LBA CCS PROJECT

POINT OF AYR GAS PLANT
General

POA Construction CEMP

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1.0 INTRODUCTION

1.1 Scope of this Document

This document comprises the Construction Environmental Management Plan (CEMP) for construction activities for planning permission (re. FUL/000246/23) and the associated agreement entered under Section 106 of the Town & Country Planning Act (TCPA) 1990 (as amended) on the 1st day of May 2024, between:

- Flintshire County Council (FCC).
- Eni UK Limited.
- Dangerpoint Limited.
- Liverpool Bay CCS Limited.

In accordance with T-GN-002 and T-GN-003 – REAC, this PoA Construction CEMP outlines the site-specific control measures known at this phase of the development, which will be implemented by the Construction Contractor and, where relevant, its Subcontractors during the construction activities including at the existing Point of Ayr (PoA) Terminal. This POA Construction CEMP will be submitted to FCC to discharge planning condition 8 attached to planning permission (re. FUL/000246/23) as detailed below:

"8. No development within the Demolition or Construction phases shall commence until a construction environment management plan (CEMP) addressing that phase of the development has been submitted to and approved in writing by the Local Planning Authority. The CEMP shall refer to the submitted Register of Environmental Actions and Commitments (REAC document reference T.5.3) and the Outline Construction Management Plan (OCMP document reference T.5.1) and include, where relevant to that phase:

- *any site-specific method statements required;*
- *corrective action and contingency plan procedures; management plans namely:*
  - *Demolition Management Plan;*
  - *Dust Management Plan;*
  - *Flood Action Plan;*
  - *Groundwater Management and Monitoring Plan;*
  - *Intertidal INNS Management Plan;*
  - *Lighting Management Plan;*
  - *Materials Management Plan;*
  - *Noise and Vibration Management Plan;*
  - *Sediment Management Plan;*
  - *Odour Management Plan;*
  - *Soil Management Plan;*
  - *Stakeholder Communications Plan;*
  - *Surface Water Management and Monitoring Plan;*
  - *Terrestrial INNS Management Plan and*
  - *Worker Travel Plan.*

The CEMP shall include all ecological and landscaping recommendations set out in the submitted Environmental Statement relating to the Construction being undertaken, providing a detailed programme of work and detailed specifications. It shall include:

(a) risk assessment of potentially damaging activities;

(b) a programme and methodology for any pre-demolition/pre-construction surveys required for protected species;

(c) full details of ecological and landscape mitigation measures during construction phase, including method statements and conservation plans as required for protected and priority species, and for habitat protection;
(d) summary information (including annotated plans and schedules) should be provided to give an overview of requirements as well as detailed timetables and method statements and specifications to be adhered to;
(e) details of landscape and ecological compliance monitoring. The approved CEMP shall be adhered to and implemented throughout the construction period strictly in accordance with the approved details, unless otherwise agreed in writing by the Local Planning Authority."

1.2 Aim and Objectives

The aim of this CEMP is to ensure that the construction works outlined in this document do not result in unacceptable environmental impacts. It will set out how construction works will be managed to reduce, avoid and mitigate adverse impacts. In particular, the CEMP shall:

- Provide a mechanism for ensuring that measures to mitigate potentially adverse environmental impacts are implemented;
- Provide assurance to third parties that their requirements with respect to environmental performance will be met; and
- Provide a framework for compliance auditing and inspection to enable the Project to be assured that its aims with respect to environmental performance are being met.

1.3 Statutory Guidance and Best Practice

In accordance with T-GN-002 – REAC, a copy of this CEMP and all associated management plans will be made available to each person working on behalf of the Construction Contractor. The Construction Contractor is required to maintain a copy of the CEMP at all work site offices for reference by the entire workforce. It must be accessible to all site personnel and representatives of the relevant enforcement Authority, and all Subcontractors. All site works relating to construction activities shall be undertaken in compliance with this CEMP and with all applicable legal and regulatory requirements. It is the full responsibility of all Construction Contractors to ensure that their works do not contravene legal requirements, and adherence to this CEMP alone cannot be a full defence regarding legal action against the Construction Contractor.

The Construction Contractor shall comply as necessary with the TCPA 1990 (including The Town and Country Planning (Environmental Impact Assessment) (Wales) Regulations 2017) and shall comply with all applicable environmental and pollution control regulations (see Section 3.5) in which case the Construction Contractor shall obtain and keep current any necessary consent, authorisation, approval or permission (see Section 5.5).

1.3.1 Environmental Management System

In accordance with T-GN-007 and T-MD-009 – REAC, this document has been produced in accordance with principals outlined in BS EN ISO14001:2015. The Construction Contractor is expected to mirror the Company environmental values and standards including the promotion of these values and standards among their staff, Subcontractors and suppliers engaged on the construction works. The Construction Contractor appointed to the works is expected to demonstrate to the principles of BS EN ISO 14001:2015 and to have an Environmental Management System (EMS) certified to the standard.

1.4 Further Planning Context

Planning permission FUL/000246/23 to which this CEMP relates to was granted in May 2024, to build new infrastructure and to modify existing facilities at the PoA Terminal in Flintshire to operate with carbon dioxide. An application for a Marine License (CML2365) to consent the works from the Mean High Water Springs (MHWS) to the new Douglas Offshore Platform (OP) was submitted to Natural Resources Wales' Marine Licencing Team in tandem with this application (FUL/000246/23).

Following stakeholder consultation with NRW on the Marine Licence Application (CML2365) the route for the electrical and fibre optic cables was realigned to avoid impacts on vessel movements in and out of the Port of Mostyn and reduce impacts to the little tern colony. This realignment had the consequential benefit of facilitating the repositioning of the Horizontal Directional Drilling (HDD) Exit Pit an additional 250m eastwards, away from the little tern colony. NRW granted consent for the revised cable route alignment through Marine Licence CML2365 in May 2025.

The realigned cable route fell outside the planning application area boundary of planning permission FUL/000246/23. Therefore, an additional planning application (FUL/000705/25) under the Town and Country Planning 1990 was submitted and consented by FCC on 21 November 2025 to amend the location of the HDD exit pit and alignment of the combined electrical and fibre optic cable under the Gronant Dunes.

This means the HDD entry pit works in Warren Farm and part of the HDD conduit under Gronant Dunes are covered under planning permission FUL/000246/23. The HDD exit pit and part of the HDD conduit under the Gronant Dunes are covered under planning permission FUL/000705/25.

This CEMP covers the construction activities for the HDD entry pit under planning permission FUL/000246/23. Notwithstanding, given that the HDD exit and entry pit works are connected and simultaneous activities, this CEMP reflects both activities.

2.0 DEFINITIONS AND ABBREVIATIONS

2.1 Definitions

Term	Definition
Company	The party that initiates the project and ultimately pays for its design and construction i.e. Eni UK. COMPANY will generally specify technical requirements. The term "COMPANY" also includes agents or consultants authorized to act for, and on behalf of, COMPANY.
Contract	An acceptance of legal relations between two or more parties for the transfer of goods or services for value.
Contractor	A person or organization that undertakes responsibility for the execution of a contract.
Supplier	The party (Manufacturer or Vendor) that manufactures or supplies equipment or services to perform the duties specified by the Company or Contractor
Shall	A mandatory provision
Should	An advisory provision
Site	Point of Ayr Terminal and Foreshore Works

2.2 Abbreviations

ALC	Agricultural Land Classification
BEIS	Department for Business, Energy & Industrial Strategy
BVS	Block Valve Station
CCS	Carbon Capture Storage
CDM	Construction (Design and Management) Regulations 2015
CEMP	Construction Environmental Management Plan
CLV	Cable Lay Vessel
CMRA	Coal Mining Risk Assessment
CO	Carbon Monoxide
CO_2	Carbon Dioxide
CoPA	Control of Pollution Act 1974
COSHH	Control of Substances Hazardous to Health
CTMP	Construction Traffic Management Plan
DAM	Development Advice Map
DCO	Development Consent Order
DoWCoP	Development Industry Code of Practice
ECoW	Ecological Clerk of Works
EMS	Environmental Management System
EPSL	European Protected Species Licence

ES	Environmental Statement
FAP	Flood Action Plan
FRAP	Flood Risk Activity Permit
GCN	Great Crested Newt
GI	Ground Investigation
GRP	Glass Reinforced Plastic
GWMMP	Groundwater Management and Monitoring Plan
HDD	Horizontal Directional Drilling
HDPE	High-Density Polyethylene
HGV	Heavy Goods Vehicle
HSE	Health, Safety and Environment
HSEQ	Health, Safety, Environment and Quality
KPI	Key Performance Indicator
LBA	Liverpool Bay
LDP	Local Development Plan
LLFA	Lead Local Flood Authority
LPA	Local Planning Authority
MHWS	Mean High Water Springs
ML	Marine Licence
MLWS	Mean Low Water Springs
MMP	Materials Management Plan
MSA	Material Safeguarding Area
NO_X	Nitrogen Oxides
NVMP	Noise and Vibration Management Plan
NRW	Natural Resource Wales
OP	Offshore Platform
OTMP	Outline Traffic Management Plan
PFAS	Per- and Polyfluoroalkyl Substances
PM	Particulate Matter
PPW	Planning Policy Wales
PRoW	Public Rights of Way
PWMS	Precautionary Working Method Statement
RAMS	Risk Assessment and Method Statement
REAC	Register of Environmental Actions and Commitments
PoA	Point of Ayr
PPE	Personal Protective Equipment
RLB	Red Line Boundary
TCF	Temporary Construction Facilities
TOF	Temporary Operational Facilities
TCPA	Town and Country Planning Act
TPH	Total Petroleum Hydrocarbons
T/S	Transport and Storage
SAC	Special Area of Conservation
SDV	Shut Down Valve
SeMP	Sediment Management Plan

SMP	Soil Management Plan
SoW	Scope of Works
SPA	Special Protection Area
SSSI	Site of Special Scientific Interest
SWMP	Surface Water Management Plan
VOC	Volatile Organic Compounds
WS	Wildlife Sites
WTP	Worker Travel Plan

3.0 REFERENCES

This CEMP makes reference to, and should be read in conjunction with the following documents:

