

# MORGAN AND MORECAMBE OFFSHORE WIND FARMS: TRANSMISSION ASSETS

**The Applicants' submission at Deadline 4 on 8 August 2025 : Hearing Action Point 14**

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## Glossary

Term	Meaning
400 kV grid connection cables	Cables that will connect the proposed onshore substations to the existing National Grid Penwortham substation.
400 kV grid connection cable corridor	The corridor within which the 400 kV grid connection cables will be located.
Applicants	Morgan Offshore Wind Limited (Morgan OWL) and Morecambe Offshore Windfarm Ltd (Morecambe OWL).
Biodiversity benefit	<p>An approach to development that leaves biodiversity in a better state than before. Where a development has an impact on biodiversity, developers are encouraged to provide an increase in appropriate natural habitat and ecological features over and above that being affected.</p> <p>For the Transmission Assets, biodiversity benefit will be delivered within identified biodiversity benefit areas within the Transmission Assets Order Limits. Further qualitative benefits to biodiversity are proposed via potential collaboration with stakeholders and local groups, contributing to existing plans and programmes, both within and outside the Order Limits.</p>
Code of Construction Practice	A document detailing the overarching principles of construction, contractor protocols, construction-related environmental management measures, pollution prevention measures, the selection of appropriate construction techniques and monitoring processes.
Commitment	This term is used interchangeably with mitigation and enhancement measures. The purpose of commitments is to avoid, prevent, reduce or, if possible, offset significant adverse environmental effects. Primary and tertiary commitments are taken into account and embedded within the assessment set out in the ES.
Construction Traffic Management Plan	A document detailing the construction traffic routes for heavy goods vehicles and personnel travel, protocols for delivery of Abnormal Indivisible Loads to site, measures for road cleaning and sustainable site travel measures.
Design envelope	A description of the range of possible elements and parameters that make up the Transmission Assets options under consideration, as set out in detail in Volume 1, Chapter 3: Project Description. This envelope is used to define the Transmission Assets for EIA purposes when the exact engineering parameters are not yet known. This is also referred to as the Maximum Design Scenario or Rochdale Envelope approach.
Development Consent Order	An order made under the Planning Act 2008, as amended, granting development consent.
Direct pipe	A cable installation technique which involves the use of a mini (or micro) tunnel boring machine and a hydraulic (or other) thruster rig to directly install a steel pipe between two points.
Environmental Impact Assessment	The process of identifying and assessing the significant effects likely to arise from a project. This requires consideration of the likely changes to the environment, where these arise as a consequence of a project, through comparison with the existing and projected future baseline conditions.

Term	Meaning
Environmental Statement	The document presenting the results of the Environmental Impact Assessment process.
Evidence Plan Process	A voluntary consultation process with specialist stakeholders to agree the approach to, and information to support, the EIA and Habitats Regulations Assessment processes for certain topics.
Generation Assets	The generation assets associated with the Morgan Offshore Wind Project and the Morecambe Offshore Windfarm include the offshore wind turbines, inter-array cables, offshore substation platforms and platform link (interconnector) cables to connect offshore substations.
Intertidal area	The area between Mean High Water Springs and Mean Low Water Springs.
Intertidal Infrastructure Area	The temporary and permanent areas between MLWS and MHWS.
Landfall	The area in which the offshore export cables make landfall (come on shore) and the transitional area between the offshore cabling and the onshore cabling. This term applies to the entire landfall area at Lytham St. Annes between Mean Low Water Springs and the transition joint bay inclusive of all construction works, including the offshore and onshore cable routes, intertidal working area and landfall compound(s).
Local Authority	A body empowered by law to exercise various statutory functions for a particular area of the United Kingdom. This includes County Councils, District Councils and County Borough Councils.
Local Highway Authority	A body responsible for the public highways in a particular area of England and Wales, as defined in the Highways Act 1980.
Main rivers	The term used to describe a watercourse designated as a Main River under the Water Resources Act 1991 and shown on the Main River Map. These are usually larger rivers or streams and are managed by the Environment Agency.
Marine licence	The Marine and Coastal Access Act 2009 requires a marine licence to be obtained for licensable marine activities. Section 149A of the Planning Act 2008 allows an applicant for to apply for 'deemed marine licences' in English waters as part of the development consent process
Maximum design scenario	The realistic worst case scenario, selected on a topic-specific and impact specific basis, from a range of potential parameters for the Transmission Assets.
Mean High Water Springs	The height of mean high water during spring tides in a year.
Mean Low Water Springs	The height of mean low water during spring tides in a year.
Micro-tunnel / micro-tunnelling	A tunnelling technique involving the use of a hydraulic (or other) jacking rig and a mini (or micro) tunnel boring machine to install a concrete tunnel between two points.
Mitigation measures	This term is used interchangeably with Commitments. The purpose of such measures is to avoid, prevent, reduce or, if possible, offset significant adverse environmental effects.
Morecambe Offshore Windfarm: Generation Assets	The offshore generation assets and associated activities for the Morecambe Offshore Windfarm.

