provided to all buildings or extensions to buildings.

Water Supplies for Fire Fighting

Adequate provision of water supplies for fire fighting appropriate to the proposed risk should be considered. If the public supplies are inadequate it may be necessary to augment them by the provision of on-site facilities. Under normal circumstances hydrants for industrial unit and high risk areas should be located at 90m intervals. Where a building, which has a compartment of 280m² or more in the area is being, erected more than 100m from an existing fire hydrant, hydrants should be provided within 90m of an entry point to the building and not more than 90m apart. Hydrants for low risk and residential areas should be located at intervals of 240m.

If you require further advice or clarification of any of the above matters, please contact the Fire Safety Inspector at the address above.

Yours faithfully



FOR THE CHIEF FIRE OFFICER & CHIEF EXECUTIVE



PA/2016/649

Diane Langton

Fri 03/06/2016 16:11

To Planning <Planning@northlincs.gov.uk>;

Cc: Andrew Law <Andrew.Law@northlincs.gov.uk>;

Hi

Please apply the following:

Does not wish to restrict the grant of permission.

Many thanks

Diane Langton

Highway Development Assistant

Case Officer: Andrew Law
Planning Dept.
Civic Centre
Ashby Road
Scunthorpe
North Lincolnshire
DN16 1AB

DEVELOPMENT CONTROL SECTION	
08 JUN 2016	
DATE RECEIVED	
Return to	



3rd June 2016

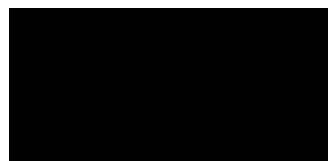
REF: APPLICATION NUMBER: PA/2016/649

Dear Sir,

We have no objection to the PROPOSAL: Planning permission for creation of habitat, primarily wet grass land on SITE LOCATION: Land to the East of Skitter Road, Halton Marshes, East Halton by APPLICANT: Mr Richard Cram, Able Humber Ports Ltd.

We do request that on creation of the habitat, that it not be used for Wildfowling or Game Shooting as that would cause distress to our wildlife and livestock. We own and live at the property at the end of Marsh Lane, known to you (for some reason?) as Halton Marshes Road. The family has owned the property since 1948 and we do not allow either of these bloodsports on the property.

Yours sincerely



ON BEHALF OF THE WINTER FAMILY

Mr Andrew Law
North Lincolnshire Council
Development Control
Civic Centre Ashby Road
SCUNTHORPE
North Lincolnshire
DN16 1AB

Our ref: AN/2016/123699/01-L01
Your ref: PA/2016/649
Date: 7 June 2016

Dear Sir

**Creation of habitat - primarily wet grassland
Land off Skitter Road, East Halton**

Thank you for referring the above application, which was received on 19 May 2016.

We have considered the application and note that the proposed development, as submitted, does not provide satisfactory evidence that it has taken into account the requirements of the Humber river basin management plan (RBMP).

The RBMP contains environmental measures and objectives that are set out in the Water Framework Directive (WFD). Under the WFD Regulations public bodies, including local planning authorities, must have regard to the RBMP. This includes the WFD requirement for no deterioration in water body status, which is applied for the individual quality elements that make up water body status. It also includes facilitating measures in the river basin management plan to improve the water body. Accordingly, we **object** to the application and request that a WFD screening assessment is undertaken (which may or may not conclude that a full WFD assessment is required) to consider the impact of the development on the RBMP.

We also provide the following informative comments on topics within our remit.

Water Resources

Whilst it is recognised that the proposals are designed to deliver mitigation/enhancement to the environment there is a need to consider the potential impact of the proposals on the environment.

The Water Balance work that has been completed recognises that there may be periods when the required volumes of water may not be available to support the design features. This is a very important point that water users in the area face. Management of the site during periods of low rainfall/drought should be considered.

It is noted that the proposals involve blocking a drain, use of weirs, bungs, valves and saddles. It is also noted that the proposals make reference to pumping water in order to improve resilience of the water dependent features. It would be helpful if details could be provided on pumping rates etc. There is a requirement to consider the need or not for water abstraction and/or impoundment licences. The developer should refer to further guidance available on .GOV.uk: <https://www.gov.uk/guidance/water-management-abstract-or-impound-water>. Please note, there is no guarantee that a licence would be granted.

Waterside House, Waterside North, Lincoln, LN2 5HA
Customer services line: 03708 506 506
Email: planninglincoln@environment-agency.gov.uk
www.gov.uk/environment-agency

Calls to 03 numbers cost no more than national rate calls to 01 or 02 numbers and count towards any inclusive minutes in the same way. This applies to calls from any type of line including mobile.

Cont/d..

The low risk impounding policy may apply. The applicant is advised to refer to:
<http://webarchive.nationalarchives.gov.uk/20140328084622/http://cdn.environment-agency.gov.uk/geho0212buli-e-e.pdf>

The applicant is also encouraged to submit pre-application information to the Environment Agency regarding proposed abstraction and impoundment activities using forms WR328, WR330 and/or WR334, which are available at
<https://www.gov.uk/government/publications/wr48-water-abstraction-or-impoundment-preliminary-enquiry-form>

We strongly recommend that you consult with the North East Lindsey Drainage Board regarding the applicant's proposal.

Groundwater/surface water interaction

The information provided identifies correctly that the overlying superficial deposits afford protection to the Principle Chalk Aquifer. However, boreholes represent a pathway between the surface and the chalk aquifer. Many boreholes are located across the Lincolnshire Marsh Area, some are still in use but some have been abandoned and not decommissioned. There are two known boreholes in the field adjacent to the south of East Halton Beck, these can be viewed on BGS Geoindex. There may be others that are not recorded on the Geoindex. Groundwater in the chalk can also be artesian, particularly during winter and spring when groundwater pressures in the chalk are greatest. There are records of localised surface water flooding from groundwater naturally rising to the surface through weaknesses in the overlying superficial deposits and also through leaking boreholes. The report also mentions standing water noted during a field walkover, while this may be just surface water, there is the potential that groundwater is finding its way to the surface.

Many boreholes in the Lincolnshire Marsh are more than 40 years old. Older boreholes tend to be cased with steel or cast iron. Chalk groundwater is particularly good at deteriorating this metalwork over time. The result is leaking boreholes, sometime at surface or sometimes at some intermediate interval in the borehole. For this reason it is recommended that boreholes across the proposed compensation site are decommissioned to prevent upward leakage to the surface and also downward migration of potential contamination including high chloride water.

It is also suggested that upward leakage from the chalk aquifer can occur across the Lincolnshire Marsh. This may account for the relatively high groundwater baseflow noted in the report. It may also account for the >8 pH recorded in some of the water samples analysed and presented in the report.

The occurrence of boreholes and the potential for upward seepage of groundwater should not be seen as a blocker to the proposals. However, their presence or otherwise should be ascertained and decommissioning undertaken to break any potential pathway between chalk aquifer and the surface.

Borehole decommissioning guidance is available on www.gov.uk.

Should the applicant require any further information on this issue they should contact our groundwater specialist, Richard Morgan, on 02030 255033.

Flood Risk

The Flood Risk Assessment (FRA) undertaken by JBA, entitled Final Report April 2016, appears to be proportionate to the scale and nature of this 'water compatible' development.

We are aware of the European funding bid that is currently being considered to assist with flood defence improvement works in this location and we are fully supportive of this bid. Notwithstanding this, the Humber Flood Risk Management Strategy (HFRMS, 2008) sets out how tidal flood risk will be managed by the Environment Agency in this area for the next 100

years. If a way to secure and improve the existing front line defence can not be found, it may be necessary for the Environment Agency to seek alternative ways to deliver flood risk management to the remainder of this flood cell to address the increased risk that will arise from sea level rise. This alternative management may not deliver flood risk management benefits to this proposal.

It cannot be emphasised strongly enough that the tidal flood defences along this reach are in need of urgent significant repair/ upgrade. Regardless of the future alignment of flood defences in this area, the imminent need of large scale engineering works will be required. The presence of the habitat compensation site should both consider the impacts / disturbance from these necessary activities, and should not impact or hinder the delivery of flood risk management improvement works. As reported in paragraph 5.2.4 of the feasibility report for East Halton wet grassland, the functionality of the proposal is dependent upon the sea wall remaining functional.

The location of any planting will need to consider both the impacts on maintenance and the impacts on the delivery of the necessary flood risk management infrastructure improvements. The improvements and subsequent future maintenance of this defence is expected to fall to Able UK Ltd or North Lincolnshire Council.

This development indicates on Maps 3 and 4 that a structure will be needed through the flood defence to allow drainage from the site to the Humber Estuary. From the information provided, we have been unable to locate any detail as to what is actually proposed.

This development may require a permit under the Environmental Permitting (England and Wales) Regulations 2010 from the Environment Agency for any proposed works or structures, in, under, over or within eight metres of the top of the bank of the East Halton Beck, designated a 'main river' or within sixteen metres of the tidal defence (this was formerly called a Flood Defence Consent). Some activities are also now excluded or exempt. A permit is separate to and in addition to any planning permission granted. Further details and guidance are available on the GOV.UK website: <https://www.gov.uk/guidance/flood-risk-activities-environmental-permits>.

Should you require any additional information, or wish to discuss these matters further, please do not hesitate to contact me on the number below.

Yours faithfully

Annette Hewitson
Principal Planning Adviser



Mr Shaun Robson
North Lincolnshire Council
Development Control
Civic Centre Ashby Road
Scunthorpe
North Lincolnshire
DN16 1AB

Our ref: AN/2016/123699/02-L01
Your ref: PA/2016/649
Date: 13 September 2016

Dear Sir

**Creation of habitat - primarily wet grassland
Land off Skitter Road, East Halton**

I refer to my previous letter dated 7 June 2016, in which we objected to the above proposal as it was not supported by appropriate evidence to demonstrate that the requirements of the Humber River Basin Management Plan (RBMP) had been considered.

We have now received and reviewed the Water Framework Directive (WFD) Compliance Statement (v1 August 2016) and the Hendeca Planning etc Addendum (August 2016).

We note that with regard to the WFD Compliance Assessment:

- The works at Halton Marshes are not directly within any waterbodies classified under the WFD. The WFD assessment has therefore looked at the adjacent waterbodies (Skitter/ East Halton Beck and Humber Lower).
- Within Table 3-3 current waterbody status for Lower Humber, the consultant has provided a current status of High for Supporting elements (surface water). Our Catchment Planning System provides a current status for this element of Moderate. The consultant may need to review the assessment in light of this.
- Within Table 3-1 current waterbody status for Skitter Beck/East Halton Beck the consultant has provided the current status for a number of elements using the 2009 Cycle 1 WFD assessment. More up to date information in the form of the 2013 Cycle 2 WFD assessment is available for these elements, however, the status for these elements did not change between the 2009 and 2013 assessments and as such will not impact the WFD compliance assessment for the site.
- The weir in Halton Drain and the wind pump have the potential to impact on fish, hydromorphological regime of Skitter / East Halton Beck but providing that the proposed mitigation measures are put in place (some of which require agreement

with the Environment Agency for water levels in the drain/ Skitter Beck) these should be negligible.

Section 4.5 of the Hendeca report states that a survey will be undertaken for boreholes. If required, we will be pleased to assist with any datasets we hold, which may prove useful in this work. However, until this survey work is undertaken, we do not believe the applicant can screen out any potential impacts on the Grimsby Ancholme Louth Chalk unit in the WFD compliance statement. Boreholes could be a potential pathway between surface and the chalk aquifer. Accordingly, we request that the following condition is imposed on any planning permission granted to ensure further assessment is undertaken when borehole locations are known and any required mitigation measures are implemented:

Condition

No development shall commence until a scheme to identify borehole locations on the site and decommission where appropriate has been submitted to and approved by the Local Planning Authority, following consultation with the Environment Agency. The scheme shall include proposals to mitigate any potential impact on the underlying chalk aquifer during decommissioning. Development shall proceed fully in accordance with the approved scheme.

Reason

To ensure the development does not compromise the objectives of the Humber River Basin Management Plan to prevent deterioration of water bodies, to achieve good status in water bodies and to prevent pollutants entering water bodies.

The Humber River Basin Management Plan requires the restoration and enhancement of water bodies to prevent deterioration and promote recovery of water bodies. Without this condition, the impact of the development could lead to deterioration of a quality element to a lower status class in the Grimsby Ancholme Louth Chalk because it may create a pollutant pathway to the underlying aquifer.

As you are aware the discharge of planning conditions rests with the Local Planning Authority. It is, therefore, essential that you are satisfied that the proposed draft condition meets the requirements of the National Planning Practice Guidance (Use of Planning Conditions Section). Please notify us immediately if you are unable to apply our suggested condition, as we may need to tailor our advice accordingly.

I confirm that subject to the imposition of the above condition, our objection to this proposal is now resolved.

Should you require any additional information, or wish to discuss these matters further, please do not hesitate to contact me on the number below.

Yours faithfully

Annette Hewitson
Principal Planning Adviser

Direct dial 02030 254924

Direct e-mail annette.hewitson@environment-agency.gov.uk

End

ENVIRONMENT TEAM

I N T E R

MEMO



O F F I C E

To: Andrew Law, Development Control
From: Andrew Taylor, Environment Team
Your Ref: PA/2016/649
Date: 07 June 2016

Subject: Planning permission for creation of habitat, primarily wet grassland
Land to the East of Skitter Road, Halton Marshes, East Halton

Summary

- The Environment Team supports this application in principle.
- Conditions will be required to safeguard protected and priority species.
- The submitted planting plan requires amending to show the hedgerows to be removed.
- I calculate that 3.06 ha of lowland meadow in moderate condition are required to compensate for the loss of 1.7 hectares.
- I shall be able to carry out a Habitats Regulations Assessment (HRA) once we have the comments from key consultees.
- I shall be able to recommend planning conditions once I have carried out the HRA and have taken consultees' comments into account.

Thank you for consulting the Environment Team on the above application.

Protected and Priority Species

This application affects the eastern portion of the land covered by the Able UK Logistics Park (ALP) permission PA/2009/0600, with some conditions subsequently amended by PA/2015/1264.

Survey reports submitted for PA/2009/0600 highlighted the presence of badgers, foraging bats, water voles and breeding birds, including the declining turtle dove, skylark, yellow wagtail, linnet, reed bunting and yellowhammer.

Condition 56 of PA/2009/0600 (53 of PA/2015/1264) addressed impacts of protected species as follows:

"No development shall take place until a landscape and biodiversity management plan has been submitted to and approved in writing by the local planning authority. The plan shall include:

- (a) details of measures to avoid harm to protected species, including bats, badgers, water voles and nesting birds during the construction, operational and decommissioning phases of development;
- (b) details of features to be created to support roosting bats and nesting birds in the site buildings and throughout the site;
- (c) details of proposed planting and aftercare of trees, hedges, shrubs and other plants;
- (d) details for the creation and management of ponds, field margin habitats, grassland habitats for farmland birds, water voles, bats and badgers;
- (e) details of the timing of the above works in relation to development of the site;
- (f) monitoring procedures and remedial measures triggered by monitoring;
- (g) persons responsible for:
- (i) compliance with legal consents relating to nature conservation;
- (ii) compliance with planning conditions relating to nature conservation;
- (iii) implementation of sensitive working practices during construction;
- (iv) implementation of the management plan.

The management plan shall be carried out in accordance with the approved details and timings, and the approved features shall be retained thereafter, unless otherwise approved in writing by the local planning authority.

Reason

To provide landscaping and protect features of recognised nature conservation importance in accordance with policies DS1, LC5, LC6 and LC12 of the North Lincolnshire Local Plan."

This condition was not updated by PA/2015/1264. The condition, as it stands, would provide protection for the protected and priority species occurring on-site. However, it would also require Able UK to submit details, such as building designs and the proposals for the landscape corridor along Skitter Road, that are not relevant to the new application. **Therefore, it may be better to apply a new planning condition, specific to this application.**

Evaluation

The Environment Team supports this application in principle. The application will enable the delivery of waterbird mitigation and compensation measures, as well as mitigation and enhancement measures for other species and habitats, that are required to enable the Able Logistics Park (ALP) and Able Marine Energy Park (AMEP) projects to go ahead.

However, there are details of the application that we would like to comment on. Firstly, the submitted documents describe internal hedgerows being removed. This is a requirement, to make the land more suitable for waterbirds. However, the submitted planting plan (Drawing number ALP-002-00013 rev A) appears to show the existing hedgerows as "Existing Planting to be Retained". I have spoken to the applicant, and it appears that this is an oversight (Dave Sargent, pers. comm.). The documents are correct and the drawing shall be amended to indicate that hedgerows that shall be removed. If this amendment is made, then I will have no objection in relation to the hedgerows.

The submitted planning statement states that 1.7 ha of neutral grassland shall be created to compensate for the loss of habitat to AMEP. This relates to the loss of the Station Road Field Local Wildlife Site (LWS). The Environment Team has consistently advised that the area of grassland created should exceed the area lost, to allow for uncertainty in delivery. On 13 May 2016, I made comments on the proposed AMEP Terrestrial Environmental Management and Monitoring Plan (TEMMP) stating that, "the loss is 1.7 hectares. Please clarify the area to be created as compensation. The Defra offsetting metrics may help in this respect:

<https://www.gov.uk/government/publications/technical-paper-the-metric-for-the-biodiversity-offsetting-pilot-in-england>"

I have applied Defra biodiversity offsetting metrics to the area of habitat to be lost and the compensation site, employing various assumptions. **Using this approach, I calculate that 3.06 ha of lowland meadow in moderate condition are required to compensate for the loss of 1.7 hectares.** My workings are set out in Annex 2

The submitted feasibility study gives undue emphasis to the breeding requirements of species such as curlew, black-tailed godwit and ruff. These species are not impacted by development as breeding birds and are very unlikely to breed in the area. Nevertheless, the habitat structure and wetness targets set out in this document seem to be appropriate for the breeding

lapwing and passage and wintering waterbirds for which mitigation and compensation are required. No doubt, consultees such as Natural England, RSPB and the Lincolnshire Wildlife Trust will have comments to make on the proposed designs. We should take these into account, before granting permission, given the expertise available in these organisations.

Areas where comments would be particularly useful include:

- The overall feasibility and appropriateness of the design in terms of levels, wetness, water budgets, predicted grassland sward heights and the resilience of the design to unexpected rainfall levels, leaks in the system or problems with infrastructure.
- Appropriateness and deliverability of prescriptions for grazing and site management more generally.
- Whether it is acceptable for the western buffer to be part wet grassland and part operational buffer.
- Whether the geogrid saddles are likely to be used by target species.
- Whether consultees accept that the core habitat area can move temporarily during floodbank works.
- Whether consultees accept that part of the application site could be used for industrial development in the future in the scenarios described.
- Whether the proposal would be acceptable in terms of the Habitats Regulations, subject to the conditions imposed on PA/2015/1264 or equivalent safeguards.

Habitats Regulations Assessment

The applicant correctly identifies that a Habitats Regulations Assessment (HRA) is required for this application and that North Lincolnshire Council is the Competent Authority.

I shall be able to carry out a HRA once we have the comments from key consultees, including answers to some of the questions posed above.

Biodiversity Enhancement

The National Planning Policy Framework states that:

“The planning system should contribute to and enhance the natural and local environment by:

- protecting and enhancing valued landscapes, geological conservation interests and soils;
- recognising the wider benefits of ecosystem services;
- minimising impacts on biodiversity and providing net gains in biodiversity where possible, contributing to the Government’s commitment to halt the overall decline in biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures...”

and

“opportunities to incorporate biodiversity in and around developments should be encouraged;”

With this application the proposals are largely about the provision of mitigation and compensation for predicted losses of biodiversity. However, the proposals would also be expected to provide biodiversity enhancement in terms of better connected habitat in a larger block than at present, along with improved breeding habitat for ground nesting farmland birds and foraging habitat for bats. Ditches may be enhanced for water voles. New wintering species, such as hen harrier and short-eared owl, may be expected to use the site.

Recommended Conditions

I shall be able to recommend planning conditions once I have carried out the HRA and have taken consultees' comments into account.

If you have any questions, please do not hesitate to contact me.

Andrew Taylor
Project Officer (Ecologist)

Annex- Ecology and Legal Protection

Bats

All species of bat are protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and Schedule 2 of The Conservation of Habitats and Species Regulations 2010 making all species of bat European Protected Species. Details of the legislation can be found at:

Wildlife and Countryside Act

<http://www.legislation.gov.uk/ukpga/1981/69/contents>

The Countryside and Rights of Way Act:

http://www.opsi.gov.uk/acts/acts2000/ukpga_20000037_en_7#pt3-pb8-l1g81

The Conservation of Habitats and Species Regulations 2010

http://www.opsi.gov.uk/si/si2010/uksi_20100490_en_1

Nesting birds

It is an offence under Section 1 of the Wildlife and Countryside Act of 1981(WCA 1981) to intentionally take, damage or destroy the nest of any wild bird while it is use or being built. The WCA 1981 also provides that all wild birds and their eggs are protected and cannot be killed or taken except under licence.

Water voles

The water vole is fully protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). Details of the legislation can be found at:

Wildlife and Countryside Act

<http://www.legislation.gov.uk/ukpga/1981/69/contents>

The Countryside and Rights of Way Act:

http://www.opsi.gov.uk/acts/acts2000/ukpga_20000037_en_7#pt3-pb8-l1g81

Badgers

Planning Circular 06/2005 states that, "The likelihood of disturbing a badger sett, or adversely affecting badgers' foraging territory, or links between them, or significantly increasing the likelihood of road or rail casualties amongst badger populations, are capable of being material considerations in planning decisions."

Annex 2- Defra biodiversity offsetting metrics applied to the loss of Station Road Field LWS.

Habitat Lost- Station Road Field LWS		
Attribute	Measure	Rationale
Distinctiveness	High	Priority Habitat- Largely lowland meadow of LWS standard
Condition	Moderate	LWS citation describes variable quality due to rotational horse grazing.
Biodiversity per hectare	units	Distinctiveness x Condition = 6 x 2
Total biodiversity units		1.7 ha x 12
		Score
		6
		2
		12
		20.4

Compensation Site- Halton Marshes		
Attribute	Measure	Rationale
Distinctiveness	High	Priority Habitat- Largely lowland meadow of LWS standard. Like for like replacement required for Priority Habitat
Condition	Moderate	Like for like replacement required for Priority Habitat
Biodiversity per hectare	units	Like for like replacement required for Priority Habitat
Location		No multiplier required- location is as identified in agreed strategy
Difficulty of recreation	Medium	Largely lowland meadow, with a small area of open mosaic habitat See Appendix 1 of Defra metric.
Time		Assumed 5 years to reach target condition
Total biodiversity units required		20.4 units x 1.5 x 1.2
Area required		1.7 ha x 1.5 x 1.2 assuming like for like habitat
		Put another way:
		36.72 units/ 12 units per hectare
		Score
		6
		2
		12
		x 1
		x 1.5
		x 1.2
		36.72
		3.06 ha

Date: 21 June 2016
Our ref: 186827
Your ref: PA/2016/649



Andrew Law
North Lincolnshire Council
Civic Centre
Ashby Road
Scunthorpe
North Lincolnshire DN16 1AB

Customer Services
Hornbeam House
Crewe Business Park
Electra Way
Crewe
Cheshire
CW1 6GJ

T 0300 060 3900

BY EMAIL ONLY

Dear Andrew

**Planning consultation: Planning permission for creation of habitat, primarily wet grassland
Location: Land to the East of Skitter Road, Halton Marshes, East Halton**

Thank you for your consultation on the above dated 26 May 2016 which was received by Natural England on the same date.

Natural England is a non-departmental public body. Our statutory purpose is to ensure that the natural environment is conserved, enhanced, and managed for the benefit of present and future generations, thereby contributing to sustainable development.

**ARTICLE 16 OF THE TOWN AND COUNTRY PLANNING (DEVELOPMENT MANAGEMENT PROCEDURE) ORDER 2010
THE CONSERVATION OF HABITATS AND SPECIES REGULATIONS 2010 (AS AMENDED)
SECTION 28I OF THE WILDLIFE AND COUNTRYSIDE ACT 1981 (AS AMENDED)**

Internationally and nationally designated sites

The application site is within or in close proximity to a European designated site (also commonly referred to as Natura 2000 sites), and therefore has the potential to affect its interest features. European sites are afforded protection under the Conservation of Habitats and Species Regulations 2010, as amended (the 'Habitats Regulations'). The application site is in close proximity to the Humber Estuary Special Protection Area (SPA) and Special Area of Conservation (SAC) which is a European site. The site is also listed as Humber Estuary Ramsar site¹ and also notified at a national level as Humber Estuary Site of Special Scientific Interest (SSSI). Please see the subsequent sections of this letter for our advice relating to SSSI features.

In considering the European site interest, Natural England advises that you, as a competent authority under the provisions of the Habitats Regulations, should have regard for any potential impacts that a plan or project may have². The [Conservation objectives](#) for each European site explain how the site should be restored and/or maintained and may be helpful in assessing what, if any, potential impacts a plan or project may have.

¹ Listed or proposed Wetlands of International Importance under the Ramsar Convention (Ramsar) sites are protected as a matter of Government policy. Paragraph 118 of the National Planning Policy Framework applies the same protection measures as those in place for European sites.

² Requirements are set out within Regulations 61 and 62 of the Habitats Regulations, where a series of steps and tests are followed for plans or projects that could potentially affect a European site. The steps and tests set out within Regulations 61 and 62 are commonly referred to as the 'Habitats Regulations Assessment' process. The Government has produced core guidance for competent authorities and developers to assist with the Habitats Regulations Assessment process. This can be found on the Defra website. <http://www.defra.gov.uk/habitats-review/implementation/process-guidance/guidance/sites/>

Natura 2000 - Further information required

The consultation documents provided by your authority do not include information to demonstrate that the requirements of Regulations 61 and 62 of the Habitats Regulations have been considered by your authority, i.e. the consultation does not include a Habitats Regulations Assessment.

In advising your authority on the requirements relating to Habitats Regulations Assessment, it is Natural England's advice that the proposal is not necessary for the management of the European site. Your authority should therefore determine whether the proposal is likely to have a significant effect on any European site, proceeding to the Appropriate Assessment stage where significant effects cannot be ruled out. Natural England advises that there is currently not enough information to determine whether the likelihood of significant effects can be ruled out. We recommend you use the following information to help you undertake a Habitats Regulations Assessment:

General comments

- The Hendeca documents demonstrate a good understanding of what is a complex situation. These documents are comprehensive and easy to read.
- The HRA will need to determine whether a 12ha core area plus buffers is sufficient to mitigate for the impact of developing the Able Logistics Park (ALP) up to the railway line.
- There are various documents and permissions which overlap for this area in relation to habitat management. It would be useful to understand how Able plan to implement the various overlapping documents. At the Development Control Order (DCO) meeting on 14th June, it was suggested that the number of documents should be rationalised and Able would review the planning requirements for Able's Marine Energy Park (AMEP) and ALP to determine commonalities. Natural England suggested that each required document should then be completed to meet the most comprehensive requirement; the same document could then be used to discharge the conditions for ALP and the requirements for AMEP.
- Detailed thought appears to have been applied to the wet grassland design and management for the target species, this opinion is based on the provision that we are still awaiting comments from our hydrologist which will be provided at the earliest opportunity.
- A calendar across the year showing what the site management would be to meet the objectives for each month/each area/each species would be useful so that it is clear what the site management must achieve.
- It is unclear why there is still detailed discussion of breeding bird requirements as Natural England has flagged up many times that this is not the purpose of the wet grassland habitat. The introductory paragraphs of the Feasibility Study clearly state that the impacts are on wintering or passage birds, but the subsequent text focuses on habitat requirements for breeding birds. Clarification should be provided as to whether the management requirements stated are for breeding birds, or overwintering and passage birds (or a mixture). For example, table 2-2 states that black-tailed godwits require taller, ungrazed swards. It is assumed that this is a breeding bird requirement as the target for black-tailed godwit within the Compensation Environmental Monitoring and Management Plan (CEMMP) for the wet grassland compensation at Cherry Cobb Sands is for a sward height of 10cm with livestock grazing proposed. The objectives and targets in the CEMMP and Terrestrial Environmental Monitoring and Management Plan (TEMMP) should be referred where appropriate to improve clarity.
- In addition to Andrew Taylor's comments dated 7 June 2016 regarding additional requirements related to the discharge of PA/2009/0600; targets and objectives from the TEMMP also need to be factored into this application. For example objective BB1 of the TEMMP requires habitat provision at mitigation area A for farmland birds; this is not mentioned in the submitted documents. If mitigation area A is moved to Halton Marshes, Able need to ensure they can deliver all the required aspects at this new location. Natural England advises Able to review the TEMMP and provide further information regarding how all these requirements will be met in the new location.
- Winters Pond Local Wildlife Site (LWS) was previously an important site for ruff (an SPA/Ramsar site species). Natural England advises that the management for this site should be incorporated as part of the management for Halton Marshes.

- At the DCO meeting on 14th June, it was understood that a number of amendments would be made to the submitted documents; namely the addition of a wind pump, a reference to the retention of hedgerows from the planting plan would be corrected, and references to the area of neutral grassland habitat to be provided would be increased in line with Andrew Taylor's calculation.

Specific comments

Design and Access Statement

- As stated above, we found this document to be a clear, concise summary of a complex situation. The only comment we would make is the reference in several places in this document and the Planning Statement to "*greatly exceeding the 20ha minimum*" and "*extending the area covered by previous mitigation schemes.*" The proposed block of wet grassland habitat covered by this consultation is a large area for two reasons:
 - 1) the scale of the impacts from the two developments are significant, and
 - 2) it brings together the mitigation, compensation and overcompensation for the two developments
 i.e. there is no additional habitat provided by this proposal.

Planning Statement

- 2.2.8 – It is not understood what is meant by "*However, it is not intended that the HMWGS should supersede the ALP consents or prevent the potential for implementing the development, as approved within this area, at some point in the future*". This appears to be stating that the two planning permissions would still be active and both could be implemented for the same area of land. Natural England therefore seeks confirmation regarding the legal mechanism that will secure the wet grassland habitat as this is required to meet the requirements of the Habitats Regulations if ALP and AMEP are developed. Whilst it may be possible in theory to relocate the wet grassland in future, Natural England would strongly discourage this suggestion. Not only have these proposals been discussed in great detail for a considerable period of time; Able is aware that the wet grassland habitat will take time to become fully functional and for the site manager to get the water level management and grazing/sward height management correct. If Able propose to develop the land at Halton Marshes and move the wet grassland habitat; the new site would need to be fully functional before the existing site is developed. This would require Able to manage two wet grassland sites for a period of time; likely to be several years. It is also worth noting that the AMEP objectives for the wet grassland are contained within the TEMMP and this document is approved by Natural England and secured by legal agreement which includes the provision of a steering group. The legal agreement states "*Where Able proposes alterations to the Measures..... **and those proposals are accepted by the Steering Group**, Able shall implement those alterations*" (emphasis added). This also raises the question about how this change will be communicated to the steering group and how Able will obtain the acceptance of the Steering Group.
- 3.1.5 – This paragraph states that additional water may be required from Halton Drain. We note that the response from the Environment Agency dated 7 June 2016 advises that additional work is required regarding the need for a water abstraction licence. Natural England advises that this work is completed prior to determination of this application to demonstrate that sufficient water for the site can be provided.
- 3.1.9 – Further information is required on the proposed operational buffer which should include what activity/level of activity/noise levels are proposed to take place in this area.
- 3.1.10 – It is unclear if the area covered by the saddles would be unsuitable for use by birds. This should be assessed with the area deemed to be unsuitable provided and taken into account in the extent calculations.
- 3.2.2 – It is not clear from the wording of this paragraph whether shooting has actually stopped at Winters Pond; this should be confirmed.
- 3.2.8 – This refers to moving the core area to the west whilst the flood defence works are underway. Whilst Natural England agrees with this in principle, we note that the Environment Agency states in its letter of 7 June 2016 "*It cannot be emphasised strongly enough that the tidal flood defences along this reach are in need of urgent significant repair/upgrade.*"

Regardless of the future alignment of flood defences in this area, the imminent need of large scale engineering works will be required. The presence of the habitat compensation site should both consider the impacts/disturbance from these necessary activities, and should not impact or hinder the delivery of flood risk management improvement works." Given that the core area of wet grassland habitat must be fully functional for the SPA/Ramsar site waterbirds when required, Natural England advises that the area to the west is included in the habitat creation and management now whilst machinery is on site. This will mean that there is no delay to the flood defence works.

