PREE SALL UNDERGROUND GAS STORAGE FACILITY, LANCASHIRE

Infrastructure Planning Commission (IPC) Application
Reference Number: EN030001

STATEMENT OF COMMON GROUND BETWEEN HYDER CONSULTING (UK) LIMITED (ON BEHALF OF HALITE ENERGY GROUP LIMITED) AND LANCASHIRE COUNTY COUNCIL ON THE TOPIC OF THE LANDSCAPE AND ECOLOGICAL MANAGEMENT STRATEGY PLAN (LE MSP)

<table>
<thead>
<tr>
<th>Author:</th>
<th>Hyder Consulting (UK) Limited</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>330 Firecrest Court</td>
</tr>
<tr>
<td></td>
<td>Centre Park</td>
</tr>
<tr>
<td></td>
<td>Warrington</td>
</tr>
<tr>
<td></td>
<td>WA1 1RG</td>
</tr>
<tr>
<td></td>
<td>Telephone 01925 800700</td>
</tr>
<tr>
<td></td>
<td><a href="http://www.hyperconsulting.com">www.hyperconsulting.com</a></td>
</tr>
<tr>
<td>Date:</td>
<td>May 2012</td>
</tr>
<tr>
<td>Version Number:</td>
<td>01</td>
</tr>
</tbody>
</table>
CONTENTS

1..... INTRODUCTION ............................................................................................................. 1
2..... ACCEPTED DATA ........................................................................................................... 4
3..... DATA NOT ACCEPTED .................................................................................................... 5

Appendices
   Appendix A
   Landscape and Ecological Management Strategy Plan
INTRODUCTION

1.1.1 This is a Statement of Common Ground (SoCG) between Hyder Consulting (UK) Limited (Hyder) (on behalf of Halite Energy Group Limited) and Lancashire County Council (LCC) on the topic of the Landscape and Ecological Management Strategy Plan (LEMSP).

1.1.2 The LEMSP has been submitted as part of the Development Consent Order (DCO) Application (presented on Figure 14.10 of Volume 2B of the ES (DCO Application Document Reference 5.4) and within Appendix 14.11 of Volume 1B of the Environmental Statement (ES) (DCO Application Document Reference 5.2)) and has been the subject of discussions between Hyder (on behalf of Halite Energy Group Limited) and LCC at the pre-DCO Application stage. Schedule 9 (Requirements 8, 9 and 10) of the Draft DCO sets out provisions for the LEMSP.

‘Ecological management scheme

8. — (1) No stage of the authorised development shall commence until an ecological management scheme for that stage, reflecting the survey results and ecological mitigation and enhancement measures included in the environmental statement, and including details of working methods, means of mitigation and restoration, has been submitted to and approved by the relevant planning authority.

(2) The ecological management scheme shall include an implementation timetable and have regard to the landscape and ecological management strategy plan; and must be carried out as approved.

Landscape scheme

9. No stage of the authorised development shall commence until a landscape scheme and programme for that stage has been submitted to and approved by the relevant planning authority. The scheme shall have regard to the landscape and ecological management strategy plan and set out the long term design objectives, management responsibilities and maintenance schedules for all relevant landscape areas together with details of all proposed hard and soft landscaping works, including:

(a) location, number, species, size and planting density of any proposed planting;
(b) cultivation, importing of materials and other operations to ensure plant establishment;
(c) Proposed finished ground levels;
(d) hard surfacing materials;
(e) vehicular and pedestrian access, parking and circulation areas;
(f) minor structures, such as furniture, refuse or other storage units, signs and lighting;
proposed and existing functional services above and below ground, including drainage, power and communications cables and pipelines, manholes and supports;

(h) details of existing trees to be retained, with measures for their protection during the construction period; and

(i) implementation timetables for all landscaping works.

Implementation and maintenance of landscaping

10.—(1) All landscaping works must be carried out in accordance with any relevant landscape scheme approved under requirement 0 (landscape scheme) and to a reasonable standard in accordance with the relevant recommendations of appropriate British Standards or other recognised codes of good practice.

(2) The landscaping works must be carried out in accordance with implementation timetables approved under requirement 0 (landscape scheme).

(3) Any tree or shrub planted as part of an approved landscape scheme that, within a period of five years after planting, is removed, dies or becomes, in the opinion of the relevant planning authority, seriously damaged or diseased, must be replaced in the first available planting season with a specimen of the same species and size as that originally planted, unless otherwise approved by the relevant planning authority.

1.1.3 Since submission of the DCO Application, a meeting has been held with John Jones (Ecologist) and Steve Brereton of LCC, the Royal Society for the Protection of Birds (RSPB), Natural England (NE), the Environment Agency (EA), Wyre Borough Council (WBC), Lancashire Wildlife Trust (LWT) and relevant tenant farmers on 21 March 2012 to discuss the LEMSP that had been submitted as part of the DCO Application. The aim of this meeting was to determine whether LCC and other consultees / tenants proposed any amendments to the LEMSP, and also to reach a common ground in relation the principles underlying it.

1.1.4 Further to the meeting held on 21 March 2012, a revised version of the LEMSP (including the accompanying text) has been issued to LCC, together with the other consultees identified above, and is presented in full within Appendix A of this SoCG. It is this version of the LEMSP that is the subject of this SoCG. Relevant changes to the LEMSP from the version submitted with the DCO Application comprise:

- Addition of contour information
- Addition of pink-footed geese management areas
- A new pond is proposed within the southern part of Field 2-A. The accompanying text to the LEMSP has also been amended to state that the new pond should be designed to be suitable for amphibians.
- The existing pond within the southern part of Field ref 12-A, originally proposed for enhancement, is now to be left in its current state, but would still include the proposed terrestrial habitat link to it from the adjacent hedge row / ditch.
• A new ditch has been added (approximately 90m in length) within the southern part of Field 2-A as compensation for the loss of ditch habitat associated with haul road / access road.

• Extended coverage of existing landscape features to the approximate extent of the Zone of Visual Influence.

• The presentation of pasture field scrapes (in Field ref 21-I, 22-I and 23-I) has been amended to convey to the reader that the proposed areas do not comprise the entire field. The key clarifies that approximately three scrapes per hectare, each scrape at a minimum size of 20m², would be provided.

• The presentation of reed beds has been amended to differentiate between existing and proposed.

• The detail of the proposed bird screens would be agreed by both RSPB and LWT.

• The accompanying text to the LEMSP has been amended to include details of duration / lifetime of specific elements of the LEMSP, e.g. pink-footed geese.

1.1.5 It should be noted that the precise detail of the LEMSP may be further refined through on-going discussion between the relevant bodies and individuals identified within Section 1.1.3 once the DCO has been made and final approval of the LEMSP is secured pursuant to the DCO Requirements.

1.1.6 It should be noted that LCC defers to the opinion of the following organisations in relation to this SoCG:

• NE in relation to European Protected Species and habitats under the Conservation of Habitats and Species Regulations 2010.

• The EA in relation to hydrology.
2 ACCEPTED DATA

2.1.1 Provided that Natural England is satisfied with the mitigation, compensation and enhancement proposals in relation to European protected species and their habitat, statutory designated sites, functionally-linked land and associated species populations, LCC considers the LEMSP presented in Appendix A of this SoCG to be appropriate and agreed in terms of providing sufficient ecological mitigation / enhancement, where it applies to LCC's interests as set out in Section 1.1.6 above. It is noted that detailed habitat re-establishment, enhancement, aftercare and long-term management proposals will be approved as part of the Ecological Management Scheme under Requirement 8 of the draft DCO. Agreement of such detailed proposals may require minor amendments to the LEMSP presented in Appendix A of this SoCG, for example, minor changes to proposed planting mixes.
3 DATA NOT ACCEPTED

3.1.1 At present, the landscape elements of the LEMSIP presented in Appendix A of this SoCG are not agreed. However, LCC notes that this will be addressed through the development and agreement of the landscape scheme (refer to Schedule 9 (Requirement 9) of the draft DCO presented in Section 1.1.2 of this SoCG).
STATEMENT OF COMMON GROUND

This Statement of Common Ground on the topic of the Landscape and Ecological Management Strategy Plan has been prepared by Hyder Consulting (UK) Limited, on behalf of Halite Energy Group Limited, and agreed by Lancashire County Council.

Signed: ____________________________  Signed: ____________________________
David Hoare                                           Michael Green
on behalf of Hyder Consulting (UK) Limited

Date: _______________________________

Cabinet Member for Economic Development, Environment and Planning

Date: _______ 1st June 2012 _______
Appendix A

Landscape and Ecological Management Strategy Plan
Preesall Underground Gas Storage Facility

Landscape and Ecological Management Strategy Plan

May 2012
Preesall Underground Gas Storage Facility

Landscape and Ecological Management Strategy Plan

Author: Robert Kitch
Checker: Adrian Taylor
Approver: Andrew Saunders

Report No: 0022-WX40004-NHR-04
Date: May 2012

This report has been prepared for Halite Energy Group in accordance with the terms and conditions of appointment for Environmental Services dated March 2010. Hyder Consulting (UK) Limited (2212959) cannot accept any responsibility for any use of or reliance on the contents of this report by any third party.
CONTENTS

1 INTRODUCTION................................................................. 1
  1.1 Purpose of the Landscape and Ecological Management Strategy
      Plan................................................................. 1
2 PLANNING POLICY FRAMEWORK........................................ 3
3 BASELINE CONDITIONS .................................................. 4
  3.1 Landscape.......................................................... 4
  3.2 Ecology and Nature Conservation.................................. 4
  3.3 Geology and Hydrology.............................................. 6
4 PROJECT DETAIL AND PROGRAMME OF WORKS.................. 7
  4.1 Construction Phase................................................ 7
  4.2 Construction and Operation Combined Phase................. 10
  4.3 Operational Phase................................................... 11
5 POTENTIAL EFFECTS AND MITIGATION / ENHANCEMENT...... 12
  5.1 Key Landscape Features........................................... 12
  5.2 Key Ecology and Nature Conservation Features............ 13
  5.3 General Enhancement Measures.................................. 18
6 CREATION, MANAGEMENT AND MAINTENANCE
   REQUIREMENTS ....................................................... 20
  6.1 Pond, Ditch and Watercourse Management.................. 20
  6.2 Arable Weed Margins and Wildflower Strips.................. 21
  6.3 Pasture Field Scrapes............................................. 22
  6.4 Reedbeds............................................................ 23
  6.5 Hedgerows........................................................... 23
  6.6 Woodlands........................................................... 23
  6.7 Dense Scrub......................................................... 23
  6.8 Scrub Grassland Mosaic.......................................... 24

Tables
  Table 4-1 Schedule of Construction Phase Activities........... 7
  Table 4-2 Schedule of Construction and Operation Combined Phase Activities 10
  Table 4-3 Schedule of Operational Phase Activities............ 11
Appendices

Annex A
LEMSP Field Schedules
Annex B
RSPB Advice Leaflet ‘Advice to Farmers - Pink-footed Goose’
Annex C
RSPB Advice Leaflet ‘Scrape Creation for Waders’
1 INTRODUCTION

1.1 Purpose of the Landscape and Ecological Management Strategy Plan

1.1.1 This Landscape and Ecological Management Strategy Plan (LEMSP) covers the land owned by Halite known as the Preesall saltfield, on the east side of the River Wyre Estuary and covers an area of approximately 108 hectares and is shown on Figure 14-10 V2. This area has been identified for particular attention because it includes land which is functionally-linked to the adjacent nationally important Wyre Estuary Site of Special Scientific Interest (SSSI) and which is an integral part of the internationally important Morecambe Bay Special Protection Area (SPA).

1.1.2 The LEMSP has been produced in consultation with Natural England, the Environment Agency, the Royal Society for the Protection of Birds (RSPB), Lancashire Wildlife Trust, Lancashire County Council (LCC), Wyre Borough Council, and tenant farmers. It establishes the strategy and framework for the landscape and ecological avoidance, mitigation and enhancement measures that Halite is committed to undertaking at Preesall saltfield as part of the Project. The LEMSP forms the framework for the preparation of the details of the Ecological Management Schemes and Landscape Schemes that are to be submitted for approval pursuant to Requirements 7 and 8 (ecology) and 9 (landscape) of the Draft DCO. It is anticipated that pursuant to the approval of such Ecological Management Schemes and Landscape Schemes, there may be some minor refinements to the details contained within the LEMSP to have regard to:

- Any protection or mitigation measures arising from the additional surveys of European protected species as required by Requirement 7;
- Preparation and approval of a ecological management scheme as required by Requirement 8; and
- Preparation and approval of a landscape scheme as required by Requirement 9.

1.1.3 The Local Planning Authority will consult Natural England so far as the Ecological Management Schemes relate to necessary mitigation for impacts on European sites and species.

1.1.4 The Preesall saltfield comprises a predominantly open low lying flat to gently rolling agricultural landscape (Grades 2 and 3 agricultural land), characterised by small to medium size pasture and medium size arable fields with numerous field ponds (former marl pits) with disused brine wells scattered throughout. The field boundaries vary from being open where they are segregated by a ditch or uncultivated strip, or enclosed by a combination of a drainage ditch and hedge / scrub or hedge / scrub. The hedgerows tend to be low cut, although they vary in terms of their overall structure, quality and management. There is also evidence that some field boundary hedgerows have sometime in the past been removed.
The LEMSP identifies areas of habitat enhancement and habitat creation which would provide landscape and ecological benefits associated with the Project. This LEMSP brings together the various measures required for landscape and ecology, mitigation and enhancement, as outlined in the relevant sections of the Volume 1A of the Environmental Statement. The LEMSP will be implemented over a phased programme during the Project’s construction phase i.e. Years 1 to 3, and will be managed for the lifetime of the Project (40 years). The LEMSP also makes specific reference to mitigation for pink-footed geese, which would be implemented for the first 8 years of the Project i.e. during the construction and construction and operation combined phases.

The LEMSP approach is two-fold. Firstly, it seeks to minimise the effects of the Project on landscape character and on local views as set out in the Environmental Statement. Secondly, it seeks to avoid or minimise impacts on, and enhance, ecology. The combination of landscape mitigation and ecological mitigation and enhancement measures are shown on the LEMSP (refer to Figure 14-10 V2) and described in the field schedules in Annex A.
This chapter has been removed in its entirety. This is because although this chapter set the context for some elements of the LEMSP, planning policy continually changes. Rather than updating the document on a rolling basis, it has been decided to remove this chapter given that it is not material to the detail of the LEMSP. Therefore, it is intended that any future LEMSP updates will only be made to reflect changes to the actual details shown on Figure 14-10 V2, or changes in management practices outlined in Chapter 6.
3 BASELINE CONDITIONS

3.1 Landscape

3.1.1 The Preesall saltfield predominantly comprises a mix of medium size arable and small to medium size improved pasture fields. A frequent feature found throughout is the numerous flooded marl pits or field ponds which are often surrounded with scrub and / or mature trees.