Term	Meaning
Morecambe Offshore Windfarm: Transmission Assets	The offshore export cables, landfall, and onshore infrastructure required to connect the Morecambe Offshore Windfarm to the National Grid.
Morecambe OWL	Morecambe Offshore Windfarm Limited is owned by Copenhagen Infrastructure Partners' (CIP) fifth flagship fund, Copenhagen Infrastructure V (CI V)..
Morgan and Morecambe Offshore Wind Farms: Transmission Assets	The offshore export cables, landfall, and onshore infrastructure for the Morgan Offshore Wind Project and the Morecambe Offshore Windfarm. This includes the offshore export cables, landfall site, onshore export cables, onshore substations, 400 kV grid connection cables and associated grid connection infrastructure such as circuit breaker compounds.  Also referred to in this report as the Transmission Assets, for ease of reading.
Morgan Offshore Wind Project: Generation Assets	The offshore generation assets and associated activities for the Morgan Offshore Wind Project.
Morgan Offshore Wind Project: Transmission Assets	The offshore export cables, landfall and onshore infrastructure required to connect the Morgan Offshore Wind Project to the National Grid.
Morgan OWL	Morgan Offshore Wind Limited is a joint venture between JERA Nex bp (JNbp) and Energie Baden-Württemberg AG (EnBW).
National Grid Penwortham substation	The existing National Grid substation at Penwortham, Lancashire.
National Policy Statement(s)	The current national policy statements published by the Department for Energy and Net Zero in 2023 and adopted in 2024.
Offshore booster station	A fixed structure located along the offshore export cable route, containing electrical equipment to ensure bulk wind farm capacity can be fully transmitted to the onshore substations.
Offshore substation platform(s)	A fixed structure located within the wind farm sites, containing electrical equipment to aggregate the power from the wind turbine generators and convert it into a more suitable form for export to shore.
Offshore export cables	The cables which would bring electricity from the Generation Assets to the landfall.
Offshore export cable corridor	The corridor within which the offshore export cables will be located.
Offshore Permanent Infrastructure Area	The area within the Transmission Assets Offshore Order Limits (up to MLWS) where the permanent offshore electrical infrastructure (i.e. offshore export cables) will be located.
Offshore Order Limits	See Transmission Assets Order Limits: Offshore (below).
Offshore substation platform(s)	A fixed structure located within the wind farm sites, containing electrical equipment to aggregate the power from the wind turbine generators and convert it into a more suitable form for export to shore.
Onshore export cables	The cables which would bring electricity from the landfall to the onshore substations.
Onshore export cable corridor	The corridor within which the onshore export cables will be located.
Onshore Infrastructure Area	The area within the Transmission Assets Order Limits landward of MHWS. Comprising the offshore export cable corridor from MHWS to



