

MORGAN AND MORECAMBE OFFSHORE WIND FARMS: TRANSMISSION ASSETS

Surface and groundwater management plan
- (F02)

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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).
CIRIA	The construction industry research and information association. It is an independent, not-for-profit, member-based research organisation that exists to champion performance improvement in construction.
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.
Development Consent Order	An order made under the Planning Act 2008, as amended, granting development consent.
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.
Environmental Statement	The document presenting the results of the Environmental Impact Assessment process.
Flood Risk Assessment	A flood risk assessment is an assessment of the risk of flooding from all flood mechanisms, including the identification of flood mitigation measures, in order to satisfy the requirements of the National Planning Policy Framework and Planning Practice Guidance.
Flood Zone 1	Land having a less than 1 in 1,000 annual probability of river or sea flooding which is considered a low probability of flooding.
Flood Zone 2	Land having between a 1 in 100 and 1 in 1,000 annual probability of river flooding; or land having between a 1 in 200 and 1 in 1,000 annual probability of sea flooding which is considered a medium probability of flooding.
Flood Zone 3	Land having a 1 in 100 or greater annual probability of river flooding; or Land having a 1 in 200 or greater annual probability of sea flooding which is considered a high probability of flooding.
Groundwater	All water which is below the surface of the ground in the saturated zone and in direct contact with the ground or subsoil.
Intertidal area	The area between Mean High Water Springs and Mean Low Water Springs.

Term	Meaning
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).
Lead Local Flood Authority	Authorities that have responsibility for developing a Local Flood Risk Management Strategy for their area identifying local sources of flooding. The local strategy produced must be consistent with the national strategy. It will set out the local organisations with responsibility for flood risk in the area, partnership arrangements to ensure co-ordination between these organisations, an assessment of the flood risk, and plans and actions for managing the risk.
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.
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.
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.
Morecambe Offshore Windfarm: Generation Assets	The offshore generation assets and associated activities for the Morecambe Offshore Windfarm.
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 a joint venture between Zero-E Offshore Wind S.L.U. (Spain) (a Cobra group company) (Cobra) and Flotation Energy Ltd. 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.

Term	Meaning
Morgan OWL	Morgan Offshore Wind Limited is a joint venture between bp Alternative Energy Investments Ltd. JERA Nex bp (JNbp) and Energie Baden-Württemberg AG (EnBW).
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 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.
Onshore 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.
Ordinary watercourses	Watercourses (such as a river, stream, ditch, cut, sluice, dyke or non-public sewer) that are not designated a Main River under the Water Resources Act (1991). Responsibility for management lies with the Lead Local Flood Authority, or Internal Drainage Board for some watercourses where there is an Internal Drainage District.
River Basin District	Administrative area for coordinated water management, composed of multiple river basins (or catchments).
Surface water resources	Water on the surface of the land such as in a river, lake, wetland, or ocean.
Surface water runoff	Surface water runoff is flow of water that occurs when excess stormwater, meltwater, or other sources of water flows over a surface.
Sustainable Drainage Systems	A sequence of management practices and control measures designed to mimic natural drainage processes by allowing rainfall to infiltrate, and by attenuating and conveying surface water runoff slowly at peak times.
Transmission Assets	See Morgan and Morecambe Offshore Wind Farms: Transmission Assets (above).
Transmission Assets Order Limits: Offshore	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.

Term	Meaning
Transmission Assets Order Limits: Onshore	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). Also referred to in this report as the Onshore Order Limits, for ease of reading.
Water Quality	The physical, chemical and biological characteristics of water.
Water Framework Directive	Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy.

Acronyms

Acronym	Meaning
AEP	Annual Exceedance Probability
BAOL	Blackpool Airport Operations Limited
DEFRA	Department for Environment, Food & Rural Affairs
ES	Environmental Statement
LLFA	Lead Local Flood Authority

Units

Unit	Description
%	Percentage

1 Outline Surface and Groundwater Management Plan

1.1 Background

1.1.1 Introduction

1.1.1.1 This document forms the Outline Surface and Groundwater Management Plan which forms an annex to the Outline Code of Construction Practice (CoCP) (document reference J1), ~~(REP3-018)~~, prepared for the Morgan and Morecambe Offshore Wind Farms: Transmission Assets (referred to hereafter as ‘the Transmission Assets’).