3.1 Project Documents

[Ref 1]	TCPA – March 2023	T.4 Environmental Statement
[Ref 2]	TCPA – March 2023	T.5.1 Outline Construction Environmental Management Plan
[Ref 3]	TCPA – March 2023	T.5.3 Register of Environmental Actions and Commitments
[Ref 4]	TCPA – March 2023	T.5.4 Habitats Regulations Assessment
[Ref 5]	ITT – Appendix D Part A Section 2	Technical Bid Presentation POA ITT Package
[Ref 6]	ITT – Appendix D Part A Section 3	Scope of Work for POA ITT Package
[Ref 7]	ITT – Appendix E	Contract HSE Requirements
[Ref 8]	102700DFPA09758	Dust Management Plan
[Ref 9]	102700DFPA09759	Flood Action Plan
[Ref 10]	102700DFPA09760	Groundwater Management and Monitoring Plan
[Ref 11]	102700DFPA09761	Lighting Management Plan
[Ref 12]	102700DFPA09762	Materials Management Plan
[Ref 13]	102700DFPA09763	Noise and Vibration Management Plan
[Ref 14]	102700DFPA09764	Sediment Management Plan
[Ref 15]	102700DFPA09766	Soil Management Plan
[Ref 16]	102700DFPA09767	Stakeholder Communications Plan
[Ref 17]	102700DFPA09768	Surface Water Management and Monitoring Plan
[Ref 18]	102700DFPA09769	Terrestrial INNS Management Plan
[Ref 19]	102700DFPA09773	Ecological Management Plan
[Ref 20]	102700DFPA09774	Oil Spill Contingency Plan
[Ref 21]	102700DFPA09776	Pollution Prevention and Control Plan for Construction
[Ref 22]	102700DFPA09779	Tree and Hedgerow Protection Plan
[Ref 23]	102700DFPA09780	Waste Management Plan
[Ref 24]	102700DFQJ09789	Arboricultural Method Statement
[Ref 25]	102700DFQJ09791	Biosecurity Risk Assessment and Method Statement
[Ref 26]	102700DJPC09406	Construction Traffic Management Plan
[Ref 27]	102700HFPA09755	TCF & POA Demolition CEMP
[Ref 28]	ERM – 0743746 – May 2025	Remediation Strategy
[Ref 29]	RPS – February 2024	Environmental Statement Volume 4, appendix T: Invasive Non-Native Species Management Plan
[Ref 30]	AMS – August 2025	Breakout Plan

3.2 Company Specifications

[Ref 31]	Eni UK IMS AI-SYS-01 R15	HSE Policy
[Ref 32]	Eni UK IMS 00-SYS-01 R12	Health, Safety & Environment Management System Manual
[Ref 33]	Eni UK HSE IMS B1-SYS-03 R01	Identification of Environmental Aspects
[Ref 34]	Eni UK MS AI SYS 04 R06	Corporate Major Accident Prevention Policy (CMAPP)
[Ref 35]	OPI HSE 021 ENI SPA	Safety & Environmental Critical Elements (SECE) Management
[Ref 36]	OPI-HSE-023-ENI-SPA R02	Safety, Environmental and Industrial Hygiene Minimum Design Requirements
[Ref 37]	OPI HSE 008 ENI SPA	Analysis of the environmental aspects and of the impacts/risks for the environment and the organization
[Ref 38]	OPI HSE 009 ENI SPA NR R01	Emergency Response Strategy and Plan

[Ref 39]	OPI HSE 022 ENI SPA NR R01	Management of Environmental Aspects in Development Processes
[Ref 40]	OPI HSE 012 E&P	Noise & Vibration Management
[Ref 41]	OPI SG HSE 013 E&P R01	Guidelines for Oil Spill Contingency Planning
[Ref 42]	OPI SG HSE 027 E&P R01	Contract Health, Safety and Environmental Requirements for Services, Engineering, EPC, EPIC, EPF, Goods
[Ref 43]	OPI SG HSE 001 UPS R03	HSE Risk Management and Reporting
[Ref 44]	MSG HSE ENI SPA R04	Management System Guideline
[Ref 45]	BP HSE 007 eni spa_NR R01	Waste Management in Natural Resources Activities
[Ref 46]	BP HSE 011 eni spa	Air quality monitoring
[Ref 47]	BP HSE 012 eni spa	Management of air emissions in natural resources activities
[Ref 48]	BP HSE 014 eni spa	Assessment and remediation of potentially contaminated sites
[Ref 49]	AMTE-TG-013	Biodiversity and Ecosystem services impact assessment and management

3.3 Contractor Specifications

[Ref 50]	PL-SPA-HSE-001	Saipem S.p.A. HSE Policy
[Ref 51]	MSGGR-GROUP-HSE-001	HSE Management System Guideline
[Ref 52]	CR_GR-GROUP-HSE-009	Monitoring and reporting
[Ref 53]	CR_GR-GROUP-HSE-012	Criteria for identification of significant and social aspects
[Ref 54]	CR_GR-GROUP-HSE-013	Operational control of environmental aspects
[Ref 55]	STD_GR-GROUP-HSE-002	HSE Competence, Training and Awareness
[Ref 56]	STD_GR-GROUP-HSE-004	HSE Monitoring and Improvement

3.4 International Codes and Standards

[Ref 57]	HSG253 - Health and Safety Executive - 2006	The safe isolation of plant and equipment
[Ref 58]	ISO 45001	Occupational health and safety management systems, Requirements with Guidance for Use
[Ref 59]	ISO 14001	Environmental Management Systems - Requirements with Guidance for Use

3.5 External References

International Regulations:

[Ref 60] Conservation of Habitats and Species Regulations 2017
[Ref 61] Floods and Water (Amendment, etc.) (EU Exit) Regulations 2019
[Ref 62] Waste (Circular Economy) (Amendment) Regulations 2020

National Regulations (UK-wide) Regulations:

[Ref 63] Clean Neighbourhoods and Environment Act 2005
[Ref 64] Construction (Design and Management) Regulations 2015
[Ref 65] Control of Asbestos Regulations 2012
[Ref 66] Control of Noise at Work Regulations 2005
[Ref 67] Control of Pollution Act 1974
[Ref 68] Control of Pollution (Oil Storage) (England) Regulations 2001
[Ref 69] Control of Substances Hazardous to Health (COSHH) Regulations 2002
[Ref 70] Control of Vibration at Work Regulations 2005
[Ref 71] Countryside and Rights of Way Act 2000
[Ref 72] Environment Act 1995
[Ref 73] Environmental Damage (Prevention and Remediation) Regulations 2015
[Ref 74] Environmental Permitting (England and Wales) Regulations 2016

[Ref 75] Environmental Protection Act 1990
[Ref 76] Hazardous Waste (England and Wales) Regulations 2005
[Ref 77] Noise and Statutory Nuisance Act 1993
[Ref 78] Noise Emission in the Environment by Equipment for Use Outdoors Regulations 2001 and (as amended) 2005.
[Ref 79] Personal Protective Equipment at Work Regulations 1992
[Ref 80] Planning (Listed Buildings and Conservation Areas) Act 1990
[Ref 81] The Town and Country Planning (Environmental Impact Assessment) Regulations 2017
[Ref 82] Town and Country Planning Act 1990
[Ref 83] Waste (England and Wales) Regulations 2011
[Ref 84] Waste Batteries and Accumulators Regulations 2009
[Ref 85] Water Act 2014
[Ref 86] Water Industries Act 1991
[Ref 87] Water Resources Act 1991

Local Regulations:

[Ref 88] Local Planning Permission (via Town and Country Planning Act 1990)
[Ref 89] Countryside and Rights of Way Act 2000
[Ref 90] Local Biodiversity Action Plans (LBAPs)
[Ref 91] Section 106 Agreements (Town and Country Planning Act 1990)
[Ref 92] Weeds Act 1959
[Ref 93] Wildlife and Countryside Act 1981
[Ref 94] Wildlife and Countryside Act 1981 (Prohibition on Sale etc of Invasive Non-native Plants) (England) Order 2014

4.0 CONSTRUCTION ACTIVITIES AND PROGRAMME

4.1 Project Description

Two individual full planning applications have been submitted under the TCPA 1990. The first application concerns the PoA and Foreshore Works, the second relates to the three Block Valve Stations (BVSs) situated along the route of the existing natural gas pipeline, which is covered by a Development Consent Order (DCO). This document is related only to the application covering the PoA and Foreshore Works.

ENI's Liverpool Bay Carbon Capture Storage Transport and Storage Project (LBA CCS T/S Project) is being developed in parallel with, and as a key part of, the HyNet Northwest full-chain hydrogen and carbon capture and storage (CCS) industrial decarbonisation project (the HyNet Project), which is designed to transform a region of the UK into the world's first low carbon industrial cluster by 2030.

Carbon Dioxide (CO_2) is received at PoA Facility via the existing pipeline. From the PoA Facility, CO_2 is sent to the Douglas Complex and CO_2 is further exported to the three satellite platforms, Hamilton (Main), Hamilton North and Lennox for injection into their respective reservoirs for permanent storage. The overview of the PoA facility and foreshore works are shown below in Figure 4.1, this illustrates the boundary of the TCPA Proposed Development, known as the Red Line Boundary (RLB).

Figure 4.1 PoA Terminal and Foreshore Works

The majority of the scope of work currently covered within this document lies within the boundary of the PoA Terminal, works planned outside of the PoA Terminal include replacement of the dunes valve spool, the laying of onshore section of 33kV power cable and optic fiber cable up to the Dune Valve location across Warren

Farm, and heading to the landward of the Talacre dunes entering from the original entry pit location via a conduit installed by an HDD trenchless crossing and emerging at an exit pit at around the MHWS to mean low water springs (MLWS).

4.2 Project Phasing Plan

The Project has been divided into two Phases for the purpose of discharging TCPA planning conditions. The Phases of work comprise the following:

- Demolition (including TCFs)
- Construction

This document is related to the Construction Phase only. A CEMP for the TCF and Demolition Phase has been approved by FCC in August 2025 [Ref 27] and should be referred to for decommissioning activities.
Figure 4.2 below shows the RLB for the Construction Phase of works.