Term	Meaning
	the transition joint bay, onshore export cable corridor, onshore substations and 400 kV grid connection cable corridor, and associated temporary and permanent infrastructure including temporary and permanent compound areas and accesses. Those parts of the Transmission Assets Order Limits proposed only for ecological mitigation and/or biodiversity benefit are excluded from this area.
Transmission Assets Order Limits	See Transmission Assets Order Limits: Onshore (below).
Onshore substations	The onshore substations will include a substation for the Morgan Offshore Wind Project: Transmission Assets and a substation for the Morecambe Offshore Windfarm: Transmission Assets. These will each comprise a compound containing the electrical components for transforming the power supplied from the generation assets to 400 kV and to adjust the power quality and power factor, as required to meet the UK Grid Code for supply to the National Grid.
Preliminary Environmental Information Report	A report that provides preliminary environmental information in accordance with the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017. This is information that enables consultees to understand the likely significant environmental effects of a project, and which helps to inform consultation responses.
Renewable energy	Energy from a source that is not depleted when used, such as wind or solar power.
Scour protection	Protective materials to avoid sediment being eroded away from the base of the foundations due to the flow of water.
Substation	Part of an electrical transmission and distribution system. Substations transform voltage from high to low, or the reverse by means of electrical transformers.
The Secretary of State for Energy Security and Net Zero	The decision maker with regards to the application for development consent for the Transmission Assets.
Transmission Assets	See Morgan and Morecambe Offshore Wind Farms: Transmission Assets (above).
Transmission Assets Order Limits	The area within which all components of the Transmission Assets will be located, including areas required on a temporary basis during construction and/or decommissioning (such as construction compounds).
Transmission Assets Order Limits: Offshore	<p>The area within which all components of the Transmission Assets seaward of Mean Low Water Springs will be located, including areas required on a temporary basis during construction and/or decommissioning.</p> <p>Also referred to in this report as the Offshore Order Limits, for ease of reading.</p>
Transmission Assets Order Limits: Onshore	<p>The area within which all components of the Transmission Assets landward of Mean High Water Springs will be located, including areas required on a temporary basis during construction and/or decommissioning (such as construction compounds).</p> <p>Also referred to in this report as the Transmission Assets Order Limits, for ease of reading.</p>

## Acronyms

Acronym	Meaning
AIS	Air Insulated Switchgear
AOD	Above Ordnance Datum
BCA	Bilateral Grid Connection Agreement
CoCP	Code of Construction Practice
CoT	Project Commitment
CBRA	Cable Burial Risk Assessment
CfD	Contracts for Difference
CMS	Construction Method Statement
CSIP	Cable Specification and Installation Plan
CTMP	Construction Traffic Management Plan
DCO	Development Consent Order
DECC	Department of Energy and Climate Change
Defra	Department for Environment, Food and Rural Affairs
DESNZ	Department for Energy Security & Net Zero
dML	Deemed Marine Licence
EnBW	Energie Baden-Württemberg AG
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
EPP	Evidence Plan Process
ES	Environmental Statement
EWG	Expert Working Group
GIS	Gas Insulated Switchgear
HDD	Horizontal Directional Drilling
HGV	Heavy goods vehicle
HNDR	Holistic Network Design Review
HVAC	High Voltage Alternating Current
IALA	International Association of Marine Aids to Navigation and Lighthouse Authorities
IAQM	Institute of Air Quality Management
LAT	Lowest Astronomical Tide
MCA	Maritime and Coastguard Agency
MCZ	Marine Conservation Zone
MDS	Maximum Design Scenario



Acronym	Meaning
MHWS	Mean High Water Springs
MLWS	Mean Low Water Springs
MMO	Marine Management Organisation
MPS	Marine Policy Statement
MTBM	Mini (or micro) tunnel boring machine
NGESO	National Grid Electricity System Operator
NPS	National Policy Statement
NSIP	Nationally Significant Infrastructure Project
O&M	Operation and Maintenance
OSP	Offshore Substation Platform
OTNR	Offshore Transmission Network Review
PDE	Project Design Envelope
PEIR	Preliminary Environmental Information Report
PPP	Pollution Prevention Plan
PRoW	Public rights of way
SAC	Special Areas of Conservation
SAR	Search and Rescue
SPA	Special Protection Area
SNCBs	Statutory Nature Conservation Bodies
SSSI	Sit of Special Scientific Interest
SWMP	Site Waste Management Plan
TEP	Technical Engagement Plan
TJB	Transition Joint Bay
UK	United Kingdom
UXO	Unexploded Ordnance
WSI	Written scheme of investigation