Feasibility Study

- 2.1 – This states "*The Secretary of State's appropriate assessment for AMEP, took account of 38.5ha of land at Halton Marshes being provided as part of the compensation for the loss of inter-tidal foraging habitat on Black-tailed Godwits*". The wet grassland design now only refers to a 20ha core area as overcompensation and so confirmation is required that the total area provided as overcompensation is still ≥ 38.5 ha.
- 6.2.1 – Natural England welcomes the proposal to graze the site with cattle and sheep; however we are not aware that livestock features have been incorporated into the design, such as fencing and a corral. These features are important to determine how the livestock will access the site and be managed within it. Natural England is also concerned by the statement "*Winter grazing needs to take account of the fact that much of the site, not included within the core area for Black-tailed Godwits, will be surface flooded.*" This is inconsistent with section 2.4 which states that one of the principle requirements is for "*Areas with no surface flooding in winter to promote foraging (all species)*" and the statement that golden plover "*prefer drier ground.*"
- 6.4 – This states that tiered scrapes are the preferred option; Natural England questions whether these can be delivered as the earlier information states that the site is relatively flat. Therefore details on whether earth moving is required during the design stage should be provided.
- 6.4.6.2 – This states "*From late summer into early autumn there is a requirement for open water for Blacktailed Godwits.*" Clarification should be provided to confirm if this is within specific areas opposed to across the whole site.
- 7 – The conclusion states that "*An outline wet grassland scheme has been presented...*" It is unclear if this means that there could still be significant changes to the scheme which would affect the conclusions of the HRA. Therefore confirmation is required as to when a finalised wet grassland scheme will be provided.

Site layout

- This states that fields will be sown with seed mix but the Feasibility Study states that this will not be done, therefore this inconsistency should be corrected.

SSSI - Further Information Required

Our concerns regarding the potential impacts upon the Humber Estuary SSSI coincides with our concerns regarding the potential impacts upon the Humber Estuary SAC, SPA and Ramsar site and are detailed above.

Should the application change, or if the applicant submits further information relating to the impact of this proposal on the SSSI aimed at reducing the damage likely to be caused, Natural England will be happy to consider it, and amend our position as appropriate.

If your Authority is minded to grant consent for this application contrary to the advice relating to Northumberland Shore contained in this letter, we refer you to Section 281 (6) of the *Wildlife and Countryside Act 1981* (as amended), specifically the duty placed upon your authority, requiring that your Authority;

- Provide notice to Natural England of the permission, and of its terms, the notice to include a statement of how (if at all) your authority has taken account of Natural England's advice, and

- Shall not grant a permission which would allow the operations to start before the end of a period of 21 days beginning with the date of that notice.

We would be happy to comment further should the need arise but if in the meantime you have any queries please do not hesitate to contact us.

For any queries relating to the specific advice in this letter only please contact Alastair Welch on 0208 0265530. For any new consultations, or to provide further information on this consultation please send your correspondences to consultations@naturalengland.org.uk.

We really value your feedback to help us improve the service we offer. We have attached a feedback form to this letter and welcome any comments you might have about our service.

We also welcome your feedback on Natural England's revised standing advice in terms of its usability (ease of access, presentation), quality of content and, its clarity and effectiveness as a tool in guiding decision-making. Please provide this, with any suggested improvements, by filling in the attached customer feedback form or by emailing your feedback direct to consultations@naturalengland.org.uk.

Yours sincerely

Alastair Welch
Yorkshire and northern Lincolnshire Area Team

186827 PA/2016/649 Creation of habitat, Halton Marshes

[REDACTED]

Wed 13/07/2016 16:13

To: Planning <Planning@northlincs.gov.uk>;

[REDACTED]

Dear Andrew (Andrew, Dave for info),

Following on from our response of 21 June 2016 in relation to the creation of habitat at Halton Marshes where I stated that "we are still awaiting comments from our hydrologist which will be provided at the earliest opportunity," I now include these comments. Apologies for the delay, our hydrologist did not have capacity to respond by the initial deadline and it has taken until now to be able to assimilate these into a response. The main points are included below:

- The Feasibility Study including the water balance calculations is much improved. There is now a greater reassurance that the scheme will work, except in the driest conditions (e.g. inter-year drought/dry winters).
- We note that the detailed calculations have not been included as part of the Feasibility Study. Although the analysis appears robust it would be useful if these were provided to confirm this.
- There does not appear to have been any assessment of the impacts of climate change and so it is difficult to assess how resilient the system will be in the longer term. Therefore we advise that you should consider if/how you will take account of climate change.
- The most robust option will be a system that will require management, for example re-profiling of scrapes. Therefore we advise that there should be a guarantee of appropriate management in the longer term.
- Monitoring will be required to make sure the system is working as anticipated and then adapted if necessary.
- It appears that the most robust option has been put forward, however anything less is unlikely to provide a system that can deliver what is needed consistently. As per one of my points in my response of 21 June 2016, if this is not the finalised scheme, confirmation as to when a finalised wet grassland scheme will be provided is required and this should be as robust as the scheme presented here.

Best regards,

Alastair

Alastair Welch
Lead Adviser and Associate of the RTP1
Sustainable Development & Marine
Yorkshire & Northern Lincolnshire Area Team
Natural England
Lancaster House, Hampshire Court,
Newcastle upon Tyne, NE4 7YH

[REDACTED]

www.gov.uk/natural-england

We are here to secure a healthy natural environment for people to enjoy, where wildlife is protected and England's traditional landscapes are safeguarded for future generations.

In an effort to reduce Natural England's carbon footprint, I will, wherever possible, avoid travelling to meetings and attend via audio, video or web conferencing.

Natural England is accredited to the Cabinet Office Customer Service Excellence Standard.

Natural England offers two chargeable services – The Discretionary Advice Service (**DAS**) provides pre-application, pre-determination and post-consent advice on proposals to developers and consultants as well as pre-licensing species advice and pre-assent and consent advice. The Pre-submission Screening Service (**PSS**) provides advice for protected species mitigation licence applications.

These services help applicants take appropriate account of environmental considerations at an early stage of project development, reduce uncertainty, reduce the risk of delay and added cost at a later stage, whilst securing good results for the natural environment.

[REDACTED] **On Behalf Of** Sue Barden

Sent: 26 May 2016 14:08

To: Consultations (NE)

Subject: PA/2016/649 Planning Application at Land to the East of Skitter Road, Halton Marshes, East Halton

Dear Sir/Madam,

Application No: PA/2016/649

Proposal: Planning permission for creation of habitat, primarily wet grassland

Site Location: Land to the East of Skitter Road, Halton Marshes, East Halton

Applicant: Mr Richard Cram, Able Humber Ports Ltd,

Case Officer: Andrew Law

Your views are requested on the above application. You can now view the application and associated documents directly on the web site by selecting the following link:

<http://www.planning.northlincs.gov.uk/plan?ref=PA/2016/649>

You can if you wish also send your comments to us using this service by clicking on the "submit comment" button at the bottom of the application screen (this facility will only be available to use until the consultation period expires) or alternatively email us at planning@northlincs.gov.uk. **Whilst we will endeavor to ensure that all the documents are available to view as soon as you receive this email, this may not always be possible. They will usually be available by the following day.**

Any comments should reach me (paper or electronic) no later than 21 days from the date of this email, following which time the council may proceed to determine the application. In the meantime if you have any queries about the proposal these should be directed to the case officer named above.

If you have no objections or comments to make then early notification of this will assist me to deal with the application promptly. Any comments you do make will appear on the council's web site.

I look forward to hearing from you.

Yours faithfully

Phil Wallis
Head of Development Management

North Lincolnshire Council
Civic Centre
Ashby Road
Scunthorpe
North Lincolnshire
DN16 1AB

Tel: 01724 297000

Web: www.northlincs.gov.uk

This email and any attachments is intended for the named recipient only. If you have received it in error you have no authority to use, disclose, store or copy any of its contents and you should destroy it and inform the sender. Whilst this email and associated attachments will have been checked for known viruses whilst within the Natural England systems, we can accept no responsibility once it has left our systems. Communications on Natural England systems may be monitored and/or recorded to secure the effective operation of the system and for other lawful purposes.

Date: 09 September 2016
Our ref: 193994
Your ref: PA/2016/649



Shaun Robson
North Lincolnshire Council
Civic Centre
Ashby Road
Scunthorpe
North Lincolnshire DN16 1AB

Customer Services
Hombeam House
Crewe Business Park
Electra Way
Crewe
Cheshire
CW1 6GJ

BY EMAIL ONLY

Dear Shaun

**Planning consultation: Planning permission for creation of habitat, primarily wet grassland
Location: Land to the East of Skitter Road, Halton Marshes, East Halton**

Thank you for your consultation on the above dated 16 August 2016 which was received by Natural England on the same date.

Natural England is a non-departmental public body. Our statutory purpose is to ensure that the natural environment is conserved, enhanced, and managed for the benefit of present and future generations, thereby contributing to sustainable development.

**ARTICLE 16 OF THE TOWN AND COUNTRY PLANNING (DEVELOPMENT MANAGEMENT PROCEDURE) ORDER 2010
THE CONSERVATION OF HABITATS AND SPECIES REGULATIONS 2010 (AS AMENDED)
SECTION 28I OF THE WILDLIFE AND COUNTRYSIDE ACT 1981 (AS AMENDED)**

Internationally and nationally designated sites

The application site is within or in close proximity to a European designated site (also commonly referred to as Natura 2000 sites), and therefore has the potential to affect its interest features. European sites are afforded protection under the Conservation of Habitats and Species Regulations 2010, as amended (the 'Habitats Regulations'). The application site is in close proximity to the Humber Estuary Special Protection Area (SPA) and Special Area of Conservation (SAC) which is a European site. The site is also listed as Humber Estuary Ramsar site¹ and also notified at a national level as Humber Estuary Site of Special Scientific Interest (SSSI). Please see the subsequent sections of this letter for our advice relating to SSSI features.

In considering the European site interest, Natural England advises that you, as a competent authority under the provisions of the Habitats Regulations, should have regard for any potential impacts that a plan or project may have². The [Conservation objectives](#) for each European site explain how the site should be restored and/or maintained and may be helpful in assessing what, if any, potential impacts a plan or project may have.

¹ Listed or proposed Wetlands of International Importance under the Ramsar Convention (Ramsar) sites are protected as a matter of Government policy. Paragraph 118 of the National Planning Policy Framework applies the same protection measures as those in place for European sites.

² Requirements are set out within Regulations 61 and 62 of the Habitats Regulations, where a series of steps and tests are followed for plans or projects that could potentially affect a European site. The steps and tests set out within Regulations 61 and 62 are commonly referred to as the 'Habitats Regulations Assessment' process.

The Government has produced core guidance for competent authorities and developers to assist with the Habitats Regulations Assessment process. This can be found on the Defra website. <http://www.defra.gov.uk/habitats-review/implementation/process-guidance/guidance/sites/>

Natura 2000 - Further information required

The consultation documents provided by your authority do not include information to demonstrate that the requirements of Regulations 61 and 62 of the Habitats Regulations have been considered by your authority, i.e. the consultation does not include a Habitats Regulations Assessment.

In advising your authority on the requirements relating to Habitats Regulations Assessment, it is Natural England's advice that the proposal is not necessary for the management of the European site. Your authority should therefore determine whether the proposal is likely to have a significant effect on any European site, proceeding to the Appropriate Assessment stage where significant effects cannot be ruled out. Natural England advises that there is currently not enough information to determine whether the likelihood of significant effects can be ruled out. We recommend you use the following information to help you undertake a Habitats Regulations Assessment:

General comments

- As advised previously, the HRA will need to determine whether a 12ha core area plus buffers is sufficient to mitigate for the impact of developing the Able Logistics Park (ALP) up to the railway line.
- There are various documents and permissions which overlap for this area in relation to habitat management. It would be useful to understand how Able plan to implement the various overlapping documents. At the Development Control Order (DCO) meeting on 14th June 2016, it was suggested that the number of documents should be rationalised and Able would review the planning requirements for Able's Marine Energy Park (AMEP) and ALP to determine commonalities. Natural England suggested that each required document should then be completed to meet the most comprehensive requirement; the same document could then be used to discharge the conditions for ALP and the requirements for AMEP.
- Natural England advises that the information regarding how all the requirements of the TEMMP will be met in the new location should be included in the Halton Marshes EMMP.
- Natural England requires confirmation that management of the relevant parts of Winters Pond Local Wildlife Site (LWS) will be incorporated as part of the management for Halton Marshes should be included in the Halton Marshes EMMP.
- At the DCO meeting on 14th June 2016, it was understood that references to the area of neutral grassland habitat to be provided would be increased in line with Andrew Taylor's calculation. Able should confirm with Andrew Taylor whether the area of 3.06ha is an initial target or a long term target.

Specific comments

Planning Statement

- 3.1.5 – This paragraph states that additional water may be required from Halton Drain. We note that the response from the Environment Agency dated 7 June 2016 advises that additional work is required regarding the need for a water abstraction licence and that paragraphs 2.4.14-15 of the addendum attempt to address this. Natural England advises that Able should ensure that the Environment Agency is satisfied that this work can be completed prior to determination of this application.
- 3.1.9 – Further information is still required on the proposed operational buffer which should include what activity/level of activity/noise levels are proposed to take place in this area. Paragraph 2.2.21 of the addendum does not go far enough to define the principles of the operational buffer. Once defined this could be secured by a condition.
- 3.1.10 – It is still unclear if the area covered by the saddles would be unsuitable for use by SPA waterbirds. This should be assessed with the area deemed to be unsuitable provided and taken into account in the extent calculations.
- 3.2.2 – It was not clear from the previous wording of this paragraph whether shooting had actually stopped at Winters Pond; however Natural England is pleased that paragraph 2.7.1 of the addendum confirms that shooting has stopped and that Able will not permit future shooting on this site.
- 3.2.8 – With regards to our previous comment about moving the core area to the west whilst the flood defence works are underway, Natural England has discussed this with Richard Cram. We understand that the buffer area will be the same habitat and managed in the

same way so that the core area can become the buffer during the flood defence works. This does mean that the buffer is pushed further west and therefore additional information is required on ongoing activities within this area to ensure the 150m buffer functions effectively.

Planning Etc. Addendum

- 2.3 – proposed Halton Marshes Environmental Management and Monitoring Plan – whilst Natural England welcomes the rationalisation of the various requirements for Halton Marshes into a single management plan, we seek clarification as to how this will interact with the existing plans – for example the TEMMP and the Environmental Steering Group set up by our legal agreement with Able and the ALP Environmental Steering Group.

Feasibility Study

- Table 2.1 is a useful summary of core and buffer areas to be provided through Halton Marshes Wet Grassland Scheme. However, to improve interpretation of this data, Natural England suggest that it would be useful for these areas to be shown on a map.
- 6.4.6.2 – This states "*From late summer into early autumn there is a requirement for open water for Blacktailed Godwits.*" Clarification should be provided to confirm if this is within specific areas opposed to across the whole site.

Halton Marshes Wet Grassland Layout Core Area & Buffers Drawing

- This drawing refers to noise levels not exceeding 65dB(A). We assume this has been taken from the noise limits associated with Killingholme Marshes. As discussed with Richard Cram previously, the agreed noise measurement unit was omitted from the Killingholme Marshes documents and should read 65dB LAmax. The noise levels agreed for Killingholme Marshes were specific to the existing noise levels at that location and therefore this may not be an appropriate noise measure for this location. Natural England are happy to discuss appropriate noise levels further.

Halton Marshes Wet Grassland Proposed General Arrangement Drawing

- The area to the north which is now shown to be black-tailed godwit habitat is inappropriate for this species as it was designed with golden plover in mind rather than black-tailed godwit during the autumn. The drawing states that the "Northern field existing grassland to be retained and managed to encourage diverse neutral grassland sward inter sowing with 'wildflower' species if required. Field drains to be blocked to achieve suitable habitat. TEMMP OBJ BB1, SPA1." It appears therefore that very limited habitat creation works will take place and Natural England do not believe the objectives for the overcompensation site can be met on this field.
- It is unclear why the hedgerow is shown to be retained; we understood it was to be removed and so all documents showing this should be updated accordingly. If the hedgerow is now to remain this should be justified.
- It would be helpful if the location of the wind pump could be shown on this drawing and all other relevant drawings.

Halton Marshes Wet Grassland Planting Plan Drawing

- This drawing shows the stock fencing inside the buffer and so an explanation as to how the buffer will be managed should be provided as this habitat should be the same as the core area.
- We would be grateful for an explanation as to what is in the red line boundary to the south (outside the wet grassland habitat).

SSSI - Further information required

Our concerns regarding the potential impacts upon the Humber Estuary SSSI coincides with our concerns regarding the potential impacts upon the Humber Estuary SAC, SPA and Ramsar site and are detailed above.

Should the application change, or if the applicant submits further information relating to the impact of this proposal on the SSSI aimed at reducing the damage likely to be caused, Natural England will be happy to consider it, and amend our position as appropriate.

If your Authority is minded to grant consent for this application contrary to the advice relating to the Humber Estuary contained in this letter, we refer you to Section 28I (6) of the *Wildlife and Countryside Act 1981* (as amended), specifically the duty placed upon your authority, requiring that your Authority;

- Provide notice to Natural England of the permission, and of its terms, the notice to include a statement of how (if at all) your authority has taken account of Natural England's advice, and
- Shall not grant a permission which would allow the operations to start before the end of a period of 21 days beginning with the date of that notice.

We would be happy to comment further should the need arise but if in the meantime you have any queries please do not hesitate to contact us.

For any queries relating to the specific advice in this letter only please contact Alastair Welch on 0208 0265530. For any new consultations, or to provide further information on this consultation please send your correspondences to consultations@naturalengland.org.uk.

We really value your feedback to help us improve the service we offer. We have attached a feedback form to this letter and welcome any comments you might have about our service.

We also welcome your feedback on Natural England's revised standing advice in terms of its usability (ease of access, presentation), quality of content and, its clarity and effectiveness as a tool in guiding decision-making. Please provide this, with any suggested improvements, by filling in the attached customer feedback form or by emailing your feedback direct to consultations@naturalengland.org.uk.

Yours sincerely

Alastair Welch
Yorkshire and northern Lincolnshire Area Team



Mr Andrew Law
North Lincolnshire Council
Civic Centre
Ashby Road
Scunthorpe
North Lincolnshire
DN16 1AB

SENT BY EMAIL ONLY

Banovallum House
Manor House Street
Horncastle
Lincolnshire
LN9 5HF

23 June 2016

Dear Mr Law

APPLICATION NO: PA/2016/649
PROPOSAL: PLANNING PERMISSION FOR CREATION OF HABITAT,
PRIMARILY WET GRASSLAND
LOCATION: LAND TO THE EAST OF SKITTER ROAD, HALTON MARSHES,
EAST HALTON

Thank you for consulting Lincolnshire Wildlife Trust on the above application and for giving us extra time to comment.

Whilst the Trust welcomes the provision of the wet grassland habitat proposed by this application it is important that it is designed and managed correctly so that it is fit for purpose and provides the functions that are required of it for target bird species from the Humber Estuary Special Protection Area (SPA). We note the comments made by Natural England and RSPB and would wish to support the recommendations made by those organisation for additional detail and clarification regarding the habitat design and management.

In addition to the site meeting its requirements in terms of SPA birds, there is also a requirement to create neutral grassland to compensate for the loss of Station Road Field Local Wildlife Site (LWS). We would support Andrew Taylor's comments of 7 June 2016 that 3.06 ha of lowland meadow are required to compensate for the loss of 1.7ha. It is not clear from the information provided where this compensatory neutral grassland habitat is to be created and we would recommend that this is shown on a site layout plan.

Thank you again for the opportunity to comment. If you have any queries regarding the above comments please do not hesitate to contact me.

Yours sincerely


Elizabeth Biott
Conservation Officer

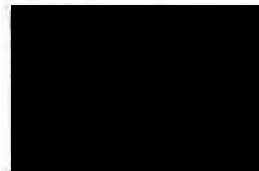


*Lincolnshire Wildlife
Trust is a company
limited by guarantee
registered in
England, no. 461863
and is registered as a
charity, no. 218895
VAT no. 613 9067 44*

Mr Shaun Robson
North Lincolnshire Council
Civic Centre
Ashby Road
Scunthorpe
North Lincolnshire
DN16 1AB

SENT BY EMAIL ONLY

Banovallum House
Manor House Street
Horncastle
Lincolnshire
LN9 5HF



9 September 2016

Dear Mr Robson

APPLICATION NO: PA/2016/649
PROPOSAL: PLANNING PERMISSION FOR CREATION OF HABITAT,
PRIMARILY WET GRASSLAND
LOCATION: LAND TO THE EAST OF SKITTER ROAD, HALTON MARSHES,
EAST HALTON

Thank you for consulting Lincolnshire Wildlife Trust on the amended information for the above application and for giving us extra time to comment.

As previously stated within our letter dated 23 June 2016 the Trust welcomes the provision of wet grassland habitat proposed by this application but it is important that it is designed and managed correctly so that it is fit for purpose and provides the functions that are required of it for target bird species from the Humber Estuary Special Protection Area (SPA). We note that the applicants are proposing to address much of the detail regarding the habitats at the site and their management and monitoring within an Environmental Management and Monitoring Plan (EMMP). The Trust would welcome the development of an EMMP and we would agree that it should be required by condition as proposed by the applicant. However we would recommend that the EMMP should be developed and overseen by a steering group. We would suggest that the established AMEP Steering Group could provide this function or a sub-group of it.

We have some concerns regarding the reallocation of the mitigation and compensation areas as per plan ALP-002-00011B. It is not clear why the areas have been reallocated and it now means that the overcompensation for black-tailed godwits is located within the northern area proposed as drier grassland which would not be suitable for the black-tailed godwits. We would recommend that the applicants reassign the areas so that the overcompensation is within the wetland area further south where the habitat would be more suitable for black-tailed godwits.

The Trust welcomes the additional detail provided regarding the creation of neutral grassland to compensate for the loss of Station Road Field Local Wildlife Site (LWS). However, it is still not entirely clear where it is to be located. The wet grassland plan (ALP-002-00012B) shows areas within the northern buffer and operational buffer as potential neutral grassland and paragraph 2.2.7 of the Planning

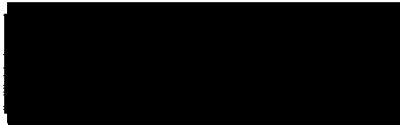


Lincolnshire Wildlife
Trust is a company
limited by guarantee
registered in
England, no. 461863
and is registered as a
charity, no. 218895
VAT no. 613 9067 44

Statement Addendum refers to the long term maintenance of at least 1.7ha rather than the whole of the 3.06ha to be created. We would recommend that all of the 3.06ha of species rich neutral grassland created is maintained in the long term rather than just 1.7ha and there should be clarity on where the species rich neutral grassland is to be created. We would have concerns if the compensation for the LWS were to solely be located within the operational buffer as the use of the operational buffer may be detrimental to the establishment and maintenance of neutral grassland. Furthermore, the wet grassland plan indicates that the stock fencing will be inside the buffer so it is not clear how the neutral grassland within the buffer would be managed. We would recommend that these issues should be addressed within the proposed EMMP.

Thank you again for the opportunity to comment. If you have any queries regarding the above comments please do not hesitate to contact me.

Yours sincerely

A large black rectangular redaction box covering the signature area.

Elizabeth Biott
Conservation Officer

North Lincolnshire Council
By email only

23rd June 2016

Re: PA/2016/649 Application for planning permission for creation of habitat, primarily wet grassland. Land to the East of Skitter Road, Halton Marshes, East Halton. Able Humber Ports Ltd

Thank you for consulting the RSPB on the above application ("the Application").

The RSPB recognises that the Application goes some way to meeting the mitigation requirements for the Able Logistics Park (ALP) and Able Marine Energy Park (AMEP) developments. However, the RSPB has a number of concerns with the Application, of both of a fundamental and detail nature. The RSPB therefore **objects** to the Application. Further information to support this objection is provided in the accompanying annex.

Despite this objection, as has been the case since the AMEP Development Consent Order (DCO) and ALP planning permissions were granted, the RSPB is committed to continued working with Able UK and Natural England to achieve the best possible result for wildlife from these and any future proposals.

Yours sincerely,



Richard Barnard
Conservation Officer – Humber



Northern England Region

Westleigh Mews
Wakefield Road
Denby Dale
Huddersfield
HD8 8QD

Tel 0300 777 2676

rspb.org.uk



The RSPB is part of BirdLife International,
a partnership of conservation organisations
working to give nature a home around the world.

Annex: Additional Information to Support RSPB Comments on Application PA/2016/649

Introduction

Application PA/2016/649 (“the Application”) seeks to combine some of the mitigation and compensation requirements for two of Able UK’s consented developments on the south bank of the Humber Estuary: the Able Marine Energy Park (AMEP) and the Able Logistics Park (ALP). Specifically, the Application is for the development of a single block of habitat creation on Halton Marshes, to deliver mitigation requirements for both AMEP and ALP, and “overcompensation” requirements for AMEP. Further detail on these issues is provided in the subsequent sections of this annex.

The RSPB recognises the efforts that have been made to develop a suitable design for a challenging combination of target species and timings. However, despite these efforts, the RSPB has a number of significant concerns in relation to these designs, the proposed management, and the information provided to support them. These concerns and areas requiring clarification are detailed in the following sections. As a result of these concerns, the RSPB **objects** to the Application.

Mitigation Requirements

The RSPB is satisfied that the documentation supplied in support of the Application has correctly identified the Humber Estuary SPA target species for the required mitigation components of both AMEP and ALP. In broad terms, the RSPB agrees that the proposed design has the potential to provide habitat suitable for required mitigation for the SPA’s overwintering species of golden plover, lapwing, curlew and ruff – the key target species. However, there are a number of areas requiring clarification or further detail before it can be confidently concluded that the Application will provide habitat suitable to support sufficient numbers of these species. This is the key test against which this Application should be judged and therefore these issues must be addressed before any consent is granted.

Section 2.3 of the *Halton Marsh Wetland Feasibility Study*¹ (“the Feasibility Study”) provides considerable detail on the ecological requirements of the relevant SPA target species. However, the clarity of these sections - and their subsequent implementation via the habitat design and management proposals - is limited by the focus on the breeding requirements of the species in question. The key mitigation requirement for both ALP and AMEP is to provide appropriate habitat through the overwintering and passage periods (spring and autumn), *i.e.* not the breeding period. The RSPB’s concern is that the apparent focus on providing suitable breeding habitat is not always compatible with delivery of this key requirement.

Section 2 of the Feasibility Study concludes (Table 2.2) that tussocky areas are needed for black-tailed godwits (“BTGs”), lapwings, ruff and curlews during the February to June period (*i.e.* during winter), while Section 4.2.1 states that curlews require a 15-30 cm long sward height. All of these wader species, when feeding on grassland in winter, primarily eat earthworms and leatherjackets, which are forced close to the soil surface by high water levels. They therefore tend to favour grassland which is sufficiently short and open for them to easily access these prey. Even though tussocks within flooded areas can support concentrations of earthworms and leatherjackets seeking sanctuary from surrounding flooded areas, the RSPB is not aware of any evidence that tussocky grassland is likely to be preferred by any of these wader species in winter (as opposed to the breeding season), compared to short, open grassland. Instead, the only relevant published information² concludes that the best management for lapwings, golden plovers and curlews on grassland in winter is to provide a short (less than approximately 12 cm high) sward, although curlews are less restricted to very short swards compared to the other two species. Therefore, the assertion in the Feasibility Study that the wet grassland area should contain tussocks and a proportion of

¹ JBA Consulting, 2016. *Halton Marsh Wetland Feasibility Study*. April 2016.

² Milsom, T.P., Ennis, D.C., Haskell, D.J., Langton, S.D., McKay, HV, 1998. Design of grassland feeding areas for waders during winter: the relative importance of sward, landscape factors and human disturbance. *Biological Conservation* 84:119-129.

taller grassland (Section 2.4) in order to support these wintering wader species is incorrect and has the potential to reduce the area of available wintering foraging habitat for these key target species. The RSPB recognises the positive intentions of aiming to deliver suitable wader breeding habitat; however, it is vital that this does not compromise the delivery of the overwintering requirements, as we consider is currently the case.

In addition to providing the required SPA bird habitat, AMEP's Mitigation Area A also had a number of other objectives including provision of habitat for farmland birds. It is currently unclear how the non-SPA bird elements of Mitigation Area A have been incorporated into these proposals and this requires clarification to demonstrate that all relevant Mitigation Area A objectives will be achieved.

Overcompensation Requirements

The intertidal mudflats at North Killingholme Marshes (NKM), and the associated wet high tide roost site at North Killingholme Haven Pits (NKHP), that lie within and adjacent to the AMEP development site are the most important site within the Humber Estuary SPA for BTGs. At the time of the AMEP Development Consent Order (DCO) Examination ("the Examination"), the NKM mudflats were reported to support up to 2,566 BTGs, or 66% of the Humber Estuary SPA population. These figures represented over 5% of the international population of the *Islandica* subspecies of BTG at the time of the Examination³.

As identified in paragraph 2.2.19 of the *Halton Marshes Wet Grassland Scheme Planning Statement*⁴ ("the Planning Statement"), a requirement was identified during the Examination to provide further compensation habitat at Halton Marshes to offset the time lag between the readiness for use of the main compensation habitat at Cherry Cobb Sands and the loss of the existing intertidal habitat. This time lag issue was part of a wider dispute between Able UK, Natural England and the RSPB over whether the proposed compensation package would provide a sufficient feeding resource for the BTGs displaced by AMEP. The DCO Examining Authority ("the ExA") therefore recommended the inclusion of the Halton Marshes scheme in the compensation package as a result of the "uncertainty" over the provision of an adequate compensatory food-stock⁵.

In light of the above, and as recorded in Section 2.3 of the Feasibility Study, it is therefore a principal objective of the Application to deliver a feeding resource for passage and overwintering black-tailed godwits, with the autumn passage being particularly key in reflection of the patterns of usage that will be lost at NKM. At the conclusion of the Examination, the RSPB's views on the potential for delivering this objective at Halton Marshes can be summarised as follows

"There is a high level of uncertainty that this habitat [East Halton Marshes wet grassland] will provide any significant compensatory value to BTG

...

the East Halton site does not meet the need particularly in the "time lag" period

...