Figure 4.2 Construction Phase Boundary Limit

4.3 Scope of Work

As described above, the scope of work (SoW) for the Construction Phase will comprise of works at the PoA Terminal and the laying of onshore section of 33kV power and fibre optic cables up to “Dune valve” location, adjacent to the PoA Terminal. The existing dune valve will be removed and replaced. More information on the construction activities is included below.

Under this Construction SoW, the following management plans are to be produced and submitted for approval to FCC:

- Dust Management Plan – APPENDIX A [Ref 8]
- Flood Action Plan – APPENDIX B [Ref 9]
- Groundwater Management and Monitoring Plan – APPENDIX C [Ref 10]
- Lighting Management Plan – APPENDIX D [Ref 11]
- Materials Management Plan – APPENDIX E [Ref 12]
- Noise and Vibration Management Plan – APPENDIX F [Ref 13]
- Sediment Management Plan – APPENDIX G [Ref 14]
- Soil Management Plan – APPENDIX H [Ref 15]
- Stakeholder Communications Plan – APPENDIX I [Ref 16]
- Surface Water Management and Monitoring Plan – APPENDIX J [Ref 17]
- Terrestrial INNS Management Plan – APPENDIX K [Ref 18]
- Worker Travel Plan included within the Construction Traffic Management Plan (CTMP) – APPENDIX L [Ref 26]
- Environmental Statement - Volume 4, appendix T: Invasive Non-Native Species Management Plan – APPENDIX M [Ref 29]
- Drilling Breakout Plan for the Liverpool Bay CCS Project (AMS Project J3130) APPENDIX N [Ref 30]

The following management plans have been scoped out for the Construction Phase SoW:

- Odour Management Plan – activities are not anticipated to generate odours.

4.4 Construction Activities – PoA Terminal and Warren Farm

The following activities will be undertaken during the Construction Phase.

4.4.1 Civil Works

The main content of civil works includes but is not limited to:

- Earthworks, excavation and backfilling for site preparation
- Dewatering, where required
- Shoring, where required to prevent deep trenches collapse
- Arrange temporary gate access to Site, where required
- Lean concrete
- Formwork
- Precast concrete.
- Concreting for the foundation which includes excavation, steel reinforcing bars, backfill (from excavated materials or borrow pit), compaction, finishing, etc.
- Mass concrete for bases, ground slabs, compaction, finishing etc.
- Curing of concrete
- Concrete protection
- Hot dip galvanized embedded items (anchor bolts, steel plates, earthing plate, etc.)
- Grouting
- Surfacing including paving with gravel
- PVC and RTR pipes for the duct bank
- Underground drainage systems

- Underground network for fire water, potable water, oily water and any other underground system.
- Aboveground drainage systems
- Pits and excavation work for cathodic protection
- Electrical and instrumentation cable trenches/duct-banks.
- Structural fireproofing for steel pipe-rack, steel structures and equipment supported
- Develop material take-offs and periodic monitoring and updating
- Removal of surplus materials from the work site
- Installation / adjustment / removal temporary fences
- Installation of permanent fence
- As-built drawings
- Underground drainage pipe-work, steel structures and support steelwork foundations.
- Permanent and temporary roads
- Building superstructure, wall and roof cladding installation. Upon completion, the electrical, HVAC, and fire protection installation together with the building finishing will be executed
- Concrete works

4.4.2 Mechanical Works

The content of mechanical works is mainly:

- Equipment installation.
- Steel structure erection.
- Above-ground piping fabrication and erection.
- Piping supports prefabrication and erection.
- Valve testing and erection.
- Piping Hydraulic Tests and Reinstatement.
- Welding.

4.4.3 Piping Prefabrication

Contractor intends to subcontract piping prefabrication, installation, punch list work, painting and insulation by the same Subcontractor. In principle, the Subcontractor shall plan to execute the prefabrication works at its own existing permanent fabrication facilities and subsequently plan and organize the transportation to the site of all the fabricated material (spool and support).

4.4.4 New Units

The following units will be installed within the terminal during construction, with locations shown in Figure 4.3 (for further details see the Attachment 5):

- Pigging Facilities
- Flare, Vent (CO2) & Blowdown
- Gas Filtration
- Gas Compression
- Sales Gas Compression & Fiscal Metering
- Diesel Fuel
- Emergency Power Generation
- Open Drain System
- Air Compressor Package

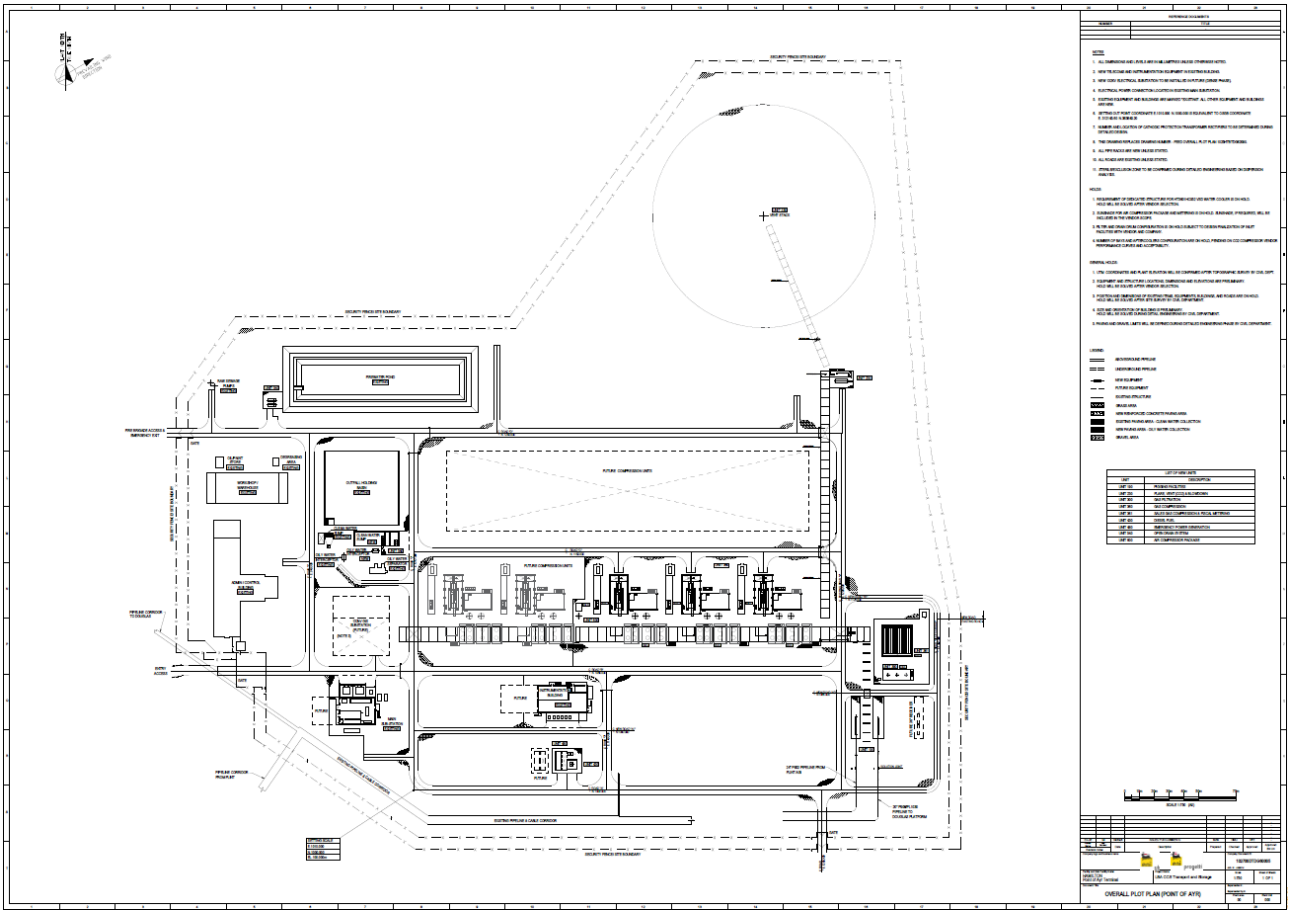

Figure 4.3 Overall Plot Plan of New Units

4.4.5 Laying of Power and Fiber Optic Cables

An open trench method will be used along the majority of the land at Warren Farm when laying the cables and for the cables across the woodland area to the west of the PoA Terminal which includes Talacre Brook, and Station Road will utilise HDD equipment to minimise disturbance to ecological receptors and road users.

The route broadly follows the alignment of the existing Foreshore Pipeline (whilst keeping a safe proximity from it), along its east side, so as to seek to contain the Foreshore Cables within areas of land which will have been previously disturbed during installation of the Foreshore Pipeline. The Foreshore Cable route heads out of the PoA Terminal to the north-west of the site to the disinvested Shut Down Valve (SDV; refer to Section 4.4.6 for details) where there will be a new Submarine Cable Junction Boxe, where the onshore and offshore parts of the cables will be spliced together (to connect the onshore and offshore sections of the cables). The Figure 4.4 shows the cable route.