## Units

Unit	Description
%	Percentage
dB	Decibels
Kg	Kilogram
kHz	Kilohertz

Unit	Description
KJ	Kilojoules
km	Kilometres
km <sup>2</sup>	Kilometres squared
kV	Kilovolt
m	Metres
m <sup>2</sup>	Metres squared
m <sup>3</sup>	Metres cubed
nm	Nautical mile
μPa	micropascal

# 1 Peat Technical Note

## 1.1 Purpose of this technical note

- 1.1.1.1 This document provides a response to Hearing Action Point 14 identified in Action points arising from Issue Specific Hearing 2 on 29 and 30 July 2025 (EV7-018), which states the following is to be provided at Deadline 4:

*“Submit a note identifying where all the different elements of peat soils and peat land habitats have been considered through the Environmental Statement and provide responses to Natural England points raised on this topic”.*

- 1.1.1.2 As such, this document collates information on peat deposits and peaty soils from existing documentation submitted as part of the Environmental Statement (ES) for the Transmission Assets, including the key findings of relevant desktop and survey work undertaken.

- 1.1.1.3 **Section 1.2** of this technical note provides a summary of the ES documents where reference to peat is provided, including cross references to relevant figures, where appropriate.

- 1.1.1.4 **Section 1.3** of this technical note addresses matters raised in Appendix G3 to Natural England’s Deadline 3 Submission Natural England’s further advice on Onshore Ecology and Nature Conservation (REP3-093), which relate to the assessment and subsequent management of peat.

## 1.2 The Environmental Statement - locations of documents that consider peat and relevant findings.

- 1.2.1.1 **Table 1.1** below identifies how and where peat has been considered in the Transmission Assets ES, including the relevant findings reported within the existing documentation in addition to relevant figures showing the location of any features (e.g. superficial peat deposits) discussed.

**Table 1.1: Summary of how and where peat has been considered in the ES**

ES Document	Findings relating to peat	ES Figures
<b>Volume 3, Chapter 1: Geology, hydrogeology and ground conditions (APP-068)</b>	British Geological Survey (BGS) regional mapping and geological logs identify superficial peat deposits overlying various geological formations, with significant peat deposits generally absent from the Transmission Assets Order Limits. Peat areas within the Order Limits are recorded by BGS in the section of onshore export cable corridor between Blackpool Airport and west of Higher Ballam. However, as stated in paragraph 1.6.4.10 of Volume 3, Chapter 1: Geology, hydrogeology and ground conditions (APP-068), although organic peat deposits are a notable superficial feature in the 1 km study area, especially in the west where they overlay Tidal Flat Deposits or Glacial Till, BGS mapping indicates that significant peat deposits do not underlie the Transmission Assets, although peaty soils are likely present. The location and geographic extent of superficial peat deposits within the Transmission Assets Order Limits are presented in Figure 2.5 of Volume 3, Figures – Part 1 of 7 (APP-131) and Figure 1.2A of Volume 3, Annex 1.1: Phase 1 Geo-environmental preliminary risk assessment (APP-069).	Figure 2.5 of Volume 3, Figures – Part 1 of 7 (APP-131).  Figure 1.2A of Volume 3, Annex 1.1: Phase 1 Geo-environmental preliminary risk assessment (APP-069).
<b>Volume 3, Annex 1.1 Geo-environmental preliminary risk assessment (APP-069)</b>	The phase 1 geo-environmental preliminary risk assessment of relevant data sources, including British Geological Survey (BGS) mapping identified superficial peat deposits within the Transmission Assets Order Limits located between Blackpool Airport and west of Higher Ballam. In addition, as shown in Table 1.3 of Volume 3, Annex 1.1 Geo-environmental preliminary risk assessment (APP-069), boreholes at landfall and the onshore export cable corridor identified superficial deposits of peat (SD33SW124, 1.7 m to 1.8 m). The location and geographic extent of superficial peat deposits and ground truthing boreholes within the Transmission Assets Order Limits are presented in Figure 2.5 of Volume 3, Figures – Part 1 of 7 (APP-131) and Figure 1.2A of Volume 3, Annex 1.1: Phase 1 Geo-environmental preliminary risk assessment (APP-069).	Figure 2.5 of Volume 3, Figures – Part 1 of 7 (APP-131).  Figure 1.2A of Volume 3, Annex 1.1: Phase 1 Geo-environmental preliminary risk assessment (APP-069).
<b>Volume 3, Chapter 5: Historic environment (APP-096)</b>	Potential impacts on geoarchaeological and paleoenvironmental deposits, including peat, are detailed in Section 5.11.2 of Volume 3, Chapter 5: Historic environment (APP-096). The desk study reviewed the Intertidal and Coastal Peat Database, a web resource on England's peat deposits. An elk skeleton from the late Upper Palaeolithic was found in peat at Poulton-le-Fylde, 6.5 km north of the 500 m study area (for non-designated heritage assets, including deposits of geoarchaeological interest). In addition, as stated in Table 5.8 of Volume 3, Chapter 5: Historic environment (APP-096), organic deposits of peat may be waterlogged. The location and geographic extent of superficial peat deposits within the Transmission Assets Order Limits are presented in Figures 1.5, 1.10 and 1.11 of Volume 3, Annex 5.4: Geoarchaeological desk based assessment report (APP-101).	Figures 1.5, 1.10 and 1.11 of Volume 3, Annex 5.4: Geoarchaeological desk based assessment report (APP-101).