1.1.1.2 This Outline Surface Water and Groundwater Management Plan has been updated for Deadline 4 in response to the following:

- Update to Requirement 8 wording in line with the draft Development Consent Order (document reference C1 (REP3-009)) to include Blackpool Airport Operations Limited (BAOL) as a consultee along with the relevant management plans upon which BAOL will be consulted by the relevant planning authority.
- Clarification of the roles and responsibilities for implementing this outline management plan
- Clarification that the measures within this outline management plan will be implemented during the onshore site preparation works
- Further detail regarding the planning and timing of water quality control measures
- Further detail on surface water and groundwater management measures including reference to National Standards for Sustainable Drainage Systems (SuDS) (Department for Environment, Food & Rural Affairs (DEFRA), 2025)
- Clarification on the management of foul water from construction compounds.

1.2 Implementation

1.2.1 Overview

1.2.1.1 This Outline ~~Spillage~~Surface Water and ~~Emergency Response~~Groundwater Management Plan forms an appendix to the Outline Code of Construction Practice (CoCP) (document reference J1), ~~(REP3-018)~~.

1.2.1.2 The Applicants have committed to implementation of detailed Code of Construction Practice(s) via the following commitment, CoT35 (see Volume 1, Annex 5.3: Commitments Register, document reference F1.5.3), ~~(REP3-013)~~, and is secured by inclusion of Requirement 8 of the draft Development Consent

Order (DCO) (document reference C1) Schedules 2A & 2B. Below sets out the requirement wording for Project A (Project B's requirement mirror those of Project A for this requirement and are, therefore, not repeated):

8.—(1) *No stage of the Project A onshore works or Project A intertidal works may commence until for that stage a code of construction practice has been submitted to and approved by the relevant planning authority following consultation as appropriate with*

a) Lancashire County Council,

b) Natural England,

c) the Environment Agency ~~and,~~

d) in relation to the Project A intertidal works or, if applicable to the Project A offshore works, the MMO~~;~~

~~e) in relation to the Project A Blackpool Airport works, BAOL to the extent specified in the outline code of construction practice.~~(2)

Each code of construction practice must accord with the outline code of construction practice and include, as appropriate to the relevant stage ~~—~~

~~i) surface water and groundwater management plan (in accordance with the outline surface water and groundwater management plan);...~~

~~(3) The code of construction practice approved in relation to the relevant stage of the Project A onshore works must be followed in relation to that stage of the Project A onshore works~~—~~ and Project A intertidal works.~~

1.2.1.3 Requirement 8(1)(e) identifies BAOL as a named consultee prior to the approval by the relevant planning authority of detailed codes of construction practice. BOAL will be consulted in relation to a stage of construction that includes either the Project A Blackpool Airport Works or the Project B Blackpool Airport Works. With regards to the management plans to be appended (as appropriate to the relevant stage) to the detailed codes of construction practice, BAOL will be consulted on the Construction Surface water and Groundwater Management Plan (in accordance with the outline Surface water and Groundwater Management Plan by the relevant planning authority).

1.2.1.4 The Transmission Assets may adopt a staged approach to the approval of DCO requirements. This will enable requirements to be approved in part or in whole, prior to the commencement of the relevant stage of works in accordance with whether staged approach is to be taken to the delivery of the each of the offshore wind farms.

1.2.1.5 For onshore and intertidal works (landward of Mean Low Water Springs), this approach will be governed by the inclusion of

Requirement 3 within the draft DCO, which requires notification to be submitted to the relevant planning authority/authorities detailing whether Project A or Project B relevant works will be constructed in a single stage; or in two or more stages to be approved prior to the commencement of the authorised development.