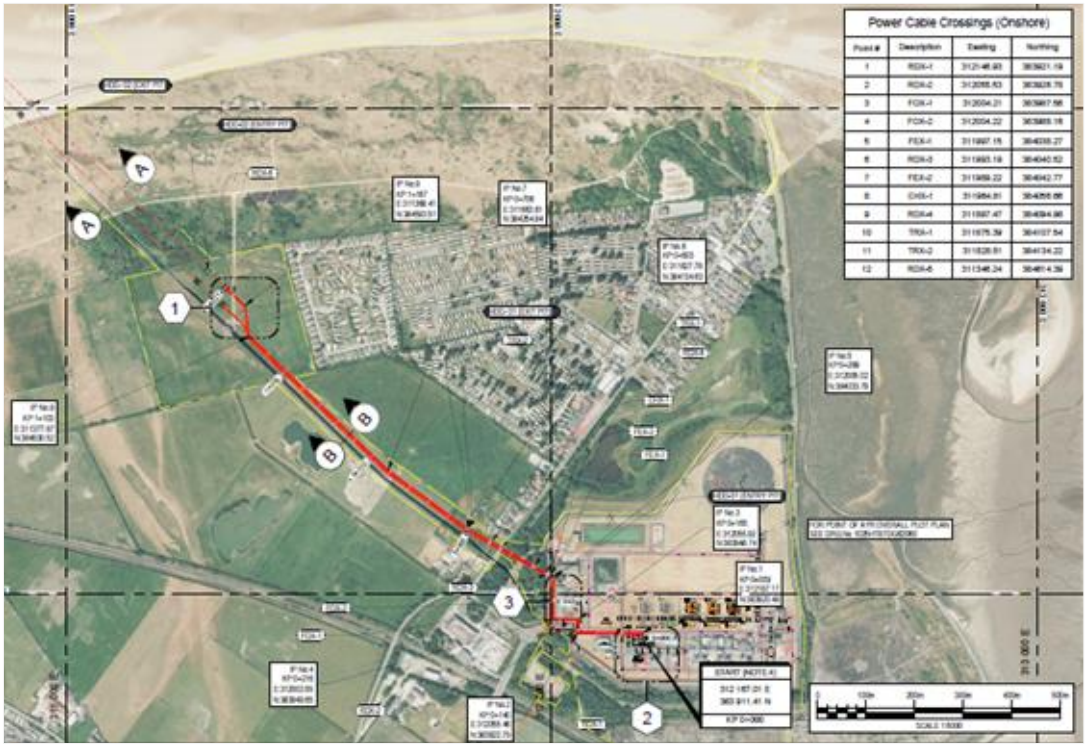

Figure 4.4 Power and Fiber Optic Cables Routing from PoA Terminal to Dune Valve

Cable installation using the trenched method will be performed by a plough or cable trenching machine or similar, at a depth of up to approximately 1 metre onshore, however the depth may be greater in particular for the trenchless crossings to ensure sufficient depth to cross obstructions. The plough cable installation method 'slices' a trench approximately 1-1.5 metre in width.
Figure 4.5 below shows a typical cross section of the cable trench.

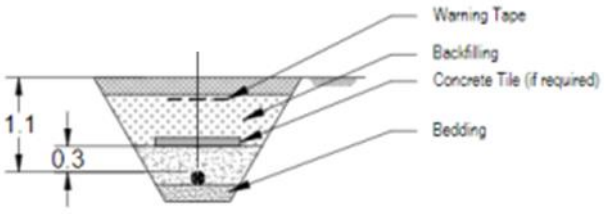

Figure 4.5 Cross Section of a Cable Trench

The installation of the cables across Station Road (and the nearby ditch) by HDD equipment involves establishing a start and end point and using specialist machinery to tunnel under the feature or infrastructure being crossed to avoid disturbance. The cables will then be pulled through the conduits.
A typical trenchless installation arrangement is shown in Figure 4.6.

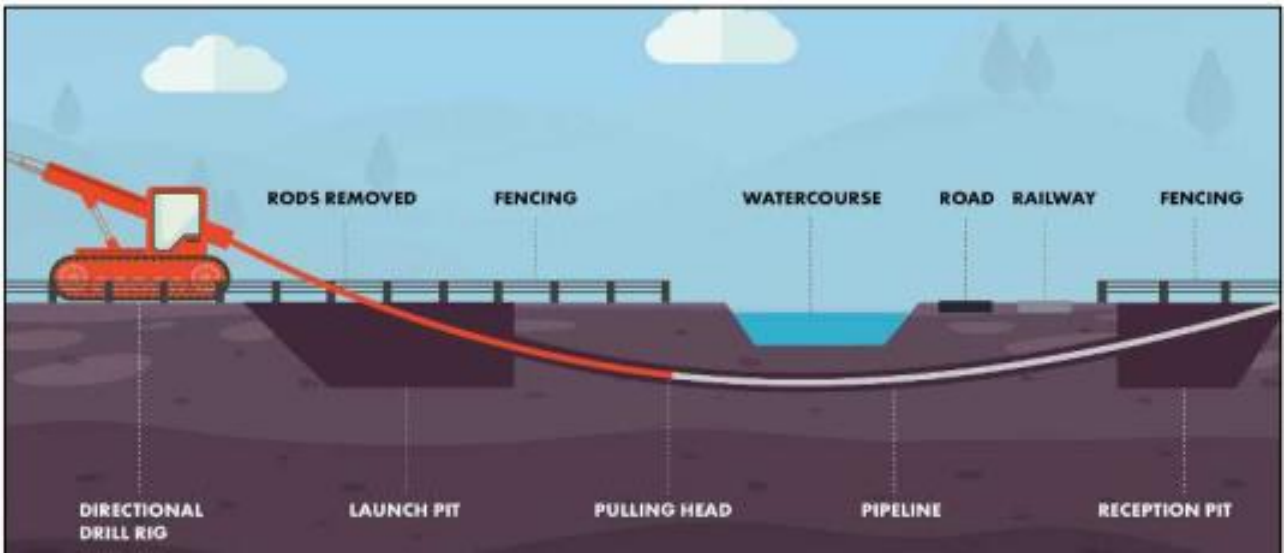

Figure 4.6 HDD Technique for Cable Installation

4.4.6 P908 Dune Valve Replacement

The existing SDV currently located approximately 300m south of the Talacre Dunes on Warren Farm will be removed.
A new section of pipeline will be welded into place. The excavation will be backfilled and the area will be topsoiled and seeded with an appropriate grass mix.

The phasing of the operations taking place in this Construction Phase may be considered as follows:

- Removal of existing valve.
- Welding Procedure Specification.
- Pipeline fabrication & Hydrostatic testing.
- Pipeline Installation.
- Backfill and compaction.
- Non-Destructive Testing.
- Electric Spark Detection (Holiday Testing).
- Corrosion Protection of girth welds.

The P908 dune valve replacement layout is shown below in Figure 4.7 (for more details, see the layout in Attachment 6). Please note that the works at P908 will all take place within the highlighted and zoomed in area.

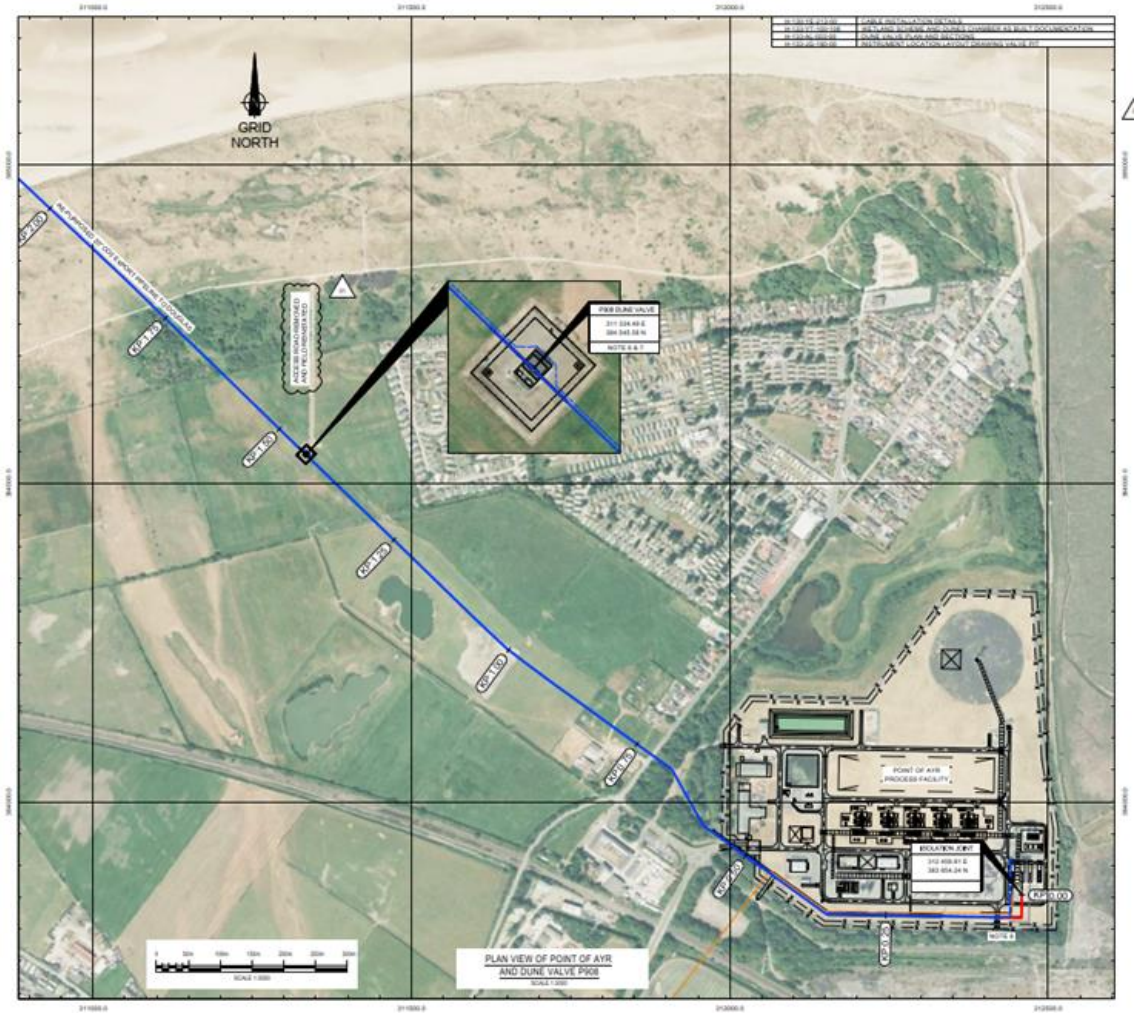

Figure 4.7 P908 Dune Valve Location Layout

4.5 Construction Activities – Gronant Dunes and Foreshore Works

The works, involving the HDD activity under Gronant Dunes, include the installation of an underground section of HDD conduit under Gronant Dunes originating from the HDD Entry Pit (consented under FUL/000246/23), to a buried HDD Exit Pit near the MHWS line.

The new underground cables will be installed broadly in a north-northwest direction from the HDD Entry Site, as shown in Figure 4.8.

4.5.1 Horizontal Directional Drilling Activities

4.5.1.1 Overview of HDD Method

The installation of the cables under the Gronant Dunes will utilise HDD equipment, see Figure 4.6 for a schematic overview. This technique will be used to avoid causing disturbance to the ground surface, and disturbance to the ecologically sensitive dune system. The HDD process involves drilling a tunnel from an entry pit behind the dunes to an exit pit located just below the MHWS line.