ES Document	Findings relating to peat	ES Figures
<b>Volume 3, Annex 5.1: Historic environment desk-based assessment (APP-97)</b>	British Geological Survey (BGS) data identified deposits of peat approximately 500 m east of Blackpool Airport, along the onshore export cable corridor for approximately 1.7 km, before changing back to Tidal Flat Deposits to the north of Higher Ballam. The peat deposits date to the late Devensian/Holocene but are considered to be poorly preserved because of the reclamation of Lytham Moss (Middleton et al., 1995). The location and geographic extent of superficial peat deposits within the Transmission Assets Order Limits are presented in Figures 1.5, 1.10 and 1.11 of Volume 3, Annex 5.4: Geoarchaeological desk based assessment report (APP-101).	Figures 1.5, 1.10 and 1.11 of Volume 3, Annex 5.4: Geoarchaeological desk based assessment report (APP-101).
<b>Volume 3, Annex 5.4: Geoarchaeological desk based assessment report (APP-101)</b>	Numerous portions of the Transmission Assets Order Limits infringe upon mapped peat deposits (according to BGS superficial geology mapping data), especially towards the western end of the onshore cable corridor. These deposits are notable along the northern fringes of Lytham Moss and within embayments on the eastern flank of the lower Lytham-Skipplough Valley. These areas, now termed 'former wetlands,' have been subjected to artificial drainage since the early eighteenth century, resulting in the severe degradation of peat deposits, which are now evident only as organically enriched agricultural soils. The location and geographic extent of superficial peat deposits within the Transmission Assets Order Limits are presented in Figures 1.5, 1.10 and 1.11 of Volume 3, Annex 5.4: Geoarchaeological desk based assessment report (APP-101).	Figures 1.5, 1.10 and 1.11 of Volume 3, Annex 5.4: Geoarchaeological desk based assessment report (APP-101).
<b>Volume 3, Annex 5.6: Interim trial trenching report (APP-103)</b>	Volume 3, Annex 5.6: Interim trial trenching report (APP-103) states superficial peat deposits were encountered in Trenches 39, 40, 56, 57, 58, 105, 106, 108 and 111, these were generally located immediately beneath the modern topsoil, and there was further evidence for peat being sealed below alluvial deposits, principally Trenches 105 to 108. The identification of peaty soils within the Interim trial trenching report, identifies thin peaty soils within trenches adjacent to Higher Ballam as well as locations close to Huck Lane. This pattern of organic and peaty soils within these areas accord with data identified by the soil survey, although further textural analyses carried out as part of the soil survey identifies that soils are predominantly organic rather than peaty close to Higher Ballam. The location and geographic extent of trial trenches are presented in Figure 1 to 23 of Volume 3, Annex 5.6: Interim trial trenching report (APP-103).	Figure 1 to 23 of Volume 3, Annex 5.6: Interim trial trenching report (APP-103).
<b>Volume 3, Chapter 3: Onshore ecology and nature conservation (APP-075)</b>	Volume 3, Annex 3.3: Phase 1 habitat, national vegetation classification and hedgerow survey technical report (APP-077) did not record any habitats within the Transmission Assets Order Limits that would be indicative of underlying deep peat deposits with most of the habitats within the Transmission Assets Order Limits identified as heavily modified pasture fields and cropland. A small	Figures 1.5 to 1.11 of Volume 3, Annex 3.3: Phase 1 habitat, national vegetation classification and