1.2.2 Purpose and scope of this Outline Surface Water and Groundwater Management Plan

- 1.2.2.1 The purpose of this Outline Surface Water and Groundwater Management Plan is to set out the key management and monitoring procedures in relation to surface water and groundwater drainage that will be required during the onshore site preparation works and construction works.
- 1.2.2.2 Onshore site preparation works are defined in article 2 of the draft DCO (document reference C1 (REP3-009)). This Outline Surface Water and Groundwater Management Plan applies to the onshore site preparation works and construction activities of the Transmission Assets located landward of MLWS and does not consider construction impacts seaward of MLWS.
- 1.2.2.3 Onshore site preparation works will be undertaken prior to the commencement of construction. These works will be undertaken in line with the measures of this Outline Surface Water and Groundwater Management Plan as certified through the DCO.
- 1.2.2.4 The measures within this outline management plan are in accordance with best practice and are appropriate to manage the impacts associated with onshore site preparation works

1.3 Roles and responsibilities

1.3.1 Overview

- 1.3.1.1 Although the construction team has not been appointed at the time of writing this plan, the key roles and associated responsibilities with regard to this Outline Surface Water and Groundwater Management Plan are set out below. The Construction (Design and Management) Regulations 2015 also identify the legal duties, responsibilities and obligations of all the major roles within the construction team.
- 1.3.1.2 The responsibilities of each role will be refined in the final Surface Water and Groundwater Management Plan.

1.3.2 Applicants

- 1.3.2.1 The Applicant will be responsible for the following:

- Ensuring that the Outline Surface Water and Groundwater Management Plan is implemented effectively

- Giving necessary direction to contractors (for example, setting contractual obligations)
- Preparing the detailed Surface Water and Groundwater Management Plan and undertaking reviews and refining the Surface Water and Groundwater Management Plan (where necessary) in conjunction with the Principal Contractors.

1.3.3 Principal Contractors

1.3.3.1 Principal Contractor will be appointed by Morgan OWL and Morecambe OWL and have the overall responsibility for:

- Delivering the outline and detailed Surface Water and Groundwater Management Plans on behalf of the Applicants
- Ensuring all procedures in the outline and detailed Surface Water and Groundwater Management Plans are followed
- Ensuring all contractors are suitably qualified and experienced in implementing the measures within the outline and detailed Surface Water and Groundwater Management Plans. These measures will be contained within the terms of contracts to ensure understanding and accountability
- Ensuring that all legal and contractual requirements relating to the outline and detailed Surface Water and Groundwater Management Plans are met by ensuring adequate plans/procedures, licences and certificates are in place, and that they can be achieved
- Establish procedures for the regular review and recording of the quality of the works as part of its Quality Management System
- Maintain records relevant to the outline and detailed Surface Water and Groundwater Management Plans.

1.3.4 Contractors/Subcontractors

1.3.4.1 Contractors and sub-contractors will be required to understand their responsibilities and implement the measures within the outline and detailed Surface Water and Groundwater Management Plans.

1.3.1.4 Surface water and groundwater receptors, and flood risk context

1.3.1.1.4.1 Overview

~~1.3.1.1~~1.4.1.1 A key part of managing surface water and drainage from the construction works areas is the location of existing surface water receptors and the flood risk context. This section provides a summary of the receptors and flood risk for the Transmission Assets.

1.3.21.4.2 Surface water receptors

~~1.3.2.1~~ 1.4.2.1 The onshore infrastructure area is situated within the North West River Basin District and is located within Ribble and Douglas Environment Agency management catchments, respectively located to the north and south of the Ribble Estuary.

Sea

~~1.3.2.2~~ 1.4.2.2 The landfall of the Transmission Assets is located at Lytham St Annes.

Main rivers

~~1.3.2.3~~ 1.4.2.3 The onshore infrastructure area includes the following designated main rivers:

- Main Drain and associated tributaries, including Branch Drain;
- Moss Sluice and associated tributaries;
- Dow Brook and associated tributaries;
- Middle Pool;
- Wrea Brook;
- Pool Stream;
- Ribble Link/Savick Brook;
- River Ribble; and
- Mill Brook.

Ordinary watercourses

~~1.3.2.4~~ 1.4.2.4 The onshore infrastructure area includes the following ordinary watercourse features.