HDD operations are undertaken from two sites, an entry site and an exit site, this is further explained upon within the next paragraphs. Figure 4.8 shows the indicative locations of these sites.

Figure 4.8 Location of the HDD Works under Gronant Dunes, Site Entrances and Car Park

4.5.1.2 HDD Entry Pit Establishment

The entry site is the main works area for the HDD works. A temporary roadway, with road plates, will be required to provide safe access from the farmers yard at Station Road to the valve field where the existing pipeline is located. This entrance is visualised in Figure 4.8 as 'Warren Farm Entrance' and temporary matting is planned across the fields for vehicles to access the HDD entry site. Some levelling may be required by excavator or dozer. Some examples of typical temporary matting used during construction at similar projects, are shown in Figure 4.9.

Figure 4.9 Typical Temporary Matting

At the Entry Site, ground preparation will be performed and consists out of temporary matting, and a rock layer. These layers not only support (heavy) equipment, they also prevent the working area becoming a muddy working area. The areas are detailed below in Figure 4.10.

- Temporary matting (yellow boundary below) is placed on site to support welfare, storage containers and other reasonably light equipment that cannot be stored on grassland. This matting will be similar to the matting as used for the temporary access road to Warren Farm.
- Rock layer (red boundary below) is placed on site to support the heavy HDD equipment (see for visualisation Figure 4.11). To do so, the top soil will be removed and stored in between the site compound and caravan park – possibly acting as noise mitigation (see white boundary below). A geotextile will be installed to separate the later added rock from the soil.

No ground preparation (blue boundary below), this area is planned to be fenced off however no ground preparation will be executed here. This area acts as temporary storage for e.g. equipment and the mud lagoon north of the site.

Figure 4.10 Non Indicative Entry Site Set-up for HDD Works. Detailed View on the Left, Overview of Warren Farm on the Right

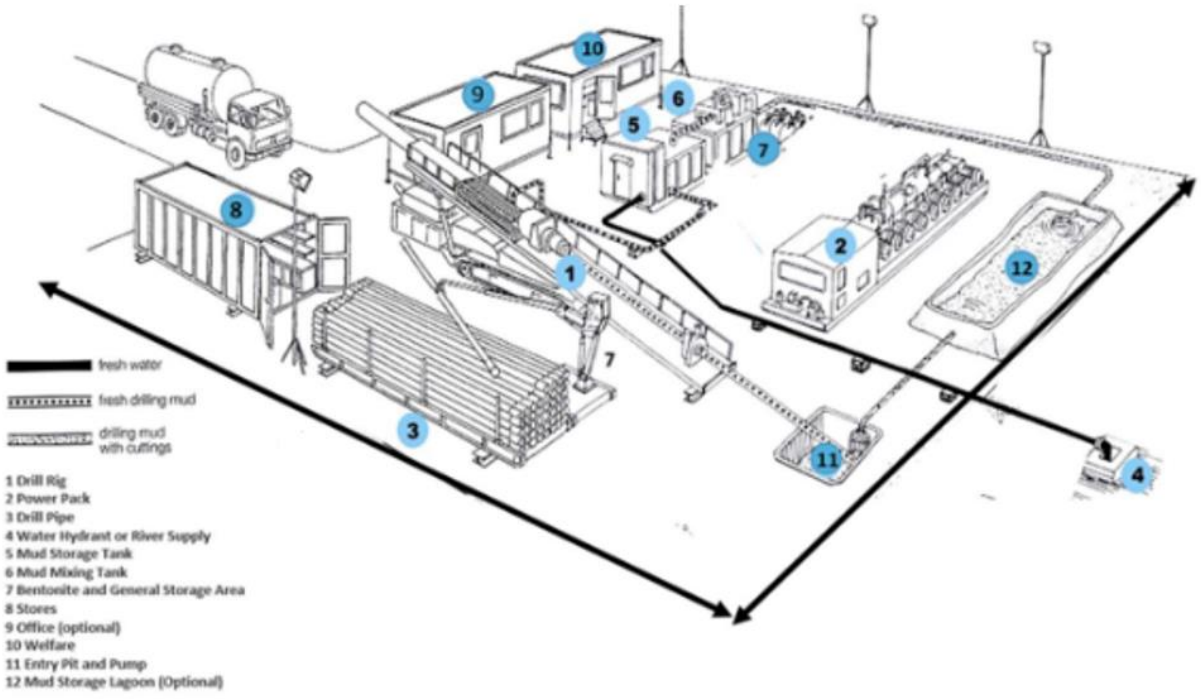

Figure 4.11 Non Indicative Representation of HDD Equipment

At the working plateau the site offices as well as the main welfare for the site team will be located. The welfare will consist of modular temporary buildings including offices, canteen, changing rooms and toilet facilities. More information regarding the welfare facilities can be found at Section 5.4. Around the site hoarding and/or fencing will be installed to separate the site compound from the area. Hoarding is used to limit the impact to the birds visually, when resting at Warren Farm.

Once site establishment is completed the drilling equipment will be mobilised to site, equipment will be delivered by trucks in accordance with the traffic management measures described in the following section as part of the project description and in the CTMP. Equipment is unloaded and positioned as required by means of all terrain crane or trucks fitted with a hiab crane.

The HDD entry pit is excavated, as well as a lagoon for the storage of drilling fluids. More on the use of drilling fluids can be found at Section 4.5.1.8. The excavated soil from the entry pit and the lagoon for the drilling fluid will be stored close to their original location whenever possible, so that arable soils are returned to arable fields and grassland soils used to restore grassland fields, and sand to sand. The soil will be reinstated after completion of the Construction Phase.

To secure the drill rig in place, a sheet piled wall will be constructed onto which the expected thrust and pullbacks loads during the drilling works are transferred to.

Once equipment is placed at the site, the drilling crew will connect all hydraulic hoses, electrical cables etc. to make the HDD equipment operational. All equipment is then function tested to ensure it is properly working before the drilling commences. An indicative list of the main plant and equipment required at the HDD Exit Pit is resented in Table 4.1.

Table 4.1 Indicative List of Main Equipment at Warren Farm HDD Entry Pit Site

Equipment	Quantity*	Power Generated by	External Generator Supply Quantity	Indication Size of External Generator
Welfare / office facilities	-*	Diesel generator	1-2x	30-50 kVa
Workshop /storage / control containers	-*	Same generator of welfare containers	-	-
Directional Drill Rig	1	Internal diesel generator	2x (of which 1 spare)	500 kVA
Drilling fluid shale shaker	1	Internal diesel generator		
Concrete mixer truck	3	Internal diesel generator	Internal	-
Truck mounted concrete pump	1	Internal diesel generator	Internal	-
Vibratory roller	2	Internal diesel generator	Internal	-
Excavator	1-3	Internal diesel generator	Internal	-
Dozer	1	Internal diesel generator	Internal	-
Tractor / trailer	1-2	Internal diesel generator	Internal	-
Cranage	1	Internal diesel generator	Internal	-
Towerlights	4-6	Diesel generator	Internal / external	5-15 kVA each
Dewatering	0-1	Diesel generator	1x	50 kVA*

At the end of the HDD works, it may be decided to leave the hoarding/fencing erected, stone layer and welfare, and other containers in place which are required for the later cable installation works. This is to minimise disruption and prevent double (de-)mobilisation of this equipment from and to the site compound.

4.5.1.3 HDD Exit Pit Establishment

Concurrently to mobilise the drilling equipment at the main site the secondary HDD exit site is prepared, the exit location is considered a satellite site, smaller in scale. As with the Entry Site, this will be appropriately signed, fenced, and house welfare equipment. Afterwards, construction equipment such as excavators, piling rig, sheet piles, pumps and generators will be transported.

Some of the equipment will be delivered to the Entry Site where it is loaded onto an agricultural tractor and trailer before being driven to the beach for installation. Larger equipment such as excavators or the piling rig will be delivered directly to the Talacre Beach car park. Alternatively, the farmyard at the Warren farm entrance could be used that is just located off Station Road. This would reduce the distance to travel through the farm field to reach Entry Site and back.

Due to the ramp that crosses the sea wall at the car park entrance HGV's are unlikely to be able to cross the ramp. HGV's will have to reverse down the narrow section of road approaching the car park, equipment shall be unloaded at the bottom of the ramp and then will be driven over the ramp into the car park.

To minimise risk and inconvenience to the public this could be undertaken during early mornings when the area is quieter, a means of protection for the road surface such as car tires or rubber matting will be deployed.

To securely contain drill fluid throughout the operation, and prevent fluid loss to the marine environment, an exit pit is built. The exit pit for the Gronant Dune system HDD on the intertidal side will be excavated between 2-3m below ground level, due to the depth and the risk of the excavation collapsing it will be necessary to support the excavation with trench boxes and sheet piles. Groundwater from the excavation will be emptied by means of one or more temporary pumps where necessary, water from the excavation will be returned to the sea. Based on the predicted tidal heights and location of this pit, the pile height above the beach will be chosen such that the ingress of seawater and subsequent washout of drilling fluid during high tide is prevented. Sandbags are placed around the sheet piles to limit the scour effect of tide.

During the drilling process, any drilling fluid will be contained within the HDD Exit pit and will be pumped back to the HDD Entry site. It may be necessary to partially clean the drilling fluids at the exit point to prevent the suspended arisings from blocking the fluid transport equipment. If required, this shall be done with a shaker system. Arisings separated from the drill fluid will be contained before they are returned to the HDD Entry site for proper disposal.