ES Document	Findings relating to peat	ES Figures
<b>Volume 3, Annex 3.3: Phase 1 habitat, national vegetation classification and hedgerow survey technical report (APP-077)</b>	<p>area of lowland fen habitat (indicative of underlying peat) occurs on the east bank of Savick Brook just to the north of the A583, within the 150 m phase 1 habitat survey area. However, this area of lowland fen habitat will not be directly or indirectly impacted during construction as it is physically separated from the Transmission Assets Order Limits by Savick Brook.</p> <p>The dune heathland habitats associated with the Lytham St Anne's Dunes Site of Special Scientific Interest (SSSI)/Local Nature Reserve (LNR) are within the Transmission Assets Order Limits, and the preliminary hydrogeological Conceptual Site Model (CSM) (Outline Hydrogeological Risk Assessment of Lytham St Annes Dunes SSSI (REP3-061)) indicates a shallow peat deposit beneath the windblown sand.</p> <p>There is also a small area of dry dune heath habitat (indicative of underlying peat) within the adjacent St Anne's Old Links Golf Course Biological Heritage Site (BHS), which is outside the Transmission Assets Order Limits, and most of the land within the golf course has been heavily modified since the creation of the golf course in the late 19th century. As trenchless techniques will be used install the offshore export cables beneath SSSI/LNR and BHS, there is no risk of disturbance to the shallow peat deposits in this sensitive coastal habitat.</p> <p>The location and geographic extent of habitats, including those indicative of underlying peat (e.g. lowland fen and dune heathland) are presented in Figures 1.5 to 1.11 of Volume 3, Annex 3.3: Phase 1 habitat, national vegetation classification and hedgerow survey technical report (REP2-014)</p> <p>When comparing the phase 1 habitat survey reported in Volume 3, Annex 3.3: Phase 1 habitat, national vegetation classification and hedgerow survey technical report (APP-077) with the underlying geology (as shown in Figure 2.5 of Volume 3, Figures – Part 1 of 7 (APP-131)), it is apparent that most of the areas of potential peat located between Blackpool Airport and Higher Ballam area (Altcar and Downholland complex soils) comprises arable or improved grassland, where land drainage is extensive and intensive agricultural practices are in place. As such, the quality of underlying peat is likely to be poor within the Transmission Assets Order Limits.</p>	<p>hedgerow survey technical report (REP2-014).</p>
<b>Volume 3, Annex 6.1: Published agricultural land classification and soils data (APP-105)</b>	<p>Volume 3, Annex 6.1: Published agricultural land classification and soils data (APP-105) contains the desktop assessment of soils and ALC and identifies the potential areas where peat soils may be identified within the Altcar series and Downholland Complex based on the Soil Survey of Great Britain, Soils of the Preston District of Lancashire, Sheet 75, 1:63,360 and accompanying Memoir 1966; Soil Survey of Great Britain, Soils of the South-West Lancashire Coastal Plain, Sheets 74 and 83, 1:63,360 and accompanying Memoir 1967; and the Soil Survey of England and Wales, Soils of Lancashire, 1:250,000 and accompanying Bulletin No. 5 1970.</p>	<p>Figures 1.1 to 1.3 of Volume 3, Annex 6.1: Published agricultural land classification and soils data (APP-105).</p>