- Deepdale Brook.
- Tributaries of Moss Sluice.
- Tributaries of Branch Drain and Main Drain.
- Tributaries of Wrea Brook.
- Tributaries of Pool Stream.
- Tributaries of Middle Pool.
- Tributaries of Mill Brook.

Internal drainage boards

~~1.3.2.5~~ 1.4.2.5 The onshore infrastructure area does not encompass any watercourses under the jurisdiction of an internal drainage board.

1.3.31.4.3 Groundwater receptors

1.3.3.11.4.3.1 Aquifer classifications for the underlying geology within the onshore infrastructure area are:

- Secondary undifferentiated – Glacial Till, Head Deposits;
- Secondary A – Blown Sands, Glaciofluvial Deposits;
- Secondary B – Sidmouth Mudstone Formation, Taporley Siltstone Formation; and
- Principal – Sherwood Sandstone Group.

1.3.3.21.4.3.2 Groundwater dependent features of particular sensitivity are present within the Lytham St Annes Dunes system. The dunes support a wide range of species which vary according to the depth of water and degree of moisture retention in relation to the water table.

1.3.41.4.4 Water body status

1.3.4.11.4.4.1 The current overall Water Framework Directive status for waterbodies potentially affected by the onshore elements of the Transmission Assets have been identified via the publicly available mapping. A Water Framework Directive (WFD) assessment has been undertaken and all water bodies within the ZOI, with the exception of West Lancashire Quaternary Sand and Gravel Aquifers, are predicted to achieve good ecological status/potential for the surface waters or good quantitative status in the case of Fylde Permo-Triassic Sandstone Aquifers by 2027. The West Lancashire Quaternary Sand and Gravel Aquifers is the only water body currently achieving its environmental objective.

1.3.4.21.4.4.2 The chemical status for all surface water bodies has an environmental objective of achieving good chemical status by 2063. In all cases these water bodies are failing chemical status due to uPBTs including benzo(b)fluoranthene, benzo(g-h-i)perylene, mercury and its compounds and polybrominated diphenyl ethers (PBDEs).

1.3.4.31.4.4.3 Further details can be found within Table 1.8 of Volume 3, Annex 2.1: Water Framework Directive surface and groundwater assessment of the ES.

1.3.51.4.5 Flood risk context

1.3.5.11.4.5.1 The Environment Agency Flood Map for Planning (Environment Agency, 2024) shows that the Intertidal Infrastructure Area and Onshore Infrastructure Area is located within Flood Zone 1, 2 and 3, generally associated with tidal flooding within the western extents of the Transmission Assets and tidal and fluvial flooding within the eastern extent. Further details can be found within

Volume 3, Annex 2.3: Flood Risk Assessment of the ES-
(document reference F3.2.3 (REP1-022 to REP1-027)).

1.4.1.5 Water quality control measures

1.4.1.5.1 Overview

1.4.1.1 1.5.1.1 The key objectives of the implementation of the Surface and Groundwater Management Plan during construction are to:

- minimise the level of contaminants being generated;
- prevent contaminated water moving to a surface or groundwater body; and
- maintain silt control and drainage measures to ensure they remain effective.

1.4.1.2 1.5.1.2 Sources of contaminants may include:

- silt and sediment from exposed soil;
- chemical agents (e.g., flocculants);
- washout from concrete wagons and leaching from cement bound sands; and
- site drainage from haul roads.

1.4.1.3 1.5.1.3 All onshore site preparation works and construction works for the Transmission Assets will be undertaken in accordance with best practice techniques to reduce the risk of pollution of water bodies (directly or indirectly) and to reduce the risk of flooding. This would be delivered through the CoCP and its associated management plans of which this document forms a part (refer to Commitment (CoT) 35).

1.4.1.4 1.5.1.4 Construction Industry Research and Information Association (CIRIA) guidance will be adopted as standard mitigation as appropriate, including from the following publications.