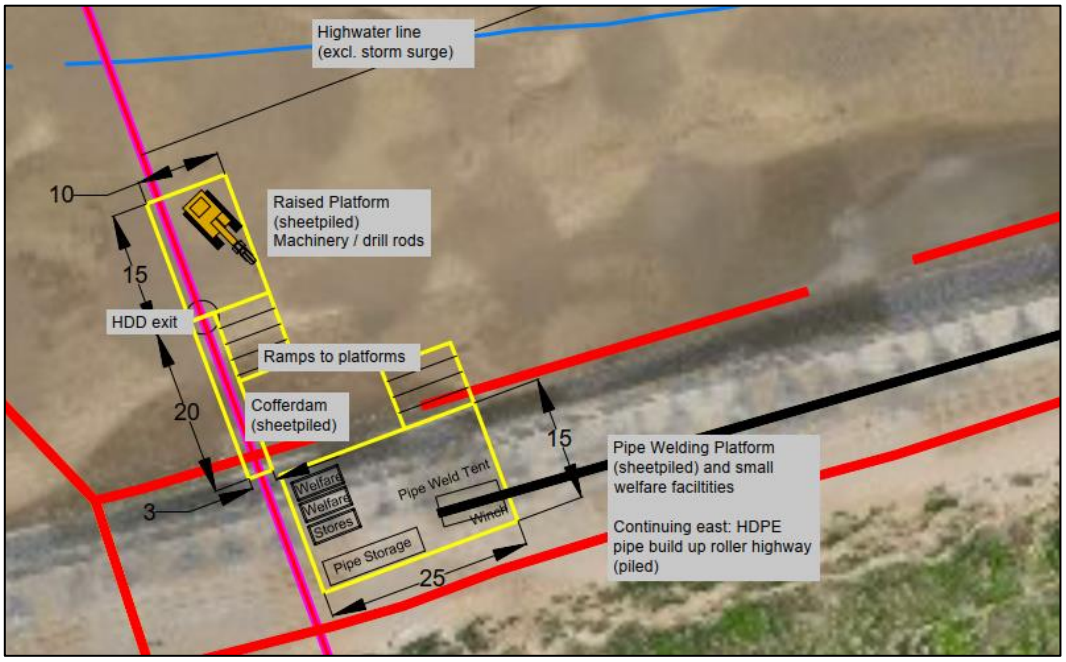

Figure 4.12 Non Indicative Site Layout Exit Pit

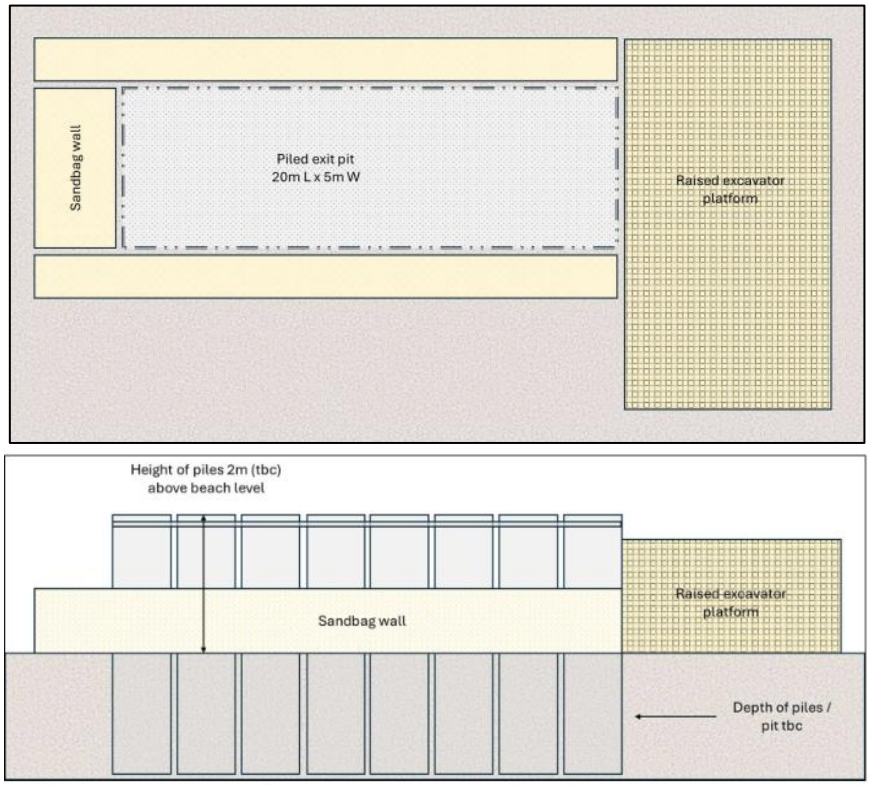

Figure 4.13 Typical Sheet Piled Exit Pit (Top and Side View) and Sheet Piled Raised Working Platform

A raised working platform will be required, as shown in Figure 4.13, to ensure equipment and storage containers are dry at high tides. An indicative list of the main plant and equipment required at the HDD Exit Pit is presented in Table 4.2.

Table 4.2 Indicative List of Main Equipment at HDD Exit Pit

Equipment	Quantity*	Power Generated by	External Generator Supply Quantity	Indication Size of External Generator
Welfare / office facilities	-*	Diesel generator	1-2x	30-50 kVa
Workshop /storage / control containers	-*	Same generator of welfare containers	-	-
Excavator	1-3	Internal diesel generator	Internal	-
Dozer	1	Internal diesel generator	Internal	-
Tractor / trailer	1-2	Internal diesel generator	Internal	-
Cranage	1	Internal diesel generator	Internal	-
Winch	1	Internal diesel generator	Internal	-
Towerlights	4-6	Diesel generator	Internal / external	5-15 kVA each
Dewatering	0-1	Diesel generator	1x	50 kVA*

4.5.1.4 Pipe Welding (Heat Bonding)

Figure 4.14 shows that the area for the HDD conduit pipe assembly will be established besides the HDD Exit Pit. To store the machinery during high water, the pipe welding area will be set up to the east of the HDD Exit Pit. From the pipe welding area, rollers will be temporarily installed over a length of 500m to create a solid structure onto which the pipe can be assembled and secured during highwater.

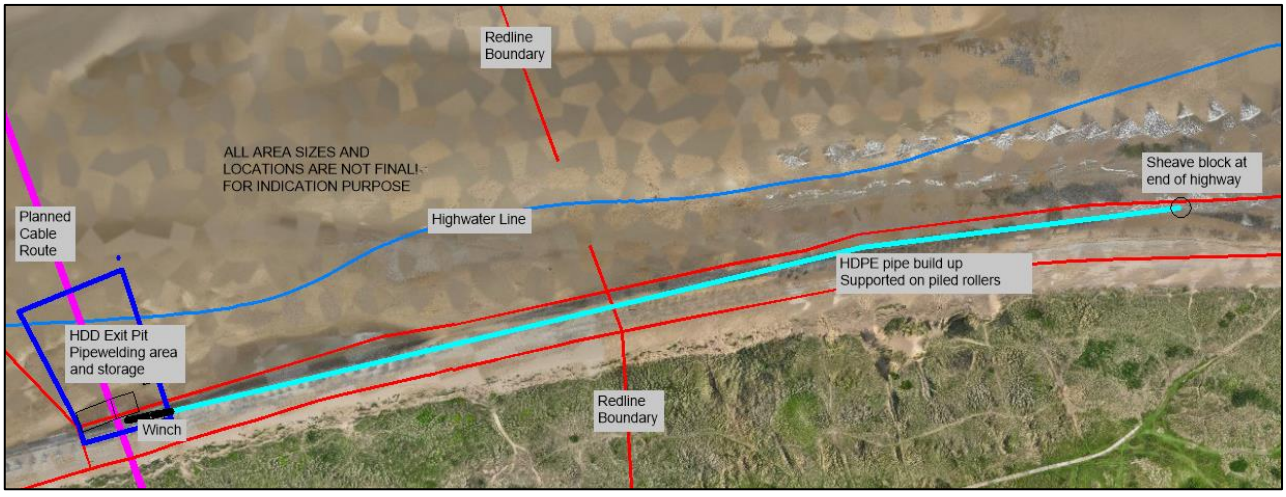

Figure 4.14 Pipe Assembly at Beach Proposal. HDD Exit Pit and Location Size for Visual Reference Only - Not Indicative

The equipment and materials required for welding the HDPE ducting will be transported first to Warren Farm. At Warren Farm, the equipment will be loaded on a tractor and trailer to transport it to the beach area, which

is done via Talacre car park beach entry. This minimises the access road disruption at Talacre car park from the offloading and movement of equipment.

Larger sized equipment like excavators that cannot be transported by tractor and trailer, remain planned to be (off)loaded at Talacre car park and/or at down the ramp of the sea defence. Trucks need to reverse down the narrow section of Station Road approaching the car park, and equipment shall be (un)loaded at the bottom of the ramp and then will be driven over the ramp into the car park. To minimise risk and inconvenience to the public, and local businesses, this would be undertaken outside of busy periods when the area is quieter. A means of protection for the road surface such as car tires or rubber matting will be deployed. Plastic road plates may also be used where necessary to minimise ground disturbance and to preserve the condition of the car park entrance route.

The following equipment would be required for the pipe welding area.

- 6-7x HDPE pipe stacks to store 550m of 355mm pipe including spares. Footprint of each stack 12m x 1m
- Pipe welding equipment
- Welfare facility incl. generator
- Rollers incl. piles
- Mobile winch incl. generator
- Crane mats
- Concrete ballast blocks Approx 1t
- Excavator
- Fencing and signage

Figure 4.15 Indicative Example Piled Roller Highway (Left), Typical Mobile Winch

Figure 4.16 Typical Pipe Welding Equipment, Storage of Pipes and Welfare Not Shown

A mobile winch (see Figure 4.15) will be mobilised to the beach and set up near the pipe welding area. The winch wire is routed below the roller highway and redirected at the end of the highway by a sheave block back to the HDPE pipe resting on the rollers. By paying in on the winch, the HDPE pipe can be moved over the roller highway for the crew to weld the next pipe section onto this. This would remove the need for multiple excavators during the pipe welding process and, therefore, limit the noise emitted during the pipe welding process. Please see Figure 4.17 for a sketch of this setup.