ES Document	Findings relating to peat	ES Figures
<b>Volume 3, Annex 6.2: Agricultural land classification survey results (APP-106)</b>	This document contains the results of ALC and soil resource survey that has been undertaken by the Applicants and includes areas of detailed surveys within areas of potential peat soils of the Altcar series and Downholland Complex. The location of these soil types within Figures 1.1 and 1.2 of Volume 3, Annex 6.2: Agricultural land classification survey results (APP-106) show that within the wider coastal plain area, even if the location of the onshore cable corridor were to be shifted by several hundred metres, these soil types would still be encountered. The survey work undertaken has identified a small area to the west of Huck Lane, within a low lying hollow, where deep peat soils are located within the onshore cable corridor and this area is identified as undrained Grade 4 land. In addition, a small area of shallow peat was identified, also shown as Altcar Series, to the east of North Houses Lane where soil profiles within the arable cultivated area, comprise 30-35cm of peat topsoil. The soils to the north of Higher Ballam that have been surveyed, typical of the Downholland complex, comprise organic topsoils rather than peats.	Figures 1.1 and 1.2 of Volume 3, Annex 6.2: Agricultural land classification survey results (APP-106)
<b>Document J1.7: Outline Soil Management Plan (APP-200)</b>	Section 1.7.6 of this document identifies outline best practice measures that may be applicable to handling peat soils within the Order Limits, if encountered, and commits to carrying out additional soil survey to identify the extent of peat resources, with particularly detailed survey to include samples at 50 m intervals within these areas to inform the detailed soil management plans.	N/A

## 1.3 Natural England

### 1.3.1 Natural England response to D3 Submissions (Appendix G3 to NE Deadline 3 Submissions (REP3-093))

#### 1.3.1.1 The comments raised by Natural England in response to D3 Submissions relating to peat were as follows:

*“Natural England reiterates that there is insufficient information on the impacts on peat; where the Applicant has considered impacts on deep peaty soils this has been combined with other elements such as loss of BMV land, ground gas generation on human health and other receptors and in the context of deposits of geoarchaeological and paleoenvironmental interest. Further evidence and surveys specifically on peat are therefore required”.*

*“Natural England acknowledges that additional measures are included in the outline Soils Management Plan (APP-200), but we advise there is insufficient assessment to understand if these measures will be effective. We advise to resolve this issue the Applicant needs to consider the mitigation hierarchy, and if the peat is restorable. We advise in the first instance that impacts should be avoided where possible through the design of an appropriate scheme, if there is sufficient evidence for why this cannot be done mitigation or compensation may be required”.*

*“The surveys should be completed pre-determination of the DCO, as identification of restorable peat may require changes to the design of the project in order to avoid the peat”.*

#### 1.3.1.2 With regard to further evidence provided on the survey work undertaken, the Applicants have previously responded on this in RR-1601 1601.G.7 ‘Annex 3.2.14 to Response to RR - Natural England (RR-1601) - Appendix G (Onshore Ecology and Nature Conservation) (PDA-021), which can be summarised as follows:

*Peat within the Transmission Assets Order Limits has been identified in limited areas through soil auger boring surveys, as detailed in Volume 3, Annex 6.2: Agricultural Land Classification Survey Results (APP-106), which also notes significant degradation of peat resources since the 1960s due to intensive agriculture. Section 1.7.6 of the Outline Soil Management Plan (APP-200) outlines commitments to manage peat impacts during construction, including further peat probing, careful handling and storage, and the development of Peat Management Plans (PMPs) to be approved under Requirement 8 of the draft DCO (AS-004). Peat considerations are also addressed in Volume 3, Chapter 1: Geology, Hydrogeology and Ground Conditions (APP-068), Chapter 3: Onshore Ecology and Nature Conservation (APP-075), Chapter 5: Historic Environment (APP-096), and Chapter 6: Land Use and Recreation (APP-104), supporting the conclusion that sufficient information is available to assess potential impacts on peat and inform mitigation requirements.*

#### 1.3.1.3 The Applicants’ position on this matter, raised by Natural England in response to D3 Submissions, remains unchanged.

#### 1.3.1.4 As discussed under Item 4 Onshore Ecology, subitem (d) Survey gaps (peat, habitat) (EV7-001) of Issue Specific Hearing 2 on Tuesday 29 July 2025, the nature of land use within peatlands can vary considerably with the main types identified, including:

- Drained forest land;
- Drained cropland;

- Drained grassland;
- Near natural bog;
- Rewetted bog;
- Near natural fen;
- Rewetted fen; and
- Peatland managed for extraction.