3.1.2 The field boundaries vary from open ditches or watercourses associated with the low lying flatter land to intact managed hedgerows, with the latter being most evident along the network of lanes and tracks.

3.1.3 The field boundary hedgerows tend to have great variation in their structure and quality. It is evident some field boundaries have had their hedgerow removed and other hedgerows have been neglected, becoming gappy and overgrown. Other hedgerows are regularly low trimmed but also gappy and interspersed with sections of scrub.

3.1.4 Taller, mature vegetation is generally associated with the farmsteads found throughout the area, such as at the derelict Higher Lickow Farm on Monks Lane. Other taller vegetation includes the scrub associated with the fenced-off collapsed caverns and the fishing ponds.

3.1.5 There is also an area of more recently planted semi-mature mixed woodland and native species hedgerows as part of the stewardship agreement to the south of Cote Walls Farm which is bringing about local positive change in terms of a new landscape feature.

3.2 Ecology and Nature Conservation

General Habitats

3.2.1 The dominant habitats found within the Preesall saltfield include improved grassland and arable fields bordered by hedgerows, fences and drainage ditches. Other habitats include areas of broad-leaved and mixed plantation woodland, dense and scattered scrub, individual trees and shrubs, ruderal vegetation, small areas of marshy, semi-improved and coastal grassland, a strip of saltmarsh, a small area of species-poor semi-improved grassland, amenity grassland, scattered hedgerow trees, a number of ponds, standing water, buildings and hard standing.

Important Hedgerows

3.2.2 Six hedgerows would be classified as “important” under the Hedgerows Regulations (1997). These include a section of the hedgerow along Monks Lane, and hedgerows to the south of Cote Walls Farm.
Field Boundary Ditches

3.2.3 Many of the ditches support a limited flora with typical bank side vegetation generally dominated by grasses, Common Reed, Bramble and tall ruderal species.

Field Ponds

3.2.4 Three ponds within the LEMSP meet the UK BAP pond criteria as they support species such as common toad. With reference to Figure 14-10 V2, two of the ponds are located within field ref 9-I and the other on the east side of Monks Lane to the north of Higher Lickow Farm. However most ponds support a limited diversity of flora and invertebrates.

Arable Weeds

3.2.5 Purple Ramping-fumitory is endemic to the UK. It is Nationally Scarce, a UK BAP and a Lancashire LBAP species. Purple Ramping-fumitory was present in 12 locations surveyed (Field ref 10-A, 11-A, 13-A and 27-A). However, in a number of locations the subsequent application of herbicides had severely weakened the plants. Purple Ramping-fumitory was abundant and appeared not to have been affected by herbicides in two locations. With reference to Figure 14-10 V2 these are the west margin of arable field ref 13-A and the margins along the estuary, Burrows Lane and south side of arable field ref 27-A.

3.2.6 Three other fumitory species were also identified, the localised Tall Ramping-fumitory and the more widespread Common Ramping-fumitory and Common Fumitory. Tall Ramping-fumitory and White Ramping-fumitory are ‘Vulnerable’ in Lancashire. Although White Ramping-fumitory was recorded on site in 2004, its presence was not confirmed during 2009 survey.

3.2.7 In addition to fumitory species, the 2009 survey highlighted the presence of large colonies of Corn Marigold and the possible presence of Field Woundwort. Corn Marigold is identified as ‘Vulnerable’ and Field Woundwort is ‘Near Threatened’. However neither of these species are priority species in the Lancashire LBAP or the UK BAP.

Great Crested Newts

3.2.8 Two ponds within the LEMSP support a ‘medium’ population of great crested newts.

Wintering Birds

3.2.9 It is recognised that the intertidal zone adjacent to the Preesall saltfield is of importance to wintering and migratory birds, with a number of species present being qualifying species of the Morecambe Bay SPA and Ramsar site.

3.2.10 The adjacent terrestrial farmland (functionally-linked land) within the Preesall saltfield is also used by a number of overwintering and migratory species. However, only foraging pink-footed geese, associated with Morecambe Bay SPA and Ramsar site have been recorded in significant numbers on this land.
Breeding Birds (Except Barn Owls)

3.2.11 A range of birds typical of arable farmland and grassland habitat were recorded within the Preesall saltfield with activity centred on the hedgerows and the small woodland copse. This included species of conservation concern including species on the RSPB’s red list. Birds typically associated with coastal habitats were also recorded throughout the area surveyed, including curlew and shelduck.

Breeding Birds – Barn Owls

3.2.12 Barn owls have nested in the locality in the past. Barn owls are afforded protection under Schedule 1 of the Wildlife and Countryside Act 1981 (as amended).

Bats

3.2.13 Dusk emergence and dawn re-entry surveys confirmed the presence of roosting bats at two buildings at Higher Lickow Farm on Monks Lane. In addition, bats were recorded continually foraging along the row of trees between the buildings and Monks Lane, commuting west to the east and back. Bats exhibiting foraging behaviour were also observed in the canopies of mature trees and shrubs located around the east, south and west side of the buildings.

Brown Hare

3.2.14 Brown hares are present throughout the study area, with most activity located to the south of Corcas Lane. Limited brown hare activity was recorded to the area north of Corcas Lane. Brown hares are a UK BAP Priority species and a LBAP species.

Otters and Water Voles

3.2.15 Minimal otter activity was recorded within the study area.

3.2.16 Signs of water voles were recorded at one of the Ponds in field ref 9-I. No signs of water voles were recorded within any of the ditches surveyed.

3.3 Geology and Hydrology

3.3.1 The Preesall saltfield falls within the Knott End Regionally Important Geological and Geomorphological Site (RIGS) and is described generally as low lying with drumlinoid landforms reaching altitudes of typically 20 m AOD at a number of locations (see Figure 14-10 V2), including land at Preesall in the north part of the study area, to the north of Higher Lickow Farm on Monks Lane, to the south of Corcas Lane and in the vicinity of Burrow’s Lane in the south of the study area.

3.3.2 The Preesall saltfield is crossed by numerous small surface watercourses and numerous small water bodies which are former marl pits, which are scattered throughout this area.
4 PROJECT DETAIL AND PROGRAMME OF WORKS

4.1 Construction Phase

4.1.1 The construction phase activities (Years 1-3) are summarised in Table 4-1.

Table 4-1 Schedule of Construction Phase Activities

<table>
<thead>
<tr>
<th>Activity</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Year 1</strong></td>
<td><strong>Activity</strong></td>
</tr>
<tr>
<td>Site investigation</td>
<td>Field ref 1-A, 2-A, 3-A, 4-A, 5-A, 10-A, 11-A, 12-A, 13-A, 16-I, 17-I, 18-I &amp; 27-A</td>
</tr>
<tr>
<td>Haul Road</td>
<td>Field ref 12-A, 16-I &amp; 24-I</td>
</tr>
<tr>
<td>Internal Access Tracks</td>
<td>Field ref 1-A, 2-A, 4-A, 5-A, 10-A &amp; 11-A</td>
</tr>
<tr>
<td>Higher Lickow Control Buildings</td>
<td>Monks Lane</td>
</tr>
<tr>
<td>Electric Infrastructure</td>
<td>Field ref 25-A, 26-A, 27-A &amp; 28-A</td>
</tr>
<tr>
<td>Relocated 33 Kv over head power line</td>
<td></td>
</tr>
<tr>
<td>Activity</td>
<td>Description</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>(For Field ref See Figure 14-10 V2)</td>
<td></td>
</tr>
<tr>
<td>(Field ref: 2-A, 8-A, 9-I &amp; 16-I)</td>
<td></td>
</tr>
<tr>
<td>North River (East Compound) Crossing (Field ref 3-A)</td>
<td>Low lying, temporary activity which includes installation of east shoreline compound, drilling and pipeline pulling, demobilisation and reinstatement work. It is assumed the pipelines to be pulled through would be stored and welded along the line of the existing track which is presently delineated by Footpath FP61 (former mineral railway). This would be undertaken and completed during the summer months (May to August).</td>
</tr>
<tr>
<td>South River (East compound) Crossing (Field ref 28-A)</td>
<td>Low lying, temporary activity which includes installation of access track from Burrows Lane, the east shoreline compound, drilling and cable pulling, demobilisation and reinstatement work. This would be undertaken and completed during the summer months (May to August).</td>
</tr>
<tr>
<td>Wellhead Compound 5 (Field ref 10-A)</td>
<td>Low lying, series of sequential temporary construction activities. The compound would be prepared and screened during the summer months (May to August).</td>
</tr>
<tr>
<td>Booster Pump Station (Field ref 2-A)</td>
<td>Activity associated with site clearance, excavation, earth moving, and screen mounding, installation of construction compound including temporary offices and utilities.</td>
</tr>
<tr>
<td>Washing Manifolds (Field ref: 1-A, 2-A, 4-A, 5-A, 10-A, 11-A)</td>
<td>Low lying, temporary series of sequential temporary construction activities to install underground wash water and brine outfall pipelines between Booster Pump Station and wellhead compounds.</td>
</tr>
<tr>
<td>Year 2</td>
<td></td>
</tr>
<tr>
<td>Haul Road (Field ref 12-A, 16-I &amp; 25-I)</td>
<td>Operation of haul road with the following forecast single vehicle movements for the haul road would be an average 5 daily HGVs with between 25 and 31 peak daily HGVs and 32 car movements.</td>
</tr>
<tr>
<td>Internal Access Tracks (Field ref 1-A, 2-A, 4-A, 5-A, 10-A &amp; 11-A)</td>
<td>Operation requiring infrequent use during the construction phase, although some specific tracks would experience concentrated peaks in use during specific activities.</td>
</tr>
<tr>
<td>Wellhead Compounds 5 (Field ref 10-A) and 7 (Field ref 11-A)</td>
<td>Low lying, series of sequential temporary construction activities. One wellhead compound would be worked on at any one time. Compounds would be prepared and screened during the summer months (May to August).</td>
</tr>
<tr>
<td>Booster Pump Station (Field ref 2-A)</td>
<td>On-going construction work associated with installation of new building, compound and industrial equipment, perimeter security fencing, landscape works and commissioning.</td>
</tr>
<tr>
<td>Electric Infrastructure</td>
<td>Low lying, temporary activity to route section of electrical cable along the west side of Back Lane, between Corcas Lane and Agglebys Road. It is assumed the cable installation would be carried out in one section through this area and would be carried out over a one month period.</td>
</tr>
<tr>
<td>Activity</td>
<td>Description</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Higher Lickow Control Buildings</td>
<td>On-going construction activity to renovate the existing farmhouse, construct new store building on footprint of demolished outbuildings.</td>
</tr>
<tr>
<td>Former Farmhouse / outbuildings on Monks Lane</td>
<td></td>
</tr>
<tr>
<td>Gas Compressor Compound (Field ref 9-I, 12-A, 16-I and 17-I)</td>
<td>Activity associated with site clearance, excavation, earth moving, and screen mounding, installation of construction compound including temporary offices and utilities.</td>
</tr>
<tr>
<td>National Transmission System (NTS) Interconnector</td>
<td>Low lying temporary series of sequential activities to install underground gas pipeline between A588 and Gas Compressor Compound, including section with adjacent LCA-5a. It is understood that the NTS Interconnector Pipeline would be installed in sections, with each section being completed prior to work commencing on the next section. Installation of the section that passes through the two Biological Heritage Sites (BHS) that are known to be of value to feeding pink-footed geese (Eagland Hill BHS and Pilling Moss: Head Dyke BHS) would be undertaken and completed during the summer months (May to August).</td>
</tr>
<tr>
<td>Year 3</td>
<td></td>
</tr>
<tr>
<td>Haul Road (Field ref 12-A, 16-I &amp; 25-I)</td>
<td>Forecast single vehicle movements for the haul road would be an average 5 daily HGVs with between 15 and 19 peak daily HGVs and 36 car movements.</td>
</tr>
<tr>
<td>Internal Access Tracks (Field ref 1-A, 2-A, 4-A, 5-A, 10-A &amp; 11-A)</td>
<td>Operation requiring infrequent use during the construction phase, although some specific tracks would experience concentrated peaks in use during specific activities</td>
</tr>
<tr>
<td>Wellhead Compounds 1 (Field ref 1-A), 4 (Field ref 10-A), 5 (Field ref 10-A), 6 (Field ref 13-A) and 7 (Field ref 11-A)</td>
<td>Low lying, series of sequential temporary construction activities. One wellhead compound would be worked on at any one time. Compounds would be prepared and screened during the summer months (May to August).</td>
</tr>
<tr>
<td>Gas Compressor Compound (Field ref 9-I, 12-A, 16-I and 17-I)</td>
<td>On-going construction work associated with installation of new building, compound and industrial equipment, perimeter security fencing, landscape works and commissioning.</td>
</tr>
</tbody>
</table>
4.2 Construction and Operation Combined Phase

4.2.1 The construction and operation combined phase activities (Years 4-8) are summarised in Table 4-2.

Table 4-2 Schedule of Construction and Operation Combined Phase Activities

<table>
<thead>
<tr>
<th>Activity</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Years 4 to Year 8</strong></td>
<td></td>
</tr>
<tr>
<td>Haul Road / Permanent Access Road (Field ref 12-A, 16-I &amp; 24-I)</td>
<td>Operation of haul road / permanent access road would result in a very low volume of traffic.</td>
</tr>
<tr>
<td>Internal Access Tracks (Field ref 1-A, 2-A, 4-A, 5-A, 10-A &amp; 11-A)</td>
<td>These tracks would be used infrequently during this phase.</td>
</tr>
<tr>
<td>Wellhead Compounds 1 (Field ref 1-A), 2 (Field ref 5-A), 3 (Field ref 4-A), 4 (Field ref 10-A) 5 (Field ref 10-A), 6 (Field ref 13-A) and 7 (Field ref 11-A)</td>
<td>Operation activity at wellhead compounds 5 and 7. Low lying, series of sequential temporary construction activities at wellhead compounds 1, 2, 3, 4 and 6 and which over time would also become operational during this phase. One wellhead compound would be worked on at any one time. Compounds would be prepared and screened during the summer months (May to August).</td>
</tr>
<tr>
<td>Higher Lickow Control Buildings (Former Farmhouse / Out buildings on Monks Lane)</td>
<td>Operation of renovated farmhouse as office, adjacent stores, external parking / delivery area and controlled gates / gatehouse.</td>
</tr>
<tr>
<td>Booster Pump Station (Field ref 2-A)</td>
<td>Operation of building and adjacent secure compound.</td>
</tr>
<tr>
<td>Gas Compressor Compound (Field ref 9-I, 12-A, 16-I and 17-I)</td>
<td>Operation of compound behind perimeter screen mounding.</td>
</tr>
</tbody>
</table>
### 4.3 Operational Phase

4.3.1 The operational phase activities (Years 9-40) are summarised in Table 4-3.

#### Table 4-3 Schedule of Operational Phase Activities

<table>
<thead>
<tr>
<th>Activity</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Permanent Access Road (Field ref 12-A, 16-I &amp; 24-I)</td>
<td>Operation of permanent access road would result in a very low volume of traffic.</td>
</tr>
<tr>
<td>Internal Access Tracks (Field ref 1-A, 2-A, 4-A, 5-A, 10-A &amp; 11-A)</td>
<td>These tracks would be used infrequently during this phase.</td>
</tr>
<tr>
<td>Wellhead Compounds 1 (Field ref 1-A), 2 (Field ref 5-A), 3 (Field ref 4-A), 4 (Field ref 10-A) 5 (Field ref 10-A), 6 (Field ref 13-A) and 7 (Field ref 11-A)</td>
<td>Operation activity at all wellhead compounds.</td>
</tr>
<tr>
<td>Higher Lickow Control Buildings (Former Farmhouse / outbuildings on Monks Lane)</td>
<td>Operation of renovated farmhouse as office, adjacent Stores, external parking / delivery area and controlled gates / gatehouse.</td>
</tr>
<tr>
<td>Booster Pump Station (Field ref 2-A)</td>
<td>Operation of building and adjacent secure compound.</td>
</tr>
<tr>
<td>Gas Compressor Compound (Field ref 9-I, 12-A, 16-I and 17-I)</td>
<td>Operation of compound behind perimeter screen mounding.</td>
</tr>
</tbody>
</table>
5 POTENTIAL EFFECTS AND MITIGATION / ENHANCEMENT

5.1 Key Landscape Features

Fields, Watercourses, Ditches, Woodland, Hedgerows and Ponds

Effects

5.1.1 The main impacts of the Project would be predominantly on the arable and improved pasture fields within the Preesall saltfield as a result of either temporary or short-term construction requirements associated with both the above and below ground infrastructure and temporary access, and permanent land take associated with the above ground features during their operation.