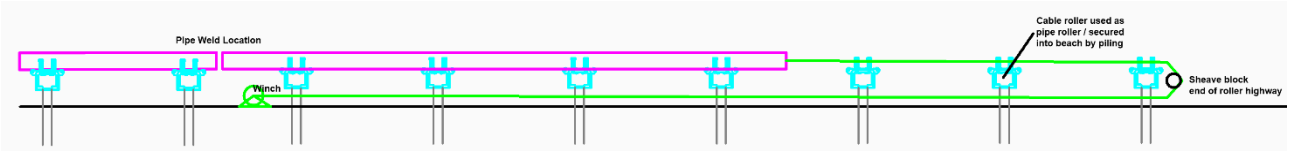

Figure 4.17 Sketch Pulling HDPE Pipe over Roller Highway by Winch instead of moving it by Excavators

The assembly operations can continue throughout the tidal cycle on the beach, as the machinery, equipment and the roller highway are raised above the beach surface and high water line, where possible the welding will be planned to avoid high spring tides. The piled rollers also provide the opportunity to secure the HDPE pipe in place during (spring) high water. It is noted however that due to overwintering birds, this operation may need to be halted 2 hours either side of high tide. The distance between Talacre car park beach entry and the most eastern location on the beach site compound (i.e. sheave block at the end of the roller highway), is more than 700m.

4.5.1.5 Pilot Hole

When all site establishment activities are completed and the pipe is ready the drilling process can commence, the following key activities describe the process.

The first stage of the process is to drill a pilot hole from HDD entry point to HDD exit point, a drill bit with a bent section (see Figure 4.18) is used to make the pilot hole, directional control is achieved by orientating the bent section in the direction of desired drill path.

Figure 4.18 Typical Drilling Rig and Pilot Drilling Assembly

A steering tool will be located inside the drill bit to provide the driller with the real time information required. Sections of drill pipe are added to the rig each time drill pipe is installed; this process continues until the drill bit arrives at the exit pit. Drilling fluids are pumped down the drill string to jet the strata, cool the bit and flush out cuttings from the bore hole, the drilling fluids also maintain the integrity of the bore to prevent collapse. The bentonite that comes in contact with the surrounding soils creates a so called 'bentonite filter cake'. This is a thin, impermeable layer formed on the walls of permeable formations and acts as a barrier between the drilling fluid and surrounding rock, soil and/or groundwater.

The drilling fluid is cleaned of the cuttings at the mud plant located in the entry site and is circulated through the system continuously.

4.5.1.6 Reaming Phases

When the pilot is completed, the pilot drilling assembly is removed at the HDD exit point and replaced with a back reaming assembly. This back reaming assembly is drilled from the exit to the entry site again in sections of drill pipe which are removed one by one at the entry site, behind the reaming assembly extra drill pipes are added so that upon completion of the reaming phase a drill string remains inside the bore hole to ensure the drill path is not lost.

This process can be repeated several times to enlarge or clean the bore hole until the drilling team are satisfied that the bore hole is ready for pipe installation. Drilling fluids are also pumped constantly during this process to clean the hole of the cuttings and stabilise the bore hole.

Figure 4.19 Rear Reaming Assembly

4.5.1.7 Pull Back

When the reaming phase is complete the pipe pull back will commence, the pipe string in one continuous length is delivered the exit point of the HDD from the storage location on the foreshore, the pipe is pulled by one or more excavators until the 1st end arrives near to the exit point, then the pipe is aligned with the direction of the drilled hole. Rock bags or other may be used to keep the pipe in the required position and bend, prior entry at the exit point.

During this operation, all unauthorised personnel and public would be excluded from the work area. However, as working is planned around high tide, passage near the dunes and near the waterline remains possible for the public to pass this area via the PRoW. Figure 4.20 shows the approximate area of “no access”.

The pipe shall be connected to the drill string in the bore hole and then the pull back operation will be executed continuously until the pipe is fully installed. As with pilot drilling and reaming the drilling fluids are continuously pumped down the hole to lubricate the pipe and remove cuttings from the bore hole.

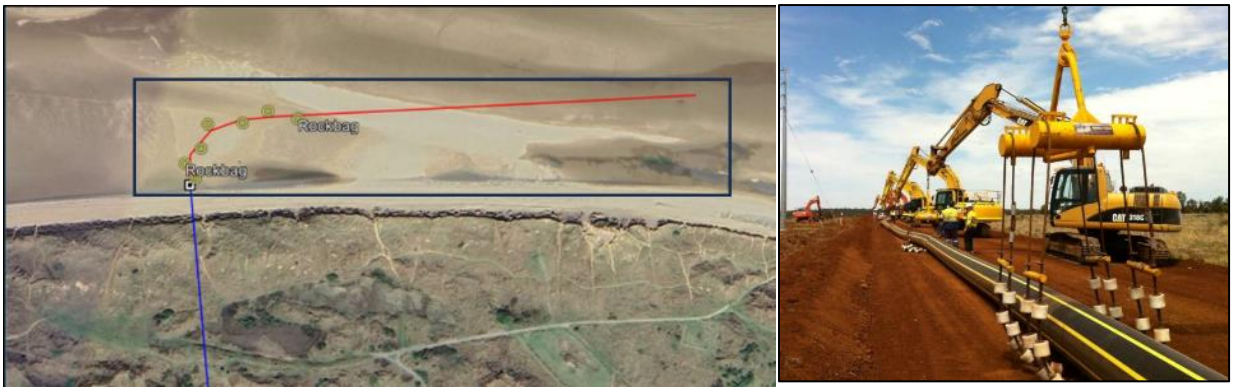

Figure 4.20 Pipe Repositioned for Pull Back

4.5.1.8 Drilling Fluid Management

Please see the details at Section 7.6.2.1.

4.5.1.9 Pipe Finalisation

On successful installation of the duct from exit to launch pit, a gauging swab will be used to prove the internal integrity ahead of cable pulling works, as shown in Figure 4.21.

The gauging swab is pushed through the installed duct using clean water pumped under pressure from the high-pressure mud delivery pump in the drill compound. The gauge (aluminium disk) will be sized at 90% of the inside duct diameter. Once the gauging swab has been pushed the duct any damage or deformation of the duct ID would in turn deform the gauge disk. No deformation of the gauge plate confirms the duct is installed with little or no internal defect.

Following successful passing of the gauging swab assembly, a second pass using a solid foam swab will be completed in the same manner. During this pass a messenger rope will also be installed and secured via the blanking pat each end of the duct ready for use during the cable installation operation.

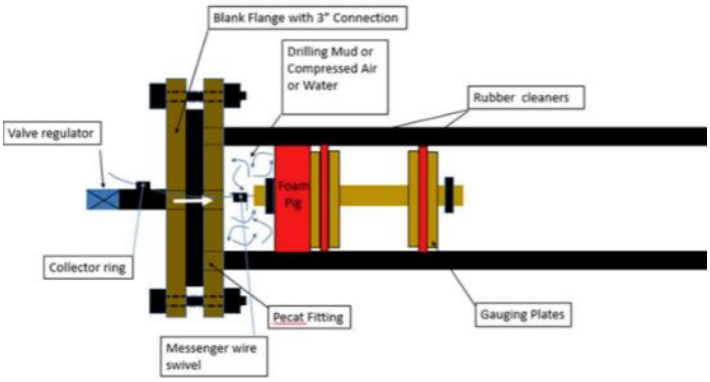

Figure 4.21 Schematic of Gauging Swab Assembly

Duct end sealing and capping will be completed using an end restraint flange adaptor and cover plate, as shown in Figure 4.22.

Figure 4.22 Flange Adaptor + Cover Plate Duct Seal

4.5.1.10 Equipment Demobilisation and Site Reinstatement

All equipment, including temporary fencing and signage will be removed upon completion of the works. Traffic and access management including an Outline CTMP has been consented under FUL/000246/23 and will be implemented for the execution of the HDD and cable installation works.

At the HDD entry site, the cable will be handed over back to the Employer, which will start jointing of the offshore cables onto the onshore cables. This scope is not part of the offshore contractor pulling-in the offshore cables at PoA. On the beach, both the cable and HDD has been brought to the required depth of burial and therefore will be covered by sand. Remaining equipment on the beach will be demobilised.

4.6 Construction Programme

In accordance with T-LV-019 and T-PH-010 – REAC, Table 4.3 comprises the current start and end date of all proposed construction activities to take place within this SoW, that is covering PoA Terminal construction, the Dune Valves replacement and the activities related to the HDD activities under the Station Road, the HDD activities under the Gronant Dunes and the Foreshore Cable lay in Talacre Beach.

Table 4.3 Construction Activity Start and End Dates

Activity	Start Date	End Date
PoA Terminal		
Contract Award	15-Apr-2025	
Site Handover (by Eni)	25-Apr-2025	
Site Preparation – FREE FLOW and COMPRESSION PHASE	12-Feb-2026	24-Jul-2026
Excavation and Backfilling – FREE FLOW and COMPRESSION PHASE	29-May-2026	09-May-2028
Dewatering System Installation – FREE FLOW and COMPRESSION PHASE	14-May-2026	20-Jun-2026
Piling – FREE FLOW and COMPRESSION PHASE	29-May-2026	05-Mar-2027
Sewer & Drainage System – FREE FLOW	02-Jun-2026	25-Mar-2027
Reinforced Concrete Works – FREE FLOW and COMPRESSION PHASE	06-Aug-2026	05-May-2027
Grouting & Roads – FREE FLOW and COMPRESSION PHASE	15-Jan-2027	09-May-2028
Concrete Paving – FREE FLOW and COMPRESSION PHASE	21-Oct-2027	09-May-2028
U/G Piping – Prefabrication, Installation & Test – FREE FLOW and COMPRESSION PHASE	10-Mar-2026	07-Sep-2027
A/G Piping &Support – Erection & Hydrotest – FREE FLOW and COMPRESSION PHASE	11-Feb-2027	23-Dec-2027
Pressure Vessel & GRP Tank Installation – COMPRESSION PHASE	31-Dec-2026	04-May-2027
Erection of Steel Structures – COMPRESSION PHASE	05-May-2027	06-Oct-2027
Other mechanical works – FREE FLOW and COMPRESSION PHASE	30-Oct-2026	05-Oct-2027
Insulation Works – FREE FLOW and COMPRESSION PHASE	21-Sep-2027	11-Jan-2028
Painting Works – FREE FLOW and COMPRESSION PHASE	07-Aug-2026	23-Dec-2027
Mechanical Completion Works – FREE FLOW and COMPRESSION PHASE	14-Jul-2027	23-Feb-2028
Commissioning Works – FREE FLOW and COMPRESSION PHASE	31-Aug-2027	27-Apr-2028
Warren Farm		
Excavation and Backfilling (laying of the power cable and FOC) – OUT OF PLANT AREA	01-Apr-2027	21-Jun-2027
HDD (laying of the power cable and FOC) – OUT OF PLANT AREA	13-Apr-2027	17-May-2027
Reinforced Concrete Works – OUT OF PLANT AREA	06-May-2027	22-May-2027
P908 Dune Valve Replacement	Apr-2027	May-2027
Gronant Dunes and Talacre Beach		
HDD Activity under Gronant Dunes	08-Feb-2026	31-Mar-2026

Figure 4.23 summarises the activities for the installation of the HDD Exit Pit on Talacre Beach and shows that the indicative programme is aiming to avoid the little tern breeding season by carrying out the HDD Conduit, and Exit Pit works during February and March 2026.