East Halton cannot be viewed as making a substantial contribution to that which the Panel [the ExA] assumed it would – namely "as much potential feeding ground available as possible"

...

There is no evidence that this biomass [50g/m² invertebrate biomass] is in any event attainable at this site or that the biomass will be of the size and species relevant to displaced BTG

...

³ The RSPB, 2012. *Examining Authority's Second Written Questions. Response by the Royal Society for the Protection of Birds*. 7 September 2012.

⁴ Hendeca, 2016. *Halton Marshes Wet Grassland Scheme Planning Statement*. May 2016

⁵ The Planning Inspectorate, 2013. *The Planning Act 2008. The Able Marine Energy Park Order 201X. Panel's Findings and Recommendations to the Secretary of State*. 24 February 2013. Paras 10.163 & 10.164

East Halton cannot therefore logically be relied on as mitigating the substantial risk of underperformance at the RTE/MR or overcoming the time lag point.”⁶

The headline points above were supported by detailed concerns over the previous outline design for Halton Marshes including water availability; the area of habitat deliverable under the existing ALP permission; the proposed habitat buffers, and the invertebrate prey that would be available to BTGs.

The RSPB recognises that efforts have been made as part of the design process for this Application to address some of these issues. However, the fundamental issues with the provision of BTG feeding habitat at Halton Marshes remain despite this further effort. These are:

1. Although BTGs will feed on large soil invertebrates (primarily earthworms and leatherjackets) on wet grassland, studies of energetic intake rates on mudflats and grasslands suggest that they only feed on grasslands in situations when food supplies in estuaries are no longer sufficient to support them (these conditions occur in winter and spring)⁷ *i.e.* in autumn, wet grassland would be a less favoured feeding habitat for BTGs than intertidal mud. The absence of any significant areas of adjacent intertidal mudflat at Halton Marshes suitable for BTGs further compounds this issue, as there is an absence of optimal habitat present in the Halton Marshes area to attract BTGs into the Application site.
2. When BTGs do feed on wet grassland areas, they do this at times of year when water levels have been rising, thereby forcing earthworms and leatherjackets close to the surface of the soil (which makes them more accessible), and during which time the upper soil is generally wet and soft (because of precipitation being greater than evapotranspiration in winter), *i.e.* in winter and spring. In autumn, water levels are falling and therefore not forcing earthworms and leatherjackets close to the soil surface. The surface of the soil is also rarely very wet and soft because during summer, and usually early autumn, evapotranspiration has been greater than precipitation. Earthworms and leatherjackets are therefore not being forced close to the soil surface and are less available to BTGs.

The proposed mitigation measures do involve the creation of scrapes, which are expected to still retain some shallow water by September, together with some fairly permanent water bodies and intervening grassland. However, virtually the only food for BTGs in these scrapes and fairly permanent pools in autumn will be Chironomid larvae, which are aquatic. There will be few, if any, earthworms and leatherjackets in the mud beneath the water at this time of year, because they will have been displaced by the summer flooding, or have died⁸. In addition, as water levels will have been falling, there will be no earthworms forced to the surface in surrounding grassland. Thus, although the scrapes and fairly permanent water bodies will provide small areas of habitat for BTGs and other waders to feed on Chironomid larvae, this relatively small area will be of sub-optimal feeding habitat. Crucially, these small Chironomid larvae will not provide such profitable feeding as large polychaetes and molluscs in intertidal areas. It is therefore unclear why there is a requirement in 6.4.6.2 of the Feasibility Study for open water for BTGs, as this will provide foraging habitat of limited value. It is also of concern that there is no evidence supplied in support of the Application considering existing invertebrate biomass levels or demonstrating that the required biomass levels

⁶ RSPB, 2013. *Written Response to Able Humber Ports Limited's Further Information by the Royal Society for the Protection of Birds*. 15 November 2013. Paras 51-55

⁷ Gill J.A., Langston R.H.W., Alves J.A., Atkinson P.W., Bocher P., Vieira N.C., Crockford N.J., Gélinaud G., Groen N., Gunnarsson T.G., Hayhow B., Hooijmeijer J., Kentie R., Kleijn D., Lourenço P.M., Masero J.A., Meunier F., Potts P.M., Roodbergen M., Schekkerman H., Schröder J., Wymenga E., Piersma T., 2007. Contrasting trends in two Godwit populations: a review of causes and recommendations. *Wader Study Group Bulletin* 114:43-50.

⁸ Ausden, M., Sutherland, W.J., James, R., 2001. The effects of flooding lowland wet grassland on soil macroinvertebrate prey of breeding wading birds. *Journal of Applied Ecology* 38:320-338

can be attained. This is key information for demonstrating that the Application site can support the necessary numbers of the target species for both mitigation and overcompensation requirements.

As a result of these concerns, the RSPB's view continues to be that it is difficult to conceive that the proposed wet grassland will be used by any feeding BTGs, let alone by the high densities required to properly compensate for the loss of the NKM feeding areas and address the time-lag issues. The RSPB therefore does not consider that the Application will meet the key objective of providing suitable BTG foraging habitat, nor that any wet grassland proposal in this location could do so.

The position above leads the RSPB to have very serious concerns for the future of the Humber Estuary SPA BTG population during the time-lag period that the Halton Marshes overcompensation seeks to address. When coupled with the RSPB's views that the compensation proposed on the north bank at Cherry Cobb Sands (managed realignment and regulated tidal exchange) cannot demonstrably deliver the required compensatory feeding habitat for BTGs⁹, we have very significant concerns over the long-term prospects of the Humber Estuary SPA BTG population.

In light of the concerns outlined above, the RSPB believes it is critical that a suitable monitoring programme for BTGs is put in place both for the areas affected by the AMEP development (including the mitigation and compensation sites) and the Humber Estuary as a whole. Should declines be detected in this internationally and nationally important population, as the RSPB believes is highly likely, then remedial measures must be implemented as a matter of urgency.

In addition to the issues above, the RSPB questions whether the area identified as overcompensation habitat (20ha plus buffers) is sufficient. In considering the compensatory measures associated with the AMEP DCO, the Secretary of State for Transport ("the SoS") described the Halton Marshes site in the AMEP DCO Habitats Regulations Assessment ("HRA") as a "38.8 hectare site" to be converted to wet grassland. Based on the mapping provided in support of this Application, the RSPB does not believe that proposals here are providing the full 38.8ha required. Clarification of this is therefore required.

Further Detail Comments on the Habitat Design Proposals

Habitat Buffers

The RSPB notes that the habitat proposals include the use of a 30m operational buffer on the western boundary of the Application site. Little information is provided to explain how this operational buffer will operate and therefore further detail on this matter is required. Linked to this issue, paragraph 3.2.8 of the Planning Statement refers to the intention to move the core habitat area west during the required flood defence works. Based on the lack of detail around both the operational buffer and the nature of the flood defence works, it is currently unclear how this approach would work. However, it is vital that any relocation of the core area and western buffer incorporates fully functional wet grassland habitat suitable for SPA birds. The RSPB therefore strongly advises that any additional mitigation habitat required to accommodate this "shifting" of the core and buffers should be developed now, as part of this Application, to ensure that there are no delays in delivery of the flood defence works.

The southern buffer for the Application site is proposed as 50m on the basis that the adjacent land use cannot reasonably be expected to change and that Able UK now hold the shooting rights over the adjacent Winter's Ponds/Clay Pits (Planning Statement paragraph 3.2.2). However, no confirmation has been provided to demonstrate that shooting will not take place over these areas during the lifetime of the proposed habitats. This commitment is needed before it can be concluded that a 50m buffer is appropriate,

⁹ The RSPB, 2013. Written Response to Able Humber Ports Limited's Further Information by the Royal Society for the Protection of Birds. 15 November 2013. Para 60

as is an appropriate mechanism for securing this commitment (e.g. planning condition or Section 106 agreement).

The RSPB notes that new proposals have been brought forward to buffer the sea wall on the eastern edge of the site. We recognise that this is a challenging issue. In general terms, while the provision of a hedge bank may offer some screening of users of the sea wall, it will also have its own impact on the area of core and buffer habitat available to SPA birds, as a result of the displacement effect associated with features such as hedgerows, banks, etc. In light of these competing priorities, the RSPB considers that the further information detailed in the preceding paragraphs of this section is required before it can be concluded that the proposed eastern buffer and associated screening are appropriate.

Habitat Design, Management and Water Budgets

The preferred approach detailed in the feasibility study is the use of a tiered system of scrapes with a pump to distribute sufficient water around the site. The options appraisal in Table 6-2 of the feasibility study identifies that *“construction would require that the fall along the scrapes works in terms of the ability to distribute water and retain water in the upper scrapes.”* This would appear to be potentially challenging given the largely flat nature of the site illustrated in Figure 3-1 of the same report. The requirement for “saddles” associated with the tiered scrapes also appears to have the potential to reduce the area of habitat available to birds for feeding and roosting if, as described in section 6.4.2 of the feasibility study, they will require paving or concrete elements to protect the saddles from poaching. Further clarification of how these key construction requirements will be achieved and integrated with the requirements of the target bird species is therefore required.

The same options appraisal, as well as sections 5.2.3 and 6.4.7 of the feasibility study, identifies that future modifications to the design of the wetland may be required in order to manage changes resulting from the future development of adjacent land. While the modifications are outlined in the feasibility study, the Application makes no assessment of how these may impact upon the ongoing delivery of the site’s mitigation and overcompensation requirements. Potential associated impacts could include construction disturbance during the modifications, disruption of developing invertebrate prey species for SPA birds, etc. It is important that these are understood and addressed in the HRA for the Application and, if necessary, by associated planning conditions.

It is clear from the options appraisal that the incorporation of the pump into the design is a key measure for reducing the risk of periodic failure of the site. It is therefore critical to demonstrating the suitability of the Application for meeting the requirements of the key species. This is reflected in paragraph 3.1.5 of the planning statement, which identifies the need to draw water from Halton Drain. The Environment Agency’s (“the EA”) response of 7 June 2016 identifies that there is no guarantee that an abstraction licence would be granted for this purpose. Given the importance of the availability of this abstracted water for the success of the Application, the RSPB considers it vital that a licence is obtained prior to any planning permission being granted for the Application.

In addition to comments on abstraction from Halton Drain, the RSPB notes that the EA has commented that *“The Water Balance work that has been completed recognises that there may be periods when the required volumes of water may not be available to support the design features. This is a very important point that water users in the area face. Management of the site during periods of low rainfall/drought should be considered.”* Understanding this issue, and how it relates to the key species’ requirements, is potentially vital to the success of the Application and therefore the RSPB supports the need for further information to be provided on this issue. As part of this, the RSPB would welcome clarification on how factors such as infiltration, runoff and seepage have been accounted for in the water budget calculations.

The proposals to manage the site through grazing are welcomed, and the RSPB agrees that this is the best form of management for a wet grassland site of this nature. However, it is important that the infrastructure

required to facilitate grazing is incorporated into the design from the outset. The RSPB would be happy to provide advice on this matter, if needed.

Ongoing Monitoring and Management of Objectives

Both ALP and AMEP have their own requirements for setting objectives and the associated ongoing management, and monitoring. For ALP these are required to be detailed in a “*conservation management plan for waterbird mitigation areas*” (“the CMP”), while for AMEP these matters are addressed by the Construction Environmental Management and Monitoring Plan (CEMMP) and Terrestrial Environmental Management and Monitoring Plan (TEMMP). Understanding of the relevant objectives, monitoring of these and the management required to attain them are central to considering whether the habitat design and management proposals described here are appropriate. The RSPB therefore does not consider it possible to properly consider the proposals here without provision of the CMP, CEMMP and TEMMP to support the Application.

Linked to the points above, the RSPB considers that the Application would benefit from a clear summary of the month by month requirements of the target species, the habitat management aims and the required, quantified water levels, all linked to the relevant information from the water budget calculations. This will demonstrate how the site will meet its objectives throughout the year, giving a clear summary against which the requirements of the CMP, CEMMP and TEMMP – and therefore the overall success of the scheme - can be assessed.

Consenting Processes

As described previously, a core element of the Application is the relocation of the AMEP Mitigation Area A from Killingholme Marshes to the Application site on Halton Marshes. In very general terms, the relocation of the mitigation from an area surrounded by future development (AMEP) to a single, larger wetland site is a sound principle. However, the RSPB queries whether the process adopted by Able UK, of applying to North Lincolnshire Council (NLC) for planning permission to achieve this relocation, is the appropriate consenting route.

AMEP was consented via a DCO issued by the SoS. The DCO, and the associated TEMMP and CEMMP (DCO Schedule 11 Requirement 19), provides consent for authorised development within the order limits. This is reflected in the paragraph 10.55 of the Examining Authority’s (“the ExA”) report on the DCO Examination, which states:

“The mitigation measures would all be within the project site boundary and would be secured by one of the three Environmental Management and Monitoring Plans (EMMPs)”.

It is further reflected in paragraphs 8 and 9 of the SoS’ HRA for the AMEP DCO, which state:

“The measures, which would be secured by the Terrestrial Environmental Management and Monitoring Plan (“EMMP”), include the provision of two mitigation areas within the project site boundary to mitigate the loss of habitat as a result of the AMEP development”.

In neither the SoS’ HRA nor the ExA’s report is there any assessment of the relocation of Mitigation Area A.

Taking the above into account, the RSPB highlights the potential for the relocation of Mitigation Area A to be considered a material change to the AMEP DCO. This is based on:

- The clear statement in the AMEP DCO that the DCO is for authorised development within the order limits (AMEP DCO Part 2 5(1) and 5(2)).

- The clear requirement for the TEMMP and CEMMP to be concluded within those order limits and on the basis of the Application Environmental Statement (ES) (AMEP DCO Schedule 11 Requirement 19).
- The fact that the Application here to relocate Mitigation Area A moves it outside of the AMEP DCO order limits.
- The ecological justification for the SoS granting the AMEP DCO was based on the information provided in the ES and Appropriate Assessment for AMEP, which did not assess the relocation of Mitigation Area A to Halton Marshes. This is reflected in the absence in the SoS' HRA of any assessment of such a move, as outlined above.
- The requirement to undertake a HRA of the change to the mitigation proposals.

When considering the points above against relevant guidance¹⁰, the RSPB queries whether the use of a planning permission from North Lincolnshire Council to make the desired changes to the AMEP mitigation would provide Able UK with a lawful consent for this purpose.

In addition to these concerns over the AMEP consenting, the RSPB continues to be of the view that there is nothing within the ES nor HRA for the ALP permissions that demonstrates that 12ha of mitigation (plus buffers) is sufficient to address the habitat loss impacts of developing ALP south of the railway line, as is put forward in this Application. The RSPB does not rule out that this may be the case, but this requires assessment within a HRA.

The RSPB also notes that paragraph 2.2.8 of the Planning Statement states that, *"However, it is not intended that the HMWGS should supersede the ALP consents or prevent the potential for implementing the development, as approved within this area, at some point in the future"*. This suggests that Able is seeking to maintain overlapping and conflicting permissions for the same area of land, with the intention of potentially implementing these in the future to allow industrial development of what is proposed here as mitigation/overcompensation habitat. The RSPB's view is that this undermines the certainty required for approval of mitigation and overcompensation proposals. It is therefore important that the mechanism for securing the habitat in the long-term is clarified, in order to demonstrate in the HRA that there is sufficient security. The RSPB would strongly advise against any proposals to develop the proposed habitat in the future. If these were progressed then alternative mitigation and overcompensation wet grassland habitat would be required and this would need to be fully functional before industrial development of the current areas could proceed. This would require ongoing, simultaneous management of both wet grassland sites as well as the likelihood of similarly protracted consideration of the merits of the proposals as occurred for ALP and AMEP.

Based on these issues, the RSPB's view is that an additional application to modify and supersede the existing ALP permissions is likely to be required to achieve what Able UK are seeking to via this Application.

Conclusions

The RSPB recognises that the Application goes some way to meeting the mitigation requirements for the ALP and AMEP developments. However, as detailed in the preceding sections, the RSPB has a number of concerns with the proposals, of both of a fundamental and detail nature. The RSPB therefore **objects** to the Application. Despite this objection, as has been the case since the AMEP DCO and ALP planning permissions were granted, the RSPB is committed to continued working with Able UK and Natural England to achieve the best possible result for wildlife from these and any future proposals.

¹⁰ DCLG, 2015. Planning Act 2008 Guidance on Changes to Development Consent Orders. December 2015.

Shaun Robson, Development Management, North Lincolnshire Council
By email only

9th September 2016

Dear Shaun,

Re: PA/2016/649 Application for planning permission for creation of habitat, primarily wet grassland – Amended Information. Land to the East of Skitter Road, Halton Marshes, East Halton. Able Humber Ports Ltd.

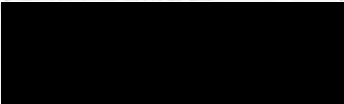
Thank you for consulting the RSPB on the amended information for the above application (“the Amended Application”). The additional information supplied by the Applicant is welcomed; however it fails to satisfactorily address a number of the RSPB’s concerns. The RSPB therefore continues to **object** to the Amended Application. Further detail on the RSPB’s concerns are provided in the accompanying annex.

As a brief summary, the RSPB’s key ongoing concerns relate to:

- The suitability of the proposed habitat creation as habitat for black-tailed godwits. This concern has been amplified by the changes to the allocation of habitat areas detailed in the Amended Application
- The use of the Amended Application to modify the Able Marine Energy Park Development Consent Order (the DCO) despite the requirements set out in that DCO; and
- The relationship between the Amended Application and the Able Logistics Park planning permission, and the associated Habitats Regulations Assessments.

In relation to our concerns about the relationship between this application and the AMEP DCO, the key element from the Council’s perspective is that we do not consider it possible for the Council to grant permission for this application until Able have completed an application to the Secretary of State to amend the DCO. To grant permission in the absence of this would create additional permissions that would conflict with the DCO. The RSPB would like assurances that the Council will seek clarification on these matters from the Secretary of State, including whether the application represents a material change to the DCO. To ease this process, we have copied in to this response the TWA Orders Unit in the Department for Transport who issued the consent for the DCO. I hope that these comments are clear but please do not hesitate to contact me should you have any queries.

Yours sincerely,


Richard Barnard
Conservation Officer – Humber

cc Transport and Works Act Orders Unit, Department for Transport

Northern England Region

Westleigh Mews

Wakefield Road

Denby Dale

Huddersfield

HD8 8QD


rspb.org.uk



The RSPB is part of BirdLife International,
a partnership of conservation organisations
working to give nature a home around the world.

Annex: Additional Information to Support RSPB Comments on the Amended Information for Application PA/2016/649

Introduction

This annex provides additional information about the RSPB's continued objection to the above application, despite the further and amended information submitted to support it ("the Amended Application").

Reallocation of Overcompensation and Mitigation Areas

The RSPB notes that Drawing ALP-002-00011 Revision B ("Revision B"), submitted as part of the Amended Application, has been amended from ALP-002-00011 Revision A ("Revision A"), relocating the Able Marine Energy Park (AMEP) overcompensation to the northern part of the site. This includes the identification of the target species for this area as black-tailed godwit. This appears to be in response to comments raised by the RSPB and Natural England over the sufficiency of overcompensation habitat under the approach shown in Revision A. However, the habitat designs proposed have not changed and the relocation of the overcompensation as shown in Revision B is not accompanied by any changes to the original proposals for that habitat design and management. Section 6.4.5 of the original Feasibility Study reported:

"Suggested works in the northern field (see Figure 6-9) should be limited to the blocking of the field drain system, including a small drain with a plugged culverted outfall to allow the draining of a depression in the winter and vegetation management (discussed in Section 6.2). This is due to the fact that this field already typically holds good number of Golden Plover during the winter months and therefore little modification is required.

Golden Plover prefer drier ground than other waders and this field is suitable for them now and, with the removal of the hedgerows, use should increase as the birds will feel less intimidated by the presence of potential predator perches and will have improved sight lines."

The RSPB agrees with the analysis in the Feasibility Study, including the statement that "Golden Plover prefer drier ground than other waders". The reallocation of this northern field from habitat for golden plover to habitat for black-tailed godwit, under Revision B, is therefore of significant concern. The Applicant's own analysis identifies that the management proposals are aimed at golden plover - a species that prefers drier conditions to other waders. In contrast, Section 6.4.6.2 of the Feasibility Study states, in relation to black-tailed godwit's habitat requirements:

"During this period [spring to autumn] there are two main functions:

- From spring to mid-summer the site will be managed for breeding waders (Note - not a target objective as laid out in Section 2.3)*
- From late summer into early autumn there is a requirement for open water for Black tailed Godwits.*

It should be noted that the requirement for pools for Black-tailed Godwits extends beyond this period through late autumn and into March." (emphasis added)

Clearly, therefore, by the Applicant's own analysis, the northern field is not suitable for black-tailed godwit overcompensation: it will be drier and will not contain any open water or pools. Further, the hydrological and topographic information submitted with the Application and the Amended Application raise significant concerns over whether any habitat design or management could be introduced that would make it suitable. The RSPB's previous correspondence on the Application (letter dated 23 June 2016) identified a number of fundamental concerns over the attempts to provide black-tailed godwit habitat as part of the Halton Marshes Wet Grassland Site (HMWGS). These concerns were in relation to the overcompensation being provided in the southern half of the HMWGS, with the provision of scrapes and other wet features. The attempt to relocate the overcompensation to the northern HMWGS field is even more fundamentally flawed than the approach criticised by the RSPB in our original comments.

As described above, the relocation of the overcompensation appears to be in response to comments raised by the RSPB and Natural England over the sufficiency of overcompensation habitat and the need to remain in accordance with the Secretary of State's requirement for 38.8ha of overcompensation habitat. The relocation suggests, therefore, that the original proposal did not meet these requirements, otherwise the Applicant would have continued with the original proposal. As identified above, the proposed relocated area is completely unsuitable as black-tailed godwit habitat. Taken together, this raises serious concerns over the Applicant's ability to deliver the necessary mitigation and overcompensation habitat – both in terms of quantum and quality – in this single site, as currently laid out.

If this single site is to continue to be advanced as the single solution to the AMEP overcompensation, AMEP mitigation and ALP mitigation then it would appear necessary to expand the habitat creation further west, to ensure that sufficient habitat with the necessary habitat features (scrapes, etc) is provided.

Relationship with the AMEP Development Consent Order (DCO)

In paragraph 1.2.3 of the original Planning Statement the Applicant clearly states that

"This application is submitted to facilitate provision of the habitat required alongside two of ABLE's most significant developments: Able Logistics Park; and Able Marine Energy Park."

And again in paragraph 2.2.1 of the original Planning Statement, the Applicant states:

"The HMWGS is primarily proposed to facilitate the provision of the ecological habitats required as important elements of two, significant, planning consents: the Able Logistics Park (ALP); and the Able Marine Energy Park (AMEP)..."

Explaining in Section 2 under the sub heading *Able Marine Energy Park* :

"2.2.10 The AMEP was granted permission as a development consent order on 29 October 2014 (reference SI 2014 No: 2935).

2.2.11 This extensive development would provide almost 1,300 metres of new deep water quays, designed specifically for the renewables sector and to provide a multi-user facility for the manufacture, storage, assembly and deployment of offshore wind turbines and their associated supply chains.

2.2.12 To address the recognised ecological impacts of AMEP, a package of mitigation and compensation measure have been approved, including five new habitats:

- Mitigation Area A;
- Mitigation Area B;
- Cherry Cobb Sands, compensation and over-compensation; and
- Further Overcompensation at Halton Marshes.

2.2.13 **Mitigation Area A**, adjacent to the southern edge of the AMEP site, was approved to provide wet grassland habitat for the use of feeding and roosting birds (primarily Curlew) and to replace the loss of Station Road Local Wildlife Site. The plot comprises a core area of 16.7ha, habitat buffers and a sown neutral grassland area of 1.7ha.

2.2.14 It is proposed to relocate, and extend, this area of mitigation to the HMWGS, as set out in Section 3 of this planning statement.”

In paragraph 2.4.4 of the Amended Planning Statement, the Applicant provides their view on the mechanism for relocating Mitigation Area A of the AMEP mitigation from Killingholme Marshes to Halton Marshes, as proposed in this application. Paragraph 2.4.4 states:

“The DCO applicant, Able Humber Ports Ltd (AHPL), will submit revised drawings to North Lincolnshire Council (NLC), as the relevant planning authority, for approval in accordance with Requirement 6 of the AMEP DCO (Schedule 11). The revised drawings would remove Mitigation Area A from Killingholme Marshes and incorporate a note that the functional requirements of Mitigation Area A will be provided in accordance with the approved TEMMP.”

For ease of reference, the relevant part Requirement 6 of the AMEP DCO is reproduced below:

“6. The authorised development must be carried out in accordance with the drawings listed below, unless otherwise approved by the relevant planning authority in accordance with paragraph 5 and the altered development falls within the Order limits and has no significant environmental effects beyond those assessed in the environmental statement—...”

While there could perhaps be some debate over whether the relocation of Mitigation Area A constitutes “significant environmental effects beyond those assessed in the environmental statement”, there is no debate that the altered development (i.e. Mitigation Area A on Halton Marshes) falls outside of the AMEP DCO order limits – see paragraph 2.4.2 of the Amended Planning Statement, which states “The HMWGS is wholly located outwith the Order limits of the AMEP DCO” (emphasis added). As such, it would appear that the mechanism that Able is relying upon explicitly excludes the type of change that Able is now seeking to make. The original Planning Statement clearly stated that one of the fundamental purposes of this application is to relocate the AMEP Mitigation A (see extracts above) and the Amended Planning Statement reports:

“2.4.3 It is a stated intention of the proposal [the Amended Application], that the HMWGS will, inter alia, replace Mitigation Area A of the AMEP DCO...”

The Amended Application therefore forms a core part of the proposal to relocate Mitigation Area A. Paragraph 2.4.4 of the Amended Planning Statement states that revisions to the AMEP TEMMP would be supplied to Natural England for approval, referring to the HMWGS as replacement for Mitigation Area A. Clearly, therefore this application will form the basis for the proposed changes to Mitigation Area A, and it is therefore vital that it contains a proposal suitable for that purpose, which it currently does not.

In order to make the changes to the AMEP mitigation that Able are seeking to make through this application – moving Mitigation Area A to outside the current Order Limits - Able must apply to the Secretary of State to amend the AMEP DCO. This is shown clearly by the wording of Requirement 6. North Lincolnshire Council does not have the appropriate authority to approve such an application. Therefore, as well as seeking planning permission to change the use of Halton Marshes in the way describe within the Amended Application, a concurrent application to the Secretary of State to amend the DCO is required and the Amended Application should not be decided until that process is complete. It must be noted that the Secretary of State has given no prior consideration to the relocation of Mitigation Area A to Halton Marshes. The Amended Planning Statement states:

“2.4.6 It is pertinent to note that the principle of providing compensation to the AMEP outside of that Order’s limits has already been established through the DCO; most notably through the, off-site, Cherry Cobb Sands Wet Grassland, but also in recognising the Halton Marshes site as Further Overcompensation.

2.4.7 Comments, made only by the RSPB, assert that the site at Halton Marshes, is not suitable for the proposed habitat. This principle was addressed at length throughout the Examination of the AMEP DCO and in subsequent information submitted to the Secretary of State (SoS); it should not be re-visited in the determination of this application. The SoS in his letter dated 18 December 2013, makes clear that the proposals at Halton Marshes are a necessary part of the AMEP DCO, as a supplementary measure until the compensation schemes are agreed to be functional.”

This relates only to matters of compensation and therefore has no bearing on the consideration of the viability, or otherwise, of relocating Mitigation Area A to Halton Marshes.

Without a prior decision from the Secretary of State on an amendment to the DCO, as outlined above, the Council is left in an untenable position, as granting approval for the Amended Application will create a permission that conflicts with the DCO and is beyond the Council’s jurisdiction. It is simply not possible to consider the Amended Application on its own merits when the Council knows, as detailed in the Planning Statement and Amended Planning Statement, that the Amended Application is being used in a manner that is inconsistent with the requirements of the AMEP DCO. On this basis, permission for the Amended Application should not be granted until the above issues have been addressed. To do so would create additional permissions that would conflict with the original AMEP DCO. The RSPB would like assurances that the Council will seek clarification on these matters from the Secretary of State, including whether the application represents a material change to the DCO. To ease this process, we have copied in to this response the TWA Orders Unit in the Department for Transport who issued the consent for the DCO.

Relationship with the ALP Permission

Paragraphs 2.2.1 to 2.2.6 of the Amended Planning Statement outlines the Applicant’s views on how the proposals for HMWGS can be delivered in accordance with the requirements of the ALP planning permission. Reference is made in paragraph 2.2.6 to the principle of delivering 12ha of ALP mitigation alongside the 20ha of AMEP Further Overcompensation being “established” as result of the Secretary of State’s considerations of the AMEP DCO application. It should be noted that the AMEP DCO application process has no powers to consider or amend the ALP Planning Permission. The principle may therefore be “established” in the view of the Applicant, but it has not been established in a Habitats Regulations Assessment (HRA) of the ALP Planning Permission, as is necessary. Ultimately, the Applicant’s assessment

of the sufficiency of 12ha to mitigate for the loss of the ALP land south of the railway may turn out to be sound. However, this assessment must be more rigorous than that provided in paragraph 2.2.6 and must be recorded in a HRA. An application to amend the existing ALP Planning Permission would be the most effective and efficient way of triggering and recording this process.

Water Management at HMWGS

The additional information on management proposals summarised in Table 3.2 of the Amended Planning Statement is welcomed. As described in our previous comments, in order to properly inform the establishment of a sound management and monitoring plan, this information should be supplemented with monthly or at least periodic water level targets for the site. This will provide a clearer basis for a management regime. The RSPB notes and supports the intention to produce a single Halton Marshes Environmental Management and Monitoring Plan (HMEMMP) to capture all relevant objectives, targets, monitoring, etc for the full HMWGS. The RSPB considers that a key part of this process should be the establishment of a Steering Group to oversee both the development and implementation of the HMEMMP. As a minimum, this Group should include the Applicant, North Lincolnshire Council, Natural England, Lincolnshire Wildlife Trust and the RSPB.

Conditions Required

The RSPB notes the additional information submitted in paragraphs 2.2.20 to 2.2.24 of the Amended Planning Statement in relation to the proposed operational buffer. In addition, ALP-002-00011 has been amended including reference to a proposed maximum noise level of 65dB(A) along the western boundary of the core area. It is the RSPB's view that reference to a threshold such as this in the planning condition is needed to give some form of definition to the proposed "non-disturbing activity". Should such a condition be applied to any permission granted for this application then the RSPB would be satisfied that this issue has been addressed, subject to the ongoing monitoring and remedial measures approach described in paragraph 2.2.22 of the Amended Planning Statement.

The commitment from Able UK to not permit shooting or wildfowling over Winters Ponds is welcomed. An appropriate planning condition or obligation to secure this commitment for the lifetime of the development should be included in any permission granted for this application.

It is noted that, as described in paragraph 2.4.14, Able UK does not foresee any reason why a water abstraction licence would not be granted for the proposals described in this application. While the RSPB has no reason to dispute this, the point still remains that securing the necessary licence is critical to the success of the habitat design and management proposed in this application. The RSPB therefore continues to be of the view that the most appropriate course of action would be for Able UK to secure the abstraction licence in advance of any consent being granted for this application; this does seem unreasonable given the timescales associated with these various processes. However, should this not be the approach adopted, the RSPB's view is that a condition requiring the abstraction licence to be obtained before any site works commence should be applied to any permission granted for this application.