- Environmental Handbook for Building and Civil Engineering Projects (3 Parts: C512, C528 and C529) (CIRIA, 2000).
- Control of water pollution from construction sites. Guidance for consultants and contractors (C532) (CIRIA, 2001).
- Control of water pollution from linear construction projects. Technical guidance (C648) (CIRIA, 2006) and site guide (C649) (CIRIA, 2006b).
- Groundwater control: design and practice, second edition (C750) (CIRIA, 2016).
- Environmental good practice onsite guide (fourth edition) (C741) (CIRIA, 2015).

1.5.2 Planning and layout

- 1.5.2.1 A field drainage survey will be undertaken as part of the onshore site preparation activities. Pre-construction drainage will be installed to intercept existing land drains and divert water away from the working area where possible. This will also ensure that existing drainage flows are maintained (i.e. conveyance of existing flows without increasing fluvial flood risk upstream).
- 1.5.2.2 Where possible, stockpiling of materials will be located away from any existing watercourse, ponds, boreholes and main drainage outfalls. Where this is not practicable due to space constraints, mitigation measures (such as bunds) will be implemented to provide an adequate barrier between the potential source of contaminated water runoff and the receptor.

1.5.3 Timing

- 1.5.3.1 It is recognised that many factors affect the programme and avoidance of the wetter months of the year or periods of wet weather can be impractical. However, the programming of certain works can be important to reduce flood risk and the risk of water pollution. The following principles will be considered, where practicable and in accordance with the Soil Management Plan (Document Reference J1.7 (APP-200)):
- Where possible, earth moving works and soil stripping should be undertaken during the drier months of the year (typically early spring to early autumn) (see Outline Soil Management Plan (Document Reference J1.7) (APP-200))
 - When undertaking earth moving works, periods of very wet or prolonged wet weather will be avoided, to minimise the risk of generating water runoff contaminated with fine particulates. Where this is unavoidable, the adequacy of standard mitigation measures to control fine sediment laden runoff should be continuously reviewed
 - Where the onshore export cable corridor and 400kV grid connection cable corridor crosses smaller watercourses, the construction of temporary culverts will be timed during low flow conditions where practicable, dynamics and sediment transport
 - Where practicable, the permanent drainage will be constructed early in the works programme, to avoid increasing the rate and volume of surface water runoff (and therefore, surface water risk) from an increase in impermeable areas or by reducing permeability by compacting soils.

~~1.4.2~~ 1.5.4 Surface water and drainage measures

- ~~1.4.2.1~~ 1.5.4.1 Measures to control water runoff from the onshore infrastructure area will be implemented. These measures include the following.

- Where required, the installation of pre- and post-construction drainage either side of the onshore export cable corridor and 400kV grid connection cable corridor to ensure existing land drainage flow is maintained. Interceptor drains will be installed where the haul road crosses water courses or public highways.
- The installation of drains/ditches around temporary construction compounds and the onshore substation sites to intercept surface water runoff and divert it around the working areas where required.
- Where practicable, silt fences (or equivalent) will be used to intercept overland flow and prevent sediment from being carried to ditches and streams.
- Temporary drainage channels will be kept free from debris and other material through maintenance of a clean and tidy site.
- Surface water from the cable trenches during the construction period will be pumped via settling tanks or ponds to remove sediment and potential contaminants.
- Where practicable, cleaning of the wheels of vehicles leaving site to prevent the accumulation of soil and sediment on road surfaces.
- In locations where large areas of exposed ground lie adjacent to watercourses, buffer strips of vegetation will be retained, where possible, to prevent runoff.
- The rate of discharge to any watercourse of construction site water runoff would be no greater than a controlled rate agreed in advance with the Lead Local Flood Authority (LLFA) and appropriate measures will be taken to dissipate the flow energy at the temporary outfall to prevent erosion of the bed and banks of the receiving water body (e.g., correct orientation of the outfall and the use of baffle pads).
- Sustainable Drainage Systems (SuDS) will be used, where practicable, to ensure no increase in surface water runoff rates or volumes from the temporary construction compounds to surrounding land drainage ditches and to manage surface water flood risk. ~~The installation of SuDS will follow guidance set out within the SuDS Manual (CIRIA, 2015).~~ The design of the SuDS will follow guidance set out within the SuDS Manual (CIRIA, 2015) and will consider the National Standards for Sustainable Drainage Systems (SuDS) (DEFRA, 2025). There are seven standards and a series of principles in the National Standards for Sustainable Drainage Systems (SuDS) that consider how SuDs are designed and implemented within development projects. There may be specific circumstances where not all the standards are implemented (e.g. the standard may not be relevant to temporary construction drainage) The detailed Surface Water and Groundwater Management Plan will provide justification where standards are not applied. Subject to consent and in consultation with the Environment Agency, the SuDS will discharge to the local watercourses, ditches or to ground within the site boundaries.