5.1.2 There would be some localised impacts on a section of watercourse and three sections of field drainage ditches totalling approximately 85 m as a result of the construction of the haul road / permanent access road between the A588 and the Gas Compressor Compound.

5.1.3 There would be other localised short term loss of some landscape features as a result of construction activities associated with underground elements such as the NTS Interconnector Pipeline, the HV cable and various manifolds where they would intersect sections of field boundary hedgerow, areas of establishing semi-mature woodland or watercourses. No field ponds would be affected by the Project.

Mitigation and Enhancement

5.1.4 Where practical to do so, the features lost during the construction phase would be reinstated in the following appropriate planting season after the construction work has been completed. Elsewhere a package of new planting types is proposed to integrate the permanent above ground features including native species dense scrub and woodland for screening, scrub and grassland mosaic, hedgerows and wet woodland for integration into the landscape.

5.1.5 A new ditch of approximately 90 m length would be provided to compensate for the loss of the section of watercourse and three field ditches. The location for this new ditch is shown on Figure 14-10 V2, within the south west part of Field ref. 12-A.

5.1.6 The Project would also provide enhancement of a number of field ponds and watercourses within the area to improve their value to biodiversity. These are discussed further below.
5.2 Key Ecology and Nature Conservation Features

Arable Weeds

Effects

5.2.1 Works associated with the construction phase and the construction and operation combined phase within several fields (Field refs 10-A, 11-A, 13-A and 27-A) would result in the loss of habitat that supports Purple Ramping-fumitory. It is anticipated that other valuable arable weeds such as Corn Marigold and Field Woundwort would not be affected.

Mitigation

5.2.2 In the majority of locations where valuable arable weeds, including Purple Ramping-fumitory occur, these field margins would be retained. In areas where arable weeds would be lost, the top 10 cm of soil, which contains the majority of the seeds bank, would be carefully removed and stored separately from the remainder of the topsoil. In advance of spreading the seed-rich layer on the surface before planting or seeding takes place, the ground would be disturbed in order to allow the arable weeds to grow. It is possible that the disturbance caused by construction would result in a flush of abundant fumitory for the first few years, followed by a more natural pattern of growth thereafter. Surveys would be undertaken after construction to monitor the success of these measures.

Enhancement

5.2.3 In order to provide habitat of value to farmland birds, and encourage botanically diverse field margins, arable weed margins and wildflower strips would be created in a number of locations. The exact locations would be determined following a site visit, but suggested locations are illustrated on Figure 14-10 V2. These are discussed in more detail below.

Great Crested Newts

Effects

5.2.4 Within the Preezall saltfield, no field ponds would be lost as a result of the Project although, with reference to Figure 14-10 V2 (Field ref. 25-A) there would be some construction activity associated with the HV cable routing which would affect potentially suitable terrestrial habitat within 250 m of ponds where great crested newts have been recorded.

Mitigation

5.2.5 A licence application (Ref. EPSM2012-4415 A (JG)) was submitted to Natural England on 20 April 2012 for works within 250 m of the ponds which support great crested newts. This provides details of proposed mitigation, which includes habitat manipulation and hand searching for individuals where appropriate.
Enhancement

5.2.6 As part of the licence application, habitat will be enhanced within 250 m of the ponds which support great crested newts to increase the suitability of these features to support great crested newts. At present, much of the land represents sub-optimal foraging habitat for great crested newts. The new planting and alterations in management that are proposed will in particular, aim to provide additional foraging and commuting opportunities. In addition, enhancement of a number of ponds is proposed (refer to Section 5.3).

Bats

Effects

5.2.7 Construction work associated with the demolition of the existing outbuildings in Year 1 at Higher Lickow (Monks Lane) would result in the loss of a bat roost and, potentially, disturbance during refurbishment of the farmhouse. In addition, there would be temporary and permanent loss of foraging habitat as a result of the Project.

Mitigation

5.2.8 A licence application (Ref. EPSM2012-4414 A (JG)) was submitted to Natural England on 20 April 2012 in relation to the loss of the confirmed roost. This provides details of proposed mitigation, which includes the provision of replacement roost sites.

5.2.9 As part of the licence application, hedgerows will be reinstated as soon as is practicably possible in order to mitigate for the loss of bat foraging areas. Reinstatement of hedgerows will comply with British Standard (BS) 8010. In order to ensure that there is no loss to biodiversity, hedgerows would be replaced with new planting to integrate with the existing vegetation using native, locally appropriate species.

5.2.10 Furthermore, the general network of existing hedgerows within the Preesall saltfield would be strengthened. New hedgerows are described in more detail below.

Brown Hare

Effects

5.2.11 Construction work within Field ref 1-A, 2-A, 3-A, 4-A, 5-A, 9-I, 10-A, 11-A 12-A, 13-A, 16-I and 17-I would result in the temporary loss of farmland habitat as well as the risk of mortality.

Mitigation

5.2.12 In order to mitigate for the temporary loss of farmland habitat, it is proposed to plant suitable species to provide a year-round supply of food for the local brown hare population, and ensure that field margins are left undisturbed where possible to provide areas suitable for the establishment of forms.
Otters and Water Voles

Effects

5.2.13 If water voles re-colonise the ditches within the application boundary, temporary disturbance / loss of ditch habitat during the installation of the NTS Interconnector Pipeline during the construction phase could occur. Potential impacts are the same for otters.

Mitigation

5.2.14 In order to confirm the continued low levels of otter and water vole activity within the application boundary, a pre-construction survey would be undertaken. Should levels of activity have increased, the need for additional mitigation would be reviewed, in consultation with the Environment Agency.

Enhancement

5.2.15 No specific measures would be required.

Wintering Birds

Effects

5.2.16 Through the embedded design of the Project, including the avoidance of sensitive migration and winter periods, and the provision of visual and noise screening, it has been possible to avoid the potential alone or in-combination effects of a number of the Project activities on foraging and/or roosting birds in winter and/or on passage that use the saltmarsh and mudflats that form part of the European sites.

5.2.17 However, it is considered likely that pink-footed geese, which use the functionally-linked land (part of or adjacent to the DCO Application Site) during the winter period, would be disturbed or displaced by activities associated with the construction phase and the construction and operation combined phase. Mitigation measures will therefore be put in place to ensure no significant effects on the pink-footed geese associated with the European sites, which use the functionally-linked farmland during the winter.

Mitigation

5.2.18 In order to reduce the potential for significant adverse effects of the Project on overwintering pink-footed geese to acceptable levels, management would include measures targeted specifically towards pink-footed geese using the functionally-linked land adjacent to the European sites.

5.2.19 The RSPB Advice Leaflet ‘Advice to Farmers - Pink-footed Goose’ in Annex B identifies that pink-footed geese require undisturbed daytime feeding sites and a supply of carbohydrate-rich food in order to forage successfully. Research also suggests that pink-footed geese avoid feeding in fields less than 6 ha in size and in fields that are close to major roads.

5.2.20 Safe feeding sites in sufficiently large fields will be provided in advance of construction disturbance for pink-footed geese throughout the duration of the
construction and the construction and operation combined phases of the Project i.e. for 8 years. The enhancement of fields close to busy roads will also be avoided. Given the size and duration of the Project, different areas would be disturbed at different times. Specifications for the management of crop rotation, to ensure that pink-footed geese would always be provided with safe feeding sites for the duration of the construction and construction and operation combined phases of the Project (Years 1 to 8) will be agreed with some or all of the consultees listed in paragraph 1.1.2 and included within the Ecological Management Schemes for each phase of development to be submitted to the Local Planning Authority for approval. Approximately 33 ha of land would be managed to benefit pink-footed geese. The location of the fields (Ref PFG-1 to PFG-11) is shown on Figure 14-10 V2. This would ensure that there would be no adverse effect on pink-footed geese using the functionally-linked land.

5.2.21 It has been concluded that works associated with the operational phase would not have any effect on pink-footed geese; consequently no mitigation measures have been proposed for this phase of the Project.

5.2.22 The cropping regime of the 33 ha of farmland that will be managed to provide safe feeding sites for pink-footed geese during Years 1-8 would be targeted to enhance its value to pink-footed geese. This would include the provision of crops rich in carbohydrates, such as potatoes and grain, and the implementation of specific farming practices to encourage pink-footed geese into the safe feeding sites. The RSPB Advice Leaflet 'Advice to Farmers - Pink-footed Goose' in Annex B suggests three ways to encourage pink-footed geese:

- Avoid disturbing the fields where the geese are feeding,
- Retain the winter stubbles and crops as long as possible,
- Provide geese with access to fields with spilt grain or potatoes.

Affect Disturbing the Fields where Geese are Feeding

5.2.23 Pink-footed geese are highly susceptible to human disturbance; therefore, disturbance from people travelling through fields in all-terrain vehicles, set aside as safe feeding sites will be avoided by agreement with tenant farmers. In addition, Halite own the shooting rights over their land and thus, they will ensure that in accordance with land tenancy agreements shooting of wildfowl will be kept to acceptable limits within or adjacent to safe feeding sites. There are established public rights of way within the field margins of some of the 33 ha to be managed to benefit pink-footed geese. At present these paths are not well-used. However, if monitoring reveals that recreational disturbance is having an adverse effect on the pink-footed geese, then consideration may need to be given to screening these paths. Such measures would be drawn up and delivered through the Ecological Management Scheme.

Retain the Winter Stubbles and Crops as long as Possible

5.2.24 Pink-footed geese prefer to feed on spilt grain and discarded potatoes for a period after harvest. Therefore, approximately 16 ha of stubble and plant material will be retained over winter and not be ploughed in directly after harvest. Approximately 17 ha of farmland will comprise a mixture of pasture, winter stubbles (with spilt grain and spoliit potatoes) and winter sown crops. If
crops are winter sown, then the tenant farmer will accept that crop damage from grazing geese will take place.

**Provide Geese with Access to Un-harvested Fields**

5.2.25 Crops that are spoilt and/or those that cannot be harvested or sold would be retained for foraging pink-footed geese, as far as best practice guidance allows. It is accepted that this may be limited by guidance to avoid the spread of crop pests and diseases. Whether such fields exist will be dependent on local weather conditions; however it is not critical that unharvested fields are provided and therefore it will not be a requirement to retain such fields. The tenancy agreements will ensure that a range of crop regimes are provided that will benefit pink-footed geese, as identified in paragraph 5.2.20 (above).

5.2.26 As part of the LEMSP implementation, a monitoring scheme would be devised in consultation with Natural England and RSPB in order to monitor the success of the mitigation measures. In the event that this monitoring reveals that the mitigation measures fail, remedial action will be required in the form of supplementary feeding.

**Breeding Birds (Excluding Barn Owls)**

**Effects**

5.2.27 The construction work, during Year 1 to Year 3 and the construction and operation combined phase during Year 4 to Year 8 would fragment various sections of hedgerow and potentially result in disturbance to nesting habitat. In addition, there would be permanent loss of nesting habitat during the operational phase of the Project.

**Mitigation**

5.2.28 Vegetation clearance would take place outside of the bird breeding season wherever possible. Any vegetation required to be removed during the bird breeding season (usually end-February to mid-August inclusive) would be searched by a suitably experienced ecologist. Where nests are discovered, the feature containing the nest and a surrounding buffer zone of retained habitat appropriate to the species, would be protected and left undisturbed until the nesting is complete and birds have fledged.

**Enhancement**

5.2.29 With reference to Figure 14-10 V2 the reinstatement of the habitat on completion of the construction as well as the creation of arable field margins, scrub mosaic habitat, field scrapes, new hedgerows, reed beds and woodland planting would ensure more nesting habitat is available in the future.

**Breeding Birds - Barn Owls**

**Effects**

5.2.30 The construction work during Year 1 would result in the loss of a nesting site and the potential loss of foraging habitat. It is also likely there would be a permanent loss of foraging habitat during the remainder of the construction
phase and the following construction and operation combined phase and operational phase.

**Mitigation**

5.2.31 Removal of old nest sites would only take place when the owls are not nesting. Two replacement nest boxes would be provided in within 200 m of the old nest site, to provide temporary accommodation for the owls before a permanent replacement nest site is created within one of the new buildings at Higher Lickow Farm. Additional mitigation may be required if pre-construction surveys reveal the presence of additional nest sites.

**5.3 General Enhancement Measures**

5.3.1 Species-specific mitigation and enhancement measures are described above. A number of features are proposed which would provide biodiversity enhancement for a number of species. These are described below, and the specific management recommendations are described in Chapter 6.