Conclusions

On the basis of the concerns outlined above, the RSPB continues to **object** to the Amended Application.

PLANNING CONSULTATIONS

REFERENCE: PA/2016/649

CASE OFFICER: ANDREW LAW



TEAM: HISTORIC ENVIRONMENT RECORD

AUTHOR: ALISON WILLIAMS, HISTORIC ENVIRONMENT OFFICER

TEL: 01724 297471

EMAIL: alison.williams@northlincs.gov.uk



SUBJECT: Planning permission for creation of habitat, primarily wet grassland, Land to the East of Skitter Road, Halton Marshes, East Halton

PARISH: EAST HALTON

DATE ISSUED: 28/6//2016

SUMMARY OF ADVICE

- There is potential for heritage assets of later prehistoric/Roman date within the application area; there are known heritage assets of later periods
- Further survey is required in order to assess the impact of the proposals on the significance of such assets
- The applicant has commissioned a preliminary auger survey commencing 4th July the results of which will guide the necessity for further investigations as provided for under the Written Scheme of Investigation secured as a condition of PA/2015/1264 (PA/2009/0600)
- Paragraph 128 of the NPPF requires the applicant to submit sufficient information about the significance of any heritage assets that their proposals may affect **prior to the determination** of an application
- The HER therefore advises that this application should not be determined until further information is provided regarding the potential impact of the development on heritage assets and any appropriate mitigation measures agreed to avoid adverse impact or adequately mitigate loss of heritage assets (NPPF, 129)
- Where the planning authority is minded to grant planning permission, conditions securing agreed mitigation measures in accordance with the Written Scheme of Investigation would be needed; I can provide advice on suitable conditions in due course.

HISTORIC ENVIRONMENT RECORD (HER) GROUP FUNCTION: To hold, maintain, interpret and manage heritage information, enhancing the understanding of the area's historical development as a distinctive and attractive place. HER information provides source material for interpretation by heritage professionals and for use by community groups and individuals.

The Group also provides advice on development proposals that affect, or may affect, the sites and settings of all heritage assets i.e. designated and non-designated historic buildings, archaeological sites and monuments, and historic places, areas and landscapes. This advice is provided against saved local plan policies and national historic environment policies.

DETAILED ADVICE: Thank you for consulting the HER on this application. The applicant has provided a short written statement on the Historic Environment (Planning Statement, Annex A). This refers to the Written Scheme of Investigation for the Able Logistics Park (formerly Humber Ports Facility) (*Framework for archaeological evaluation and mitigation strategies*, AC Archaeology Document ACW179/1/0 revised June 2010) prepared for and conditional on the permissions for previous applications on this site (ref: PA/2009/0600 as replaced by PA/2015/1264).

A meeting was held on 22nd June to discuss the heritage implications of the current application with myself, Jo Salisbury of Able UK and Peter Cox of AC Archaeology. The outcomes of that meeting are incorporated in the following advice.

Archaeological baseline

Archaeological investigations carried out in 1999-2000 in connection with a proposed pipeline revealed an extensive Romano-British settlement within the wider Able Logistics Park to the west of the current application site. The settlement is located on a slightly raised area of ground known as Cote Hill. Palaeoenvironmental assessment of samples recovered from borehole transects running across the northern end of the application site indicate that this island lay on the edge of mudflats and saltmarsh of a large intertidal channel. LiDAR data has revealed other palaeo-channels further south within the application area. Recent investigation on the north side of East Halton Skitter has demonstrated the presence of Iron Age and Roman occupation at similar low-lying levels surrounded by palaeo-channels and partially buried within the coastal alluvium.

The Historic Environment statement provided with the application identified the principal issues as relating to possible impacts on buried palaeo-environmental and geo-archaeological deposits. In view of the emerging picture of archaeological settlement within the low-lying coastal areas, it must also be recognised that there is potential for the application site to contain as yet unknown archaeological remains of this date range.

Later periods of history are also represented within the application area; at the northern end of the site, the former pre-19th century sea bank survives as a 225m long earthwork standing c.100m back from the current sea wall. The sea bank may be associated with other banks and ditches surrounding the site of the former coastguard cottages located in the woodland on the northern boundary of the application site. Most recently, the southernmost fields of the application site were used as a barrage balloon anchorage operated by 942 Squadron Balloon Command during World War II and there may be similar features in other of the fields.

Policy and Guidance

Paragraphs 128 & 129 of the NPPF require an applicant to submit sufficient information about the significance of any heritage assets that their proposals may affect that allows the local planning authority to assess the degree of impact on heritage assets and their settings, and how this impact may be mitigated, if at all. Paragraph 128 states that ***'Where a site on which development is proposed includes or has the potential to include heritage assets of archaeological interest, local planning authorities should require developers to submit an appropriate desk based assessment and, where necessary, a field evaluation.'***

This information allows the planning authority to make an informed and reasonable decision in line with the NPPF as well as local planning policies including policy CS6 of the North Lincolnshire Core Strategy and saved local plan policies HE8 Ancient Monuments and HE9 Archaeological Evaluation, the latter states that ***'Planning permission will not be granted without adequate assessment of the nature, extent and significance of the remains present and the degree to which the proposed development is likely to affect them.'***

Where impact assessment shows that the significance of heritage assets will be adversely affected by the proposals, then consideration should be given to drawing up appropriate mitigation measures to conserve them. This may include avoiding or minimizing disturbance to assets and areas of significance, if necessary by modifying the layout and/or design of the proposals.

The impact of development on all heritage assets is a material consideration and the NPPF includes policy to guide the determination of applications relating to designated and non-designated heritage assets (paragraphs 131-135).

Paragraph 131 of the NPPF guides local planning authorities to take account of the desirability of sustaining and enhancing the significance of heritage assets, the positive contribution that conservation of heritage assets can make to sustainable communities including their economic vitality, and the desirability of new development making a positive contribution to local character and distinctiveness.

Where loss of non-designated heritage assets of archaeological interest as a result of development is considered justified, the NPPF (141) makes provision to allow for the recording and advancing understanding of the heritage asset before it is lost using planning conditions or obligations as appropriate. Such recording may range from pre-development detailed archaeological excavation of selected areas, followed by post-excavation analysis and publication of results, to archaeological monitoring and recording during construction work. The NPPF states that the results of these investigations should be made available to the public via the HER and that the archive evidence should be deposited with a local museum.

Local Plan policy HE9 states that ***'When in situ preservation is not justified, the developer will be required to make adequate provision for excavation and recording before and during development.'***

Mitigation proposals, including any necessary layout or design amendments, and/or a programme of archaeological recording, should be submitted with the application in the form of a detailed written scheme of investigation (WSI) for consideration by the planning authority. This is to ensure that all parties understand any subsequent archaeological requirements. An appropriate mitigation strategy may then be secured by conditions to any permission that may be granted.

Assessment

As set out above, the application site contains known heritage assets and has the potential for as yet undiscovered buried archaeological assets as well as palaeo-environmental and geo-archaeological deposits. At the meeting on 22nd June it was confirmed that the former sea bank and coastguard cottages/woodland in the northern half of the site will be unaffected by the proposals. The groundworks and excavations necessary to create the proposed wet grassland are however extensive as shown on the schematic layout drawing no. ALP-002-00016 rev A, with no part of the southern half of the site left undisturbed. There is also a sizeable area at the southwest corner of the application site for which there is no description of proposed use in the application documents. The proposed development could therefore damage or destroy any buried archaeological remains that may exist within the site.

At the present time there is insufficient information available to adequately assess the nature, depth, extent and significance of the archaeological and palaeo-environmental resource within the application site. Any archaeological remains present within the site are likely to be destroyed or substantially adversely affected by the groundwork associated with the proposed development across the southern half of the site.

Further survey is required in order to assess the impact of the proposals on the significance of such assets. The Written Scheme of Investigation (WSI) for the Able Logistics Park (*Framework for archaeological evaluation and mitigation strategies*, AC Archaeology Document ACW179/1/0 revised June 2010) sets out the programme for site assessments comprising various non-intrusive and intrusive site investigations to enable subsequent mitigation proposals to be developed.

In accordance with the WSI, the applicant has commissioned a preliminary auger survey comprising two transects through the application area (Framework WSI, Fig 2b, T2 & T3). This survey should develop a geo-archaeological deposit model of the former marshland and buried land surfaces to provide an understanding of the development of the landscape in this location, and the potential for the survival of palaeo-environmental evidence that can inform the archaeological record including sea level transgression and regression, together with recommendations for further investigation and scientific dating of the deposits.

The HER has been consulted on a project design for this work. This was considered to be satisfactory though it has since been brought to the attention of the applicant that part of a third auger transect proposed in the original WSI (Fig 2b,T1) also runs through the southwest corner of the application area and should be considered for inclusion in the current survey programme.

The survey is due to commence on Monday 4th July and is due to take four days, and a written report should be produced shortly after though no timetable has been provided for this submission. The results of the auger survey will guide the necessity for further investigations as provided for in the WSI. This may include rapid, non-intrusive geophysical survey to map buried features as indicated on Fig 2a of the WSI, followed as appropriate by trial trenching to confirm the significance of archaeological remains.

On completion of the appropriate stages of the evaluation and assessment a written report presenting the results should be submitted as supplementary information to the planning application together with specific mitigation proposals in the form of an updated WSI before the application can be determined.

Recommendation

In view of the potential significance of the archaeological resource within the application site and the lack of information to adequately assess the impacts of the development, or the opportunities for conservation and/or mitigation, the HER advises that **this application should not be determined** until further information is provided (NPPF,129).

The appropriate field surveys proposed for this area in the WSI could be completed relatively rapidly; if the results cannot be completed within the determination period the applicant could be advised to extend the determination period or withdraw the application with a view to resubmission once the required information is available.

If the applicant does not submit this information, the planning authority may refuse the application in its present form, as it is contrary to the NPPF, Core Strategy policy CS6, and Local Plan policy HE9; inadequate information has been provided to allow the Local Planning Authority to assess the impact of the development on the heritage assets, or to approve an appropriate mitigation strategy.

Once sufficient information is available to make an informed assessment and decision in accordance with policy, should a subsequent decision be taken to grant planning permission, conditions securing agreed mitigation measures in accordance with an updated WSI for this area would be needed. I am happy to provide advice on the appropriate wording of such conditions as and when required.

I trust this recommendation is acceptable.

Reference: PLA2697101

Date
Time

30 Sep 2016
23:09:09

Planning application enquiry

Name

Title
First name(s)
Surname

Mr
john
richardson

Address

If the address is within North Lincolnshire, enter the postcode or street name in the box below and then select **[Lookup]**. If the address is outside of North Lincolnshire, or your address is NOT SHOWN in the list or is incorrect, you will need to enter the address in the boxes provided below.

Postcode or street name to search for

[REDACTED]

Flat
House
Street
Town
Locality
County
Postcode

[REDACTED]

Email Address
Telephone Number
Mobile Number

[REDACTED]

Preferred contact method

Email

Enquiry details

Application referencee.g. PA/YYYY/APPNO*

PA/2016/649

Do you...*

Object to proposal

Comments

[REDACTED]

Having survived the devastating floods in 1953 floating the 3 children out in a pram to safety I think she is quite an expert on the hydrology of the area. What is a fact is the ponds are directly affected by the proximity of salt water of the river Humber. In the past this has been controlled by water management of the outer and inner dykes maintaining a well drained water table with the sluices closed in times of drought. For the [REDACTED] at the RSPB to suggest creating an artificially high water table just shows how ignorant they are of the hydrology of the area and will result in flooding of the fishing ponds which has occurred in the past when the fields have been flooded. Quite frankly the most important wildlife element of that coastline is the ponds and these plans are a recipe to destroy them.

Reference: PLA2697374

Date

02 Oct 2016

Time

23:15:42

Planning application enquiry

Name

Title

Mr

First name(s)

john

Surname

richardson

Address

If the address is within North Lincolnshire, enter the postcode or street name in the box below and then select **[Lookup]**. If the address is outside of North Lincolnshire, or your address is NOT SHOWN in the list or is incorrect, you will need to enter the address in the boxes provided below.

Postcode or street name to search for

Flat

House

Street

Town

Locality

County

Postcode

Email Address

Telephone Number

Mobile Number

Preferred contact method

Email

Enquiry details

Application referencee.g. PA/YYYY/APPNO*

PA/2016/649

Do you...*

General observation

Comments

After reviewing the experts bore hole information can you please explain why no bore holes where taken between the humber defence wall and the outer dyke. The problem facing the fishing ponds has always been salt ingress from the river Humber. This proposal suggests raising the water table adjacent to the fishing pond which will obviously result in the brackish land contaminating the fishing pond. Maybe some of your experts need a little more expertise from the Dutch polders especially the Dutch results which show whats proposed will be an absolute disaster resulting in a massive reduction in the food chain compared to the existing farming management policy.

PLANNING CONSULTATIONS

REFERENCE: PA/2016/649

CASE OFFICER: SHAUN ROBSON



TEAM: HISTORIC ENVIRONMENT RECORD
AUTHOR: ALISON WILLIAMS, HISTORIC ENVIRONMENT OFFICER
TEL: 01724 297471
EMAIL: alison.williams@northlincs.gov.uk



SUBJECT: Planning permission for creation of habitat, primarily wet grassland, Land to the East of Skitter Road, Halton Marshes, East Halton

PARISH: EAST HALTON

DATE ISSUED: 24/11/2016

SUMMARY OF ADVICE

- The applicant has completed the auger survey as recommended
- There is limited potential for archaeological remains such as boat skeletons and fish traps within the application area; the deposits have potential for further palaeoenvironmental analysis and radiocarbon dating
- No further evaluation is required in advance of the determination of this application
- The HER has no objection subject to conditions securing a programme of archaeological work during construction work.

HISTORIC ENVIRONMENT RECORD (HER) GROUP FUNCTION: To hold, maintain, interpret and manage heritage information, enhancing the understanding of the area's historical development as a distinctive and attractive place. HER information provides source material for interpretation by heritage professionals and for use by community groups and individuals.

The Group also provides advice on development proposals that affect, or may affect, the sites and settings of all heritage assets i.e. designated and non-designated historic buildings, archaeological sites and monuments, and historic places, areas and landscapes. This advice is provided against saved local plan policies and national historic environment policies.

DETAILED ADVICE: Further to my memo dated 28/06/16 the applicant has completed the auger survey of the underlying deposit sequence in accordance with the agreed methodology. The HER has received a copy of the evaluation report of the results of the survey. The applicant should be asked to submit this report direct to the local planning authority for inclusion with the application.

The report is highly informative. The results of the auger survey demonstrate that former marine erosion will have removed any archaeology across the majority of this application site with the exception of random artefacts buried in the former intertidal mudflats, such as boat remains or fish traps. These deposits lie below the ploughsoil of the reclaimed marshland that makes up the modern day landscape.

The report also identifies a narrow zone of archaeological potential along the western boundary of the application site, and in the area of the proposed site access in the southwest corner. This zone has potential to contain remains of prehistoric settlement activity on the relatively higher ground overlooking former stream valleys and the coastline.

In the light of these results, and given the nature and scale of the proposals in this area, I am satisfied that no further evaluation fieldwork is necessary to assess the impact of these proposals prior to the determination of the application and I am pleased to withdraw the HER's holding objection.

A mitigation strategy to avoid loss of any archaeological evidence that the creation of the habitat features may cause should comprise a programme of archaeological monitoring and inspection of the groundworks and a strategy for the recording, recovery and conservation of any objects that are identified with provision for appropriate analysis and publication of significant results. This is in accordance with the NPPF (141) and local planning policies.

Palaeoenvironmental analysis and radiocarbon dating of the deposits in the application area are recommended in the evaluation report and these will need to be carried out in accordance with the Written Scheme of Investigation secured as condition of PA/2015/1264 (PA/2009/0600) for the wider ALP development site.

Where the planning authority is minded to grant planning permission for this application, conditions securing the implementation of agreed mitigation measures would be needed; the following specifically worded conditions are suggested:

Condition 1

No development shall take place until an archaeological mitigation strategy, as defined in a brief prepared by the North Lincolnshire Historic Environment Record, has been submitted to, and approved in writing, by the local planning authority. The strategy shall include details of the following:

- i. Measures to ensure the preservation in situ or by record of archaeological features of identified importance.
- ii. Methodologies for the recording, recovery and conservation of archaeological remains including artefacts and ecofacts.
- iii. Post-fieldwork methodologies for assessment and analyses such as palaeo-environmental analysis and scientific dating.
- iv. Report content and arrangements for dissemination, and publication proposals.
- v. Archive preparation and deposition with recognised repositories.
- vi. A timetable of works in relation to the proposed development, including sufficient notification and allowance of time to ensure that the site work is undertaken and completed in accordance with the strategy.
- vii. Monitoring arrangements, including the notification in writing to the North Lincolnshire Historic Environment Record Office of the commencement of archaeological works and the opportunity to monitor such works.
- viii. A list of all staff involved in the implementation of the strategy, including sub-contractors and specialists, their responsibilities and qualifications.

Condition 2

The archaeological mitigation strategy shall be carried out in accordance with the approved details and timings, subject to any variations agreed in writing by the local planning authority.

Condition 3

A copy of any analysis, reporting, publication or archiving required as part of the mitigation strategy shall be deposited at the North Lincolnshire Historic Environment Record within six months of the date of completion of the development hereby approved by this permission or such other period as may be agreed in writing by the local planning authority.

Reason

To comply with policy HE9 of the North Lincolnshire Local Plan because the site may contain heritage assets of archaeological significance.

I trust this recommendation is acceptable.



**ABLE MARINE ENERGY PARK
APPLICATION FOR A NON-MATERIAL CHANGE**

NOV 2020

APPENDIX F

Draft TEMMP



**AMEP
TEMMP**

MAY 2018



AMEP
**Terrestrial Environmental Management and Monitoring
Plan (TEMMP)**

MAY 2018

Able UK Ltd
Able House,
Billingham Reach Industrial Estate,
Teesside
TS23 1PX
Tel: 01642 806080 Fax: 01642 655655

	AMEP TEMMP	MAY 2018
---	-----------------------	-----------------


APPROVAL & REVISION REGISTER

	NAME	SIGNATURE	DATE
Originator:	Dave Sargent		18 th May 2016
Checked by:	Neil Jarvis		
Approved by:	Richard Cram		

REVISION	COMMENTS	DATE
A	Document updated and issued via email to N.E without tracked changes	10 th Feb 2016
B	Revision A - re-issued via email showing track changes from original Deed	31 st March 2016
C	Document QA formatted, comments from NE/NLC/EA incorporated.. Previous revision tracks removed.	5 th May 2016
D	Additional formatting, minor additions and clarifications following consultation. Re-issue for approval. Compensation area objectives added	15 th June 2016
E	Minor amendments – overcompensation clarified, Wet Grassland Objectives streamlined. Figure 3 inserted	28 th July 2016
F	Overcompensation site objectives clarified. Location plan added	19 th September 2016
G	Overcompensation area and management clarified, grassland mix amended	29 th November 2016
H	Updated to support change in location of mitigation area A to Halton Marshes, noise monitoring and mitigation area location plans re-inserted	2nd Nov 2017
I	Updated in accordance with further comments and required clarifications from NE. comments marked up for review. Figure 3 divided to include both Killingholme and Halton Marshes mitigation sites	24 th April 2018
J	Minor amendments to text following discussions with Natural England on 4 th May	7 th May 2018

CONTENTS

1.0	Introduction	5
1.1	Background and Aims of the Terrestrial EMMP	5
1.2	Process of Finalising Outstanding Targets	5
1.3	Steering Group	6
2.0	Environmental Baseline and Identified Impacts.....	7
2.1	Habitat	7
	Figure 1: Phase 1 Habitat Survey Map.....	7
	Table 1: Habitat Loss	8
2.2	Water Vole.....	8
2.3	Bats	9
2.4	Great Crested Newts	10
2.5	Breeding Birds.....	10
	Table 2: Baseline Data and Impact of Breeding Birds	11
2.6	SPA Birds.....	16
	Table 3 Curlew Numbers Recorded on Weekly Surveys.....	18
3.0	Objectives.....	21
3.1	Construction	21
	Figure 3: key locations of biodiversity objectives	22
	Objective C1:	24
	Objective C2:	25
	Objective C3:	26
	Objective WV1:	27
3.3	Bats	28
	Objective B1:	28
3.4	Great Crested Newts	29
	Objective GCN1:	29
3.5	Breeding Birds.....	31
	Table 4: Bird Targets for AMEP Site Post-construction	31
	Objective BB1: Manage Mitigation Area A	32
	Objective BB2. Manage Mitigation Area B	33
	Objective BB3: Enhancement within the AMEP development site. This is.....	35
3.6	SPA Birds.....	36
	Objective SPA1: Mitigation Area A (at HMWG) provides mitigation habitat for Curlew	36
	Objective SPA2: Mitigation Area A (at Halton Marshes) provides open, wet (or damp) grassland habitat.....	37
	Objective SPA3: Mitigation Area A (at Halton Marshes) provides biomass levels similar to that provided by natural wet grasslands	39
3.7	Noise and Visual Disturbance	40
	Objective NV1: Avoid significant noise and visual disturbance to SPA birds at NKHP and Mitigation Area A.....	40
	Objective NG1. Manage Mitigation Area A (at Halton Marshes) buffer zone	42
3.8	"overcompensation" Wet Grassland & Open Water ditches	43
	Objective WG1:	44
	Objective WG2:	45
	Objective WG3:	46
	Objective WG4:	47
	Objective WG5:	47
	Appendix A - Supporting Information on Noise	50
	Table A5 Analysis of LAMax Noise Levels (December 2010)	51
	Appendix b - MITIGATION and compensation areas location plan.....	53

	AMEP TEMMP	MAY 2018
---	-----------------------	-----------------

Purpose

This document is produced to effect the discharge of the condition detailed in Schedule 11, Requirement 19 “Environmental management and monitoring plans” paragraph (3) of the Development Consent Order.

This document shall set out information relevant to the discharge of the aforementioned DCO requirement and may be subject to change. Any change may result in this document being updated, reviewed and approved in accordance with the DCO.


This revision encompasses the issues and aspects and agreements in relation to the delivery of the functional requirement of Mitigation Area A to now be provided within the Halton Marshes Wet Grassland site.

This is, in effect relocating Mitigation Area A away from the AMEP development site footprint and providing it within a larger integrated diverse wetland habitat.

DCO Condition

The specific condition submitted for discharge with this document states:

“(3) the authorised development must not commence until a terrestrial environmental management and monitoring plan, reflecting the survey results and ecological mitigation and enhancement measures included in the environmental statement, has been submitted to and approved by, Natural England after consultation with the Environment Agency and the relevant planning Authority”

	AMEP TEMMP	MAY 2018
--	-----------------------	-----------------

1.0 INTRODUCTION

1.1 BACKGROUND AND AIMS OF THE TERRESTRIAL EMMP

1.1.1 The development of the Able Marine Energy Park (AMEP) east of North Killingholme on the Lincolnshire Coast will partly affect the Humber Estuary Special Area of Conservation (SAC) and the Special Protection Area (SPA) / Ramsar site, as well as habitats (some of which are designated at a local level) and species inland from the new quay. Measures to mitigate for the effects of AMEP on these habitats and species have been identified, and are to be implemented in areas within the AMEP site boundary and at North Killingholme Haven Pits (NKHP).

1.1.2 This document is an Environmental Management and Monitoring Plan (EMMP) for the terrestrial works and it has been drawn up taking account of guidance on management planning produced by the Conservation Management System (CMS) Consortium (www.cmsconsortium.org). It describes the mitigation measures that are required and lists specific objectives which are fundamental to their delivery. Further it includes targets and management actions which support the objectives and the monitoring which will be undertaken to confirm progress towards the objectives, and ultimately confirming that they have been achieved. Limits of acceptable change are defined and any necessary remedial actions which will be undertaken if the monitoring shows that these limits have not been met.

1.2 PROCESS OF FINALISING OUTSTANDING TARGETS

1.2.1 The mitigation proposals for AMEP are complex, and the objectives and targets / management options included in the EMMP have been subject to extensive discussions with stakeholders.

1.2.2 The EMMP will be in place for as long as it is deemed necessary to achieve the agreed objectives set out in it. Updates to it will be overseen by the Steering Group, whose role is explained below and includes undertaking a complete review of the EMMP every five years.

1.2.3 This revision is required to set out the requirements in relation to the relocation of mitigation area A from AMEP to HMWG.

It must be noted that providing mitigation outside of the current red-line boundary of AMEP in no way separates it from the requirements set out in the legal agreements between Natural England and ABLE, and as such is still deemed to be an integral aspect of this TEMMP.

The primary objectives and targets of Mitigation Area A will remain as agreed, the management requirements and the means of achieving the goals also remains consistent with existing approvals and agreements.

HMWG will be subject to a management plan, which will be based on a collation of the various agreed management plans from the respective developments, to which the mitigation elements refer.

The specifications from Mitigation Area A aspects of this TEMMP will be transposed into that document to ensure all management requirements are contained in a single accessible document.

This TEMMP is still the legally binding agreement with NE and will continue to set out the management objectives for AMEP – including the required Mitigation. This mitigation (Area A) is now provided at a location a few km away.

The TEMMP has been updated to clarify the relocation of the Mitigation (Area A) and will identify which aspects are now to be delivered on land at Halton Marshes

1.3 STEERING GROUP

1.3.1 Able Humber Ports Limited (AHPL) will have overall responsibility for the implementation and delivery of the EMMP. However, the involvement of statutory organisations and other stakeholders is essential for the effective working of the EMMP, and hence AHPL will establish a Steering Group whose members and terms of reference are set out in a 'Deed in Relation to the Able Marine Energy Park', between Able Humber Ports Limited, Natural England (NE).

1.3.2 An agenda will be drawn up in advance of each Steering Group meeting by AHPL and minutes will be produced after the meeting by them for agreement.

1.3.3 Unless otherwise stated, the default duration for the ecological survey work described within this document is 10 years. It is expected that some components of the mitigation will require on-going management to ensure that the objectives continue to be met.

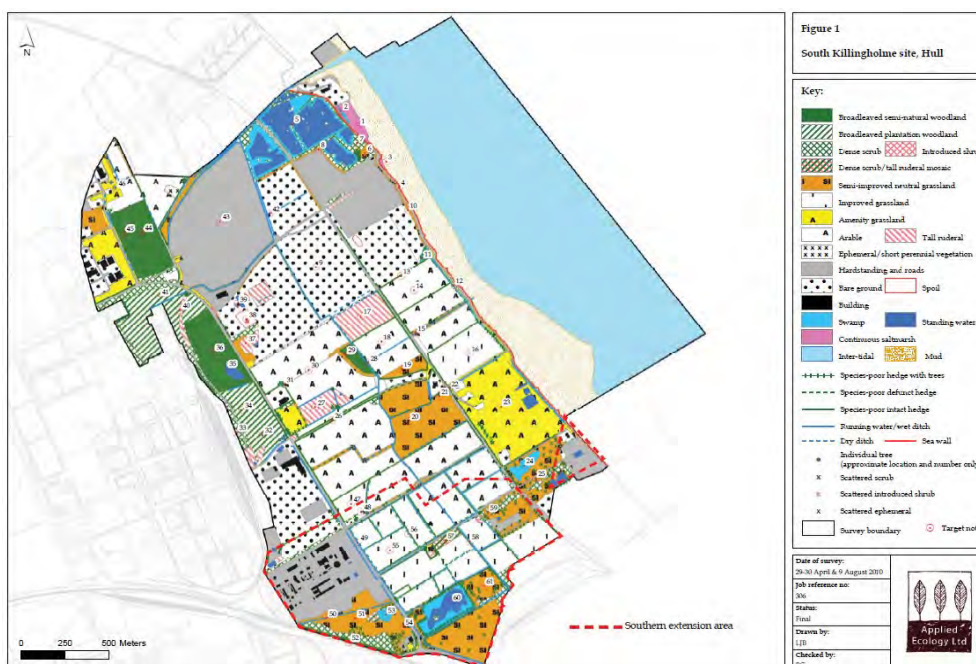
2.0 ENVIRONMENTAL BASELINE AND IDENTIFIED IMPACTS

2.1 HABITAT

2.1.1 Baseline

- (i) An area of arable, pasture and farmland mosaic habitat will be lost as a direct result of the proposed AMEP development. The majority of the semi-naturalised habitat will be removed and replaced with gravel or hard standing. The main habitats present and their locations are mapped in Figure 1 below.

Figure 1: Phase 1 Habitat Survey Map



2.1.1 Impacts

- (i) The main habitats lost due to AMEP are bare ground, hard standing and arable fields, and to a lesser extent grassland fields (see Table 1).
- (ii) The designated terrestrial habitat lost is the Station Road Local Wildlife Site (LWS) which consists of a neutral grassland strip, associated elm hedge and field ponds supporting great crested newts. The neutral grassland component of the Station Road LWS and a new elm hedge will be accommodated in Mitigation Area A (see Objective BB1), whilst new ponds and terrestrial habitat for great crested newts have been created in Mitigation Area B (see Objective GCN1).

Table 1: Habitat Loss

Habitat Type	Loss (ha)
Bare ground	60.12
Arable fields	54.78
Hard standing	54.22
Semi-improved neutral grassland	22.11
Improved grassland	13.94
Tall ruderals	10.78
Amenity grassland	3.68
Dense scrub	2.47
Broadleaved semi-natural woodland	1.35
Swamp	1.15
Ephemeral/ short perennial vegetation	0.96
Buildings	0.47
Standing water	0.31
Hedgerow	1.14 (km)
Drainage Ditches	2.5km

- (iii) Where other habitat loss leads to impacts on protected species (including loss of fields for SPA birds), the specific mitigation is discussed in the following sections on protected species. Noise and visual impacts in particular during construction and operation could result in disturbance to birds at NKHP a location that supports significant numbers (i.e. greater than or equal to 1%) of SPA bird populations and to birds which use Mitigation Area A. The control measures for this are presented under the Noise and Visual Impact objective (Objective NV1).

2.2 WATER VOLE

2.2.1 Baseline

- (i) Water vole surveys were conducted in 2006, 2010 and 2015. In 2006, five areas of the site were identified for their potential to support water voles during the Extended Phase 1 survey. Surveys conducted in 2010 identified a total of 82 breeding females of which 22 were within the development site and 60 were in ditches that included Mitigation Area A
- (ii) In 2015, evidence of breeding water vole was found in 1500m of surveyed ditch (burrows and extensive latrines). Evidence of non-breeding water vole was found in 850m of ditch. A high density of burrows and latrines was found in 3 main areas. These are likely to correspond to breeding colonies. Two of these were in the fields to the south, and one was just north in Area E. The most active colony was the one to the north. There is one section of ditch with no evidence of water vole. This section has been cleared out and extensively disturbed in recent months. On either side of this section, and in the section running west to Area G and the sea, there were no burrows but there were extensive signs of water voles throughout in terms of latrines and scattered droppings.
- (iii) the ditches were surveyed extensively in 2017, following the most current water vole guidelines. Based on the findings of the surveys undertaken in April 2017 and August 2017 it is considered that water voles are currently absent from the surveyed ditches. Based on the previous survey results and the deteriorated

condition of the ditches compared to previous years, it is possible that a combination of the apparent hydrocarbon spillage and the ditch bank regrading works may have contributed to the observed absence of water voles.