1.5.4.2 Measures will be implemented to avoid surface water runoff from the construction site discharging to any natural pond. Construction

water runoff will only be discharged into a watercourse under a permit from the relevant authority (where required) and following treatment and attenuation where required. This would ensure that any sediment (including any adsorbed pollutants) carried in suspension in the surface water runoff would have settled out before it is discharged to the receiving watercourse.

1.5.4.3 Examples of measures to control the impacts of silt laden runoff are provided below:

- Floc Mats provide a biodegradable water treatment and silt capture solution for cleaning muddy water and preventing silt pollution:
 - Placed in ditches and channels, as water moves over and through the biodegradable mat fibres they capture and trap silt, clay and other fine sediment naturally. It provides a low carbon, cost effective way of treating water without the need for pumps, saving energy and CO₂.
 - Construction and infrastructure site ditches and channels with low flow
 - Drainage from construction sites
 - River restoration and maintenance operations
 - Improved settlement in attenuation ponds and lagoons

1.4.31.5.5 Reinstatement post-construction

1.4.3.11.5.5.1 Once the installation work is completed, the haul road(s) will be removed and the ground reinstated using stored subsoil and topsoil in accordance with the measures set out in the Outline Soil Management (J1.7 (APP-200)). All temporary construction compounds and temporary fencing will be removed, field drainage and/or irrigation will be reinstated, and any post-construction field drainage will be installed before the land will be reinstated. Where practicable, consideration will be given to early restoration of sections of the cable route.

1.51.6 Flood risk control measures

1.5.11.6.1 Surface water

1.5.1.11.6.1.1 Where watercourse crossings would be required along the onshore export cable corridor and 400kV grid connection cable corridor during construction, a 10% (1 in 10) Annual Exceedance Probability (AEP) event standard is proposed to be used to size these crossing structures. This would ensure a low risk of the works causing an increase in flooding to receptors, particularly as the risk of an event occurring during the short construction timescales would be low.

1.5.21.6.2 Groundwater

~~1.5.2.1~~ 1.6.2.1 The risk from groundwater flooding (during excavation) will be managed using appropriate dewatering working practices to ensure safe dry working environments. Where dewatering discharge to watercourses is proposed, discharge rates will be controlled to achieve no environmentally significant change to flood risk. If required, dewatering discharge would be temporarily paused during flood events to prevent any increased flood risk during the flood event.

1.6.2.2 Any temporary works would be designed as to not create temporary build-up of groundwater levels which may lead to groundwater flooding.

1.7 Management of foul water from construction compounds

1.7.1.1 Foul water will primarily be generated from the welfare facilities at construction compounds. The management of foul water will be confirmed in the detailed Surface Water and Groundwater Management Plan; it is likely to be managed using storage tanks emptied regularly by a tanker (with appropriate waste carrier licence) for offsite disposal at a suitably licenced waste facility.

1.8 Monitoring

1.8.1.1 Surface water quality will be monitored at agreed locations throughout the construction phase of the onshore elements of the Transmissions Asset Project. Monitoring will be designed to demonstrate compliance with any environmental permits. Monitoring will also contribute to ensuring that mitigation measures are operating as planned, identifying any detrimental effects on the water environment and to allow any pollution incidents to be identified and remedied.

1.8.1.2 A Water Quality Monitoring Plan will be prepared prior to construction by the Principal Contractor(s) that will set out the scope of the monitoring as part of compliance with the environmental permit. As a minimum, the monitoring would consist of regular site visits, to make visual checks.

1.61.9 References

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