**Arable Weed Margins and Wildflower Strips**

5.3.2 In locations identified for arable weeds, a margin of arable land would be retained at the edge of the crop to encourage the growth of arable weeds such as Purple Ramping-fumitory. In locations identified for wildflower strips, these would be created within a 6 m margin, and would be seeded with an appropriate mix of species.

**Pasture Field Scrapes**

5.3.3 In order to provide insect-rich areas where birds such as lapwing, redshank and curlew can feed, a number of field scrapes would be created. The exact locations would be determined following a site visit, but suggested locations are illustrated on Figure 14-10 V2. The principles outlined in the RSPB Advice Leaflet ‘Scrape Creation for Waders’, presented in Annex C, would be followed when creating these features.

**Ponds**

5.3.4 With reference to Figure 14-10 V2, the measures set out in Chapter 6 would be implemented to enhance the biodiversity value of eleven ponds covered by the LEMSP and located in Fields ref. 2-A, 4-A, 7-A, 9-I, 10-A, 25-A, 26-A, 28-A and off Monk’s Lane, west of Higher Lickow.

5.3.5 One field pond within Field ref 12-A would be retained and managed in its current condition as an example of late successional habitat and a new pond would be created within the south west corner of Field ref. 2-A. The new pond would be designed for amphibians. It would not be planted but instead vegetation would colonise through natural regeneration and managed accordingly.
Information Boards and Bird Watching Screens

5.3.6 Information boards and screens for birdwatchers would be provided as part of the overall enhancement package. Indicative locations for these features are shown on Figure 14-10 V2. The final details and their locations would be agreed with the Lancashire Wildlife Trust and RSPB.

Ditches and Watercourses

5.3.7 In order to enhance the biodiversity value of the ditches and watercourses, in particular for water voles, re-profiling of some of the ditches would be undertaken. Ditches and watercourses targeted for biodiversity improvements are shown on Figure 14-10 V2. Once this has been undertaken, management practices would be implemented, including the erection of timber fencing where practical to maintain and enhance the ditches and watercourses. These are discussed in Chapter 6.

Reedbeds

5.3.8 In order to provide additional habitat for breeding birds, birds on passage and wintering birds, a reedbed would be created to the south of the Gas Compressor Compound.

Hedgerows

5.3.9 Approximately 750 m of new hedgerow would be planted. The hedgerows would comprise native species of local provenance, incorporating those identified in the hedgerow surveys. New hedgerow would provide a wildlife corridor and would provide habitat for numerous species such as nesting birds.

Woodlands and Dense Scrub

5.3.10 Areas of woodland and scrub would be planted to provide biodiversity enhancements. Native species would be used, incorporating those identified in the Phase 1 Habitat Survey.

Scrub Grassland Mosaic

5.3.11 Areas of scrub grassland mosaic would be provided within the various wellhead compounds and in the field to the west of wellhead compound 1 (Field-ref 1-A). This habitat will also be created close to existing field ponds to provide linkages between the field pond and the hedgerows nearby.
6 CREATION, MANAGEMENT AND MAINTENANCE REQUIREMENTS

6.1 Pond, Ditch and Watercourse Management

6.1.1 It is anticipated that many of the waterbodies covered by the LEMSP would require some form of management due to factors such as dense scrub shading the water surface, eutrophication, deep silt accumulation and encroachment from emergent vegetation creating poor habitat conditions and a lack of biodiversity. The pond in Field ref. 12-A would be left unmanaged to retain the late successional habitats that have been created by neglect.

6.1.2 Some or all of the following management and maintenance techniques would need to be applied to the ponds and ditches to enhance their value to biodiversity.

- Removal of encroaching scrub and trees shading the pond with the exception of the north side (autumn – winter avoiding the bird nesting season);
- Use of brash from scrub and tree clearance to create habitat piles / amphibian hibernacula in adjacent areas (around pond field margin and on ‘habitat link’ – see below for descriptions);
- > 3 m field margin around ponds left to become rough grass (fence installed if pond is within grazed pasture with, access created for maintenance operations). Scrub clearance of this area is likely to be required, and may need to be undertaken every two years to prevent shading at the ponds and minimise leaf-fall choking the ponds in later years. In addition, if the grass margin became sufficiently overgrown to harbour predators to ground nesting birds such as foxes, it would need to be cut. September would be the most appropriate time of year to undertake any scrub or grass management;
- Creation of rough grassland habitat links to isolated field ponds within arable farmland and scrub cleared and grass cut as described above in following years if present;
- Removal of aquatic vegetation (particularly Bulrush and/or Common Reed) where the coverage is over 70% and maintain aquatic macrophyte coverage at 25% - 70% (November to February to minimise impacts on amphibians and other aquatic species);
- Where aquatic vegetation is absent in ponds, relocate plants that have been removed from elsewhere and also introduce good egg-laying plants for great crested newts such as Water Forget-me-not, Floating Sweet-grass and Great Willowherb;
- If required re-profiling of ponds would take place in November to February to minimise impacts on amphibians and other aquatic species; and / or
- Silt removal where pond depth has been reduced to 50cm and spread on adjacent arable fields (again November to February would be the best months to undertake this work).
6.1.3 Given that great crested newts are breeding within the ponds located in field ref 25-A, a licence application (Ref. EPSM2012-4415 A (JG)) was submitted to Natural England on 20 April 2012 for works within 250 m of these ponds.

6.1.4 With reference to Figure 14-10 V2 re-profiling of some of the ditches would be required since many have become scrubbed over, choked with Common Reed, dried out or over deepened over time. The re-profiling would improve the value of these features to biodiversity. Once the ditch network has been re-established, the management practices outlined below would maintain ditches of value to wildlife and retain their use as field drains. The following management and maintenance techniques would be applied to these ditches;

- Creation of a margin of >2 m between the crop / pasture and ditch of rough grassland (fence installed if ditch is in pasture with access created for maintenance operations and potentially to maintain access to drinking water for the livestock). When present, scrub clearance of the margin would be undertaken every two years to reduce shading on the water surface. In addition, if the grass margin becomes sufficiently tussocky they harbour predators to ground nesting birds such as foxes and as such would need to be cut. September would be the ideal month for grass cutting;
- De-silting without interfering with the banks and use appropriate size machinery (this would be undertaken over winter and would only be necessary on a 5 to 15 year rotation);
- Removal of in-channel and bank vegetation to maintain areas of open water. Bankside vegetation would be removed from one bank at a time and progress upstream, working short stretches, leaving gaps of 10 – 20 m as untouched refuge areas for wildlife including water voles (should they colonise the area). At least one third of the ditch would remain untouched. Bankside vegetation would be cut in September if required (such as where the rank vegetation may harbour predators as described above) with the flail cutters set high to retain 10-15 cm of vegetation. In-channel vegetation such as stands of Common Reed would be removed between November and February. Care would be taken to ensure a mixture of open and reed dominated habitats are retained;
- Placing bunds or temporary water stops in ditches to maintain high water levels over summer
- Where necessary fencing will be installed to protect the ditch vegetation from grazing animals.

6.2 Arable Weed Margins and Wildflower Strips

6.2.1 Further consultation with the consultees and the tenant farmers and a site visit would need to be undertaken to confirm the locations of the arable field margins and wildflower strips.

6.2.2 A margin of arable land would be retained at the edge of the arable crop at those locations delineated on Figure 14-10 V2 to encourage arable weeds such as Purple Ramping-fumitory. The margin would be cultivated annually and left
to regenerate without the use of broad-spectrum herbicides or fertiliser. The germination time of Purple Ramping-fumitory would dictate the cultivation time which is mainly in the spring but can occur in the summer when the seed is exposed to light / air.

6.2.3 Wild flower strips would be created within a 6 m margin in a sunny area in those locations as delineated on Figure 14-10 V2. The seed mix would comprise a mix of fine grasses, such as fescues and bents. Wildflower seed would comprise between 5% and 20% of the mix by weight and include native plants such as Yarrow, Common Knapweed and Oxeye daisy. Where possible, a local seed source would be used. The grass seed would be drilled and the wild flower seed broadcast before rolling. One established the strips would be cut annually in the autumn.

6.3 Pasture Field Scrapes

6.3.1 Further consultation with the consultees and the tenant farmers and a site visit would need to be undertaken to confirm the precise locations of the pasture field scrapes.

6.3.2 Pasture field scrapes would be created within the outline areas indicated on Figure 14-10 V2. Scrapes are shallow depressions with gently sloping edges, which seasonally hold water. They can be created in existing damp grassland areas or along existing ditch lines where they are fed from a ditch or by diverting an existing supply of water to the scrape. They can also be created on slight slopes.

6.3.3 In general, scrapes need to be shallow, though not with a uniform depth across the whole area. Deeper areas towards the middle of the scrape should be no more than c45 cm. Scrapes can vary in size depending on the field size and the location. The suggested minimum size is 20 m². Three of these per hectare would represent a good level of habitat provision. The most important part of the scrape is the edge, the more edge there is on a scrape the greater the feeding area it offers. It can be any shape but a more irregular shape would have more edge habitat. The edges should be kept gently sloping and very shallow and spoil from the scrape should be spread thinly across the surrounding field surface or used to create a very low ‘bund’ alongside the scrape, which may be useful for creating scrapes on slopes.

6.3.4 Once the scrapes have been created, it is important to manage the surrounding area to maintain the effectiveness of the scrape by grazing to create a varied sward structure and allowing cattle to access the scrape to puddle the edges and keep marginal vegetation short. This would help to maintain good open wader feeding areas. For further details on scrape creation see RSPB Advice Leaflet ‘Scrape Creation for Waders’ in Annex C.
6.4 Reedbeds

6.4.1 The reedbed (Field ref 18-I) would be created either by flooding the area in winter and then allowing draw down or creating conditions so that the water-table is near the surface to create an area of damp soil. The damp soil would be planted with an appropriate species at a density of approximately 4 plants per m². Native plants of local provenance would be used. Suitable plants include Lesser Pond-sedge, Water Horsetail, Common Spike-rush, Common Reed, Yellow Iris, Bulrush, Reed Sweet-grass, Reed Canary-grass and Fool’s Water-cress.

6.4.2 The best time to plant would be April/May. Once shoots have developed, shallow flooding to 5 cm can occur, but it should be ensured that 2/3 of the plant shoot is above the water.

6.4.3 A marshy grassland edge would be created with species including Creeping Bent, Marsh Foxtail, Meadow Foxtail, Cuckooflower, Lesser Spear-wort, Ragged Robin and various rushes which would grade into the reed bed.

6.4.4 Reedbeds take approximately five years to develop. Young reedbeds are vulnerable to drought and drowning and as such the reedbed would not be allowed to dry out until it has established.

6.4.5 The reedbed would be managed by cutting in winter to promote reed growth and prevent the area drying out.

6.5 Hedgerows

6.5.1 Hedgerow and tree species identified in the hedgerow survey of the area that have been deemed most suitable for use in new hedgerow planting identified on Figure 14-10 V2 include Hawthorn, Blackthorn, Hazel, Elder, Rose sp and Guelder Rose. Tree species present in the existing hedgerows that have been deemed most suitable for inclusion in future plantings include Ash, Elm and Alder.

6.6 Woodlands

6.6.1 Tree and understory species identified in the Phase 1 Habitat Survey / hedgerow survey of the site and deemed most suitable for new woodland planting identified on Figure 14-10 V2 are: Alder, Ash, Elm, Wild Cherry, Rowan, Hazel, Silver Birch, Hornbeam, Hawthorn, Guelder Rose, Dog Rose and Elder.

6.7 Dense Scrub

6.7.1 Scrub species identified in the Phase 1 Habitat Survey / hedgerow survey of the site and deemed most suitable for inclusion in the new scrub areas identified on Figure 14-10 V2 are: Alder, Ash, Elm, Wild Cherry, Rowan, Hazel, Hawthorn, Guelder Rose, Dog Rose and Elder.
6.8 Scrub Grassland Mosaic

6.8.1 These areas identified on Figure 14-10 V2 would be planted with scattered Gorse, Broom, native rose species and Hawthorn. The grassland would be planted with a species-rich grassland mix comprising native wildflowers and fine-leaved grasses predominately comprising fescues (mainly Red Fescue) and bent-grasses, similar to that chosen for the wildflower strips. Annual grass cutting would be required to maintain areas of grassland.
Annex A