Water vole presence has previously been recorded in all ditches and the ditches have previously been found to support medium to high water vole population densities however it is also noted that populations have fluctuated significantly between the previous surveys.

A number of burrows typical of water voles were identified, however, given the absence of other water vole field signs it is concluded that these were likely to be unoccupied at the time of the surveys. In some circumstances, old burrows can remain in situ for many years after water voles have vacated an area. The 2 burrows that were observed during the survey in August 2017 on NELDB Ditch 10a were collapsed, apparently by machinery; therefore, it is conceivable that other previously observed burrows have been affected in the same way.

No water vole signs were observed in NELDB Ditch 9a. Evidence of the hydrocarbon spill was observed within the ditch in August 2017 (albeit less prevalent than the other ditches) whereas it was not noted in this section during the surveys in April 2017. Water vole presence has been confirmed in the ditch previously and the ditch (aside from the pollution) is considered to be of moderate water vole suitability.

In addition, a contractor on site reported to have seen a mink on site in 2016; although, no evidence of mink was observed during the survey.

Overall, it is concluded that water voles are currently absent from the surveyed ditches.

2.2.2 Impacts

- (i) New drainage ditches are to be created as part of the AMEP development, whilst approximately 2.5km of existing ditches will be removed.

2.3 BATS

2.3.1 Baseline

- (i) Bat surveys as part of the AMEP application were undertaken in 2006, 2010 (July / August) and 2011 (May). Six species of bat (Common pipistrelle, Nyctalus sp., Myotis sp., Soprano pipistrelle, Brown long-eared and Nathusius pipistrelle) were identified foraging and commuting within the AMEP development site area. The most common species recorded were common pipistrelles, and only at one location was the number of contacts regarded as frequent (near NKHP). Other species were either occasional or rare, with contacts largely relating to occasional commuting passes. No evidence of occupied resting or roosting places was found within the development site. As a result, no significant impacts to bats are predicted, however temporary loss of foraging habitat may occur.

2.3.2 Impacts

- (i) The AMEP development will result in the loss of habitat which is suitable for bat foraging and commuting including the small woodland at the Old Copse and hedgerows. Consequently mitigation objectives are proposed to replace hedges, ditches and foraging areas; allow safe access over roads to existing woodland at Burkinshaw's Covert, provide roost sites, and control light pollution (see Table 1 for habitat losses).

2.4 GREAT CRESTED NEWTS

2.4.1 Baseline

- (i) Surveys conducted in 2006, 2010, 2011 and 2012 identified 25 ponds within the AMEP development site boundary and a 500 m buffer around it. A further four ponds with potential to support breeding populations of great crested newts were identified within a radius of 500 m of the site boundary. Presence/ absence surveying of ponds within the development site confirmed a medium population of great crested newts within two of the surveyed ponds, forming a meta-population. Only one pond within the 500 m buffer could not be assessed due to access difficulties, but a survey at this pond in 2010 as part of the North Killingholme Power Project EIA did not record any great crested newts.
- (ii) Two of the surveyed ponds were found to accommodate a medium great crested newt meta-population of approximately 19 individuals. The ponds are located centrally within the AMEP development site boundary, in an area of land currently in arable production.

2.4.2 Impacts

- (i) In 2015, Keystone Ecology were instructed by Able UK Ltd to undertake a Great Crested Newt (GCN) Translocation at land off Rosper Road, North Killingholme (Grid Ref: TA 165 185). The translocation programme fulfilled the terms of the European Protected Species (EPS) License 2014-1559-EPS-MIT which was granted by Natural England in order to legally proceed the works in advance of the construction phase as all breeding ponds and associated terrestrial habitat were to be lost.
- (ii) A receptor site was constructed in advance of the translocation. Additional enhancements were made in 2014 and 2015 by Keystone Habitats to provide suitable terrestrial and aquatic habitat to sustain the amphibian populations.
- (iii) During Phase 1, a total of 179 GCN (141 adults and 38 juveniles) were captured and translocated. In addition, 403 Smooth Newt, 327 Common Frog and 7,102 Common Toads were also captured and relocated to the receptor site.
- (iv) Phase 2 translocation saw a total of 65 GCN (63 adults and 2 juveniles) translocated in addition to 49 Smooth Newt, 10 Common Frog and 413 Common Toad.

2.5 BREEDING BIRDS

2.5.1 Baseline

- (i) Two dedicated breeding bird surveys were undertaken at the AMEP site, a Breeding Bird Survey (BBS) in 2010 and a Common Bird Census (CBC) in 2011. These surveys added to a previous five visit CBC at East Halton and Killingholme, which was undertaken between April – June 2007 data collected from 2006 across the site by Just Ecology and records from the Lincolnshire Bird Club (1998-2005 All Species Records).

2.5.2 Impacts

- (i) The AMEP development will cause the loss of dense scrub, standing water, ephemeral/ short perennial vegetation, species poor hedgerow, tall ruderal vegetation, semi-natural woodland, arable farmland, semi- improved and improved grassland, bare ground and hard standing (see Table 1). The effects on birds was reassessed by Percival in light of comments by NE , and based on the assumption that there would be a complete loss of the bird populations within the existing industrial areas, within the current arable/grassland areas that will become industrial areas, and where coastal reclamation occurs.
- (ii) Column three of Table 2 provides an estimate of the number of pairs that would be present on the site after the construction of AMEP and incorporating mitigation provided in Mitigation Areas A and B, together with areas of planting and ditch creation within the site. In addition re-profiling of existing islands within NKHP will encourage their future use by breeding waders. In most cases the number of pairs predicted to be breeding within the site post construction is based on the availability of 0.62 km² of habitat (the sum of proposed areas of mitigation and planting). In some circumstances the availability of specialised habitat, such as the newly profiled gravel islands in NKHP, has been taken into account when predicting density. Column four indicates the gains and losses that occur based on the difference between the number of pairs estimated to be breeding pre and post AMEP, taking account of mitigation.
- (iii) A range of breeding densities have been used based on published literature, and in most circumstances a precautionary approach to densities has been adopted. In some circumstances, such as for tree sparrows where the habitat provision is close to ideal, higher assumptions of breeding density have been presented, and this is explained in the notes column.

Table 2: Baseline Data and Impact of Breeding Birds

Species	Baseline Pairs	Predicted number of pairs after mitigation	Difference in number of after mitigation applied	Explanation
Mute Swan	1	1	0	The provision of ponds in Mitigation Area B will provide breeding opportunities and mitigate predicted losses.
Shelduck	10	3	-7	The provision of shelduck nest boxes within Mitigation Area A within HMWG will provide breeding opportunities and mitigate some predicted losses.

Species	Baseline Pairs	Predicted number of pairs after mitigation	Difference in number of after mitigation applied	Explanation
Mallard	16	10	-6	The creation and enhancement of ditches within the development area and ponds within Mitigation Area B will provide breeding opportunities.
Shoveler	1	1	0	The creation and enhancement of ditches within the development area and ponds within Mitigation Area B will provide breeding opportunities and mitigate predicted losses.
Red-legged Partridge	13	3	-10	Unmanaged field margins in Mitigation area A within HMWG and wild bird cover plots will reduce some impacts of loss of arable ground. Predicted breeding pairs based on 5 pairs per km ²
Pheasant	21	5	-16	Unmanaged field margins in Mitigation Area A within HMWG and wild bird cover plots will reduce some impacts of loss of arable ground. Predicted breeding pairs based on 7.5 pairs per km ² .
Sparrow-hawk	2	1	-1	Hedgerow with standards provided and likely these will provide some replacement value.
Kestrel	1	1	0	The provision of Kestrel bird boxes will provide breeding opportunities and mitigate predicted losses.
Water Rail	1	1	0	The creation and enhancement of ditches within the development area and ponds within Mitigation Area B will provide breeding opportunities and mitigate predicted losses.
Ringed Plover	3	3	0	The re-profiling of islands in NKHP will provide breeding opportunities and mitigate predicted losses.
Little Ringed Plover	2	2	0	The re-profiling of islands in NKHP will provide breeding opportunities and mitigate predicted losses.
Oyster-catcher	4	2	-2	The re-profiling of islands in NKHP will provide breeding opportunities and mitigate predicted losses.
Moorhen	6	6	0	The creation and enhancement of ditches within the development area and ponds within Mitigation Area B will provide breeding opportunities.
Stock Dove	14	1	-13	The removal of woodland within the development site will limit breeding opportunity. However, hedgerow creation, farmland bird mixes, provision of nest boxes and enhancement within HMWG will provide partial mitigation of predicted losses. Predicted breeding pairs based on 2 pairs per km ² .

Species	Baseline Pairs	Predicted number of pairs after mitigation	Difference in number of after mitigation applied	Explanation
Lapwing	8	1	-7	The provision of wet grassland within Mitigation Area A within HMWG will provide breeding opportunities and partially mitigate predicted losses. Predicted breeding pairs based on 1.25 pairs per km ² .
Wood-pigeon	150	6	-144	The removal of woodland within the development site will limit breeding opportunity. However, hedgerow creation and enhancement will provide partial mitigation of predicted losses. Predicted breeding birds based on 9 pairs per km ² . NB the original baseline figure appears high given the area and landscape available.
Skylark	42	6	-36	The removal of open arable land within the development site will limit breeding and foraging opportunity. The creation of wet grassland will provide sub-optimal habitat which may assist mitigation of predicted losses. The association of mitigation area A within HMWG will greatly enhance the features for this species Predicted breeding pairs based on 10 pairs per km ² .
Swallow	19	5	-14	Nesting opportunities Are provided on buildings and structures adjacent to site Cattle grazing, wet grassland, muddy scrapes and ponds within Mitigation Area A at HMWG may provide improved feeding. Predicted breeding pairs based on 8 pairs per km ² in favourable habitat.
Meadow Pipit	19	2	-17	Wet grassland with uncultivated margin and wetland edges provided at HMWG will provide some mitigation for loss of farmland. Predicted breeding pairs based on 3 pairs per 1 km ² .
Yellow Wagtail	9	6	-3	Mitigation Area A within HMWG with wet grassland and cattle grazing will provide optimal conditions. Predicted breeding pairs based on 10 pairs per km ² .
Pied Wagtail	10	2	-8	The provision of newly created and enhanced hedgerows within the development site will provide potential breeding opportunity. Predicted breeding pairs based on 2.5 pairs per km ² .
Wren	22	16	-6	The creation and enhancement of hedgerows within the development site will provide breeding opportunities. Predicted breeding birds based on 25 pairs per km ² .
Dunnock	7	12	+5	The creation and enhancement of hedgerows within the development site will provide breeding opportunities. Predicted breeding birds based on 20 pairs per km ² .
Robin	6	8	+2	The creation and enhancement of hedgerows within the development site will

Species	Baseline Pairs	Predicted number of pairs after mitigation	Difference in number of after mitigation applied	Explanation
				provide breeding opportunities and mitigate predicted losses. Predicted breeding birds based on 12.5 pairs per km ² .
Blackbird	14	15	+1	The creation and enhancement of hedgerows within the development site will provide breeding opportunities and wild bird cover will increase overwinter survival. Predicted breeding pairs based on 25 pairs per km ² .
Song Thrush	3	3	0	The creation and enhancement of hedgerows within the development site will provide breeding opportunities and wild bird cover within HMWG will increase overwinter survival. Predicted breeding birds based on 5 pairs per km ² .
Mistle Thrush	5	2	-3	The creation and enhancement of hedgerows within the development site will provide breeding opportunities. Predicted breeding pairs based on 2.5 pairs per km ² .
Sedge Warbler	28	2	-26	The creation and enhancement of ditches within the development area will provide breeding opportunities. Likely to colonise Mitigation Area B. Predicted breeding pairs based on 4 pairs per km ² . In optimal habitats such as those around the ponds in Area B and along ditches densities can be significantly higher but a worst case scenario has been reported.
Reed Warbler	11	2	-9	As ponds mature in Mitigation Area B some colonisation possible. However, as this is uncertain given this species preference for larger stands of reed the worst case scenario has been reported.
Blackcap	6	2	-4	Provision of hedges, scrub, and rough grassland within HMWG will reduce but not eliminate impacts on this species. Predicted breeding pairs based on 3.75 pairs per km ² .
Garden Warbler	4	1	-3	As for Blackcap, although this bird tends to prefer more parkland types of landscape which provision of standards within hedges may mimic.
Lesser Whitethroat	9	1	-8	Requires dense scrub, preferably with bramble and this will take time to establish. Longer term some colonisation possible but due to uncertainty worst case scenario reported. Predicted breeding pairs based on 1 pairs per km ² of pasture.
Whitethroat	46	31	-15	A density of 50 pairs/ km ² assumed. Will benefit from increase and improvement of hedgerows.
Chiffchaff	1	2	+1	Provision of hedgerows with standards will produce some parkland type habitat.

Species	Baseline Pairs	Predicted number of pairs after mitigation	Difference in number of after mitigation applied	Explanation
				Predicted breeding pairs based on 2.5 pairs per km ² .
Willow Warbler	3	9	+6	Prefers patchwork of scrub trees with understory of grass to breed. May respond to ditch and hedgerow provision. Predicted breeding pairs based on 15 pairs per km ² .
Long-tailed Tit	6	2	-4	Improvements at Chase Hill, hedgerows and insect rich rough grazing will moderate losses. Predicted breeding pairs based on 3.75 pairs per km ² .
Blue Tit	17	15	-2	The provision of Tit nest boxes will provide breeding opportunities. Predicted breeding pairs based on 25 pairs per km ² woodland.
Great Tit	12	6	-6	The provision of Tit nest boxes will provide breeding opportunities. Predicted breeding pairs based on 10 pairs per km ² .
Tree-creeper	1	1	0	The removal of woodland within the development site will limit breeding opportunity. No planned mitigation measures will directly benefit the species. May be able to utilise hedgerow with standards to compensate for woodland losses but as some uncertainty worst case scenario reported. EBCC data indicates 5-10 pairs per km ² .
House Sparrow	1	1	0	Species only recorded in mitigation area; therefore no losses are predicted. Provision of wild bird cover may lead to population increase through better overwinter survival.
Tree Sparrow	24	31	+7	The combination of nest boxes, ditches and hedges and increased winter survival through the provision of winter bird crop within HMWG indicates potentially optimal conditions leading to increased populations. Predicted breeding pairs based on 5 pairs per 10 ha.
Chaffinch	34	31	-3	The creation and enhancement of hedgerows within the development site will provide breeding opportunities. Wild bird cover will increase overwinter survival. Predicted breeding pairs based on 50 pairs per km ² .
Goldfinch	24	12	-12	The provision of ponds within Mitigation Area B and the creation and enhancement of hedgerows within the development site will provide breeding opportunities. Predicted breeding pairs based on 20 pairs per km ² .
Linnet	59	6	-53	The provision of ponds within Mitigation Area B and the creation and enhancement of hedgerows within the development site

Species	Baseline Pairs	Predicted number of pairs after mitigation	Difference in number of after mitigation applied	Explanation
				will provide breeding opportunities. Wild bird cover crops will increase overwinter survival. Predicted breeding pairs based on 10 pairs per km ² .
Bullfinch	4	1	-3	Enhancement of hedgerows within the development site will provide breeding opportunities and feeding areas. Predicted breeding pairs based on 1.5 pairs per km ² .
Yellow hammer	11	4	-7	Increase in hedgerows, uncultivated grass strips and winter bird cover within HMWG will benefit this species and lead to a net gain. Predicted breeding pairs based on 6.2 pairs per km ² .
Reed Bunting	18	6	-12	The provision of ponds within Mitigation Area B and newly created and enhanced hedgerows within the development site will provide breeding opportunities and mitigate some of the predicted losses. Predicted breeding pairs based on 10 pairs per km ² .
Barn Owl	1	1		The provision of pasture and boundary mosaic in mitigation area A within HMWG will serve to provide hunting habitat

2.6 SPA BIRDS

2.6.1 Baseline

- (i) Six species were recorded using the fields on and around the AMEP site, black-tailed godwit (*Limosa limosa*), lapwing (*Vanellus vanellus*), redshank (*Tringa totanus*), whimbrel (*Numenius phaeopus*), shelduck (*Tadorna tadorna*) and curlew (*Numenius arquata*) and the main areas are shown in Figure 2.

Figure 2 Key Inland Sites on South Humber Bank



- (ii) Curlew has been recorded in numbers ≥ 1 % of the Humber Estuary SPA population, however, the remaining species have been recorded only either infrequently, or in very low numbers.
- (iii) Table 3 details the numbers of curlew recorded during the latest 2010/2011 winter survey on key fields in the AMEP site and immediate surrounds. A peak of 158 birds (ie 3.6% of the SPA population) was recorded in week 3 (13th – 19th September 2010), of which 123 (ie 2.8%) were within Fields K (235) and J (240) within the AMEP site.




**AMEP
TEMMP**

MAY 2018

Table 3 Curlew Numbers Recorded on Weekly Surveys: September 2010 – April 2011

Field Ref	Week Number	Week Number																														
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
L 225		0	0	0	7	0	12	15	0	0	10	10	0	1	0	0	2	0	0	0	0	2	65	8	62	23	81	54	9	16	66	28
L 226		0	0	35	0	37	0	46	0	0	13	0	0	0	0	0	0	4	2	20	0	0	42	0	0	52	0	0	90	0	0	28
K 235		1	0	61	0	0	0	0	0	22	0	3	0	0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0	52	0
J 240		0	28	62	43	20	0	16	0	35	54	75	38	48	1	0	0	0	16	15	0	0	20	38	19	15	30	35	4	0	0	0
- 236 1		5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
- 241 2		0	0	0	0	0	0	0	0	6	0	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

- 1 – Field immediately north of and parallel to Station Road.
- 2 – Field immediately north of Field J.

	AMEP TEMMP	18TH MAY 2016
---	-----------------------	-------------------------------------

- (iv) Two of the main onshore areas used by curlew at Killingholme Fields lie within the AMEP site and will be lost. These are Fields J (approximately 8 ha) which is the most heavily used, and K (approximately 13 ha) totalling 21 ha. Fields L, which like J and K have been predominantly permanent pasture/hay crop will remain unaffected (southern part of Fields L)
- (v) Curlew can be present in any month between July to April on fields affected by AMEP although numbers are variable ranging from 0-123 (based on 2010/2011 winter data).

2.6.2 Impacts

- (i) Enabling Works commenced in 2014 to the north of station road, and resulted in 65ha of arable, pasture and farmland mosaic being developed under two planning permissions issued by North Lincolnshire Council: PA/2013/0519 and PA/2014/0512. Green corridors have been maintained along the line of the surface water drains.
- (ii) In total, 100.3 ha of terrestrial fields were lost to AMEP including 26.5 ha of field regularly used by up to 2.8% of the Humber population of curlew (max 123) based on 2010/2011 survey data.
- (iii) SPA birds at NKHP and Mitigation Area A to be provided at HMWG have the potential to be affected by noise and visual disturbance from future development, and this will be controlled by mitigation described in Objective NV1.

2.7 NOISE AND VISUAL DISTURBANCE

2.7.1 Baseline

- (i) Baseline noise levels were monitored at four locations on and around the AMEP site considered to be representative of the general area (see Figure A1 in Annex A – Supporting Information on Noise):
 - (a) Station Road close to NKM foreshore (Location S1);
 - (b) Station Road close on Killingholme fields (Location S2);
 - (c) Killingholme fields (Location S3); and
 - (d) NKHP (ECO 1).
- (ii) Location S1, is located to the west of the flood defences, as it was not practical to undertake measurements actually on the mudflats, but is still representative of the foreshore area.
- (iii) The average LA1 noise level and the range of LA1 noise levels recorded at each location are listed in Tables A1 – A4 in Annex A – Supporting Information on Noise. LA1 represents the noise level that is exceeded for 1% of the measurement period, and often reflects the noise level associated with more infrequent and noisy events. It can be considered as a “repeatable maximum” noise level.
- (iv) The data show that along the foreshore and at NKHP, typical average LA1 noise levels during the mid-winter can, at times, reach 75 dB(A). Similarly at Killingholme Fields which is a short distance inland, typical average LA1 noise levels can reach 79 dB(A). Average levels are generally lower along the foreshore and at NKHP compared to the Killingholme Fields (see Table A2). Statistical


analysis of the noise monitoring data, reveals maximum (L_{AMax}) noise levels of up to 87 dB(A) at both NKHP and the foreshore where L_{AMax} noise levels exceeded 55 dB(A) for a large proportion of the time. The analysis shows that L_{AMax} noise levels at NKHP exceed 55 dB (A) for 91% of the time (see Table A5 in Annex A). Key noise sources identified as contributing to the existing noise climate were from related to typical activities at the docks (see below). Whilst the survey was undertaken over a period of six days in December 2010, the activities recorded are considered typical of those which will occur at the docks throughout the year. The noise survey reported that the environmental noise at NKHP was "...significantly dominated by activities from Immingham Docks. The use of vehicle tugs was witnessed carrying loads to and from the docked vessels, which created bangs and clatters along with the vehicle movement itself. A stream of local HGV movements was also noted as lorries queued in that area". In addition the report states that:

"Two large vessels were noted to be docked at the Immingham Dock (1) north of the site during the observational periods. Engine noise could be heard from the vessels along with loading activities from the same area"; and

"Industrial noise was noticeable emanating from the metal work yard to the east of measurement position ECO1. Specific noises from this location were observed as intermittent bangs and clatters of steelwork, along with loading and unloading of lorries. Given the infrequency of noises from this location, the overall influence of noise from this source is considered to be relatively low when compared to noises from Immingham Docks"

- (v) The foreshore survey location at the eastern end of Station Road (S1) was defined as "...a reasonably remote location on the bank of the Humber River; with little pass through traffic and remote houses about a coastal lighthouse. Local traffic noise at this location was noted to be very low, with no moving vehicles witnessed in the area during the observational periods. Ambient traffic could be heard as a consistent source in the distance towards the south-west of the site".
- (vi) Typically, loading noise would constitute of intermittent clatters and bangs, being heard over engine and vehicle movement noises. Industrial noise to the west of this location could be identified by intermittent sirens at approximately 800Hz-1kHz, with no apparent constant pattern to the frequency of alarms. The noise level of alarms heard at this location was noticeable and at a similar level to the ambient traffic. Industrial noise from the west was subjectively less significant than north-west dock activities during the daytime".

(1) This refers to Humber Sea Terminals

	AMEP TEMMP	MAY 2018
---	-----------------------	-----------------

3.0 OBJECTIVES

3.1 CONSTRUCTION

3.1.1 Rationale and Objectives

- (i) Construction impacts have been identified within the AMEP site, at the site boundary with the Humber Estuary SPA and at NKHP. Objectives to ensure appropriate mitigation and legal compliance during construction are provided below.
- (ii) Impacts requiring mitigation have been identified for water vole, bats, great crested newts, breeding birds and SPA birds. Objectives for these species are detailed separately but there are some of the objectives for each species that overlap.
- (iii) The loss of Local Wildlife Site at Station road, 1.7 Ha of neutral grassland is significant within the county. A buffer zone around Mitigation Area A at HMWG has been highlighted as a suitable location to re-create a minimum of 3.06ha of this habitat. The means of achieving this is set out in Objective NG 1.
- (iv) At NKHP indirect construction impacts arising from noise and visual disturbance will be controlled through the mitigation described in Objective NV1. Direct construction effects at NKHP will arise during re-profiling of the existing islands to encourage their use by little ringed plover. This will require vegetation clearance and the creation of breeding islands topped with gravel (as described in Section 6.2.3 of the Statement of Common Ground (SoCG) on Shadow Habitats Regulation Assessment (HRA)).
- (v) Good construction practice will be embedded into any works undertaken on site. In particular Best Practice Guidance will be applied to the storage and use of hazardous materials. In locations where works are likely to occur in or near watercourses care will be taken to avoid contamination. Storage tanks will be bunded and all chemicals stored in appropriate containers. Sediment or contaminant traps such as hay bales, or booms in the water, will be used if necessary.

Figure 3: key locations of biodiversity objectives

Mitigation Area A for AMEP is to be provided at the Halton Marshes Wet Grassland and is therefore remote from direct effects from the AMEP construction development.

However, the objectives and targets which refer and relate to Mitigation Area A are still relevant and applicable in order to maintain the protection during the development of future Able development of Halton Marshes.

It is the ethos behind the Objectives and Targets which are applicable no matter where the geographical location.

To this end, the tabulated prescriptions retain the references to "Mitigation Area A at HMWG", as these will need to be considered in every detail and applied to the new location, the delivery mechanism is they will be included, in full within the Halton Marshes Conservation Management Plan HMCMP.

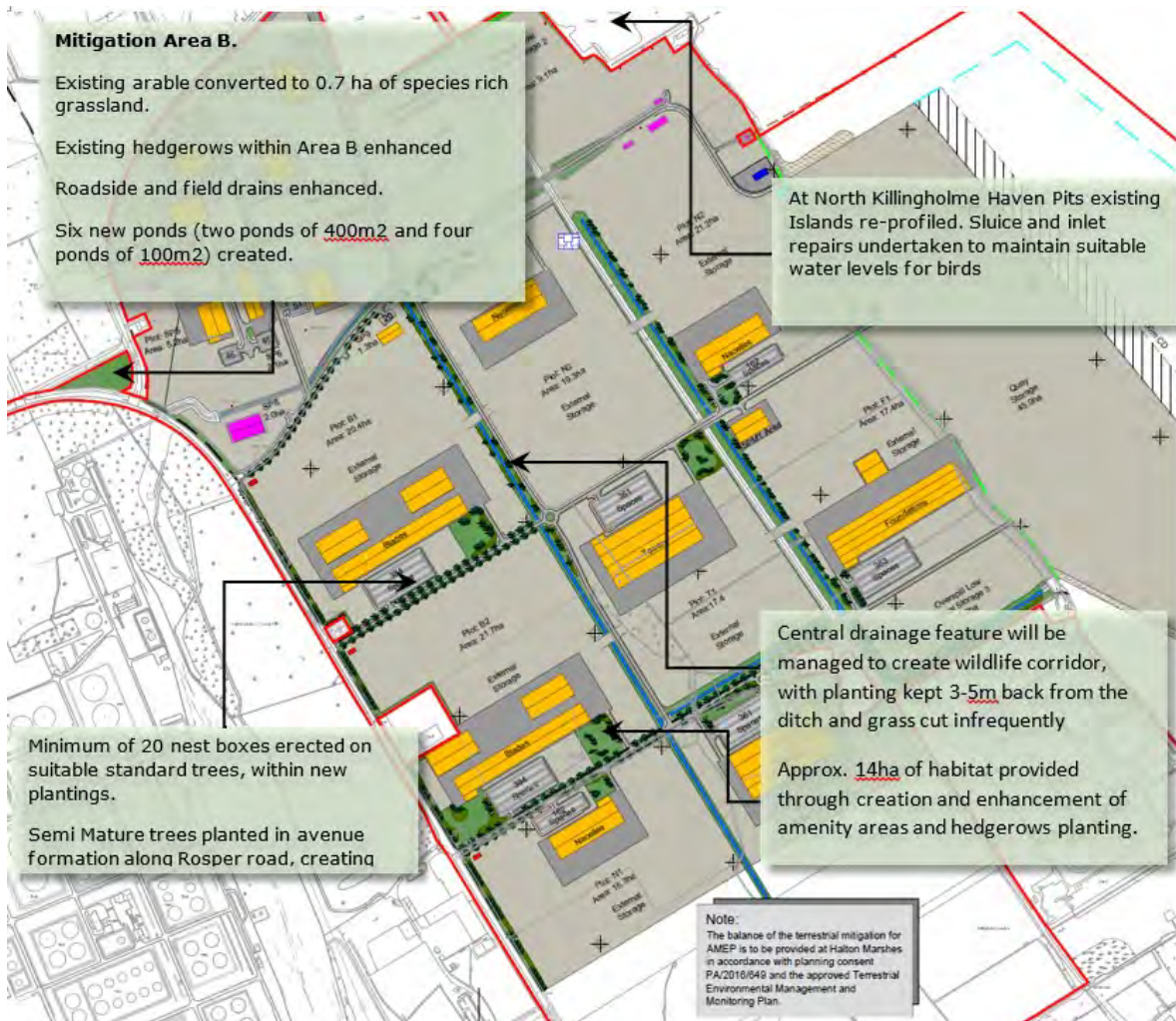
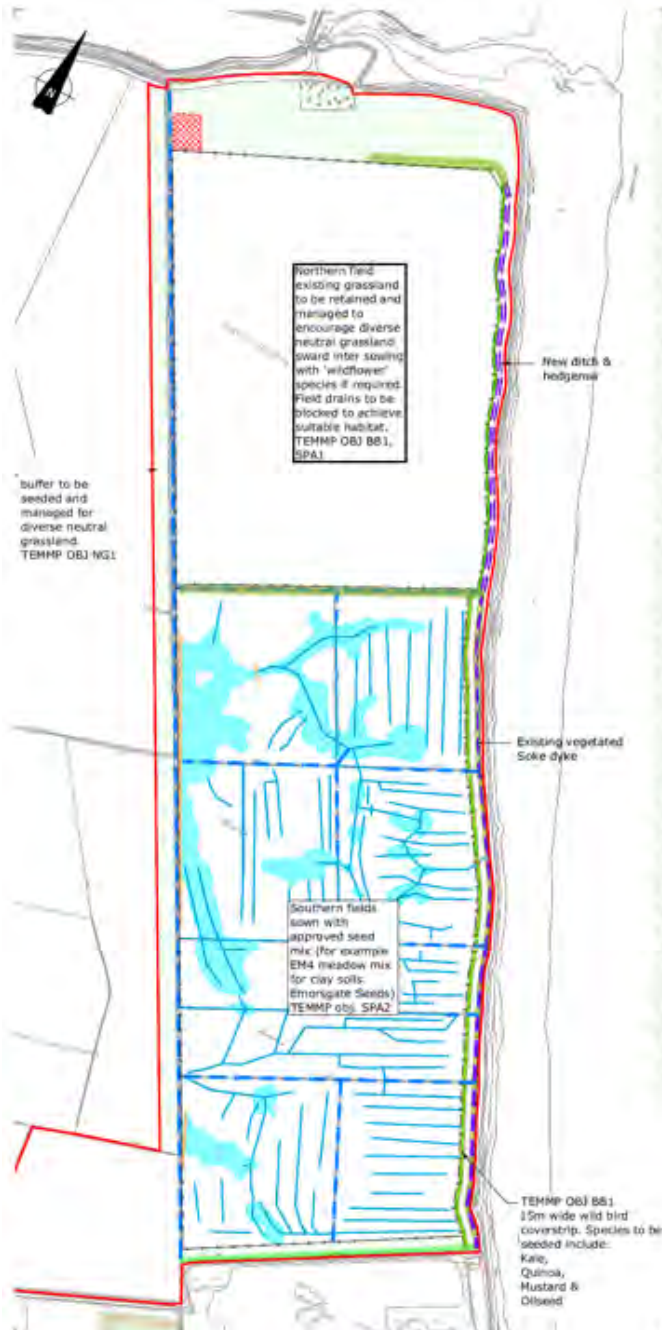


Figure 3a
Breeding birds – Proposed Mitigation AMEP



Mitigation Area A.

This requirement will be delivered within the extensive wet grassland habitat development at Halton Marshes.