- 1.3.1.5 In this instance, the areas of peat identified in the ES, including superficial peat deposits identified in Volume 3, Annex 1.1 Geo-environmental preliminary risk assessment (APP-069) and peat soils identified in Volume 3, Annex 6.2: Agricultural land classification survey results (APP-106) within the Transmission Assets Order Limits mostly comprise agricultural land (arable and grassland) which is heavily modified, managed and subject to agricultural drainage. As such, the quality of peat within the Transmission Assets Order Limits is likely to be subject to wastage and degradation, and therefore of poor quality.
- 1.3.1.6 There are no known areas within the Transmission Assets Order Limits where peatland restoration projects or trials are in place or planned, which would improve the quality and depth of peat resources. Therefore, the quality of areas of peat identified within the Transmission Assets Order Limits will remain poor as a consequence of the land being intensively managed and used as drained arable and grassland.
- 1.3.1.7 The main areas where Lancashire County Council is investing in peatland restoration (as a result of funding mainly from Natural England and Government's Nature for Climate Peatland Restoration Grant Scheme) is across the uplands of Cumbria and the Forest of Bowland. Therefore, it is considered that the management of the land as intensively managed drained arable with some improved grassland will continue within the Transmission Assets Order Limits.
- 1.3.1.8 The Centre of the Ecology and Hydrology Implementation of an Emissions Inventory for UK Peatland (2027), cited in ONS UK Natural Capital: peatlands (2019) explains:
- 'Arable cropland occupies just 7% of the UK's peat area but has the highest GHG emissions per unit area of any land-use, with high rates of both CO<sub>2</sub> and N<sub>2</sub>O emissions as a result of drainage and fertilisation. As a result, cropland is estimated to emit 7,600 kt CO<sub>2</sub>e yr<sup>-1</sup>, 32% of total UK peat GHG emissions. Around two thirds of the cropland area is on 'wasted' peat (shallow residual organic soils) where much of the original peat has already been lost.'*
- 1.3.1.9 The archaeological investigations (Volume 3, Annex 5.4: Geoarchaeological desk based assessment report (APP-101) and Volume 3, Annex 5.6: Interim trial trenching report (APP-103)) and the ALC survey work (Volume 3, Annex 6.2: Agricultural land classification survey results (APP-106)) has shown, as would be expected within areas of managed agricultural grassland and cropland, that there is significant peat wastage across the areas between Blackpool Airport

and Higher Ballam, which are typical of improved and drained agricultural land.

- 1.3.1.10 The nature of the land use in this case is such that the priority for the Transmission Assets will be the restoration of peat soils to agricultural productivity where they are affected by the construction process and where they cannot be avoided through micro-siting of activities during the detailed design process.
- 1.3.1.11 Commitment (CoT) 101 states that '*Where high concentrations of peat are identified, these will be avoided where practicably possible for the placement of plant and infrastructure.*' (Refer to Environmental Statement: Volume 1, Annex 5.3: Commitments register (REP3-013)).
- 1.3.1.12 Where areas of either organic or peat (predominantly shallow) resources are affected by the installation of the onshore cable route, measures in the Outline Soil Management Plan, secured as part of the Outline Code of Construction Practice by Requirement 8 of Schedules 2A & 2B of the draft DCO (REP3-009) will ensure that such soils can be appropriately handled and reinstated for agricultural cropland or grassland use.
- 1.3.1.13 In summary, the nature and extent of peat resources and their land use function within the Transmission Assets Order Limits is not extensive nor high quality. The measures proposed through the implementation of the Outline Code of Construction Practice (REP3-009), including the Outline Soil Management Plan (APP-200), are appropriate to ensure that the agricultural peat resources can be appropriately managed and restored to their productive agricultural land use following construction of the Transmission Assets.

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## 2 References

Centre of Ecology and Hydrology Natural Environment Research Council (2017) Implementation of an Emissions Inventory for UK Peatlands. A report to the Department for Business, Energy & Industrial Strategy

UK Government (2021) England Peat Action Plan.

<https://assets.publishing.service.gov.uk/media/6116353fe90e07054eb85d8b/england-peat-action-plan.pdf>. Accessed: August 2025

Office for Natural Statistics (2019) UK natural capital: peatlands.

<https://www.ons.gov.uk/economy/environmentalaccounts/bulletins/uknaturalcapitalforpeatlands/naturalcapitalaccounts> Accessed: August 2025