LEMSP Field Schedules
<table>
<thead>
<tr>
<th>Field Reference (see Figure 14-10 V2 )</th>
<th>Description of Existing Situation For location of Hedgerow reference e.g. H72 see Figure A9.5 of Volume 2B</th>
<th>Summary of Existing Habitat</th>
<th>Description of Embedded Mitigation and other Mitigation and Enhancement Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-A</td>
<td>Gently undulating, medium size rectilinear arable field at south edge of Knott End Golf Course located between the shallow clay cliffs above the Wyre estuary and the stone track which delineates the Wyre Way / FP42 on its east side. There is a mix of hedgerows and scrub (on the opposite side of the track which provides visual enclosure. The west part of the field’s southern boundary is partly enclosed by the vegetated boundary of the Preesall Wastewater Treatment Works (PWTW) with the remainder being open and delineated by the PWTW stone access track with field (Field ref: 2-A) beyond. The north boundary, to the Knott End golf course is delineated by blocks of semi-mature and mature vegetation and amenity grassland golf course which provides part enclosure. <strong>Construction Phase</strong> Year 3: The west part of the field north of the PWTW would be directly affected by construction activity associated with wellhead compound 1. It is assumed most of the east part of the field could continue to be farmed during the construction phase. <strong>Construction and Operation Combined Phase</strong> Year 4 to Year 8: The west part of the field north of the PWTW would continue to be directly affected by construction activity associated with wellhead compound 1 as well as activity associated with underground pipeline connections. In Year 7 the east part of the field would be reinstated as arable farmland. <strong>Operational Phase</strong> Year 9 to Year 40: The west part of the field would be occupied by the operating wellhead compound 1, with the remaining area severed and unviable to farm. The east part of the field would be</td>
<td>Scrub to PWTW boundary</td>
<td><strong>Embedded Landscape Design Proposals</strong> Mosaic pattern of grass and native species scrub (Planted winter Year 3/Year 4) to wellhead compound 1 perimeter screen mound. <strong>Mitigation and Enhancement Measures</strong> Establish arable field margin between wellhead compound and arable field. Mosaic pattern of grasses and native species scrub (planted winter Year 3/Year 4) between wellhead compound 1 and cliff top.</td>
</tr>
<tr>
<td>Field Reference (see Figure 14-10 V2 )</td>
<td>Description of Existing Situation For location of Hedgerow reference e.g. H72 see Figure A9.5 of Volume 2B</td>
<td>Summary of Existing Habitat</td>
<td>Description of Embedded Mitigation and other Mitigation and Enhancement Measures</td>
</tr>
<tr>
<td>---------------------------------------</td>
<td>----------------------------------------------------------------------------------------------------------</td>
<td>----------------------------</td>
<td>--------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>farmed as an arable field.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-A</td>
<td>Gently undulating irregular shaped medium size arable field with overgrown field pond. The west side of the field is enclosed by scrub vegetation along the boundary with the PSTW and that associated with the adjacent marl pit field pond. The north and south boundaries are open and delineated by the PWTW stone access track and by Footpath FP61 respectively. The open east side is delineated by a stone access track (Wyre Way/FP42). There is a mix of mature woodland copse, and semi-mature planting on the opposite side of the track. <strong>Construction Phase</strong> Year 1 to Year 3: The southern part of the field would be directly affected by the construction activity associated with the Booster Pump Station building and compound. Elsewhere there would be general disruption as a result of pipe laying activity. <strong>Construction and Operation Combined Phase</strong> Year 4 to Year 8: The field would continue to be directly affected by construction activity associated with underground pipe connections to/from the wellhead compounds 1, 2 and 3 to the gas manifold. In Year 7 the remaining two parts of the field would be reinstated as arable farmland. <strong>Operational Phase</strong> Year 9 to Year 40: Part of the field would be permanently occupied by the operating booster pump station, its compound and associated landscape mitigation. The remaining two field parts would be farmed as arable fields.</td>
<td>Marl pit field pond</td>
<td><strong>Embedded Landscape Design Proposals</strong> The construction of an earth screen mound along the east side of the pump station compound to screen the industrial elements within the compound. The top of the mound would be rounded and the outward facing slope graded out to a minimum of 1v to 10h so that it can be returned to arable farmland. Native species scrub (Planted winter Year 2/Year 3) to the top of the screen mound and inward facing slope. Native species dense scrub (Planted winter year 2/Year 3) with intermittent trees to the south elevation of the compound. <strong>Mitigation and Enhancement Measures</strong> Minimum 10 m wide native species copse (Planted winter Year 2/Year 3) around the Booster Pump Station building to help integrate it in the context of</td>
</tr>
<tr>
<td>Field Reference (see Figure 14-10 V2)</td>
<td>Description of Existing Situation For location of Hedgerow reference e.g. H72 see Figure A9.5 of Volume 2B</td>
<td>Summary of Existing Habitat</td>
<td>Description of Embedded Mitigation and other Mitigation and Enhancement Measures</td>
</tr>
<tr>
<td>-------------------------------------</td>
<td>----------------------------------------------------------------------------------------------------------</td>
<td>-----------------------------</td>
<td>--------------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>3-A</strong></td>
<td>Low lying small size irregular shape flat arable field exposed to the Wyre Estuary and open on all sides. Construction Phase Year 1 to Year 3: Field directly affected by land take for the northern river crossing compound and associated works. <strong>Construction and Operation Combined Phase</strong> Year 4 to Year 8: Field reinstated for farming. <strong>Operational Phase</strong> Year 19 to Year 40: Farmed as an arable field.</td>
<td>Field lies immediately adjacent to the Wyre Estuary &amp; SSSI.</td>
<td>Enhancement Measures Establish arable field margin between field and saltmarsh.</td>
</tr>
<tr>
<td><strong>4-A</strong></td>
<td>Gently undulating, medium size, irregular shaped arable field with overgrown field pond. A watercourse runs along east side of field, providing several open sections of scrub and marginal habitat and enclosed sections of establishing mixed woodland. A <strong>Watercourse</strong></td>
<td>Field pond and surrounding scrub.</td>
<td>Embedded Landscape Design Proposals Scrub / grass mosaic planting to wellhead compound 3 screen</td>
</tr>
<tr>
<td>Field Reference (see Figure 14-10 V2)</td>
<td>Description of Existing Situation For location of Hedgerow reference e.g. H72 see Figure A9.5 of Volume 2B</td>
<td>Summary of Existing Habitat</td>
<td>Description of Embedded Mitigation and other Mitigation and Enhancement Measures</td>
</tr>
<tr>
<td>---------------------------------------</td>
<td>-----------------------------------------------------------------------------------------------------------</td>
<td>-----------------------------</td>
<td>--------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>track (FP62) runs along the west part of the field’s southern boundary with associated establishing hedgerow and semi-mature woodland to the east of it. The northern boundary is enclosed by a section of managed hedgerow and a mature copse. A track (Wyre Way / FP42) provides an open western boundary to the adjacent field; Field ref 2-A.</td>
<td>margin with associated mix of scrub / marginal and establishing woodland belt. Hedgerow and woodland margin.</td>
<td><strong>Construction Phase</strong>&lt;br&gt;Year 1 to Year 3: Potentially no construction work would be required during this phase and the field could continue to be farmed as an arable field. <strong>Construction and Operation Combined Phase</strong>&lt;br&gt;Year 4 to Year 8: Land take required for construction of wellhead compound 3 with temporary disruption as a result of work associated with the laying of the underground pipe connections to the pipe manifolds. Some land-take required for watercourse improvement along east edge. On completion the remaining parts of the field not affected by the permanent land take would be reinstated as arable farmland. <strong>Operational Phase</strong>&lt;br&gt;Year 9 to Year 40: Permanent land take would be required for the operation of wellhead compound 3 and the associated access track. The remaining parts so the field would be farmed as arable fields.</td>
<td><strong>Mitigation and Enhancement Measures</strong>&lt;br&gt;Provide new native species hedgerow along west boundary to provide a link between existing hedge / copse on north side and hedge / semi-mature trees on south side. Improve biodiversity potential of existing field pond and provide link to adjacent field boundary hedgerow. Retain existing copse / hedge along northern boundary. Improve biodiversity potential of watercourse along eastern boundary.</td>
</tr>
<tr>
<td>5-A</td>
<td>Gently undulating, small size arable field with predominantly intact hedgerows along the north (ref H72) and east sides and a scrub / ditch along the south side. There is a watercourse and associated scrub / marginal habitat which provide an open boundary along its west side.</td>
<td>Watercourse margin. Intact hedgerow / (ref H72).</td>
<td><strong>Embedded Landscape Design Proposals</strong>&lt;br&gt;Scrub / grass mosaic planting to wellhead compound 2 screen</td>
</tr>
<tr>
<td>Field Reference (see Figure 14-10 V2)</td>
<td>Description of Existing Situation For location of Hedgerow reference e.g. H72 see Figure A9.5 of Volume 2B</td>
<td>Summary of Existing Habitat</td>
<td>Description of Embedded Mitigation and other Mitigation and Enhancement Measures</td>
</tr>
<tr>
<td>---------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------</td>
<td>-----------------------------</td>
<td>--------------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Construction Phase</strong></td>
<td>Year 1 to Year 3: Potentially no construction work would be required during this phase other than the provision for the diverted Wyre Way / FP42 along the north east edge of the field otherwise it could continue to be farmed as an arable field.</td>
<td>---</td>
<td>mound. <strong>Mitigation and Enhancement Measures</strong> Improve potential biodiversity potential of watercourse along western boundary.</td>
</tr>
<tr>
<td><strong>Construction and Operation Combined Phase</strong></td>
<td>Year 4 to Year 8: Land take required for construction of wellhead compound 2 with temporary disruption as a result of work associated with the laying of the underground pipe connections to the pipe manifolds. Some land-take would be required for watercourse improvement along its west edge. On completion the remaining parts of the field not affected by the permanent land take would be reinstated as arable farmland.</td>
<td>---</td>
<td></td>
</tr>
<tr>
<td><strong>Operational Phase</strong></td>
<td>Year 9 to Year 40: Permanent land take would be required for the operation of wellhead compound 3 and the associated access track. The remaining parts so the field would be farmed as arable fields.</td>
<td>---</td>
<td></td>
</tr>
<tr>
<td><strong>6-A</strong></td>
<td>Gently undulating irregular shaped, medium size arable field open to a watercourse along its west edge. There is a scrub field boundary / ditch along its north side and a hedgerow (ref: H59) with semi-mature mixed woodland copse beyond along the south side. The east edge varies with a native species hedgerow along its north part, scrub adjacent to the farm buildings and an open section adjacent to the farm track (FP45) to the south of Cote Walls Farm. <strong>Construction Phase</strong> Year 1 to Year 3: Potentially no construction work other than</td>
<td>Watercourse. Intact hedgerow field boundary.</td>
<td><strong>Mitigation and Enhancement Measures</strong> Improve existing bank and marginal habitat along watercourse.</td>
</tr>
<tr>
<td>Field Reference (see Figure 14-10 V2)</td>
<td>Description of Existing Situation For location of Hedgerow reference e.g. H72 see Figure A9.5 of Volume 2B</td>
<td>Summary of Existing Habitat</td>
<td>Description of Embedded Mitigation and other Mitigation and Enhancement Measures</td>
</tr>
<tr>
<td>--------------------------------------</td>
<td>----------------------------------------------------------------------------------------------------------</td>
<td>-----------------------------</td>
<td>--------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Field Reference (see Figure 14-10 V2)</td>
<td>providing alignment for footpath FP43. The field would continue to be farmed as an arable field. <strong>Construction and Operation Combined Phase</strong> Year 4 to Year 8: No construction work other than some land-take required for water course improvements along west boundary. The field would continue to be farmed as an arable field. <strong>Operational Phase</strong> Year 9 to Year 40: No permanent land-take required. The field would continue to be farmed as an arable field.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7-A</td>
<td>Field would be unaffected by the Project.</td>
<td>Field pond</td>
<td>Mitigation and Enhancement Measures Improve biodiversity potential of existing field pond and provide link to adjacent field boundary hedgerow.</td>
</tr>
<tr>
<td>8-A (PFG-3)</td>
<td>Undulating, irregular shaped arable field of approximately 5.6 ha rising to central local ridge, running on a more or less north to south axis and at approximately 11 m AOD at its highest point. The field has an open boundary along its west and north side, which is delineated by a farm track (footpath FP45). The north part of the east boundary is open with the south part enclosed by a gappy hedgerow. The south boundary is delineated by an overgrown hedge. <strong>Construction Phase</strong> Year 1 to Year 3: Land-take required along south edge of field to construct west part of the Gas Compressor Compound screen</td>
<td>Important hedgerow (ref H73)</td>
<td>Embedded Landscape Design Proposals Gas Compressor Compound northern screen mound with woodland / scrub planting. <strong>Mitigation and Enhancement Measures</strong> Improve quality of existing hedgerow (ref H73 along the south boundary by planting up to provide greater species age range</td>
</tr>
<tr>
<td>Field Reference (see Figure 14-10 V2)</td>
<td>Description of Existing Situation For location of Hedgerow reference e.g. H72 see Figure A9.5 of Volume 2B</td>
<td>Summary of Existing Habitat</td>
<td>Description of Embedded Mitigation and other Mitigation and Enhancement Measures</td>
</tr>
<tr>
<td>---------------------------------------</td>
<td>-----------------------------------------------------------------------------------------------------------</td>
<td>-----------------------------</td>
<td>--------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Field ponds Important hedgerow boundary (H73)</td>
<td>Field managed for pink-footed geese during Years 1 to 8.</td>
<td>and species diversity.</td>
<td></td>
</tr>
<tr>
<td>Gently undulating irregular shaped medium size improved pasture field rising to a local ridge running on an east to west axis and of varying height between approx. 10 m AOD in the west and 7 m AOD in the east. The field is enclosed by an important hedgerow along its north edge (ref: H73) and by a further section of hedgerow (ref: H74) along the east part of the north boundary. A section of the east boundary is delineated by a former mineral railway embankment and associated hawthorn scrub. To the south of this the east boundary is open. The south boundary is delineated by a line of Gorse scrub.</td>
<td>Woodland planting to Gas Compressor compound’s Northern screen mound.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Construction Phase</strong></td>
<td><strong>Embedment Landscape Design Proposals</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Year 1 to Year 3: Land-take required within south part of field to construct gas compressor compound and its north screen mound. Mound to be positioned to run to the north side and parallel to the line of the former mineral railway. The north part of the field would be unaffected by the Project and could continue to be farmed as pasture.</td>
<td><strong>Enhancement Measures</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Year 9 to Year 40: No permanent land-take required. The remainder of the field would continue to be farmed as an arable field.</td>
<td>Improve quality of existing hedgerow (ref H73 and H74) along the north boundary by planting up to provide greater age range and species diversity.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Operational Phase</strong></td>
<td>Improve biodiversity potential of existing field ponds and provide link to adjacent field boundary hedgerow.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Field Reference (see Figure 14-10 V2)</td>
<td>Description of Existing Situation For location of Hedgerow reference e.g. H72 see Figure A9.5 of Volume 2B</td>
<td>Summary of Existing Habitat</td>
<td>Description of Embedded Mitigation and other Mitigation and Enhancement Measures</td>
</tr>
<tr>
<td>----------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------</td>
<td>-----------------------------</td>
<td>----------------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Construction and Operation Combined Phase</strong></td>
<td>Year 4 to Year 8: Permanent land-take required. The remainder of the field would continue to be farmed as an arable field. <strong>Operational Phase</strong> Year 9 to Year 40: No permanent land-take required. The remainder of the field would continue to be farmed as an arable field.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>10-A</strong></td>
<td>Gently undulating (predominantly above 5 m AOD) and irregular shaped medium size arable field with a general rising to the east to approximately 7 m AOD at its highest point. This field is enclosed along most of its north boundary by an establishing good quality semi-mature mixed native species hedgerow (ref: H70) with a track beyond (Footpath FP61). The west part of this north boundary is open to a watercourse / reed bed. The east boundary is open to a track and enclosed by a gappy, overgrown hedgerow / scrub (ref: H57) on the opposite side. The south and west boundaries are open, with the west boundary delineated by a low artificial embankment (sea defence) which is approximately 0.5 m above the typical level of the field. The Wyre Way / Footpath FP42 runs along the top of this sea defence. <strong>Construction Phase</strong> Year 1 to Year 3: Land-take required within west and north part of field to construct wellhead compounds 5 and 4 respectively and their associated access. There would also be other disruption to the field to construct the underground gas manifold, connecting gas pipes to the wellheads and the brine / sea water pipes. Two sections of the north boundary hedgerow would be permanently removed to provide access to the wellheads.</td>
<td>Field lies immediately adjacent to the Wyre Estuary and is recognised as being functionally linked to the Morecambe Bay SPA / Ramsar Marl pit field pond Watercourse / reed bed margin Important hedgerow boundary (H70) Purple Ramping fumitory present</td>
<td><strong>Embedded Landscape Design Proposals</strong> Mosaic scrub / grassland to the perimeter screen mounds within wellhead compounds 5 and 4. Reinstatement of boundary hedgerows where they has been affected by the construction work, other than were permanent access is required. <strong>Mitigation and Enhancement Measures</strong> Provide wildflower field margin along west boundary with SSSI. Improve biodiversity potential of existing marl pit field pond and provide link to adjacent field boundary track with hedgerow beyond. Improve existing bank and</td>
</tr>
</tbody>
</table>

34
<table>
<thead>
<tr>
<th>Field Reference (see Figure 14-10 V2)</th>
<th>Description of Existing Situation For location of Hedgerow reference e.g. H72 see Figure A9.5 of Volume 2B</th>
<th>Summary of Existing Habitat</th>
<th>Description of Embedded Mitigation and other Mitigation and Enhancement Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction and Operation Combined Phase</td>
<td>Year 4 to Year 8: Permanent land-take required for wellhead compounds 5 and 4 and their associated access. The remainder of the field, except for its western margin and an area around the marl pit field pond, would be reinstated and farmed as an arable field.</td>
<td>in field margins</td>
<td>marginal habitat along watercourse.</td>
</tr>
<tr>
<td>Operational Phase</td>
<td>Year 9 to Year 40: Permanent land-take required for wellhead compounds 5 and 4 and their associated access. The remainder of the field, except for the west margin and an area around the marl pit field pond, would be farmed as an arable field.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

11-A

Low lying (below 5 m AOD) and more or less flat, irregular shaped small to medium size arable field. This field is open along all boundaries except for the west boundary which is delineated by a low artificial embankment (sea defence), approximately 0.5 m above the typical level of the field. The Wyre Way / Footpath FP42 runs along the top of this sea defence.