20 ha core, with agreed buffers, of managed wet grassland and associated habitat features created at Halton Marshes Wet Grassland to support SPA species and breeding birds. The grassland will be managed in accordance with an agreed management plan to create swards focussed on overwintering SPA species, but also provide habitat for nesting species (eg Skylark and meadow pipit)

Hedgerows and associated ditch will be created along the north eastern boundary and existing mature hedgerow vegetation will be retained where possible and managed. This will provide further and additional habitats for a range of songbirds.

A minimum of 3.06ha of neutral grassland will be created in the buffer on the western boundary, although it is likely that the majority of the proposed site will evolve to be a neutral grassland community


A 15m wide unmanaged strip of "two year wild bird cover mix" sown in two sequential blocks at suitable locations towards the boundaries of the site, adjacent to existing hedgerows. This will provide continuous cover for many bird species. Wild cover planting may rotate to alternative locations within the site if required to allow "weed" control and ground recovery.

Three shelduck boxes will be strategically located throughout the HMWG site to provide suitable nesting habitat.

Figure 3b
Breeding birds – Proposed Mitigation Halton Marshes


Objective C1: Construction will comply with legal requirements and best practice with regard to water voles, bats and great crested newts.

Target	No killing or injuring of protected species, and no damage to newly created habitat.
Management	<ul style="list-style-type: none"> • Replacement habitats for protected species are provided prior to construction as detailed in species specific objectives and licence conditions. • Translocation of species is undertaken as prescribed in species objectives and licences • Habitat checks to be undertaken as specified in species specific objectives. In particular all waterbodies and surrounding areas will be checked prior to construction to ensure no water voles or great crested newts are present. • As stated in Objective B1 all potential bat roost sites will be examined prior to clearance and if there is evidence of roost use (current or historical) a licence will be obtained. • For bats construction mitigation for roosts will include the use of one way excluders where bats are still present. Use of such excluders would be confined to periods when bats are least vulnerable (e.g.. for a maternity colony it would avoid the May-August period) and the timing of felling would avoid the period bats are likely to be present. All roost and potential roost trees will be soft felled. Soft felling (taking the tree down in sections which are lowered to the ground) would be overseen by a licensed bat worker. • Ecological briefing for workforce (including recognition, contact procedures, action to be taken) will be provided pre-construction. • Construction lighting will be controlled to prevent light spill onto remaining bat commuting areas such as ditches, hedgerows and treelines.
Monitoring	Undertake pre-construction surveys of suitable habitat
Who	Survey by suitably experienced and where appropriate licensed surveyors Briefing by Environmental Manager / Ecological Clerk of Works
When	Pre-construction
Limits of Acceptable Change	N/A
Remedial Action	Cease work if animals found in work area and consult with Environmental Manager
Notes	A pre-construction survey will be undertaken and the need for any other remedial action identified if necessary.

	AMEP TEMMP	MAY 2018
---	-----------------------	-----------------

Objective C2: Prevent harm to breeding birds.

Target	No destruction of nests or eggs, killing or injuring of chicks of wild birds. No disturbance of breeding Schedule 1 bird species.
Management	<ul style="list-style-type: none"> • Remove suitable nesting habitat during September-March (including removal of gravel and brownfield areas suitable for nesting little ringed and ringed plover) • Strim/ mow grassland and vegetation areas fortnightly to reduce suitability. • Ecological briefing for workforce (including recognition, contact procedures, action to be taken) • Where potential nesting habitat exists and works have to take place during April-August, the affected area will be checked to confirm that there are no nesting birds.
Monitoring	Undertake pre-construction survey of suitable habitat for nesting birds, and in any areas where works has to commence within the breeding season.
Who	Survey by suitably qualified surveyor Briefing by Environmental Manager/ Ecological Clerk of Works
When	Pre-construction During construction in specific works areas if required.
Limits of Acceptable Change	N/A
Remedial Action	<ul style="list-style-type: none"> • Cease work if nesting birds found in work area and consult with Ecological Clerk of Works or in their absence the Environmental Manager. • Any active nests not to be disturbed until young have fledged and capable of sustained flight.


	AMEP TEMMP	MAY 2018
---	-----------------------	-----------------

Objective C3: Minimise construction disturbance to SPA populations at NKHP and Mitigation Area A at HMWG

Target	<ul style="list-style-type: none"> No significant disturbance of birds at NKHP or Mitigation Area A at HMWG due to construction of AMEP, or at NKHP from the works on the inlet /outfall structure which links NKHP to the River Humber. Minimise disturbance to birds at NKHP during re-profiling of existing islands to encourage use by little ringed plover.
Management	<ul style="list-style-type: none"> Construction practice to incorporate mitigation on noise and visual impacts described in Objective NV1. Re-profiling of the existing islands to encourage use by little ringed plover, and work on the inlet/outfall will be undertaken between December-March. This is the period of least roost use and avoids conflicts with breeding birds (IECS TTTC data indicates that peaks of 0-126 birds roost at NKHP during this period). Any vegetation, including scrub, removal will also be undertaken at this time. Subject to obtaining all necessary consents, the NKHP outfall channel will be excavated so that discharge is not impeded, and there will be periodic excavation of the channel to maintain flows. Rock armour will be applied in areas where erosion is an issue. These works will take place behind a bund and within an area subject to existing noise disturbance, and hence the timing constraints applied to the island re-profiling (see above) will not apply. Detailed method statements (including timings) for the island re-profiling and the work to the inlet / outfall structures to NKHP will be agreed with NE and LWT in advance of work commencing. The work will be subject to a SSSI Consent Licence from NE. PPG 5 will be implemented due to the working being in, or near to water.
Monitoring	The approach and methods will be part of the wider monitoring programme set out in the Compensation EMMP, and the noise/bird monitoring protocol developed as part of Objective NV1.
Who	Suitably experienced ornithological and acoustic surveyor(s) for monitoring. Environmental Manager/ Ecological Clerk of Works to monitor construction.
When	Monitoring during construction as part of wider monitoring programme on twice monthly basis (spring and neap tides)
Limits of Acceptable Change	As described in Objective NV1.
Remedial Action	<ul style="list-style-type: none"> Review construction methods and implement appropriate management action. Such management could include repair of faulty equipment, changing the siting of facilities or equipment causing excess disturbance, providing additional screening, changing the phasing / timing of some work.

3.2 Water Vole

3.2.1 Rationale and Objectives

	AMEP TEMMP	MAY 2018
---	-----------------------	-----------------

2.5 km of ditch will be lost due to site construction, thus resulting in loss of water vole habitat if left unmitigated.

Objective WV1: The site will have sufficient suitable ditch habitat to sustain or enhance water vole populations.

Target	Create and enhance suitable water vole habitat throughout the development site, resulting in a net increase in suitable water vole habitat of approximately 2 km.
Management	<ul style="list-style-type: none"> • Creation or realignment of c2.7 km of drainage ditch throughout the development site • Design of ditch to provide a habitat of high suitability for water vole. This will include permanent slow running water with aquatic and emergent macrophytes, bordered by gently sloping banks on either side with 2-5m swathes of vegetation, and with soils suitable for burrowing. • Creation and realignment works will take place 12 months prior to the removal of any existing water vole habitat, to allow for the establishment of the new drainage ditches. • Retention of the majority of drains with high or moderate water vole activity and enhancement of these through removal of excessive in-drain and overhanging vegetation.
Monitoring	Water vole survey to determine population size and distribution. Survey of ditches to ensure continued suitability for water vole.
Who	Suitably qualified surveyor. Responsibility of the Environmental Manger to commission surveys.
When	An annual survey between April and October for up to five years If population remains with the Limits of Acceptable Change after three years, monitoring can cease if agreed by the Steering Group.
Limits of Acceptable Change	Population of water voles is maintained at least 78 breeding females (ie does not decrease by >5%).
Remedial Action	<ul style="list-style-type: none"> • Careful removal of excessive surrounding vegetation where it is resulting in overshadowing. • Removal of excessive aquatic vegetation in drains. • Control of mink.

3.3 BATS

Rationale and Objectives

Although the site currently provides sub-optimal habitat for bats, temporary loss of foraging habitat and disruption to commuting routes is predicted to occur as a result of the works. The objectives are designed to ensure mitigation is put in place and its effectiveness monitored. Targets relate to maintaining the species diversity of the baseline, although *Nathusius pipistrelle* was recorded only as a “possible” record and is not included within the diversity target.

Objective B1: The site will provide suitable foraging, commuting and roosting habitat for bats

Target	<p>Creation and enhancement of bat habitat including green corridors and roosting opportunities. Sustaining the diversity of species and levels of activity present in the baseline. During tree removal ensure all legal requirements are met.</p>
Management	<ul style="list-style-type: none"> • All suitable trees will be checked prior to removal by a licensed batworker either by climbing (subject to compliance with any health and safety requirements), or emergence surveys to ensure no roosts are present. • If tree roosts are present a licence application accompanied by an appropriate method statement will be made to NE. • Enhancement of existing hedgerows and drains. • Creation of new hedgerows. • Planting of trees to provide future roosting opportunities. • Installation of bat boxes in suitable trees. • Creation of foraging areas linked to green corridors. • Direction of site lighting away from green corridors and foraging areas to minimise disturbance. • Creation of green bridge to allow safe access over road to Burkinshaw’s Covert and increase connectivity.
Monitoring	<p>Bat activity surveys: Single walked transect undertaken during suitable conditions (light winds, dry, mild >10°C) undertaken within the same two week period annually. Supplemented by passive detectors at fixed points (including green road crossing, NKHP foraging area, central hedge and ditch). Bat boxes checks for signs of use.</p>
Who	<p>Suitably qualified and licensed bat surveyor. Responsibility of the Environmental Manger to commission surveys.</p>
When	<ul style="list-style-type: none"> • Transect surveys annually between May and September for up to five years repeated within same two week period each year. • Bat box surveys September each year (when young can reasonably be expected to be active). • If five or more species are recorded each year, and activity levels and patterns remain equal to or greater than the original baseline monitoring can cease after three years.
Limits of Acceptable Change	<p>If bat activity falls below baseline levels in two consecutive years. If species diversity falls below four species per annum.</p>
Remedial Action	<ul style="list-style-type: none"> • Review survey data to establish potential causes. • Relocation of unused bat boxes • Additional habitat enhancement


3.4 GREAT CRESTED NEWTS

Rationale and Objectives

The works will result in the loss of pond habitat from the site, including two confirmed breeding ponds and one pond which may be used for foraging. In addition, terrestrial habitat in the 250 m buffer surrounding the ponds will be lost. This will be subject to a Habitats Regulations Mitigation licence that will cover the process of destroying existing breeding and resting places, moving animals and the provision of alternative habitat. The objectives in this section are therefore closely linked to the licence conditions and reflect the method statement that underpins the licence application.

Objective GCN1: Maintain breeding population by providing suitable alternative ponds and associated terrestrial habitat.

Target	<p>Creation of six replacement ponds, four measuring 100 m² and two measuring 400 m² to more than compensate for the loss of 114.5 m² of lost habitat</p> <p>A large breeding meta-population of newts continue to inhabit mitigation area B. Breeding shall be evidenced by results of egg searches Comply with the licence requirements; specifically appendix 6 the habitat creation and management proposals</p>
Management	<ul style="list-style-type: none"> • Construction of new ponds in Mitigation Area B between Chase Hill Wood and Rosper Road, approximately 1 km from existing breeding ponds in accordance with NE guidance • Replacement of the two existing breeding ponds with four new ponds. • Replacement of the foraging pond with two new ponds. • Design and planting specification of the replacement ponds to reflect those of the breeding ponds to be removed and agreed by NE. • Pond creation will occur one year in advance of capture and translocation works to ensure establishment of suitable conditions. • Location of new ponds at a site which has connectivity to 10 ha of established broadleaf wood, allowing a larger meta-population to be supported. • Enhancement of surrounding terrestrial habitat through conversion of existing arable field surrounding the new ponds to permanent species-rich grassland. • Enhancement of surrounding hedgerows and verges for wildlife. • Creation of refugia within the 50 m buffer surrounding each pond. • Installation of amphibian-proof barrier around woodland edge to minimise road mortality. • Management to be in accordance with Protected Species licence, annex and "appendix 6 – habitat creation and management proposals for compartment 5 of the Chase Hill Wood Management Plan. General habitat management to also address needs of other amphibians providing they don't conflict with GCN
Monitoring	<ul style="list-style-type: none"> • Monitoring of existing and new ponds to monitor meta-population size and continued utilisation of new ponds.

	AMEP TEMMP	MAY 2018
---	-----------------------	-----------------

	<ul style="list-style-type: none"> • Recording of pond physical attributes including photographic records. • Survey and monitoring is also to report/record occurrences of other amphibians
Who	Suitably qualified and licensed GCN surveyor. Responsibility of the Environmental Manager to commission surveys.
When	Six visits annually between March and June for a period of 6 years
Limits of Acceptable Change	A large breeding meta-population of newts continue to inhabit the area. Breeding shall be evidenced by results of egg searches.
Remedial Action	<ul style="list-style-type: none"> • Dependent of review of monitoring survey findings but examples listed below. • Maintenance of surrounding terrestrial habitat as permanent species-rich grassland. • Removal of fish from ponds. • Increase emergent vegetation at bankside where this will provide increased in-water refuges from predators. • Clearance of overhanging vegetation to reduce shading. • Clearing of excessive in-pond vegetation. • If waterfowl grazing an issue protect areas of vegetation used for egg laying with large open mesh fencing. • Provide additional smaller refuge ponds unsuitable for waterfowl. • If habitat management fails and waterfowl are a cause of GCN target failure then in extremis discouragement of waterfowl from ponds will be implemented
Notes	The amphibian fencing does not cover the north of the site where it connects with Fox Covert.

3.5 BREEDING BIRDS


Rationale and Objectives

Mitigation Areas A and B are provided, together with enhancement of boundary features, hedgerows, and ditches to offset the loss of breeding birds. The management objectives relate to specific areas, and habitat and management monitoring will be site specific. Monitoring of bird territories will be undertaken over the whole site as breeding birds are likely to rely on a range of features over the site; for example granivores may use hedges or bird boxes to breed in, insect rich grassland to find food for juveniles, but rely on farmland bird cover crops for winter survival. As a consequence bird targets are set across the whole site rather than split into individual sites. Breeding bird targets have been set for 3 years after mitigation has been implemented, to reflect the need for habitat to mature, whilst balancing a need for early intervention if mitigation is not succeeding.

The baseline and impact assessment indicated predicted changes in bird populations, Table 4 below presents targets based on those predictions. Generally the 3 year target is approximately 50% of the 5 year target. Targets are based on the predicted populations post construction and with the application of mitigation. Targets are subject to natural variability, and in assessing if a target has been reached or not external factors such as national population trends would need to be applied.

Table 4: Bird Targets for AMEP Site Post-construction – including mitigation provided within HMWG

Species	Target Pairs (3yrs)	Target Pairs (5 yrs)
Mute Swan	1	1
Shelduck	1	3
Mallard	5	10
Shoveler	1	1
Red-legged Partridge	1	3
Pheasant	2	5
Sparrowhawk	1	1
Kestrel	1	1
Water Rail	1	1
Moorhen	3	6
Oystercatcher	1	2
Little Ringed Plover	1	2
Ringed Plover	1	3
Lapwing	1	1
Stock Dove	1	1
Woodpigeon	3	6
Skylark	3	6
Swallow	2	5
Meadow Pipit	1	2
Yellow Wagtail	3	6
Pied Wagtail	1	2
Wren	8	16
Dunnock	6	12
Robin	4	8
Blackbird	7	15
Song Thrush	1	3

	AMEP TEMPP	MAY 2018
---	-----------------------	-----------------

Species	Target Pairs (3yrs)	Target Pairs (5 yrs)
Mistle Thrush	1	2
Sedge Warbler	1	2
Reed Warbler	1	2
Blackcap	1	2
Garden Warbler	1	1
Lesser Whitethroat	1	1
Whitethroat	15	31
Willow warbler	4	9
Chiffchaff	1	1
Long-tailed Tit	1	2
Blue Tit	7	15
Great Tit	3	6
Treecreeper	1	1
House Sparrow	1	1
Tree Sparrow	15	31
Chaffinch	15	31
Goldfinch	6	12
Linnet	3	6
Bullfinch	1	1
Yellowhammer	2	4
Reed Bunting	3	6

Objective BB1: Manage Mitigation Area A within HMWG to assist in reducing impacts on breeding birds arising from AMEP


Target	<p>Provide mitigation in the Halton Marshes wet grassland development site of A 20ha core area with appropriate buffers.</p> <p>The majority of the area is to be wet grassland with (3.06ha) of neutral grassland, wild bird cover, a tree belt and hedgerows (see Figure 3)..</p>
Management	<ul style="list-style-type: none"> • Wet grassland management to follow specifications of Objective SPA 2 and SPA 3. • Creation of new hedgerows . • Tree belt, which will include resistant cultivars of elm (to provide potential habitat for white-letter hairstreak). • Minimally managed (i.e. no application of herbicides other than as spot treatment, or fertilisers and subject to light cutting or grazing) field boundary strips 2-5 m wide under and adjacent to hedges. • A 15m wide 1.38 ha strip of wild bird cover crop will be established immediately adjacent to an existing hedgerow. This is near remaining farmland habitat and the hedgerow will provide cover close to the feeding area. This is within the wet grassland area but close to the existing hedge and therefore within an area unlikely to be used by wading birds.

	AMEP TEMMP	MAY 2018
---	-----------------------	-----------------


	<ul style="list-style-type: none"> • The biannual wild bird cover crop mix to include kale, quinoa, mustard, oil-seed rape, oats, red clover. It will be planted as two separate blocks (0.69 ha per year) to provide an overlapping continuous seed source. • The wild bird cover crop will be rotated This will allow the ground to recover and any necessary weed control to be undertaken. the rotation will deliver the 1.38 ha minimum of cover at each potential location. • Light grazing will be allowed unless it causes problems with establishment, or reduces grazing levels within the wet grassland.
Monitoring	<ul style="list-style-type: none"> • CBC monitoring and mapping with six visits. •
Who	<p>Monitoring by suitably qualified ecological surveyor organised by the site Environmental Manager.</p> <p>Establishment and management of grassland and wild bird cover boundary strips by suitably qualified contractor overseen by the site Environmental Manager</p>
When	<ul style="list-style-type: none"> • Bird Monitoring annually for five years. Option to cease surveying after this point if bird populations monitored within development have met minimum number of pairs target detailed in Table 4. Any such change in monitoring subject to review and agreement of the Steering Group. •
Limits of Acceptable Change	<ul style="list-style-type: none"> • 3 year targets for birds not met, and failure cannot be explained by national trends. • Wild bird cover crop to have 75% viable plants.
Remedial Action	<ul style="list-style-type: none"> • Where the monitoring data identifies bird species at risk, then the existing management approach will be reviewed and new measures implemented for those species. • Supplementary winter feeding for farmland birds. • For wild bird cover additional application of fertiliser or Farmyard Manure, use of disease resistant seed stock, overseeding with radish and mustard and/or re-seeding in failed areas, if high weed burdens periodic use annual mixtures to clean seedbed.

Objective BB2. Manage Mitigation Area B to assist in reducing impacts on breeding birds arising from AMEP

Target	Species rich grassland and six new ponds within the triangular shaped area of land between Chase Hill Wood and Rosper Road.
Management	<ul style="list-style-type: none"> • Conversion of existing arable field to species rich grassland. • Enhancement of existing roadside and field drains. • Enhancement of the existing hedgerows around Area B. • Creation of six new ponds (two ponds of 400 m² and four ponds of 100 m²). • No management for breeding birds must interfere nor harm or hamper the goals of management for GCNs
Monitoring	CBC monitoring and mapping with six visits annually.
Who	A suitably qualified ecological surveyor organised by the site Environmental Manager.

	AMEP TEMMP	MAY 2018
---	-----------------------	-----------------

When	Bird Monitoring annually for five years. Option to cease surveying after this point if bird populations monitored within development have met minimum number of pairs target detailed in Table 4. Any such change in monitoring subject to review and agreement of the Steering Group.
Limits of Acceptable Change	3 year targets not met and failure cannot be explained by national trends.
Remedial Action	<ul style="list-style-type: none"> • Where the monitoring data identifies bird species at risk, then the existing management approach will be reviewed and new measures implemented for those species. • Control of sycamore. • Supplementary winter feeding of farmland birds.

	AMEP TEMMP	MAY 2018
---	-----------------------	-----------------

Objective BB3: Enhancement within the AMEP development site. This is out-with Mitigation Area A and Mitigation Area B to assist in reducing impacts on breeding birds arising from AMEP.

Target	Habitat Improvement throughout site to sustain breeding birds (see Figure 3). To follow the existing relevant planning conditions and management plans specific to breeding birds such as the tree sparrow mitigation plan.
Management	<ul style="list-style-type: none"> • Minimum of 20 Nest boxes erected on suitable mature trees within the site of which 12 are to have a hole diameter of 28 mm suitable for tree sparrows and be placed in close proximity to promote colonial breeding. • Nest boxes to be fitted to semi-mature tree stock used for more formal planting along main access roads. • Autumn/winter food source from berry bearing plants will be provided through planting up of boundary features and amenity areas. Use of Native species such as rowan, guelder rose, hawthorn, holly, beech, hazel in boundary features but also sweet briar (<i>Rosa rubiginosa</i>) would be considered in amenity areas. • Minimal management to grassland and ditch flora associated with water vole areas to provide seed and insect resource. • Water vole areas to have hedgerows and tree planting set 3-5m back from ditch; these boundary features will also be of native trees and shrubs and provide feeding and nesting resource.
Monitoring	CBC monitoring and mapping with six visits annually.
Who	Suitable ecological surveyor organised by the site Environmental Manager
When	Bird Monitoring annually for five years. Option to cease surveying after this point if bird populations monitored within development have met minimum number of pairs target detailed in Table 4. Any such change in monitoring subject to review and agreement of the Steering Group.
Limits of Acceptable Change	3 year targets not met and failure cannot be explained by national trends.
Remedial Action	<ul style="list-style-type: none"> • Where the monitoring data identifies bird species at risk, then the existing management approach will be reviewed and new measures implemented for those species. • Supplementary winter feeding for farmland birds.


3.6 SPA BIRDS

Rationale and Objectives

The AMEP development site supports >1% of the Humber Estuary population of Curlew; it has recorded a peak count of 123 birds per annum. The curlew roost and feed within grassland fields. The Humber Estuary qualifies as a Special Protection Area under the Birds Directive partly because it supports more than 20,000 waterfowl. Curlew is one of the waterfowl species listed on the citation. The principal objective for Mitigation Area A is to support peak numbers of curlew that are currently found on the development site at least once per annum subject to national trends. This will be done through the provision of newly created wet (or damp) grassland habitat. The grassland habitat should also be of benefit for other wintering bird species.


Objective SPA1: Mitigation Area A (at HMWG) provides mitigation habitat for Curlew

Target	Support a peak count of 123 curlew at least once per annum subject to national trends.
Management	Maintenance of suitable habitat for curlew within Mitigation Area A (see SPA2 and SPA3). This will comprise 20 ha core area with associated agreed buffers predominantly wet grassland and 3.06 ha is neutral grassland (see Figure 3) to be provided within the buffer area.
Monitoring	Monthly counts of birds using fields within the site around the high tide. Counts to include details of any disturbance and disturbance response behaviour (especially alert and flushing distances).
Who	A suitably qualified ecological surveyor organised by the site Environmental Manager
When	Monthly counts August-April for minimum of five years. If site regularly supports over 2% of SPA curlew population after this time, the Steering Group can agree cessation of counting
Limits of Acceptable Change	Counts of ≤ 1 % Humber population of curlew occur in less than 3 months between August-April (compared to WeBS data collected during the same months)
Remedial Action	<ul style="list-style-type: none"> • Make adjustments to habitat and environmental conditions to facilitate achievement of the objective, where a review of the monitoring data identifies any obvious cause for failure to reach the target. • These adjustments could include management of disturbance, increase/decrease of soil moisture, changing the number, size, location and shape of wader scrapes, and adding biomass to increase worm numbers. • Sward height management through grazing or cutting.

	AMEP TEMMP	MAY 2018
---	-----------------------	-----------------


Objective SPA2: Mitigation Area A (at Halton Marshes) provides open, wet (or damp) grassland habitat

Target 1	Establishment of wet or damp vegetation community within Mitigation Area A.
Management	<ul style="list-style-type: none"> • Sowing with a wet grassland seed mix (for example mix EM8 from Emorsgate) to be agreed with NLC and leaving uncut and ungrazed for 3 to 6 months, as appropriate. • 0.2 livestock units per hectare per year in April to August inclusive in Year 1; and • 0.3 livestock units per hectare per year in April to August inclusive in all subsequent years; or • Equivalent management by cutting the grassland. • No fertilisers to be used except if needed to boost earthworm biomass. • No herbicides to be used except if needed to control problem plant species, with application by knapsack sprayer or weed-wipe.
Monitoring	<ul style="list-style-type: none"> • 15 permanent quadrats to be established measuring 2m x 2m within the wet grassland area. • Plant species and abundance to be recorded for each quadrat. • Visual assessment of the extent of wet or damp grassland; and species rich grassland.
Who	A suitably qualified ecological surveyor organised by the site Environmental Manager.
When	<ul style="list-style-type: none"> • Monitoring to undertaken annually in June for the first five years. • Monitoring can cease if the target is achieved for three consecutive years after the first five years of monitoring provided that the management regime remains unchanged. • Any changes in monitoring to be reviewed and agreed by the Steering Group.
Limits of Acceptable Change	<ul style="list-style-type: none"> • At least one species characteristic of wet or damp grasslands must be present throughout all of the 15 permanent quadrats. • Wet or damp grassland vegetation community across at least 80% of Mitigation Area A
Remedial Action	Adjustment of drainage regime to increase wetness across the grassland to promote establishment of wet or damp grassland.
Target 2	Average sward height of 10 cm across Mitigation Area A each month from September to April.
Management	<ul style="list-style-type: none"> • 0.2 livestock units per hectare per year in April to August inclusive in Year 1; and • 0.3 livestock units per hectare per year in April to August inclusive in all subsequent years; or • Equivalent management by cutting the grassland.
Monitoring	Measurement of sward height at 100 sampling points once every 2 months during September to April Inclusive
Who	Environmental Manager.
When	<ul style="list-style-type: none"> • Monitoring to occur once every two months month from September to April, annually for 5 years. • Monitoring can cease if the target is achieved for three consecutive years after the first five years of monitoring provided that the management regime remains unchanged. • Any changes in monitoring to be reviewed and agreed by the Steering Group.

	AMEP TEMMP	MAY 2018
---	-----------------------	-----------------

Limits of Acceptable Change	Average sward height of 10 cm across Mitigation Area A each month between October and April.
Remedial Action	Increase livestock density to achieve shorter swards at the end of August; OR Increase length of time livestock are present to end July; OR Introduce rotational grazing/cutting from July to September across the Area; OR Cut grass once in August/early September.

Target 3	No scrub (including bramble) or trees across the entirety of Mitigation Area A.
Management	0.2 livestock units per hectare per year in April to August inclusive in Year 1; and 0.3 livestock units per hectare per year in April to August inclusive in all subsequent years; or Equivalent management by cutting the grassland
Monitoring	Visual Assessment.
Who	Environmental Manager.
When	<ul style="list-style-type: none"> • Monitoring to undertaken annually in June for the first five years. • Monitoring to occur in June once every three years thereafter if limits of acceptable change have not been exceeded in the first five years. • All changes in monitoring to be agreed with Steering Group.
Limits of Acceptable Change	No more than 5% scrub or trees across the entirety of the Mitigation Area A.
Remedial Action	Cutting down vegetation and treatment of stumps with herbicide.

	AMEP TEMMP	MAY 2018
---	-----------------------	-----------------

Objective SPA3: Mitigation Area A (at Halton Marshes) provides biomass levels similar to that provided by natural wet grasslands

Target	Average earthworm biomass levels of 65 gm ⁻² (wet weight) in 2-4 years and maintained thereafter.
Management	Maintenance of damp but un-flooded grassland through appropriate management of site drainage; for example: blocking of field drains; raising or lowering sluice heights; orpumping water onto the site.
Monitoring	Annual collection of 50 soil samples measuring 25 x 25 x 10 cm at standard sample locations, with subsequent soil biomass calculations.
Who	Environmental Manager.
When	<ul style="list-style-type: none"> • Annually in September until target is achieved and then for three years thereafter. • Monitoring may cease if earthworm biomass levels greater than target levels for more than three consecutive years subject to the agreement of the Steering Group.
Limits of Acceptable Change	Minimum average earthworm biomass levels of 50 gm ⁻² (wet weight) after 3 years
Remedial Action	Addition of organic matter as a top dressing to promote biomass increase. Adjustments to soil moisture content or extent of flooding as appropriate.
Notes	Biomass target is derived from approximate average of natural, un-flooded wet grasslands (Ausden et al, 2001) (2).

(2) Ausden M., Sutherland W J & James R. (2001) The Effects of Flooding Lowland Wet Grassland on Soil Macro-invertebrate Prey of Breeding Wading Birds. *Journal of Applied Ecology*, **38**: 320-338.

3.7 NOISE AND VISUAL DISTURBANCE

Rationale and Objectives

Noise and visual impacts are expected from the AMEP and may affect SPA bird species. Consequently, restrictions on noise levels and container storage heights within AMEP in relation to NKHP have been agreed with NE.


The new location of mitigation Area A will not be influenced by container height from this development, however it is important to note this requirement should development occur in the vicinity of the new site.

Objective NV1: Avoid significant noise and visual disturbance to SPA birds at NKHP and Mitigation Area A.