**Construction Phase**

Year 1 to Year 3: Land-take required within west and north part of field to construct wellhead compound 7 and associated access. There would also be other disruption to the field to construct the underground gas manifold, connecting gas pipes to the wellheads and the brine / sea water pipes.

**Construction and Operation Combined Phase**

Year 4 to Year 8: Permanent land-take required for wellhead compound 7 and the associated access. The remainder of the field, except for its western margin, would be reinstated and farmed as an arable field. In field margins. Field lies immediately adjacent to the Wyre Estuary and is recognised as being functionally linked to the Morecambe Bay SPA / Ramsar Purple Ramping fumitory present in field margins.

**Embedded Landscape Design Proposals**

Mosaic scrub / grassland to the perimeter screen mounds within wellhead compounds 5 and 4.

**Mitigation and Enhancement Measures**

Provide wildflower field margin along west boundary with SSSI.
<table>
<thead>
<tr>
<th>Field Reference (see Figure 14-10 V2)</th>
<th>Description of Existing Situation For location of Hedgerow reference e.g. H72 see Figure A9.5 of Volume 2B</th>
<th>Summary of Existing Habitat</th>
<th>Description of Embedded Mitigation and other Mitigation and Enhancement Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>farmed as an arable field. <strong>Operational Phase</strong> Year 9 to Year 40: Permanent land-take required for wellhead compound 7 and the associated access. The remainder of the field, except for its west margin, would be farmed as an arable field.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12-A (PFG-4) Undulating (over 5 m AOD) and irregular shaped arable field with central east / west ridge at approx 8 m AOD at its highest point. This field is enclosed along its west side by a gappy, overgrown hedgerow / scrub (ref H57) and by a small block of scrub / trees in the north west corner and by gorse scrub along the north boundary. The east boundary is mostly open except for a triangular shaped small semi-mature copse. This boundary is delineated by a reed filled drainage ditch. The south boundary is predominantly open although delineated by a gappy hedgerow (ref H56) and a recently planted hedgerow (ref H54) which are associated with a drainage ditch. <strong>Construction Phase</strong> Year 1 to Year 3: Land-take required within north part of field to construct the gas compressor compound and associated screen mounds. There would also be other disruption to the field to construct the underground gas manifold. <strong>Construction and Operation Combined Phase</strong> Year 4 to Year 8: Permanent land-take required for the Gas Compressor Compound and screen mounds. The remainder of the field, except for an area around the marl pit field pond, would be reinstated and farmed as an arable field.</td>
<td>Field is recognised as being functionally linked to the Morecambe Bay SPA / Ramsar Marl pit field pond Ditch margin</td>
<td>Embedded Landscape Design Proposals Plant dense native species scrub to the gas compressor compound perimeter screen mounds. Reinstall boundary hedgerows where they have been affected by the construction work, other than where permanent access is required. <strong>Mitigation and Enhancement Measures</strong> Retain and manage existing marl pit field pond in its current condition as an example of late successional habitat and provide link to adjacent field boundary / ditch. Improve existing bank and marginal habitat along drainage ditch.</td>
<td></td>
</tr>
<tr>
<td>Field Reference (see Figure 14-10 V2)</td>
<td>Description of Existing Situation For location of Hedgerow reference e.g. H72 see Figure A9.5 of Volume 2B</td>
<td>Summary of Existing Habitat</td>
<td>Description of Embedded Mitigation and other Mitigation and Enhancement Measures</td>
</tr>
<tr>
<td>--------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------</td>
<td>-----------------------------</td>
<td>--------------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Operational Phase</strong></td>
<td>Year 9 to Year 40: Permanent land-take required for the Gas Compressor Compound and screen mounds. The remainder of the field, except an area around the marl pit field pond, would be farmed as an arable field.</td>
<td>South west part of field managed for pink-footed geese during Years 1 to 8.</td>
<td></td>
</tr>
<tr>
<td><strong>13-A (PFG-5)</strong>_</td>
<td>Low lying (below 5 m AOD) and more or less flat, irregular shaped arable field of approximately 5.35 ha. This field is open on all sides except for the north boundary, which although predominantly open, is delineated by a gappy hedgerow (ref H56) and a recently planted hedgerow (ref H54) which are associated with a drainage ditch. Low scrub / ruderal weeds delineate the south side, the east side by a ditch / tall ruderal weeds and the west side by a farm track. <strong>Construction Phase</strong> Year 1 to Year 3: Land-take required within north west corner of field to construct wellhead compound 6. The remainder of the field would be unaffected by the Project and could continue to be farmed during this phase. <strong>Construction and Operation Combined Phase</strong> Year 4 to Year 8: Permanent land-take required for wellhead compound 6. The remainder of the field would be farmed as an arable field. <strong>Operational Phase</strong> Year 9 to Year 40: Permanent land-take required for wellhead compound 6. The remainder of the field would be farmed as an arable field.</td>
<td>Field is recognised as being functionally linked to the Morecambe Bay SPA / Ramsar Marl pit field pond Ditch margin Purple Ramping fumitory present in field margins <strong>Embedded Landscape Design Proposals</strong> Dense native species scrub to the wellhead compound 6 perimeter screen mound. <strong>Mitigation and Enhancement Measures</strong> Improve existing bank and marginal habitat along drainage ditch to east side. Establish arable field margin / wildflower strip to south, west and east edges. Field managed for pink-footed geese during Years 1 to 8.</td>
<td></td>
</tr>
<tr>
<td><strong>14-A (PFG-6)</strong></td>
<td>Low lying (below 5 m AOD) and more or less flat, irregular shaped arable field of approximately 5.35 ha. This field is open on all sides except for the north boundary, which although predominantly open, is delineated by a gappy hedgerow (ref H56) and a recently planted hedgerow (ref H54) which are associated with a drainage ditch. Low scrub / ruderal weeds delineate the south side, the east side by a ditch / tall ruderal weeds and the west side by a farm track. <strong>Construction Phase</strong> Year 1 to Year 3: Land-take required within north west corner of field to construct wellhead compound 6. The remainder of the field would be unaffected by the Project and could continue to be farmed during this phase. <strong>Construction and Operation Combined Phase</strong> Year 4 to Year 8: Permanent land-take required for wellhead compound 6. The remainder of the field would be farmed as an arable field. <strong>Operational Phase</strong> Year 9 to Year 40: Permanent land-take required for wellhead compound 6. The remainder of the field would be farmed as an arable field.</td>
<td>Field borders the</td>
<td><strong>Mitigation and Enhancement</strong></td>
</tr>
</tbody>
</table>

4.5.2.2.1 Field Reference (see Figure 14-10 V2): Field is recognised as being functionally linked to the Morecambe Bay SPA / Ramsar Marl pit field pond Ditch margin Purple Ramping fumitory present in field margins **Embedded Landscape Design Proposals** Dense native species scrub to the wellhead compound 6 perimeter screen mound. **Mitigation and Enhancement Measures** Improve existing bank and marginal habitat along drainage ditch to east side. Establish arable field margin / wildflower strip to south, west and east edges. Field managed for pink-footed geese during Years 1 to 8.
<table>
<thead>
<tr>
<th>Field Reference (see Figure 14-10 V2)</th>
<th>Description of Existing Situation For location of Hedgerow reference e.g. H72 see Figure A9.5 of Volume 2B</th>
<th>Summary of Existing Habitat</th>
<th>Description of Embedded Mitigation and other Mitigation and Enhancement Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>shaped arable field of approximately 1.1 ha. This field is open on the north, west and east side and partially enclosed by the gappy, overgrown remnants of a former hedgerow (ref: H55) along the north side Agglebys Road. The west boundary delineated by a low artificial embankment (sea defence) which is approximately 0.5 m to 1.0 m above the typical level of the field. The Wyre Way / Footpath FP42 runs along the top of this sea defence. <strong>Construction Phase</strong> Year 1 to Year 3: The field would be unaffected by this phase and, except for its south and west margin, would continue to be farmed as an arable field. <strong>Construction and Operation Combined Phase</strong> Year 4 to Year 8: The field would be unaffected by this phase and, except for its south and west margin would continue to be farmed as an arable field. <strong>Operational Phase</strong> Year 9 to Year 40: The field would be unaffected by this phase and, except for its south and west margin, would continue to be farmed as an arable field. Wyre Estuary and is recognised as being functionally linked to the Morecambe Bay SPA / Ramsar Measures Establish arable field margin / wildflower strip to south (Agglebys Road) and west (Wyre way / Sea defence) edges. Field managed for pink-footed geese during Years 1 to 8.</td>
<td>Wyre Estuary and is recognised as being functionally linked to the Morecambe Bay SPA / Ramsar Measures Establish arable field margin / wildflower strip to south (Agglebys Road) and west (Wyre way / Sea defence) edges. Field managed for pink-footed geese during Years 1 to 8.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15-A (PFG-7) Low lying (at 5 m to 6 m AOD) and more or less flat irregular shaped arable field of approximately 0.87 ha. This field is open on all boundaries. The north boundary is delineated by an uncultivated thin strip of ruderal weeds and the other three sides by rough farm tracks. <strong>Construction Phase</strong> Year 1 to Year 3: The field would be unaffected by this phase</td>
<td>Field borders the Wyre estuary and is recognised as being functionally linked to the Morecambe Bay SPA / Ramsar Enhancement Measures Establish arable field margin / wildflower strip to south edge adjacent to Agglebys Road. Field managed for pink-footed geese during Years 1 to 8.</td>
<td>Wyre Estuary and is recognised as being functionally linked to the Morecambe Bay SPA / Ramsar Measures Establish arable field margin / wildflower strip to south (Agglebys Road) and west (Wyre way / Sea defence) edges. Field managed for pink-footed geese during Years 1 to 8.</td>
<td></td>
</tr>
<tr>
<td>Field Reference (see Figure 14-10 V2 )</td>
<td>Description of Existing Situation For location of Hedgerow reference e.g. H72 see Figure A9.5 of Volume 2B</td>
<td>Summary of Existing Habitat</td>
<td>Description of Embedded Mitigation and other Mitigation and Enhancement Measures</td>
</tr>
<tr>
<td>---------------------------------------</td>
<td>----------------------------------------------------------------------------------------------------------</td>
<td>-----------------------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| and, except for its south and east margin would continue to be farmed as an arable field. | **Construction and Operation Combined Phase**  
Year 4 to Year 8: The field would be unaffected by this phase and, except for its south and east margin would continue to be farmed as an arable field. | SPA / Ramsar | |
| **Operational Phase**  
Year 9 to Year 40: The field would be unaffected by this phase and, except for its south and east margin would continue to be farmed as an arable field. | | | |
| 16-I | Low lying (below 5 m AOD) and more or less flat irregular shaped small size pasture field. This field is enclosed along the north boundary by mature hawthorn scrub on a former mineral railway embankment. All other field boundaries are open and delineated by drainage ditches / reed planting. | Drainage ditch margin | **Mitigation Measures**  
Plant block of wet woodland.  
Plant dense native species scrub along west edge adjacent to electric sub-station.  
Improve existing bank and marginal habitat along drainage ditch to east side. |
| **Construction Phase**  
Year 1 to Year 3: Land take would be required within the south part of the field to construct the vent stack compound and haul road in Year 1 and a 37 m wide corridor to the north of the haul road would also be required in Year 2 to construct the NTS Interconnector. This work would leave only a limited area of the field unaffected during this phase. | | | |
| **Construction and Operation Combined Phase**  
Year 4 to Year 8: The area required for the NTS Interconnector would be reinstated so that the north part of the field would be farmed as a pasture. | | | |
<p>| <strong>Operational Phase</strong> | | | |</p>
<table>
<thead>
<tr>
<th>Field Reference (see Figure 14-10 V2)</th>
<th>Description of Existing Situation For location of Hedgerow reference e.g. H72 see Figure A9.5 of Volume 2B</th>
<th>Summary of Existing Habitat</th>
<th>Description of Embedded Mitigation and other Mitigation and Enhancement Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 9 to Year 40: The north part of the field would continue to be farmed as pasture.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17-I</td>
<td>Low lying (below 5 m AOD) and more or less flat, irregular shaped small size pasture field. This field is open along all boundaries and delineated by drainage ditches / reed planting. <strong>Construction Phase</strong> Year 1 to Year 3: Land take would be required to construct the vent stack compound in Year 1 and a 37 m wide corridor to the north of the haul road would also be required in Year 2 to construct the NTS Interconnector. This work would leave only a limited area of the field unaffected during this phase. <strong>Construction and Operation Combined Phase</strong> Year 4 to Year 8: The area required for the NTS interconnector would be reinstated so that the north part of the field would be farmed as a pasture. <strong>Operational Phase</strong> Year 9 to Year 40: The north part of the field would continue to be farmed as pasture.</td>
<td>Drainage ditch margin</td>
<td>Mitigation Measures Plant block of wet woodland. Plant native species hedgerow between access road and vent stack compound.</td>
</tr>
<tr>
<td>18-I</td>
<td>Low lying (below 5 m AOD) and more or less flat, irregular shaped small size pasture field. This field is open along three of its four boundaries and delineated by drainage ditches / reed planting. The east boundary is delineated by a remnant hedgerow (ref: H60). <strong>Construction Phase</strong> Year 1 to Year 3: Land take would be required to construct the haul road in Year 1, the vent stack compound and the NTS interconnector in Year 2 and Year 3. The remaining south and</td>
<td>Drainage ditch margin Boundary hedge</td>
<td>Embedded Landscape Design Proposals Reinstall field boundary hedge (ref: H60) affected by construction. Mitigation and Enhancement Measures Plant reedbed.</td>
</tr>
<tr>
<td>Field Reference (see Figure 14-10 V2)</td>
<td>Description of Existing Situation For location of Hedgerow reference e.g. H72 see Figure A9.5 of Volume 2B</td>
<td>Summary of Existing Habitat</td>
<td>Description of Embedded Mitigation and other Mitigation and Enhancement Measures</td>
</tr>
<tr>
<td>----------------------------------------</td>
<td>----------------------------------------------------------------------------------------------------------</td>
<td>-----------------------------</td>
<td>--------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>west part of the field would be either excavated to create a depression for a reedbed or planted as wet woodland. The east edge adjacent to the haul road would be planted with a hedge. <strong>Construction and Operation Combined Phase</strong> Year 4 to Year 8: The field would be permanently required for operation requirements and enhancement measures. <strong>Operational Phase</strong> Year 9 to Year 40: The field would be permanently required for operation requirements and enhancement measures.</td>
<td><strong>Description of Embedded Landscape Design Proposals</strong> Reinstate field boundary hedgerow affected by construction (ref H61). <strong>Mitigation and Enhancement Measures</strong> Plant up existing hedgerow (ref: H61) adjacent to permanent access road. Improve existing bank and marginal habitat along drainage ditch to west side.</td>
<td><strong>Drainage ditch margin</strong> <strong>Field boundary Hedgerow</strong></td>
<td>Plant block of wet woodland</td>
</tr>
<tr>
<td>Gently undulating (above 5 m AOD) irregular shaped medium size mown grass field. This field is open to a ditch/reed margin along its north side, by a drainage ditch/reed margin along its west side, a remnant hedgerow (ref: H61) along its east edge and intermittent scrub along its south side. <strong>Construction Phase</strong> Year 1 to Year 2: The north part of the field would be affected by the HV cable routing (Year 1) and by the NTS Interconnector (Year 2) and would also affect the field boundary hedge along its east edge with Monk’s Lane. Year 3: The field would be unaffected by this phase and, except for its west, north and south margins would continue to be used for mown grassland. <strong>Construction and Operation Combined Phase</strong> Year 4 to Year 8: The field would be unaffected by this phase and, except for its west margin would continue to be used for mown grassland. <strong>Operational Phase</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Field Reference (see Figure 14-10 V2)</td>
<td>Description of Existing Situation For location of Hedgerow reference e.g. H72 see Figure A9.5 of Volume 2B</td>
<td>Summary of Existing Habitat</td>
<td>Description of Embedded Mitigation and other Mitigation and Enhancement Measures</td>
</tr>
<tr>
<td>--------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------</td>
<td>-----------------------------</td>
<td>--------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Year 9 to Year 40: The field would be unaffected by this phase and, except for its west margin would continue to be used for mown grassland.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| 20-MG | Gently sloping (above 5 m AOD) irregular shaped small size mown grass field. This field is open to a drainage ditch / reed margin along its west and north sides and enclosed by gappy remnant hedgerows / scrub along the east and south sides (ref: H53 and ref: H50 respectively). | Drainage ditch margin Field boundary hedgerow | Embedded Landscape Design Proposals  
Reinstate field boundary hedgerow affected by construction (ref H53).  
Mitigation and Enhancement Measures  
Plant up existing hedgerow (H53) adjacent to permanent access road.  
Improve existing bank and marginal habitat along drainage ditch to east west. |
| **Construction Phase**  
Year 1 to Year 2: The north part of the field would be affected by the HV cable routing (Year 1) and by the NTS Interconnector Pipeline (Year 2) and would also affect the field boundary hedge (Ref. H53) along its east edge with Monk’s Lane. Year 3: The field would be unaffected and, except for its west margin would continue to be used for mown grassland. | | | |
| **Construction and Operation Combined Phase**  
Year 4 to Year 8: The field would be unaffected by this phase and, except for its west margin would continue to be used for mown grassland.  
**Operational Phase**  
Year 9 to Year 40: The field would be unaffected by this phase and, except for its west margin would continue to be used for mown grassland. | | | |
| 21-I | Low lying (below 5.0m AOD) and flat, irregular shaped small size pasture field to the north of Agglebys Road. This field is open on its north, east and west sides to drainage ditches / reed margins but enclosed on the south side by an overgrown remnant lane | Drainage ditch margins | Mitigation and Enhancement Measures  
Improve existing bank and marginal habitat along field |
<table>
<thead>
<tr>
<th>Field Reference (see Figure 14-10 V2)</th>
<th>Description of Existing Situation For location of Hedgerow reference e.g. H72 see Figure A9.5 of Volume 2B</th>
<th>Summary of Existing Habitat</th>
<th>Description of Embedded Mitigation and other Mitigation and Enhancement Measures</th>
</tr>
</thead>
</table>
| side hedgerow.                     | **Construction Phase**  
Year 1 to Year 3: The field would be unaffected by this phase and other than for temporary enhancement work to create field scrapes and ditch margins would continue to be used as a pasture field.  
**Construction and Operation Combined Phase**  
Year 4 to Year 8: The field would be unaffected by this phase and, except for its ditch margins would continue to be used as a pasture field.  
**Operational Phase**  
Year 9 to Year 40: The field would be unaffected by this phase and, except for its ditch margins would continue to be used as a pasture field. | perimeter drainage ditches.  
Create field scrapes for birds. | |
| Gently sloping (above 5 m AOD) irregular shaped medium size pasture field comprising of formally four separate fields which were divided by hedgerows. There is also a mature copse in the south part of the field. The field also contains several former ICI brine wells and the remains of a former farm building. The gappy remnants of these hedgerows (ref: H48 and ref: H49) are still visible. The larger field unit is enclosed on the west and east sides by gappy hedgerows scrub (ref H50 and H45 respectively). The north east edge is delineated by mature vegetation adjacent to Higher Lickow and a hedgerow to Monks Lane (ref: H64). The south side is partly delineated by a section of ditch, by palisade security fencing and by the remnants of a former lane side hedgerow to Agglebys Road. | Field boundary hedgerows  
Mature vegetation | **Embedded Landscape Design Proposals**  
Plant new field boundary hedgerow adjacent to permanent access road.  
**Mitigation and Enhancement Measures**  
Create field scrapes for birds.  
Plant native species woodland copses adjacent to Higher Lickow.  
Carry out field boundary hedgerow improvement (ref:H45) including the section of |
<table>
<thead>
<tr>
<th>Field Reference (see Figure 14-10 V2)</th>
<th>Description of Existing Situation For location of Hedgerow reference e.g. H72 see Figure A9.5 of Volume 2B</th>
<th>Summary of Existing Habitat</th>
<th>Description of Embedded Mitigation and other Mitigation and Enhancement Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Construction Phase</strong></td>
<td>Year 1 and Year 2: The north part of this field would be affected by the haul road and HV cable routing in Year 1. The remainder of the field would be unaffected by this phase other than for temporary enhancement work to create field scrapes. These areas and the unaffected areas would continue as a pasture field.</td>
<td>intermittent scrub along east side of field. Improve existing bank and marginal habitat along drainage ditch to west side.</td>
<td></td>
</tr>
<tr>
<td><strong>Construction and Operation Combined Phase</strong></td>
<td>Year 4 to Year 8: The field would be unaffected by this phase and, except for the north part affected by the permanent access road, would continue to be farmed as a pasture field.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Operational Phase</strong></td>
<td>Year 9 to Year 40: The field would be unaffected by this phase and, except for its west margin would continue to be used for mown grassland.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| **23-I** | Gently sloping (above 5 m AOD) irregular shaped medium size pasture field and containing several former ICI brine wells. A recent incident at the northern wellhead has resulted in disturbance by recent construction activity within this field. The field is delineated along its east side by intermittent scrub and a gappy hedge (ref H45), its north side to Monks Lane by a hedge (ref H46), its east side to Back Lane by an intermittent hedge (ref H44) and on its south side to Agglebys Road a low cut hedge (ref H47). The hedge along Back Lane (ref H44) has been affected by a recent incident resulting in die back. | Field boundary hedgerows | **Embedded Landscape Design Proposals** |
|          | **Construction Phase** Year 1 to Year 2: The north and west part of this field would be affected by the haul road and HV cable routing in Year 1 and the north part by the NTS interconnector in Year 2. The remainder | | Reinstatement of boundary hedgerows (ref H44, H46 and H47) where lost to the NTS Interconnector and HV cable routing. |
|          | **Mitigation and Enhancement Measures** Create field scrapes for birds. Carry out hedgerow improvement to field boundary hedgerows ref H44, H45, H46 and H47. | | **Mitigation and Enhancement Measures** |


<table>
<thead>
<tr>
<th>Field Reference (see Figure 14-10 V2)</th>
<th>Description of Existing Situation For location of Hedgerow reference e.g. H72 see Figure A9.5 of Volume 2B</th>
<th>Summary of Existing Habitat</th>
<th>Description of Embedded Mitigation and other Mitigation and Enhancement Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>of the field would be unaffected by this phase other than for temporary enhancement work to create field scrapes. These areas would continue as a pasture field. Sections of hedgerows for H44, H46 and H47 would be affected by the underground pipeline and cable routing and sections of H44 and H45 would be affected by the haul road construction. Year 3: The field would be returned to pasture except for the area affected by the fenced haul road / permanent access road. The field would in effect be divided into two parts with a small left over piece of field in the north between the haul road and Monks Lane and a larger area to the south. It is anticipated the small area of field would still be viable as pasture. <strong>Construction and Operation Combined Phase</strong> Year 4 to Year 8: The two parts of the field would be unaffected by this phase and, except for the permanent access road would continue to be used for pasture. <strong>Operational Phase</strong> Year 9 to Year 40: The two parts of the field would be unaffected by this phase and, except for the permanent access road would continue to be used for pasture.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24-A (PFG-11)</td>
<td>Area of reclaimed marshland (approximately 6.1 ha) adjacent to Wyre estuary and forming a flat (5 m AOD) irregular shaped arable field dissected by several ditches and there are several former ICI brine wells along the east edge. The south and west sides of the field are demarcated by grass sea defence, the east side to Brown’s Lane by a low grass bank and the north side to the Sportsman Caravan Park by a hedgerow. This field would be unaffected by the construction, construction</td>
<td>Field lies adjacent to the Wyre Estuary SSSI</td>
<td><strong>Mitigation and Enhancement Measures</strong> Create arable field margin / wildflower strip along boundary to estuary edge. Field managed for pink-footed geese during Years 1 to 8.</td>
</tr>
<tr>
<td>Field Reference (see Figure 14-10 V2)</td>
<td>Description of Existing Situation For location of Hedgerow reference e.g. H72 see Figure A9.5 of Volume 2B</td>
<td>Summary of Existing Habitat</td>
<td>Description of Embedded Mitigation and other Mitigation and Enhancement Measures</td>
</tr>
<tr>
<td>--------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------</td>
<td>----------------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>and operation combined and operation phases.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| 25-A | Gently sloping (above 5 m AOD) irregular shaped medium size arable rising from shallow clay cliff at estuary edge to ridge along Burrows Lane. The west side of the field is demarcated by a line of mature scattered scrub, the east side by a hedge and hedge bank to Burrow’s Lane including two associated marl pit ponds and the south side by a fence. **Construction Phase** Year 1: A narrow corridor within the west edge of the field adjacent to the estuary would be temporally affected by the HV cable routing. The remainder of the field would be unaffected and would continue to be farmed as an arable field. Year 2 and Year 3: The field would be returned to agriculture and farmed as an arable field. An arable weed margin. Would be established along its wet edge with the Wyre estuary. The two marl pit ponds within the east edge would be enhanced and a perimeter grass margin established around them and a link provided to the adjacent hedgerow. **Construction and Operation Combined Phase** Year 4 to Year 8: The field would be unaffected by this phase and, except for its west margin and around the field ponds would continue to be farmed as an arable field. **Operational Phase** Year 9 to Year 40: The field would be unaffected by this phase and, except for its west margin and around the field ponds would continue to be farmed as an arable field. | Field lies adjacent to the Wyre Estuary SSSI Mature scrub and field boundary hedgerow Field boundary ponds associated with hedgerow | Mitigation and Enhancement Measures
Create arable field margin / wildflower strip along boundary to estuary edge.
Field pond enhancement.
Plant new native species field boundary hedgerow. |
| 26-A | Gently sloping (above 5 m AOD) irregular shaped medium size | Field lies | Enhancement Measures |
### Field Reference (see Figure 14-10 V2)

<table>
<thead>
<tr>
<th>Description of Existing Situation For location of Hedgerow reference e.g. H72 see Figure A9.5 of Volume 2B</th>
<th>Summary of Existing Habitat</th>
<th>Description of Embedded Mitigation and other Mitigation and Enhancement Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arable rising from a shallow clay bank at the estuary edge to a ridge along Burrow's Lane. The west side of the field is demarcated by a line of mature scattered scrub, the east side by a hedge and hedge bank to Burrow's Lane including two associated ponds and the south side is open except for a strip of tall ruderal vegetation. <strong>Construction Phase</strong> Year 1: A narrow corridor within the west edge of the field adjacent to the estuary would be temporally affected by the HV cable routing. The remainder of the field would be unaffected and would continue to be farmed as an arable field. Year 2 and Year 3: The field would be returned to agriculture and farmed as an arable field. An arable weed margin. Would be established along its west edge with the Wyre estuary. The two field boundary ponds at its east edge would be enhanced and a perimeter grass margin established around them. <strong>Construction and Operation Combined Phase</strong> Year 4 to Year 8: The field would be unaffected by this phase and, except for its west margin and around the field ponds would continue to be farmed as an arable field.</td>
<td>Adjacent to the Wyre Estuary SSSI Field Pond Mature scrub and field boundary hedgerow / bank boundary</td>
<td>Arable Field margin / wildflower strip along boundary to estuary edge. Improve biodiversity potential of existing marl pit field pond and provide link to adjacent field boundary / ditch. Plant new native species field boundary hedgerow.</td>
</tr>
<tr>
<td>27-A Gently sloping (above 5 m AOD) irregular shaped small size arable rising from a shallow clay bank at the estuary edge to a ridge along Burrow's Lane. The west side of the field is demarcated by a line of mature scattered scrub, the north side by</td>
<td>Field lies adjacent to the Wyre Estuary</td>
<td>Mitigation and Enhancement Measures Create arable field margin /</td>
</tr>
<tr>
<td>Field Reference (see Figure 14-10 V2)</td>
<td>Description of Existing Situation For location of Hedgerow reference e.g. H72 see Figure A9.5 of Volume 2B</td>
<td>Summary of Existing Habitat</td>
</tr>
<tr>
<td>--------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------</td>
<td>---------------------------</td>
</tr>
<tr>
<td>an open fence line, the east side by a hedge and hedge bank to Burrow’s Lane and the south side by a hedge (Ref H90). <strong>Construction Phase</strong> Year 1: A narrow corridor within the west half of the field would be temporally affected by the HV cable routing. The east half of the field would be unaffected and could continue to be farmed as an arable field. Year 2 and Year 3: The field would be returned to agriculture and farmed as an arable field. An arable weed margin would be established along its west edge with the Wyre estuary. <strong>Construction and Operation Combined Phase</strong> Year 4 to Year 8: The field would be unaffected by this phase and, except for its west margin and around the field pond would continue to be farmed as an arable field. <strong>Operational Phase</strong> Year 9 to Year 40: The field would be unaffected by this phase and, except for its west margin and around the field ponds would continue to be farmed as an arable field.</td>
<td>SSSI Purple Ramping fumitory present in field margins</td>
<td>wildflower strip along boundary to estuary edge.</td>
</tr>
</tbody>
</table>
| Gently sloping (above 5 m AOD) irregular shaped medium size arable rising from shallow clay cliff at estuary edge to ridge along Burrows Lane. The west side of the field is demarcated by a line of mature scattered scrub, the north side by a hedge (ref H90) the east side by a hedge to Burrow’s Lane (ref H92) and scrub to outbuildings associated with Carters Farm and the south side by a hedge (ref H91). There is also a field pond in the west part of the field. **Construction Phase** | Field lies adjacent to the Wyre Estuary SSSI Field pond Field boundary hedgerows | **Embedded Landscape Design Proposals** Reinstatement of field boundary hedgerow (ref H92) lost to construction. **Mitigation and Enhancement Measures** Create arable field margin / wildflower strip along boundary to