Target	No significant noise or visual disturbance to SPA species at NKHP and Mitigation Area A.
Management	<ul style="list-style-type: none"> • Development of a noise / visual and bird monitoring programme and protocol in agreement with NE including agreed monitoring locations. • Noise levels will not exceed 65dB L_{max} at the boundary of NKHP, or within the core area of Mitigation Area A (see Figure A2), as a result of AMEP, unless otherwise agreed with NE as set out in the DCO (see Notes below). • Maintain storage heights in AMEP during construction and operation as agreed with NE and set out in the DCO (see Notes below).
Monitoring	Implementation of the monitoring programme agreed with NE (see above). Collate monthly WeBS data to use in contextual analysis.
Who	<ul style="list-style-type: none"> • Noise monitoring specialist(s). • Competent and experienced bird surveyor / specialist(s). • Surveys and monitoring to be managed by Environmental Manager.
When	To be agreed with NE as part of the development of the monitoring approach.
Limits of Acceptable Change	<ul style="list-style-type: none"> • Noise levels from AMEP within levels agreed with NE. • Any one year where decline of a single species is greater than natural variability, or any two years of consecutive decline in peak means, taking account of any external causes of decline in bird numbers.
Remedial Action	Those activities on AMEP causing elevated noise levels will be identified and adjustments will be made to working practices in consultation with NE. Increase management of NKHP and/or Mitigation Area A for birds (eg supplementary feeding, improve roosting sites).
Notes	<ul style="list-style-type: none"> • Requirement 40 of Schedule 11 to the DCO states: • "Mitigation site requirements • During the construction and operation of the authorised development, no storage, use of plant or other development shall take place: • at a height greater than 3m from ground level within 70m of the North Killingholme Haven Pits Site of Special Scientific Interest, or


	AMEP TEMMP	MAY 2018
---	-----------------------	-----------------

	<ul style="list-style-type: none"> • at a height greater than 6m from ground level between 70m and 150m from the North Killingholme Haven Pits Site of Special Scientific Interest, or • at a height greater than 9m from ground level between 150m and 200m from the North Killingholme Haven Pits Site of Special Scientific Interest, or • at a height greater than 10m from ground level within the 50 m operational buffer strip adjacent to Mitigation Area 'A' • unless otherwise agreed in writing by the relevant planning authority in consultation with Natural England. • Before any activity referred to in sub-paragraph (1) takes place on the Order land, the buffer areas referred to in sub-paragraph (1) shall be clearly marked on-site (by pegs or otherwise) to the written satisfaction of the relevant planning authority. • The construction and operation of the works shall not exceed 65 dB (A) [LAmax] at the boundary of the North Killingholme Haven Pits Site of Special Scientific Interest, unless otherwise agreed in writing Natural England based on the findings of the monitoring programme and taking account of the noise level duration. • The construction and operation of the works shall not exceed 65 dB (A) [LAmax] anywhere in the core area of Mitigation Area 'A' (as specified in the terrestrial environmental monitoring and management plan), unless otherwise agreed in writing by Natural England based on the findings of monitoring programme and taking account of the noise level duration. • The terrestrial environmental management and monitoring plan will include a monitoring programme to ensure compliance with these noise levels and the container storage locations and heights."
--	--

	AMEP TEMMP	MAY 2018
---	-----------------------	-----------------

Objective NG1. Manage Mitigation Area A (at Halton Marshes) buffer zone to recreate and maintain neutral grassland

Target	Minimum of 3.06 Ha lowland neutral grassland
Management	<ul style="list-style-type: none"> • Creation of 3.06 ha of neutral grassland within the buffers or a suitable location within the site. This to be sown with seed harvested from original Station Road Local Wildlife Site and/or a MG5 or mix of suitable provenance (see http://www.snh.org.uk/publications/online/advisorynotes/106/106.htm for list of such suppliers). • Neutral grassland to be established using fine seed-bed prepared through repeated harrowing and rolling. This will also encourage the germination of seeds in the soil seed bank, depleting the seed bank before sowing (creating a stale seed-bed). Sowing will be by a fertiliser broadcaster and the seedbed will then be rolled. The first cut or introduction of light grazing should not occur until 3-6 months after sowing. Weed control of perennials will be by spot control or weed wipe. • Neutral grassland to be managed by light grazing or cutting regime that allows a tussocky sward range of 5 - 20 cm. Occasional liming may be required to maintain pH, this will be determined by steering group.
Monitoring	<ul style="list-style-type: none"> • 3 permanent quadrats to be established measuring 2m x 2m within the 3.06 hectares of neutral grassland area. (this is pro-rata the 15 quadrats in 20 Ha = 0.75 quadrats per hectare) • Plant species and abundance to be recorded for each quadrat. • Mapping of the extent of neutral grassland.
Who	<ul style="list-style-type: none"> • Monitoring by suitably qualified ecological surveyor organised by the site Environmental Manager. • Establishment and management of grassland suitably qualified contractor overseen by the site Environmental Manager
When	<ul style="list-style-type: none"> • Grassland Monitoring to undertaken annually in June for the first five years. • Grassland Monitoring can cease if the target is achieved for three consecutive years after the first five years of monitoring provided that the management regime remains unchanged and subject to the agreement of the Steering Group.
Limits of Acceptable Change	<ul style="list-style-type: none"> • At least four species characteristic of neutral grasslands must be present throughout the permanent quadrats situated within neutral grassland. • At least 3.06ha of neutral grassland should continue to meet Lincolnshire LWS selection criteria for neutral grassland once established.
Remedial Action	<ul style="list-style-type: none"> • Adjustment of drainage regime to increase wetness across the grassland and promote wet or damp grassland establishment. • Increase livestock density to achieve shorter swards at the end of August, or cut grass once in August / early September.

	AMEP TEMMP	MAY 2018
---	-----------------------	-----------------

3.8 "OVERCOMPENSATION" WET GRASSLAND & OPEN WATER DITCHES

Rationale & Objectives

In addition to the AMEP compensation measures at Cherry Cobb Sands (RTE/MR and Wet Grassland), there is a requirement to provide "overcompensation" wet grassland for the period covering the construction of the Quay until the compensation provision at CCS Wet Grassland has achieved functionality

This will be provided within the Halton Marshes wet grassland development; with an allocation of a 20 ha core area surrounded by appropriate buffers. And the detailed prescriptions will be presented in the Halton Marshes Conservation Management plan.

It must be noted that this requirement is "temporary" in duration, and is to be provided only until the full CCS compensation site has established and compensation is providing functionality as determined by the steering group. The management objectives are included here, in the TEMMP (as opposed to the CEMMP,) in order to retain the issue within the document specific to North Lincs Council and to remain live

Creation of wet grassland is a well-established process, and hence there is greater certainty about the ability to develop it, and also about the biomass that will be available as a result for shorebirds and especially black-tailed godwits.

Wet grassland is a habitat type which is known to be used by foraging black-tailed godwits, especially as the winter progresses and intertidal food resources can become depleted. There is little wet grassland around the Humber Estuary at present and its provision will provide a valuable additional food resource, which will also be available to the birds at high tide.


The overcompensation wet grassland for the AMEP development is to be provided at Halton Marshes are therefore included as the compensation package to provide foraging and roosting habitat.

Objectives are therefore based around the construction, management and maintenance of the wet grassland to deliver suitable functionality for black-tailed godwits in particular, but also a range of other wintering water birds.

The following objectives are very similar to some of those under the heading "SPA" as they are tasked with delivering the same (or very similar) goals, but from different sites management plans However, in practice, the overall management aims will apply to the wet grassland areas.. The objectives and targets and the approach to create wet grassland on the north shore, or within Killingholme Marshes or Halton Marshes, will be consistent.

They are identified separately for the purpose of continuity with the CEMMP where they originally were set out.

Where two identical "objectives" have different management or control requirements, the most stringent approach will be adopted.


	AMEP TEMMP	MAY 2018
---	-----------------------	-----------------

OBJECTIVE WG1: The site will contain wide, open expanses of wet grassland habitat with unobscured views of the surrounding area – TARGET 1

Target 1	Wet or damp grassland vegetation community across 20ha core area (with appropriate buffers) of the Halton Marshes
Management	<ul style="list-style-type: none"> • Sowing with an appropriate seed mix (for example EG8 Wet Grassland Mix from Emorsgate Seeds) to be agreed with NLC and leaving uncut and ungrazed for 3 to 6 months, as appropriate • 0.2 livestock units per hectare per year in April to June inclusive in Year 1; AND • 0.3 livestock units per hectare per year in April to June inclusive in all subsequent years; OR • Equivalent management by cutting the grassland • No fertilisers to be used except if needed to boost earthworm biomass • No herbicides to be used except if needed to control problem plant species. These to be applied with a weed wipe or via spot control.
Monitoring	<ul style="list-style-type: none"> • 15 permanent quadrats to be established measuring 2m x 2m within the wet grassland area • Plant species and abundance to be recorded for each quadrat
Who	Contractors under supervision of Environmental Manager
When	<ul style="list-style-type: none"> • Monitoring to undertaken annually in June for the first five years • Monitoring can cease if the target is achieved for three consecutive years after the first five years of monitoring provided that the management regime remains unchanged subject to the agreement of the Steering Group.
Limits of Acceptable Change	<ul style="list-style-type: none"> • At least one species characteristic of wet or damp grasslands must be present in 12 permanent quadrats • Wet grassland vegetation community across 20ha core area of the Halton Marshes
Remedial Action	Change water level management to increase soil moisture content, providing incidence or extent of flooding does not exceed limits of acceptable change

Objective WG1– TARGET 2: The site will contain wide, open expanses of wet grassland habitat with unobscured views of the surrounding area

Target 2	No scrub (including bramble) or trees across the entirety of the HMWGS, except where planted as visual screen.
Management	<ul style="list-style-type: none"> • 0.2 livestock units per hectare per year in April to June inclusive in Year 1; AND • 0.3 livestock units per hectare per year in April to June inclusive in all subsequent years; OR • Equivalent management by cutting the grassland
Monitoring	Visual assessment of scrub

	AMEP TEMMP	MAY 2018
---	-----------------------	-----------------


Who	Environmental Manager
When	<ul style="list-style-type: none"> • Monitoring to undertaken annually in June for the first five years • Monitoring to occur in June once every three years thereafter if limits of acceptable change have not been exceeded in the first five years subject to the agreement of the Steering Group
Limits of Acceptable Change	No more than 5% scrub or trees across the entirety of the HMWGS
Remedial Action	Cutting down vegetation and treatment of stumps with herbicide

Objective WG1: The site will contain wide, open expanses of wet grassland habitat with unobscured views of the surrounding area – TARGET 3

Target 3	No more than 10% dense stands of rushes (<i>Juncus</i> spp), tall sedges (<i>Carex</i> spp), reeds (<i>Phragmites australis</i> , <i>Phalaris arundinacea</i> , <i>Glyceria maxima</i> , <i>Typha</i> spp) within the open water area
Management	Cutting dense stands of rushes, sedges and reeds in late summer/Autumn.
Monitoring	Visual assessment of rushes, tall sedges and reeds within the water area
Who	Environmental Manager
When	<ul style="list-style-type: none"> • Monitoring to undertaken annually in June for the first five years • Monitoring to occur in June once every three years thereafter if limits of acceptable change have not been exceeded in the first five years subject to the agreement of the Steering Group
Limits of Acceptable Change	No more than 10% dense stands of rushes, tall sedges and reeds within the open water area.
Remedial Action	Cutting or excavating and removal of stands of rushes, tall sedges and reeds to give a maximum of 5% cover within the open water area
Notes	Cutting and removal of swamp vegetation to be undertaken outside the bird breeding season

OBJECTIVE WG2: The soil will be moist throughout the months of August to April to concentrate invertebrates at the surface and to ensure that the soil remains soft enough to be probed by waders

Target 1	Soil penetration resistance less than 6kg on average in each month from July to March using a soil penetrometer
Management	Maintenance of damp but unflooded grassland through appropriate sluice management and irrigation
Monitoring	Monitoring to be undertaken at 100 standard sample locations spread across HMWGS


	AMEP TEMMP	MAY 2018
---	-----------------------	-----------------

Who	Environmental manager
When	<ul style="list-style-type: none"> • Monitoring to occur once per month from July to March annually for 5 years; and • Monitoring can cease if the target is achieved for three consecutive years after the first five years of monitoring provided that the management regime remains unchanged, subject to the agreement of the Steering Group.
Limits of Acceptable Change	Soil penetration resistance less than 8kg on average in each month from July to March
Remedial Action	<ul style="list-style-type: none"> • Increase irrigation rate in order to increase soil moisture content and reduce soil penetration resistance • Raise sluice heights to increase soil moisture content and reduce soil penetration resistance
Notes	<ul style="list-style-type: none"> • Soil resistance is based on data from Ausden et al 2001 • Soil resistance to be sampled using a soil penetrometer

Target 2	Soil moisture content greater than 100% of dry weight on average in each month from July to March
Management	Maintenance of damp but unflooded grassland through appropriate sluice management and irrigation
Monitoring	Monitoring to be undertaken at 100 standard sample locations spread across HMWGS
Who	Environmental manager
When	<ul style="list-style-type: none"> • Monitoring to occur once annually in the month of September for 5 years; and • Monitoring can cease if the target is achieved for three consecutive years after the first five years of monitoring provided that the management regime remains unchanged, subject to the agreement of the Steering Group.
Limits of Acceptable Change	Soil moisture content greater than 80% of dry weight on average in each month from July to March
Remedial Action	<ul style="list-style-type: none"> • Increase irrigation rate in order to increase soil moisture content • Raise sluice heights to increase soil moisture content

OBJECTIVE WG3: The site should be largely free of winter flooding to prevent floodwaters from killing soil invertebrates.

Target	Less than 10% flooding across the wet grassland area at any time (excluding the scrapes drainage ditches)
Management	Appropriate sluice height and irrigation flow rate adjustment
Monitoring	Visual assessment of extent of flooding

	AMEP TEMPP	MAY 2018
---	-----------------------	-----------------


Who	Environmental manager
When	<ul style="list-style-type: none"> • Minimum of twice weekly during the first year; and • Minimum of twice monthly, and more frequently during periods of irrigation, in the next four years; • Monitoring can cease if the target is achieved for three consecutive years after the first five years of monitoring provided that the management regime remains unchanged, subject to the agreement of the Steering Group.
Limits of Acceptable Change	Less than 20% flooding across the wet grassland area at any time (excluding the scrapes and open water drainage ditches)
Remedial Action	Appropriate sluice height and irrigation flow rate adjustment to enable flood waters to drain away

OBJECTIVE WG4: The site will have a high density of macro-invertebrate fauna to provide food for wading birds.

Target	Average earthworm biomass levels of 65gm ⁻² (wet weight) in less than 5 years and maintained thereafter
Management	Maintenance of damp but unflooded grassland through appropriate sluice management and irrigation
Monitoring	Annual collection of 100 soil samples measuring 25 x 25 x 10cm at standard sample locations, with subsequent soil biomass calculations
Who	Environmental manager
When	<ul style="list-style-type: none"> • Annually in September until target is achieved and then for three years thereafter • Monitoring may cease if earthworm biomass levels greater than target levels for more than three consecutive years. Any changes in monitoring to be subject to the agreement of the Steering Group
Limits of Acceptable Change	Minimum average earthworm biomass levels of 50gm ⁻² (wet weight) after 3 years
Remedial Action	<ul style="list-style-type: none"> • Addition of organic matter as a top dressing to promote biomass increase • Adjustments to soil moisture content or extent of flooding as appropriate
Notes	Biomass target is derived from approximate average of natural, unflooded wet grasslands


OBJECTIVE WG5: The wet grassland will be managed to give a suitable sward for wading birds throughout the months of August to March

Target 1	Average sward height of 10cm across the HMWGS each month from July to March
-----------------	---

	AMEP TEMMP	MAY 2018
---	-----------------------	-----------------

Management	<ul style="list-style-type: none"> • 0.2 livestock units per hectare per year in April to June inclusive in Year 1; AND • 0.3 livestock units per hectare per year in April to June inclusive in all subsequent years; OR • Equivalent management by cutting the grassland
Monitoring	Measurement of sward height at 100 sampling points
Who	Environmental manager
When	<ul style="list-style-type: none"> • Monitoring to occur once per month from July to November annually for 5 years; and • Monitoring can cease if the target is achieved for three consecutive years after the first five years of monitoring provided that the management regime remains unchanged, subject to the agreement of the Steering Group.
Limits of Acceptable Change	Average sward height of 15cm across the HMWGS each month from July to March
Remedial Action	<p>Increase livestock density to achieve shorter swards at the end of June; OR</p> <p>Increase length of time livestock are present on HMWGS to end July; OR</p> <p>Introduce rotational grazing/cutting from July to September across the HMWGS; OR</p> <p>Cut grass once in August/early September.</p>

Target 2	No more than 10% dense stands of rushes (<i>Juncus</i> spp), tall sedges (<i>Carex</i> spp), reeds (<i>Phragmites australis</i> , <i>Phalaris arundinacea</i> , <i>Glyceria maxima</i>) or tall ruderal vegetation (thistles, docks etc) in the Fields (including the scrape)
Management	<ul style="list-style-type: none"> • 0.2 livestock units per hectare per year in April to June inclusive in Year 1; AND • 0.3 livestock units per hectare per year in April to June inclusive in all subsequent years; OR • Equivalent management by cutting the grassland
Monitoring	Visual assessment of the extent of the species listed above
Who	Environmental manager
When	<ul style="list-style-type: none"> • Monitoring to undertaken annually in June for the first five years • Monitoring to occur in June once every three years thereafter if limits of acceptable change have not been exceeded in the first five years • Return to annual monitoring for three years following exceeding the limits of acceptable change • Any changes in monitoring to be reviewed and agreed by the Steering Group.

	AMEP TEMMP	MAY 2018
---	-----------------------	-----------------

Limits of Acceptable Change	No more than 15% cover of dense stands of rushes, tall sedges, reeds or tall ruderal vegetation in the Fields (including the scrapes)
Remedial Action	<ul style="list-style-type: none"> • Flailing the areas dominated by unwanted vegetation twice in the year that the limit of acceptable change is exceeded; OR • Herbicide application for severe infestations of rushes

APPENDIX A - SUPPORTING INFORMATION ON NOISE

Figure A1 – baseline noise monitoring locations

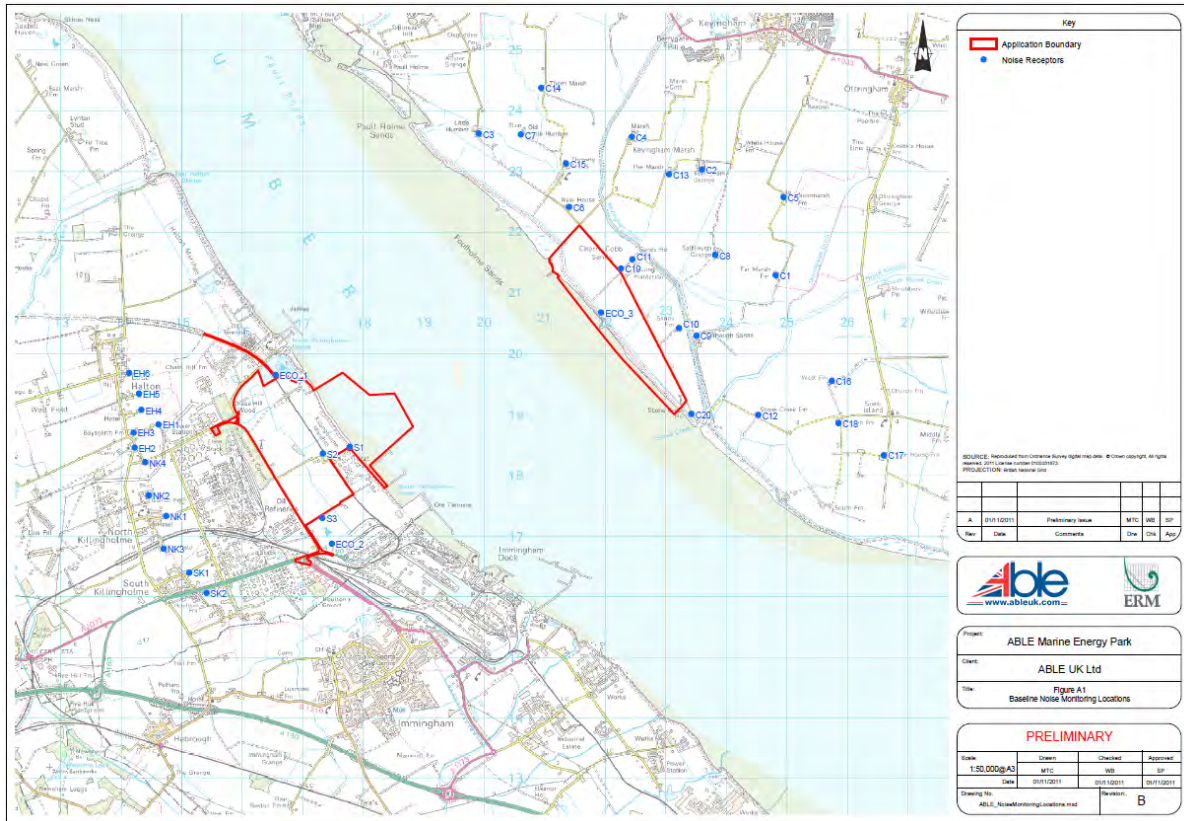



Table A1 Baseline Noise Sampling from Killingholme Marshes Foreshore (S1)

Date	Average Day Time LA90 (dB (A))	Average Day Time LAeq (dB (A))	Average Day Time LA10 (dB (A))	Average Day Time LA1 (dB (A))	Range LA1 (dB (A))
09-12-10	45	52	50	54	73 – 50
10-12-10	46	51	51	54	69 – 48
11-12-10	40	47	47	51	64 – 43
12-12-10	35	45	45	50	63 – 37
13-12-10	43	51	50	54	72 – 39
14-12-10	29	39	36	43	63 – 31
Overall Level	40	49	47	51	Overall Level

Table A2 Baseline Noise Sampling from Station Road close to Killingholme Fields (S2)

Date	Average Day Time LA90 (dB (A))	Average Day Time LAeq (dB (A))	Average Day Time LAeq (dB (A))	Average Day Time LAeq (dB (A))	Average Day Time LAeq (dB (A))
09-12-10	46	56	55	65	79 – 56
10-12-10	48	56	55	65	76 – 53
11-12-10	40	51	48	53	74 – 45
12-12-10	38	52	45	51	73 – 42

	AMEP TEMPP	MAY 2018
---	-----------------------	-----------------

Date	Average Day Time LA90 (dB (A))	Average Day Time LAeq (dB (A))	Average Day Time LAeq (dB (A))	Average Day Time LAeq (dB (A))	Average Day Time LAeq (dB (A))
13-12-10	39	56	50	66	76 - 49
14-12-10	38	58	52	67	77 - 41
Overall Level	42	55	51	61	

Table A3 Baseline Noise Measurements for Killingholme Fields (S3)

Date	Average Day Time LA90 (dB (A))	Average Day Time LAeq (dB (A))	Average Day Time LAeq (dB (A))	Average Day Time LAeq (dB (A))	Average Day Time LAeq (dB (A))
06-01-11	47	55	55	59	72 - 54
07-01-11	55	59	62	65	74 - 52
08-01-11	54	59	60	65	69 - 60
09-01-11	47	53	55	58	65 - 55
10-01-11	52	59	62	64	71 - 58
11-01-11	56	59	61	64	73 - 58
Overall Level	52	58	59	63	

Table A4 Baseline Noise Measurements for North Killingholme Haven Pits (ECO-1)


Date	Average Day Time LA90 (dB (A))	Average Day Time LAeq (dB (A))	Average Day Time LA10 (dB (A))	Average Day Time LA1 (dB (A))	Range LA1 (dB (A))
09-12-10	45	53	54	59	75 - 53
10-12-10	43	52	53	58	69 - 48
11-12-10	45	51	52	55	67 - 47
12-12-10	42	51	54	57	64 - 45
13-12-10	42	53	55	59	67 - 44
14-12-10	42	55	56	61	70 - 42
Overall Level	43	53	54	58	

Table A5 Analysis of LAMax Noise Levels (December 2010)

Parameter	ECO1	S1
Occurrence of LAMax noise levels > 55 dB(A)	91%	71%
Occurrence of LAMax noise levels ≥ 75 dB(A)	5%	2%
Statistical Mean	65	60
Standard Deviation (SD)	7	8
Mode (noise level which occurs the most frequently)	68 (7%)	64 (7%)
Range within 1 SD	58 - 72	52 - 68
Occurrence of LAMax levels within 1 SD	73%	69%
Occurrence of LAMax between 55 and 75 dB(A)	86%	79%
Occurrence of LAMax between 58 and 72 dB(A)	73%	-
Occurrence of LAMax between 52 and 68 dB(A)	-	69%

Figure A2 – Mitigation Area A



 amep able marine energy park	AMEP TEMMP	MAY 2018
--	-----------------------	-----------------

APPENDIX B - MITIGATION AND COMPENSATION AREAS LOCATION PLAN

This plan shows the locations of *ALL* the mitigation and compensation areas associated with the AMEP development, including those at Cherry Cobb Sands which are covered by the CEMMP



Key & Notes

ABLE Marine Energy Park Application Boundary

Management objectives within Compensation Environmental Monitoring & Management Plan - 'CEMMP' Cherry Cobb Sands:

- 1** Intertidal Compensation / Habitat - 119.0ha CCS/RTE/MR
- 2** Compensation Grassland - 38.3ha CCS Wetgrass lands

Management objectives within Terrestrial Environmental Monitoring & Management Plan - 'TEMMP':

- 3** Over Compensation - 20.0ha When Required Core Area
- 4** AMEP Mitigation Area - 20.0ha (Mitigation Area A) Core Area
- 5** Onsite mitigation area - 0.73ha Mitigation Area B

DRAFT

B	02/11/17	Mitigation Area A Relocated	DJA	DS	RC
A		Preliminary Issue			
Rev.	Date	Comments	Dim	Chk	App



ABLE UK Limited
ABLE House
88 Ingham South Industrial Estate
Teeside, TS21 3FX
United Kingdom
Tel: +44(0)1942 606000
Fax: +44(0)1942 636652

Project: ABLE Marine Energy Park

Client: ABLE Humber Ports Ltd

Drawing Title: Overall Compensation & Mitigation Locations & Areas

PRELIMINARY

Scale:	Drawn By:	Checked By:	Approved By:
NTS@A3	K. Horn	DS	RC
Date:	20/07/2016		
Drawing No:	AME-009-00109	Revision:	B



**ABLE MARINE ENERGY PARK
APPLICATION FOR A NON-MATERIAL CHANGE**

NOV 2020

APPENDIX G

Bat Survey Report 2016

APPENDIX 8-4

Marsh Lane Car Storage and Distribution Facility
Killingholme, NE Lincolnshire

Appendix 8.4 – Bat Survey Report
Able Humber Ports Ltd

CONTENTS

1.0 INTRODUCTION.....	2
1.1 Background.....	2
1.4 Legislative Background.....	2
2.0 SURVEY METHODOLOGY	4
2.1 Desk Study	4
2.2 Previous surveys	4
2.3 Assessment of Bat Survey Effort	4
2.4 Manual Bat Activity Surveys	4
2.5 Automated Bat Survey (ANABAT) 2016	5
2.6 Limitations	5
3.0 RESULTS	6
3.1 Data Search.....	6
3.2 Previous surveys	6
3.3 External inspection of the properties at Hazel Dene	7
3.4 Manual Activity Survey.....	8
3.5 Automated Activity Survey	10
4.0 INTERPRETATION AND EVALUATION	12
4.1 Evaluation of Bat Roost Status.....	12
4.2 Evaluation of Habitat Resource – Foraging and Commuting	12
5.0 SUMMARY.....	14
6.0 CLOSURE.....	15

TABLES

Table 3-1: Manual & Automated Bat Surveys - Timings and Weather Conditions	7
Table 3-2: External assessment of buildings at Hazel Dene for their potential to support bat roosts	7
Table 3-3: Bat Activity Survey – Summary of Results.....	9
Table 3-4: ANABAT - May (9/5 – 13/5) - Species Summary.....	11
Table 3-5: ANABAT - June (13/6 – 17/6) - Species Summary	11
Table 3-6: ANABAT- July (11/6 – 15/7) - Species Summary	11

DRAWINGS

- Drawing 1 - Results of Bat Activity Transect Survey**
- Drawing 2 - Locations of static bat detectors**
- Drawing 3 - Results of static bat detector surveys**

1.0 INTRODUCTION

1.1 Background

This report summarises the findings of bat activity surveys conducted at land off Marsh Lane, North Killingholme in North East Lincolnshire. It has been prepared by SLR Consulting Limited (SLR) on behalf of Able Humber Ports Ltd to provide baseline information to inform a planning application in respect of a proposed development of the site.

1.2 Site location

The site comprises two areas of land situated north and south of Marsh Lane, North Killingholme (central Ordnance Survey National Grid Reference for land north of Marsh Lane at TA 1733 1759; south of Marsh Lane at TA 1780 1731) and from forthwith will be referred to in this report as the study site. See Drawing 1 for the extent of the study site boundaries.

The proposed development site currently incorporates all the study site land with the exception of an area comprising three agricultural fields forming the northern end of the study site.

1.3 Setting

The site is situated at 1.2km north of the town of Immingham and lies to the east of the Lindsey Oil Refinery along Rosper Road. Abandoned arable, grassland and disturbed open habitats lie immediately to the north of the study site. To the east there are oil and gas storage facilities that are separated from the site by an active railway line. To the south and south-west are coal storage facilities along with grassland fields (including one adjacent field that is part of the Rosper Road Pools Nature Reserve). At night much of the study site is illuminated by the surrounding industrial facilities.

1.4 Legislative Background

All native UK species of bat are listed on Annex II and IV of the EEC Directive on the Conservation of Natural Habitats and Wild Fauna and Flora. This Directive is transposed into UK law through The Conservation of Habitats and Species Amendment Regulations 2012. All bats are also listed on Schedule 5 of Wildlife & Countryside Act 1981 (as amended) and are afforded further protection under Section 9 of this Act. In brief, this legislation makes it offence to:

- deliberately kill, injure or take a bat;
- deliberately disturb a bat or bats in such a way as to be likely to impair their ability to survive, breed, or rear or nurture their young; to hibernate or migrate; or to affect significantly the local distribution or abundance of that species;
- damage or destroy the breeding or resting place of a bat;
- intentionally or recklessly obstruct access to a place that bats use for shelter or protection; and
- intentionally or recklessly disturb a bat whilst it is occupying a place which it uses for shelter or protection.

1.4.1 UK BAP Priority Species/Section 41 Species of Principal Importance¹

The Natural Environment and Rural Communities (NERC) Act came into force on 1st Oct 2006. Section 41 (S41) of the Act requires the Secretary of State to publish a list of habitats and species which are of principal importance for the conservation of biodiversity in England. The list has been drawn up in consultation with Natural England, as required by the Act.

The S41 list is used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under section 40 of the Natural Environment and Rural Communities Act 2006, to have regard to the conservation of biodiversity in England, when carrying out their normal functions.

There are 943 species of principal importance included on the S41 list. These are the species found in England which were identified as requiring action under the UK Biodiversity Action Plan (UKBAP) and which continue to be regarded as conservation priorities under the UK Post-2010 Biodiversity Framework.

In accordance with Section 41(4) the Secretary of State will, in consultation with Natural England, keep this list under review and will publish a revised list if necessary.

Priority Species list is now devolved into the Section 41 Species of Principal Importance (S41 species).

1

<http://www.naturalengland.org.uk/ourwork/conservation/biodiversity/protectandmanage/habsandspeciesimportance.aspx>

2.0 SURVEY METHODOLOGY

2.1 Desk Study

As part of the Extended Phase 1 Habitat Survey, a data search for existing records of protected and notable species (including bats) was commissioned from the Greater Lincolnshire Nature Partnership (GLNP), extending up to 2km from the centre of the study site.

2.2 Previous surveys

During 2010 Applied Ecology was commissioned to undertake bat surveys on land primarily north of the study site. However, included within the boundary of this survey was most of the northern part of the study site. As part of this study, walked transects and stationary automatic bat detectors were also used.

2.3 Assessment of Bat Survey Effort

An initial daytime visual assessment of the study area was undertaken during the Extended Phase 1 habitat survey work, which was conducted on 5th May 2016 by an ecologist from SLR Consulting Ltd.

The visit found that two mature trees, the only ones to be found on the study site, had high potential to support bat roosts.

The visit noted the presence of an extensive network of overgrown hedgerows, drains and ditches, some of which were fringed with reeds, with the potential to function as a good quality foraging/commuting resource for local populations of bats. It was also noted that close to the boundary of the site along the south side of Marsh Lane was a residential house, namely Hazel Dene (with associated out buildings), that was assessed as having some potential to support roosting by bats.

Following on from the daytime assessment it was considered that activity surveys were required due to the potential for habitats used by bats to be affected by development. A combination of manual (transects) and automated recording was undertaken during the 2016 active season (spring to summer) to cover the area comprising the study site. Also undertaken were emergence surveys of the mature trees and dawn swarming surveys of the buildings at Hazel Dene.

North Lincolnshire Council (Andrew Taylor – Ecologist) were consulted by SLR in August 2016 and it was agreed (email 22.8.16) that sufficient survey work had been undertaken during the key months (May-July) to enable an assessment of impacts on bats to be undertaken and that further manual and automated surveys in August and the autumn of 2016 were un-necessary.

2.4 Manual Bat Activity Surveys

Manual transect visits were undertaken during May, June and July of 2016. Each visit involved the carrying out of a single evening walked transect covering most of the study site on both sides of Marsh Lane. This was supplemented with three evening emergence surveys for the mature trees present on the study site; and an external inspection and two dawn swarming surveys of the residential property off Marsh Lane (Hazel Dene) during July.

Bat Box Duet detectors and MP3 recording equipment was used during the walked transects, emergence and dawn-swarming surveys. Evening/dusk surveys commenced at

15 minutes before local sunset time and continued for approximately three and a half hours after local sunset time. Evening emergence surveys were commenced at 15 minutes before local sunset time and continued for an hour and a half after local sunset time. Dawn swarming surveys commenced one and a half hours before local sunrise time ending at local sunrise time.

The survey route encompassed the interface with features likely to have value to bats such as hedgerow boundaries. The route and the locations of sample points are shown on Drawing 1. The route was designed to provide coverage of the majority of the study site.

The walked transects were undertaken on 9th May, 13th June and 11th July 2016. The evening emergence surveys of the mature trees were undertaken on 18th, 21st and 26th July 2016. The dawn swarming surveys of Hazel Dene were undertaken on the 22nd and 27th of July 2016.

2.5 Automated Bat Survey (ANABAT) 2016

In addition, the following sessions of remote recording (using one ANABAT device) were undertaken during May, June and July.

For each deployment the Anabats were positioned in different locations (see Drawing 2).

To enable an accurate analysis of data, and to maximise the likelihood of identifying species recorded, all detectors were time synchronized and set with the following parameters:

- Data Division Ratio = 16;
- Sensitivity = 7;
- power source = external 12v battery; and
- preset recording period from ½ hr before local sunset to ½ hr past local sunrise for duration of recording period.

Data was analysed using Analook software (Titley Electronics) by experienced personnel from SLR.

Myotid calls are difficult to distinguish on the basis of both echolocation and sightings this is due to the known parameters of this genus being broadly similar. Therefore, these calls could not be reliably assigned to species level.

Automated surveys were undertaken between the following dates:

- 9-14th May;
- 13-18th June; and
- 11-16th July

2.6 Limitations

It should be noted that lack of evidence of a protected species does not necessarily preclude it from being present at a later date. In relation to use of habitats or roost sites by bat species, use of a particular area of land can vary not only on a seasonal basis but also from day to day.

Whilst activity surveys are used to provide an estimate of the likely importance of a given area of land for bats, due to the highly mobile nature of bats, it is not possible to accurately determine the exact numbers of bats using standard non-intrusive survey methods.

3.0 RESULTS

The following section sets out a summary of the 2016 survey results.

3.1 Data Search

GLNP provided a total of 43 records of at least four species of bats for the study area:

- common pipistrelle (*Pipistrellus pipistrellus*);
- soprano pipistrelle (*Pipistrellus pygmaeus*);
- noctule bat (*Nyctalus noctula*); and
- brown long-eared bat (*Plecotus auritus*)

The majority of the records were for common pipistrelle including at least one roost record from South Killingholme (2011) and also a field record from the eastern part of the site north of Marsh Lane (2009). All of these records date between the years 2009 to 2012. There were also records for un-identified pipistrelle bats (*Pipistrellus* sp.) as well as several just described as 'Chiroptera', mostly dating from the 2000s (date range is 1962-2013) along with a single 2001 record of a *Myotis* sp. from the Chase Hill Farm area 1.6km northwest of the study site. There were eleven records of noctule bat from three main locations; three are for Immingham to the south; four records are for locations in the Mayflower Wood area, 1.2 km SW from the study site; one was for a location within the study site itself in the eastern part, north of Marsh Lane from 2009 and there was a record for the Rosper Road Pools Nature Reserve also dating from 2009. These are likely to probably involve observations of flying individuals but no precise details have been given. A single record of brown long-eared bat is given for South Killingholme dating from 2011.

3.2 Previous surveys

Results from bat surveys undertaken during the 2010 study indicated the presence of up to four species of bat, namely noctule/Leisler's, *Myotis* sp. and common pipistrelle.

The conclusions of the study assessed the survey area to be overall of low relative value to foraging bats due to the presence of large open expanses of land with the exception of some parts where there were ditches, lagoons, swamp habitat and woodland edge which were judged to be of high relative value to local bat populations. This might have included the hedgerows within the north part of the study site but this cannot be confirmed. Roosting potential was not assessed as the potential locations of these were thought to be unaffected by the development proposals.

All surveys were undertaken taking into account BCT good practice guidelines for the time periods involved and are summarised below. Following this, a summary of the bat activity recorded during each of the survey events is provided.

**Table 3-1:
 Manual & Automated Bat Surveys - Timings and Weather Conditions**

Date	Survey Type	Local Sunset/ Sunrise Time	Survey Personnel	Weather Conditions
9 th May 2016	Dusk Transect	20.48	JF/NL	12 ^o C, cloud cover <1/8, light breeze
13 th June 2016	Dusk Transect	21.33	JF	15 ^o C, cloud cover 8/8, light breeze from E, light rain/drizzle
11 th July 2016	Dusk Transect	21.26	JF	17 ^o C, cloud cover 6/8, strong winds from NW
22 nd July	Dawn swarming	5.01	KS	17 ^o C, cloud cover 7/8, light wind from S, light showers
27 th July	Dawn swarming	5.09	KS	17 ^o C, cloud cover 8/8, moderate winds (4) from SW, light heavy persistent rain
18 th July	Evening emergence	21.20	KS/JF	20 ^o C, cloud cover 1/8, light wind from SE
21 st July	Evening emergence	21.14	KS	19 ^o C, cloud cover 4/8, light to moderate winds from SE
26 th July	Evening emergence	21.07	KS	19C, cloud cover 8/8, moderate winds (4) from SW
9 th May – 14 th May	Automated	-		Anabat sample point red (A & B) x 2 (see Drawing 1)
13 th June - 18 th June	Automated	-		Anabat sample point yellow (C & D) x 2 (see Drawing 1)
11 th July – 16 th July	Automated	-		Anabat sample point blue (E & F) x 2 (see Drawing 1)

3.3 External inspection of the properties at Hazel Dene

A total of four buildings are located at Hazel Dene. In addition to the main residential property there are three outbuildings. A summary description of the buildings together with an assessment of their potential to support bat roosts is given in Table 3-2 below.

**Table 3-2:
 External assessment of buildings at Hazel Dene for their potential to support bat roosts**

Building description	Photo	Features of use to bats	Results of assessment
Three storey residential property with attic conversions and ground floor flat/sloping-roof extensions. Attic floor conversion on north & south elevations with hanging slate		East elevation gable end – gaps in plaster under tiles; potential access under baffles around attic windows.	Moderate

Building description	Photo	Features of use to bats	Results of assessment
<p>tiles. One chimney on south elevation.</p>		<p>Mostly around the eaves with some potential noted on the roof around the 'attic' extension windows.</p>	<p>Moderate</p>
<p>Former agricultural single storey barn with single pitch roof of concrete asbestos and mix of fiber-glass, timber and chip-board panels to walls. Skylights in walls of western elevation and roof.</p>		<p>None noted. Building unlikely to have roof void and walls are mostly single panel construction with limited overlap.</p>	<p>Negligible</p>
<p>Single storey workshop of timber construction with flat roof and windows on north & west elevations. Of recent construction.</p>		<p>Non noted. The building is in good condition.</p>	<p>Negligible</p>

3.4 Manual Activity Survey

Table 3-3 provides a descriptive summary of the manual activity surveys described in Table 3-1 above. Each entry typically comprises a synopsis of the bat species recorded and any key flight lines or foraging areas that were evident. The listening station (ST) locations are shown on Drawing 1, together with Phase 1 habitat mapping information for contextual purposes.

**Table 3-3:
 Bat Activity Survey – Summary of Results**

Date	Type of survey	Summary of Activity
09/05/2016	Evening walked transect	<p>Start time 20.32 (sunset 20:48); Finish time 23:54. Transect undertaken in ascending order (1-20).</p> <p>A small number of passes recorded for common pipistrelle both north and south of Marsh Lane with most activity recorded along the junction of H26 and H32. Single passes were noted at points 7, 9 and 19. First record was at 21:33 at point 7. Last record was at 23.39 at point 19. Two Anabats left on site (shown in red) on Drawing 1.</p>
13/06/2016	Evening walked transect	<p>Start time 21.18 (sunset 21.33); Finish time 00:48. Transect undertaken in ascending order (7-1).</p> <p>A total of 23 passes were noted during the survey. All were common pipistrelle with the first bat recorded at 22:11 between points 12 and 13 at the northern end of the study site. The main areas of activity were recorded between points 15 and 16 also at the northern end of the site. The last recording was made at 00.20 at point 4. Two Anabats left on site (shown in yellow) on Drawing 1.</p>
11/07/2016	Evening walked transect	<p>Start time 21.11 (sunset 21.26); finish time 00.45. Transect undertaken in ascending order (14-1).</p> <p>A total of 177 passes were noted during this survey session. These comprised of common pipistrelle (c. 70% of this activity), soprano pipistrelle and noctule. The first bat was recorded at 22.08 between points 18 and 19 at the southern end of the site (land south of Marsh Lane). The main areas of activity recorded during the evening were at point 4 on the edge of a grassland field north of Marsh Lane; along Marsh Lane between points 5 and 6 and between points 8 and 9 on the eastern side of the site just of the north side of Marsh Lane 23.50-00.03. Last registration was at 00.10 hours at Point 10. Two Anabats left on site (shown in blue) on Drawing 1.</p>
18/07/2016	Evening emergence	<p>1st registration was of a noctule bat but not seen at 21.58. Thereafter foraging common pipistrelle bats were noted between 22.15 and 22.37 with further registrations of noctule at 22.40 and 22.44. No bats were observed to emerge from the trees.</p>
21/07/2016	Evening emergence	<p>1st registration was at 21.32 of a commuting noctule flying from the NW to SE but occasionally seen to forage on its route. Another noctule (unlikely to be the same bat) was noted seen flying the same route at 21.34. 1st pipistrelle bat was recorded at 21.57 with a brief pass but no visual sighting with just one further pass at 22.32 also not observed. Two further noctule passes were heard at 22.40 and 22.41 but not sighted. No bats were observed to emerge from the trees.</p>
26/07/2016	Evening emergence	<p>1st registration was of a noctule heard at 21.26 with a further pass heard at 21.32 without sightings. At 22.14 a further noctule pass was recorded with foraging. No bats were observed to emerge from the trees.</p>
22/07/2016	Dawn swarming	<p>Start time 03.31 (sunrise 05.01; finish time 05.16. 1st registration heard at 03.51 of a brief pass by common pipistrelle. One noctule pass at 04.01 then 3 noctule bats seen flying south-east at 04.05 with further passes and one bat seen at 04.06. One common pipistrelle was noted to swarm around residential property at 04.12 and at 04.18 was seen to</p>

Date	Type of survey	Summary of Activity
27/07/2016	Dawn swarming	enter at the north-east corner of the attic window. In the meantime 3-5 foraging noctule bats were noted over an adjacent field to the west between 04.17 and 04.20. At 04.27 there were still 2 noctules feeding over the same area. End of noctule activity was recorded at 04.43. Start time 03.39 (sunrise 05.09); finish time 05.24. Only one pass of a noctule heard briefly at 04.43.



Plate 1: View of east elevation of main residential property at Hazel Dene showing the location of access by common pipistrelle during the dawn swarming survey of 22 July 2016 (indicated by arrow).

3.5 Automated Activity Survey

The ANABAT devices recorded up to five species of bat during May, June and July 2016. These were

- Common pipistrelle;
- Soprano pipistrelle;
- Noctule;

- Noctule/Leisler's; and
- Myotis sp.

Tables 3-4 to 3-6 provide a breakdown of bat activity by species (in order of level of activity) recorded by the two ANABATS in May, June and July 2016.

**Table 3-4:
 ANABAT - May (9/5 – 13/5) - Species Summary**

Species	Total No. Of Registrations	
	Anabat A	Anabat B
Common Pipistrelle	96	250
Noctule	5	3
Myotis	1	1
Soprano Pipistrelle	1	-

**Table 3-5:
 ANABAT - June (13/6 – 17/6) - Species Summary**

Species	Total No. Of Registrations	
	Anabat C	Anabat D
Noctule	71	51
Common Pipistrelle	47	43
Myotis	-	4
Noctule/Leisler's	-	1

**Table 3-6:
 ANABAT- July (11/6 – 15/7) - Species Summary**

Species	Total No. Of Registrations	
	Anabat E	Anabat F
Common Pipistrelle	468	526
Soprano pipistrelle	3	6
Noctule	3	4

4.0 INTERPRETATION AND EVALUATION

4.1 Evaluation of Bat Roost Status

No bat roosts have been identified within the study site. The two mature trees located not far from the Rosper Road boundary in the northwest part of the site have the potential to be used by bats in the future, however, no roosts were detected in 2016. One off-study site common pipistrelle roost has been confirmed within the residential property at Hazel Dene.

4.2 Evaluation of Habitat Resource – Foraging and Commuting

The following evaluation has been undertaken with consideration of all baseline bat survey work undertaken by SLR during 2016.

4.2.1 Assessment of Bat Activity

During the transect surveys three species of bat were recorded (common pipistrelle, soprano pipistrelle and noctule). Most recordings show bat activity commencing close to an hour after the start of the transect suggesting that bats active within the study site are likely to come from roosts in the surrounding area.

Common Pipistrelle

Common pipistrelle bats were by far the most widespread and frequently recorded species during the 2016 manual and automated surveys. This species was found foraging and commuting across a wide part of the study area although much of this activity was focussed in locations along or at the junctions of hedgerows north of Marsh Lane. In spite of relatively high light levels from surrounding industrial facilities certain locations close to the boundaries registered some high levels of activity.

Soprano Pipistrelle

Recorded only once during the transect surveys (July) and at very low levels during the May and July automated surveys. This is a common UK species but the level of activity recorded appears to suggest that the site is not of high importance for this species.

Noctule

Noctule was recorded only in the July transect where it was recorded and observed in small numbers (up to 4-5) foraging over the southern boundary of the site. Noctule was recorded during the May, June and July automated surveys and in June was the most recorded bat in terms of number of passes when the automatic detectors were deployed in the western part of the study site (north of Marsh Lane). Noctule is likely to commute and forage within and beyond the study area. It is considered that the study area would encompass only a part of a relatively large home range in comparison to other local bat species.

The number of registrations recorded by noctule through both manual and automated surveys appears to suggest that parts of study area and some surrounding adjacent land (to the south of Marsh Lane especially) have a habitat resource that may be of local significance. The number of observations is considered to be an accurate reflection of the likely importance of the study area to this species, due to the high detectability of this species.

Noctule/Leisler's bat

The two species are closely related. Certain calls are sometimes very difficult to differentiate. However, it appears that the possibility of Leisler's bat, a rarer bat than noctule, to be present on any regular basis is not high.

Myotis sp.

Only six registrations of Myotis bats were made during the May and June automated surveys, indicating that the study area is not a significant resource for this species of bat.

5.0 SUMMARY

Activity surveys involving May, June and July evening transects supplemented by automated recording were undertaken by ecologists from SLR during 2016. The surveys recorded bat foraging activity by up to four to five species, principally common pipistrelle.

The surveys found that foraging activity by bats was associated with features which provide a source of invertebrate prey, such as overgrown hedgerows at various locations across the study site. Use by bats was characterised by a moderate level of use by common pipistrelle with a low to up to moderate use by noctule, although the results may well have been influenced in part by periods of weather which may have inhibited levels of activity. No evidence of roost sites were found within the two mature trees in the northern part of the site. At Hazel Dene one roost site was confirmed in occupation by a single common pipistrelle.

An absence of roosts occurs within the study site (but with potential still remaining on the trees surveyed) and only one small off-site roost, at Hazel Dene, has been identified. The study site contains features that are of benefit to foraging and commuting bats (i.e. overgrown hedgerows) and were assessed as providing at least Moderate to High suitability and are therefore likely to contribute to the maintenance of the favourable conservation status of local bat populations. It is considered that the proposed development site is of value to the local bat population at a parish level only.

6.0 CLOSURE

This report has been prepared by SLR Consulting Limited with all reasonable skill, care and diligence, and taking account of the manpower and resources devoted to it by agreement with the client. Information reported herein is based on the interpretation of data collected and has been accepted in good faith as being accurate and valid.

This report is for the exclusive use of Able Humber Ports Ltd; no warranties or guarantees are expressed or should be inferred by any third parties. This report may not be relied upon by other parties without written consent from SLR.





The information presented in this report provides guidance to reduce the risk of offences under UK law. However, SLR is not a legal practice and disclaims any responsibility to the client and others for actions that lead to offences being caused, whether or not the guidance contained in this report is followed. Interpretation of UK legislation is presented in good faith; however for the avoidance of doubt, we recommend that specialist legal advice is sought.

SLR disclaims any responsibility to the client and others in respect of any matters outside the agreed scope of the work.

DRAWING 1 – RESULTS OF BAT ACTIVITY TRANSECT SURVEY





LEGEND

-  APPLICATION BOUNDARY
-  BOUNDARY OF STUDY AREA
-  BAT ACTIVITY TRANSECT ROUTE
-  BAT ACTIVITY TRANSECT POINT COUNT

BAT ACTIVITY INDEX VALUE (BAIV):
BAT PASSES / FIVE MINUTES



-  COMMON PIPISTRELLE
-  BAT SPP.



SLR 
global environmental solutions

UNIT 2 NEWTON BUSINESS CENTRE
THORNCLEFFE PARK ESTATE
NEWTON CHAMBERS ROAD
CHAPELTOWN
SHEFFIELD, S35 2PW
T +44 (0)114 245 5153
www.slrconsulting.com

LAND OFF MARSH LANE,
NORTH KILLINGHOLME

RESULTS OF PHASE 2 SURVEYS
APPENDIX 5

RESULTS OF BAT ACTIVITY
TRANSECT SURVEY

DRAWING 1








Scale 1:4,500 @ A3

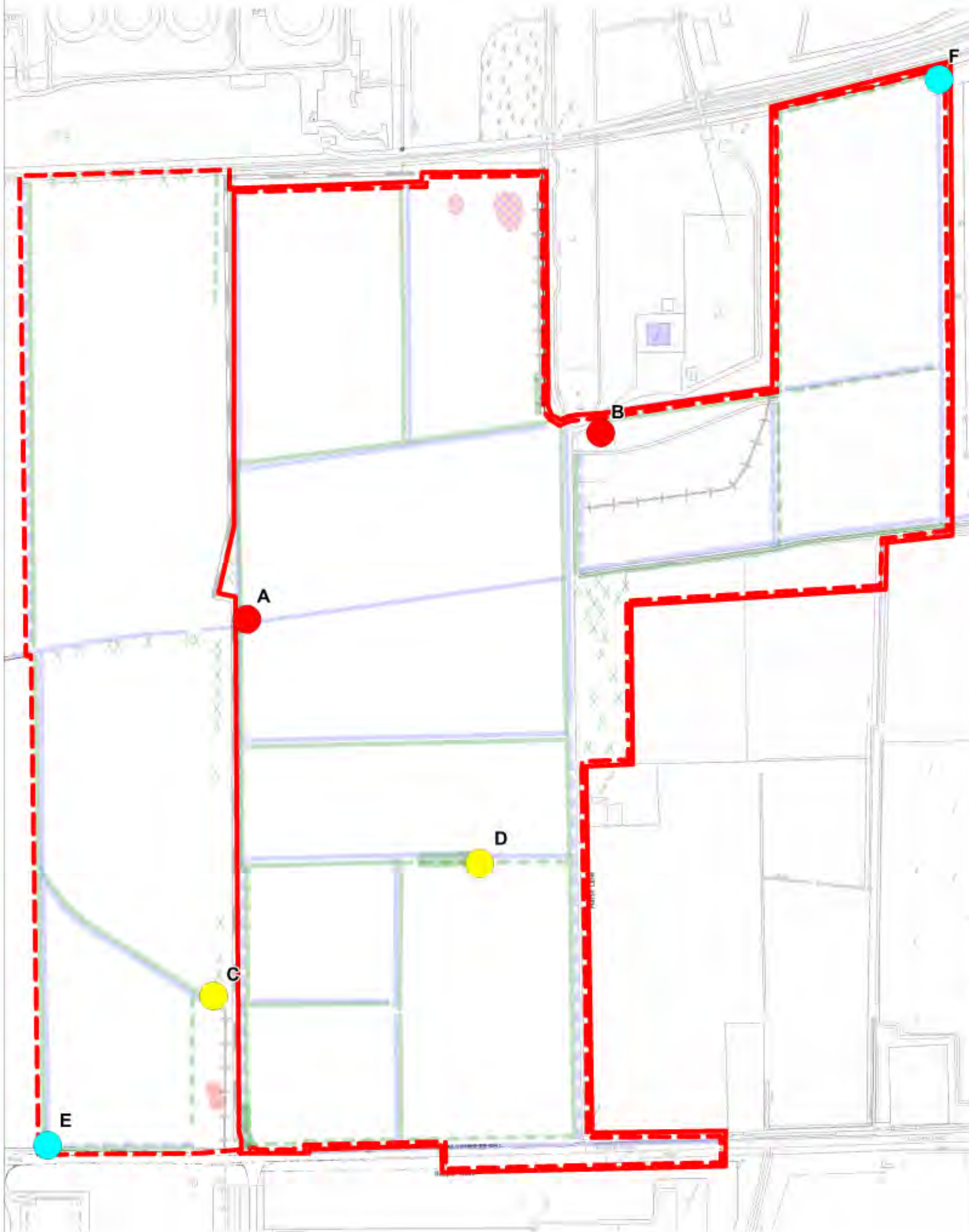
Date AUGUST 2016

DRAWING 2 - LOCATIONS OF STATIC BAT DETECTORS



LEGEND

-  APPLICATION BOUNDARY
-  BOUNDARY OF STUDY AREA
-  LOCATIONS OF STATIC BAT DETECTORS DEPLOYED 9TH - 14TH MAY 2016
-  LOCATIONS OF STATIC BAT DETECTORS DEPLOYED 13TH - 18TH JUNE 2016
-  LOCATIONS OF STATIC BAT DETECTORS DEPLOYED 11TH - 16TH JULY 2016



SLR 
global environmental solutions

UNIT 2 NEWTON BUSINESS CENTRE
THORNCLEFFE PARK ESTATE
NEWTON CHAMBERS ROAD
CHAPELTOWN
SHEFFIELD, S35 2PW
T +44 (0)114 245 5153
www.slrconsulting.com

LAND OFF MARSH LANE,
NORTH KILLINGHOLME

APPENDIX 5
BAT SURVEY REPORT
LOCATIONS OF STATIC
BAT DETECTORS

DRAWING 2



Scale: 1:4,500 @ A3 Date: AUGUST 2016

DRAWING 3 - RESULTS OF STATIC BAT DETECTOR SURVEYS



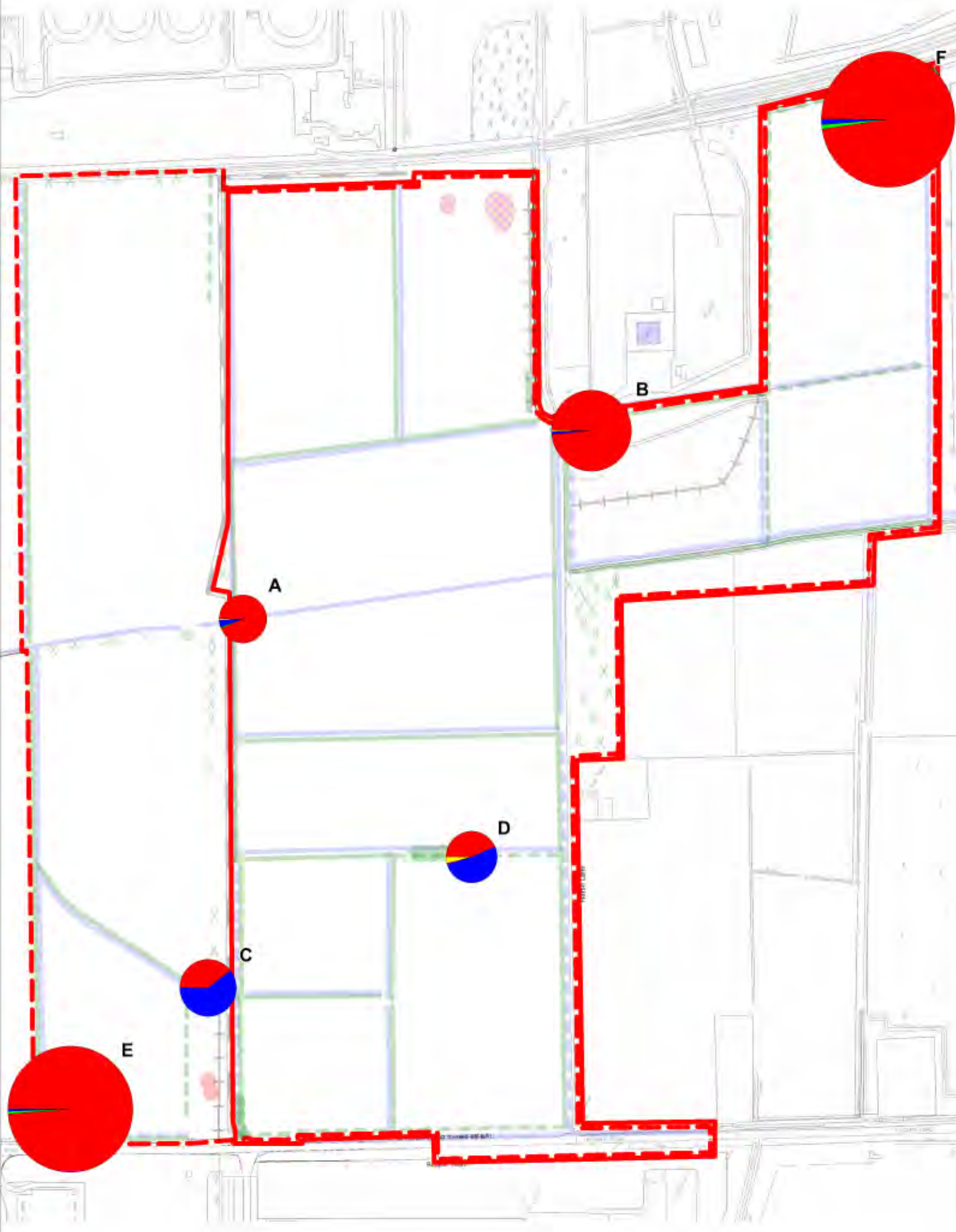
LEGEND

- APPLICATION BOUNDARY
- BOUNDARY OF STUDY AREA

BAT PASSES / HOUR



- COMMON PIPISTRELLE
- SOPRANO PIPISTRELLE
- NOCTULE
- NOCTULE / LEISLER'S
- MYOTIS SPP.



SLR
global environmental solutions

UNIT 2 NEWTON BUSINESS CENTRE
THORNCUFFE PARK ESTATE
NEWTON CHAMBERS ROAD
CHAPELTOWN
SHEFFIELD, S35 2PW
T +44 (0)114 245 5153
www.slrconsulting.com

LAND OFF MARSH LANE,
NORTH KILLINGHOLME

APPENDIX 5
BAT SURVEY REPORT

RESULTS OF STATIC BAT
DETECTOR SURVEYS

DRAWING 3

Scale: 1:4,500 @ A3 Date: AUGUST 2016

ABERDEEN

214 Union Street,
Aberdeen AB10 1TL
T: +44 (0)1224 517405

AYLESBURY

7 Wornal Park, Menmarsh Road,
Worminghall, Aylesbury,
Buckinghamshire HP18 9PH
T: +44 (0)1844 337380

BELFAST

Suite 1 Potters Quay, 5 Ravenhill Road,
Belfast BT6 8DN
T: +44 (0)28 9073 2493

BRADFORD-ON-AVON

Treenwood House, Rowden Lane,
Bradford-on-Avon, Wiltshire BA15 2AU
T: +44 (0)1225 309400

BRISTOL

Langford Lodge, 109 Pembroke Road,
Clifton, Bristol BS8 3EU
T: +44 (0)117 9064280

CAMBRIDGE

8 Stow Court, Stow-cum-Quy,
Cambridge CB25 9AS
T: +44 (0)1223 813805

CARDIFF

Fulmar House, Beignon Close, Ocean
Way, Cardiff CF24 5PB
T: +44 (0)29 20491010

CHELMSFORD

Unit 77, Waterhouse Business Centre,
2 Cromar Way, Chelmsford, Essex
CM1 2QE
T: +44 (0)1245 392170

DUBLIN

7 Dundrum Business Park, Windy
Arbour, Dundrum, Dublin 14 Ireland
T: +353 (0)1 2964667

EDINBURGH

No. 4 The Roundal, Roddinglaw
Business Park, Gogar, Edinburgh
EH12 9DB
T: +44 (0)131 3356830

EXETER

69 Polsloe Road, Exeter EX1 2NF
T: +44 (0)1392 490152

GLASGOW

4 Woodside Place, Charing Cross,
Glasgow G3 7QF
T: +44 (0)141 3535037

GUILDFORD

65 Woodbridge Road, Guildford
Surrey GU1 4RD
T: +44 (0)1483 889 800

LEEDS

Suite 1, Jason House, Kerry Hill,
Horsforth, Leeds LS18 4JR
T: +44 (0)113 2580650

LONDON

83 Victoria Street,
London, SW1H 0HW
T: +44 (0)203 691 5810

MAIDSTONE

19 Hollingworth Court, Turkey Mill,
Maidstone, Kent ME14 5PP
T: +44 (0)1622 609242

MANCHESTER

Digital World Centre, 1 Lowry Plaza,
The Quays, Salford, Manchester
M50 3UB
T: +44 (0)161 216 4064

NEWCASTLE UPON TYNE

Sailors Bethel, Horatio Street,
Newcastle-upon-Tyne NE1 2PE
T: +44 (0)191 2611966

NOTTINGHAM

Aspect House, Aspect Business Park,
Bennerley Road, Nottingham NG6 8WR
T: +44 (0)115 9647280

SHEFFIELD

Unit 2 Newton Business Centre,
Thorncliffe Park Estate, Newton
Chambers Road, Chapeltown,
Sheffield S35 2PW
T: +44 (0)114 2455153

SHREWSBURY

2nd Floor, Hermes House, Oxon
Business Park, Shrewsbury SY3 5HJ
T: +44 (0)1743 239250

STAFFORD

8 Parker Court, Staffordshire Technology
Park, Beaconside, Stafford ST18 0WP
T: +44 (0)1785 241755

STIRLING

No. 68 Stirling Business Centre,
Wellgreen, Stirling FK8 2DZ
T: +44 (0)1786 239900

WORCESTER

Suite 5, Brindley Court, Gresley Road,
Shire Business Park, Worcester WR4
9FD
T: +44 (0)1905 751310

www.slrconsulting.com



Industry



Infrastructure



Mining & Minerals



Oil & Gas



Planning & Development



Renewable & Low Carbon



Waste Management