28-A
<table>
<thead>
<tr>
<th>Field Reference (see Figure 14-10 V2 )</th>
<th>Description of Existing Situation For location of Hedgerow reference e.g. H72 see Figure A9.5 of Volume 2B</th>
<th>Summary of Existing Habitat</th>
<th>Description of Embedded Mitigation and other Mitigation and Enhancement Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 1: The field would be affected by the south estuary (east compound) crossing, the HV cable routing and a temporary access track from Burrow's Lane to the compound leaving three pockets of the field unaffected. The temporary access track would require removal of a section of hedgerow (ref H92) at its tie in with Burrows Lane. Year 2 and Year 3: The field would be returned to agriculture and farmed as an arable field. An arable weed margin would be established along its west edge with the Wyre estuary. The filed pond within the east edge would be enhanced and a perimeter grass margin established around it and a link provided to the adjacent scrub / arable margin along the estuary edge. <strong>Construction and Operation Combined Phase</strong> Year 4 to Year 8: The field would be unaffected by this phase and, except for its west margin and around the field ponds would continue to be farmed as an arable field. <strong>Operational Phase</strong> Year 9 to Year 40: The field would be unaffected by this phase and, except for its west margin and around the field ponds would continue to be farmed as an arable field.</td>
<td>estuary edge. Improve biodiversity potential of existing marl pit field pond and provide link to adjacent field boundary / ditch.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PFG-1</td>
<td>Low lying (5 m AOD), flat rectangular shaped arable field to the north of Clods Carr Lane (Footpath FP45) of approximately 2.6 ha. The north, west and east sides of the field are enclosed by gappy hedgerow. The south side is demarcated by reed filled drainage ditch. This field would be unaffected by the construction, construction and operation combined and operation phases.</td>
<td>Field falls within the Clods Carr Biological Heritage Site.</td>
<td>Field managed for pink-footed geese during Years 1 to 8.</td>
</tr>
<tr>
<td>Field Reference (see Figure 14-10 V2)</td>
<td>Description of Existing Situation For location of Hedgerow reference e.g. H72 see Figure A9.5 of Volume 2B</td>
<td>Summary of Existing Habitat</td>
<td>Description of Embedded Mitigation and other Mitigation and Enhancement Measures</td>
</tr>
<tr>
<td>--------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------</td>
<td>-----------------------------</td>
<td>-------------------------------------------------------------------------</td>
</tr>
<tr>
<td>PFG-2</td>
<td>Low lying (5 m AOD), mainly flat, but gently rising in the south, irregular shaped arable field to the south of Clods Carr Lane (Footpath FP45), of approximately 4.6 ha. The north, north west and east sides of the field are demarcated by reed filled drainage ditches, the south west side is enclosed by a gappy hedge and scrub and the south side is enclosed by a mature overgrown hedge. This field would be unaffected by the construction, construction and operation combined and operation phases.</td>
<td>Field falls within the Clods Carr Biological Heritage Site. Purple ramping-fumitory Important hedgerow H73</td>
<td>Field managed for pink-footed geese during Years 1 to 8.</td>
</tr>
<tr>
<td>PFG-8</td>
<td>Low lying (below 5 m AOD) and more or less flat, regular shaped arable field of approximately 1.2 ha. This field is open on the south, and east side and partially enclosed by the gappy, overgrown remnants of a former hedgerow (ref: H55) along the south side of Agglebys Road. The west boundary is delineated by a vegetated artificial embankment (sea defence) which is approximately 2 m above the typical level of the field. The Wyre Way / Footpath FP41 runs along the top of this sea defence. This field would be unaffected by the construction, construction and operation combined and operation phases.</td>
<td>Field lies adjacent to the Wyre Estuary SSSI</td>
<td>Field managed for pink-footed geese during Years 1 to 8.</td>
</tr>
<tr>
<td>PFG-9</td>
<td>Low lying (below 5 m AOD) and more or less flat, irregular shaped arable field of approximately 1.1 ha. This field is open on the south (to the Grange Pool), the east and north sides. The west boundary is delineated by a vegetated artificial embankment (sea defence) which is approximately 2 to 3 m above the typical level of the field. The Wyre Way / Footpath FP41 runs along the top of this sea defence. This field would be unaffected by the construction, construction and operation combined and operation phases.</td>
<td>Field lies adjacent to the Wyre Estuary SSSI</td>
<td>Field managed for pink-footed geese during Years 1 to 8.</td>
</tr>
<tr>
<td>Field Reference (see Figure 14-10 V2)</td>
<td>Description of Existing Situation For location of Hedgerow reference e.g. H72 see Figure A9.5 of Volume 2B</td>
<td>Summary of Existing Habitat</td>
<td>Description of Embedded Mitigation and other Mitigation and Enhancement Measures</td>
</tr>
<tr>
<td>--------------------------------------</td>
<td>--------------------------------------------------------------------------------------------------</td>
<td>-----------------------------</td>
<td>--------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>PFG-10</td>
<td>Low lying (below 5 m AOD) and more or less flat, irregular shaped arable field of approximately 3.6 ha. This field is open on the south (to the Grange Pool), the west side and much of the north side (delineated by Agglebys Road). The east boundary is delineated by a combination of incongruous palisade fencing and a section of hedgerow. This field would be unaffected by the construction, construction and operation combined and operation phases.</td>
<td></td>
<td>Field managed for pink-footed geese during Years 1 to 8.</td>
</tr>
</tbody>
</table>
Annex B

RSPB Advice Leaflet ‘Advice to Farmers - Pink-footed Goose’
Internationally-important numbers of pink-footed geese now spend the winter in the UK. In the 1960s, only 50,000 birds wintered in the UK – now there are more than 200,000. There are regularly more than 100,000 pink-footed geese in north Norfolk and the Broads. They feed in the arable farmland on post-harvest cereal stubbles, sugar beet tops and winter wheat crops. Damage to crops can be minimised with careful management.

**WHAT DO PINK-FOOTED GEESE NEED?**

**Undisturbed daytime feeding sites**
Pink-footed geese are highly susceptible to human disturbance. Research suggests that they avoid feeding in fields less than 6 hectares (ha) in size and fields that are close to roads. Shooting disturbs the geese more and disperses them over a wide area, often onto vulnerable crops.

**A supply of carbohydrate-rich food**
In mid-winter, most geese prefer food with high levels of carbohydrates and/or nitrogen and low levels of fibre. Sugar beet tops and spilled grain in stubble fields are ideal. Stubble fields are only available to the geese in autumn and early winter, before they are ploughed.

Harvested sugar beet fields are the preferred feeding sites during the rest of the winter. Pink-footed geese also feed on improved grassland, ideally near their night-time roost sites.
HOW CAN I ENCOURAGE PINK-FOOTED GEESE?

Avoid disturbing geese feeding on sugar beet tops
- Disturbing geese whilst they are feeding on harvested sugar beet fields can result in moving the birds onto growing crops. It is best to avoid walking on these fields, or travelling through them in all-terrain vehicles. Please avoid shooting geese as they feed.
- Target goose management measures on larger fields (>6 ha) away from major roads and on fields that you know are traditionally used by geese.

Leave sugar beet tops as long as possible
- Pink-footed geese prefer to feed on post-harvest sugar beet tops. They will graze on harvested sugar beet fields for up to 30 days after harvest. So, where possible, avoid ploughing in sugar beet tops directly after harvest to sow a winter cereal. Consider growing a spring-sown cereal instead.
- Avoid using sheep to graze on the sugar beet aftermath if you are planning to carry out goose management on these fields.

Avoid partial harvesting of sugar beet fields
- Partial harvesting of sugar beet fields can give pink-footed geese access to unharvested sugar beet roots. Where possible, try to harvest fields completely and avoid harvesting strips through fields.

HOW CAN I DETER GEESE FROM SENSITIVE CROPS?
- Avoid shooting at geese feeding on sensitive crops as this can disperse the geese over a wider area, often onto other vulnerable crops.
- If geese are grazing vulnerable crops, walking out onto the field is often enough to move them on – providing that there are suitable, undisturbed fields available nearby.
- Scarecrows, large fertiliser sacks and farm machinery (eg bowsers) have been used successfully to deter geese from settling on vulnerable crops.

You can get further information on these and other ways of managing your farm for wildlife from:

RSPB regional farmland adviser,
Eastern England Regional Office, Stalham House, 65 Thorpe Road, Norwich, Norfolk NR1 1UD Tel: 01603 661662
E-mail: easternfarmlandadvice@rspb.org.uk

British Sugar plc
Oundle Road
Peterborough PE2 9QU
Tel: 01733 563171
E-mail: info@britishsugar.co.uk

English Nature, Norfolk team,
60 Bracondale, Norwich, Norfolk NR1 2BE
Tel: 01603 598400
E-mail: norfolk@english-nature.org.uk
Annex C

RSPB Advice Leaflet ‘Scrape Creation for Waders’
Scrapes are shallow depressions with gently sloping edges, which seasonally hold water. They create obvious in-field wet features that are attractive to wildlife.

They can be created on areas of damp grassland, upland in-bye land and on arable reversion on floodplains.

Scrapes should hold water from March to late June, though water levels can recede as the spring progresses. They may dry out by late summer/autumn.

Scrapes provide insect-rich areas where birds can feed

Other farmland birds like tree sparrows will also benefit.

**BENEFITS FOR WILDLIFE**
**Location**

The location of scrapes will depend on many factors, including:

- **Soil type**
- **The presence of existing damp areas in a field**
- **Existing land drain locations**
- **Field boundaries and other features such as overhead wires**
- **Existing flora and fauna, SSSI designations and archaeological features**

Impermeable soils will be best suited to scrape creation. If surface soils are impermeable, for example clays and silts, ensure scrape depth does not break through to permeable soils below. On permeable soils, for example peat, if the water table in the soil is high, creating scrapes will ‘break through’ to the water, creating obvious in field wet features. Scrapes are also useful if raising the water table within the field itself is not possible, perhaps because it would cause impacts on a neighbour’s land. When locating scrapes all of the above factors need to be considered. Locate scrapes at least 100 m from field boundaries such as hedges and woodland, and away from overhead lines, to help increase their attractiveness to ground-nesting wader species. Fields over 3 ha are best. Avoid areas with apparent existing floristic diversity – these may already be good wildlife habitats – and also take advice about features of landscape, historical or archaeological importance, as scrapes may not be appropriate in some situations. Scrapes can be created on slight slopes. See notes under ‘Spoil’.

**Scrape depth, shape and size**

Scrapes need to be shallow, though not with a uniform depth across the whole area. Deeper areas towards the middle of the scrape should be no more than c45 cm. These deeper areas may stay damp even in drier periods. The most important part of the scrape is the edge, and the more edge there is on a scrape the greater the feeding area it offers. Edges should be kept gently sloping and very shallow. A scrape can be any shape, although an irregular outline creates a much greater edge effect than a regular one, so a linear scrape that winds across the field is better than a ‘round’ scrape (see diagrams right). However, on some sites a linear scrape may be unpractical and a round scrape can be used instead.

**Spoil**

The scrape must be kept open. Spoil from the newly created scrape should be spread thinly across the surrounding field surface. If spoil is piled in a ‘bund’ alongside the scrape, it should be kept very low. Scrapes can be created on slight slopes, in which case follow the contours of the slope, and use the spoil to create a low retaining bund on the downhill side of the scrape (see diagram below).

**In and out flows**

Creating scrapes where water levels can be controlled will be beneficial. Scrapes can be created along ditch lines where they are fed from the ditch (see picture 2), or it may be possible to divert a supply of water to feed the scrape.

**Field and scrape management**

Once the scrape is created, it is important to manage the surrounding area to maintain the effectiveness of the scrape. Graze the field and scrape area, ideally with cattle (picture 3), to create a varied sward structure (predominantly short but with scattered rushes and tussocks). During the bird breeding season, use the minimum number of stock necessary to create this target sward structure.

Providing an outflow with a control sluice will allow levels in the scrape to be controlled. Figures 1 and 2 illustrate creating a scrape by using an existing land drain.

**Picture 1: Linear scrape with muddy edges**

Scrapes can vary in size depending on the field size and the location. The suggested minimum size of a scrape is approximately 20 m². Three of these per hectare would represent a good level of habitat provision.

More edge effect

Less edge effect

Management of the sward in the field may also be a factor when deciding on scrape design. If mowing is used, keep the scrape layout simple. Shallow scrapes can be ‘mown through’.

**Picture 2: Creating a scrape on a slight slope**

In and out flows

Creating scrapes where water levels can be controlled will be beneficial. Scrapes can be created along ditch lines where they are fed from the ditch (see picture 2), or it may be possible to divert a supply of water to feed the scrape.

**Picture 3: Belted Galloway grazing next to a newly-created scrape as part of a wet grassland management programme**

Allowing cattle access to the scrape will puddle the edges and keep marginal vegetation short. This will help to maintain good open wader feeding areas.