It also shows the assumptions, and environmental considerations factored into the planning of the works. The anticipated duration of each activity required for the installation of the HDD Exit Pit is shown. Detailed design and engineering may require minor modifications to the exact timing of the works.

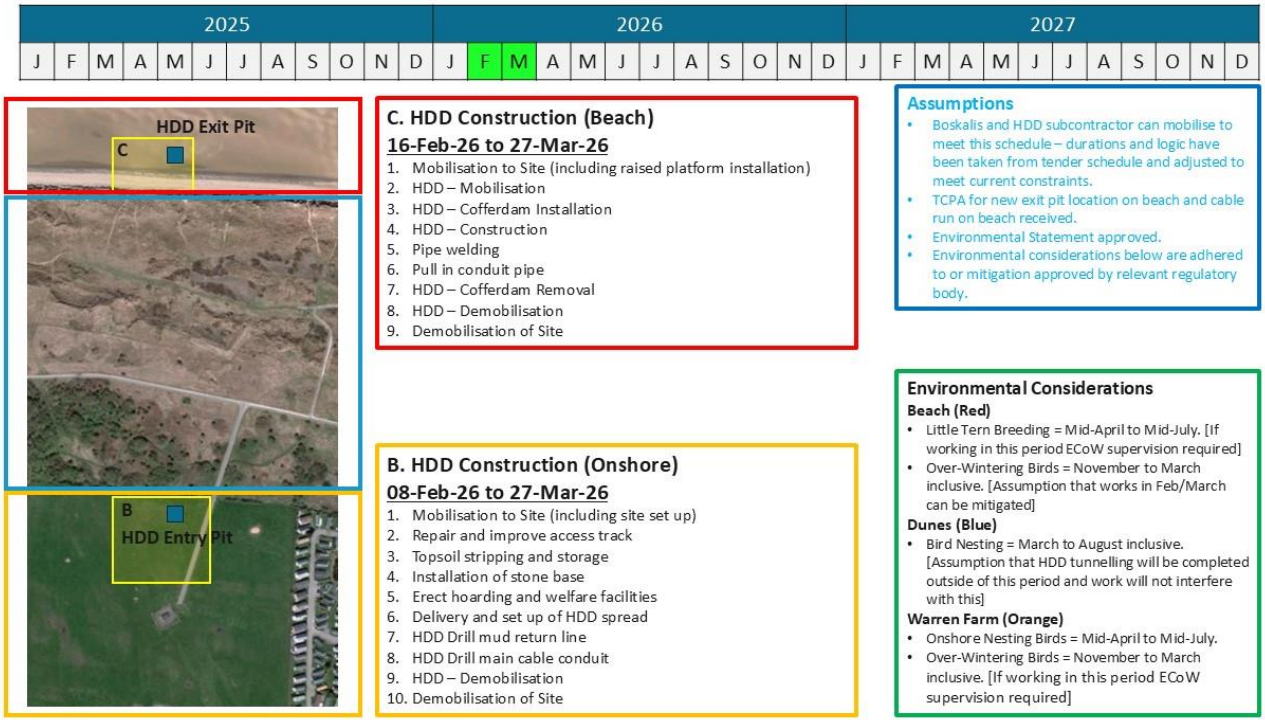

Figure 4.23 Summary Activities and Programme for Installation of HDD Entry Pit Recognising Environmental Sensitivities

The activities for the installation of the electrical cable on Talacre Beach and a detailed programme for these activities will be subject to the updated version of the approved CEMP (PoA Cable Route and Foreshore Works CEMP Rev05) that will be submitted to discharge Condition 5 of planning permission FUL/000705/25.

5.0 SITE SECURITY, SAFETY AND WELFARE

5.1 Working Hours

In accordance with T-PH-002 – REAC, the normal hours of working (including access and egress) on any part of the development during the construction period will be:

- 08:00 to 18:00 hours Monday to Friday (excluding bank holidays).
- 08:00 to 13:00 hours on Saturdays.

The following controls will also apply to the works:

- No works, including site deliveries and collections, will take place on Sundays or Public Holidays.

To maximise productivity within these working hours, the Contractor / Subcontractors will require a period of up to one hour before and up to one hour after core working hours for the start-up and close-down of activities. This will include, but not be limited to, deliveries, movements to place of work, unloading, maintenance and general preparation works. It will not include the operation of any plant or machinery likely to cause disturbance to local residents or businesses. These periods will not be considered an extension of the working hours.

Where practicable, all works will be undertaken during daytime hours from Monday to Friday (08:00 to 18:00) and on Saturdays (08:00 to 13:00). A shoulder hour on either side of these times will be proposed for start-up and close-down activities such as but not limited, to arrival and departure of workforce, site briefings, inspections and safety checks, clean-up, maintenance (non-noisy) and refuelling.

The HDD preparation works, including ground preparation, welfare, and fencing at Warren Farm and the beach area, are scheduled to take place on a 12-hour per day, 6 to 7 days per week basis. However, certain activities will require 24-hour operations throughout the week due to tight scheduling constraints related to tidal constraints on site access, minimise overlap with wintering bird season, and the intention to complete before the Easter holiday, which necessitates a more condensed timeline. This approach also helps address potential delays from high tide and aims to optimise operations while minimising disruption during sensitive periods for the little Tern population.
Drilling activities must be conducted continuously, as interruptions may lead to the drilling head becoming lodged and potentially leading to tunnel collapse. This could result in abortive work and the necessity to begin a new conduit separate from the original alignment, thereby extending the duration and impact of the HDD drilling. Demobilisation of HDD is expected to occur on a 12-hour per day schedule.
A typical 12-hour shift for 24 hour working is from 07:00 to 19:00, and 19:00 to 07:00. Therefore, during these periods of the works, 24-hour access, and egress, is required.

HDD conduit construction will commence in February 2026 for completion by April 2026 (Figure 4.23), which is outside of the Little Tern breeding season.

5.2 Site Set Up and Compound

In accordance with T-LS-023 – REAC, site setup works will include the establishment of secure site access, works signage, designated laydown areas, and a construction compound. The compound will be established in accordance with the Client's Health, Safety, and Environment (HSE) policy and procedures, where available. It will be set out and managed in accordance with T-PH-005 - REAC to minimise impacts on access to private properties, housing, and community facilities, as far as reasonably practicable. Full details can be obtained by reference to the Client's HSE procedures; however, as a minimum this will include the display of:

- Site Information / Services Plan.

- Traffic Management Plan.

5.2.1 Temporary Construction Compound

In relation to the HDD activities under Gronanat Dunes and foreshore cable lay in Talacre Beach Temporary Construction Compounds are planned at:

- Main site: Warren Farm: Main compound - HDD entry and cable installation works.
- Beach: Satellite compound – HDD exit and cable installation works.
- Talacre Car Park: (un)loading of larger equipment and crew parking.

Access to the Foreshore works will be from the Talacre Beach car park and along the base of the dunes via the route identified and consented under FUL/000246/23.

5.3 Fencing and Site Security

All work sites will be securely fenced or otherwise demarcated from public access. All fencing and hoarding will be suitable, taking into considerations, typically ‘post-and-rope’ fencing for arable land or appropriate stockproof fencing for grazed land. Urban sections or areas with increased levels of public interaction may use HERAS or similar. CCTV will be in place covering areas of risk, particularly access and egress points and any ongoing activities which could pose a H&S risk. All temporary fencing will be removed upon completion of the works.

At the beach demarcation from public assess is not practical due to the intertidal environment. Barriers placed within the intertidal area may come loose due to tide and become pollutant and risk for shipping. Site marshalls will keep an eye out on public and divert them and/or stop the works when too close in vicinity.

Physical screening of the working areas would only be employed where necessary to minimise visual disturbance to wintering birds.

5.4 Welfare Facilities

Welfare facilities will be made available at each Construction Compound. Welfare facilities may be shared between work sites where there is more than one compound in close proximity to minimise the construction footprint. The following welfare facilities will be provided on site:

- Separate Toilet for male and female – provided in all offices and mess hall buildings.
- Washing Facilities - Showers and hand wash basins are provided.
- Drinking Water – To be provided during execution at suitable locations (considered bottled drinking water or a water-maker to be supplied by catering Subcontractor).
- Changing rooms and Lockers – Provided for Contactor and Company personnels only within the office buildings.
- Rest Facilities: A dedicated room for resting is provided in the Contractor office. Additionally, in the Company office and TOF building, extra seating arrangements have been included in the pantry room.

Water conservation measures proposed for the welfare facilities are presented in Table 5.1.
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Table 5.1 Water Conservation Measures for Welfare Facilities

Efficiency Measure	Action
Water efficient fixtures	• Low-flow toilets, taps, and showers: Reduce daily water consumption. • Sensor-based or timed taps: Prevent wastage due to user negligence.
Leak detection and maintenance	• Routine inspections: Ensure early detection and repair of leaks in the welfare water supply network. • Metering and monitoring: Helps track usage and identify anomalies quickly.
Staff awareness and training	• Signage and briefings: Encourage water-saving behaviours among site personnel. • Incentivised conservation: Teams or projects may be rewarded for achieving conservation targets.

In accordance with T-WR-025- REAC, sewage generated from site welfare facilities will be disposed of in an appropriate manner. This may involve discharging it into the foul sewer network or collecting it in a septic tank for off-site disposal.

For Subcontractor personnels, only mess hall seating facilities have been considered. All other facilities related to Subcontractor personnels should be managed independently by the Subcontractor.

5.5 Consents and Permits

In accordance with T-GN-001 and T-PD-012 – REAC, Table 5.2 below shows the licenses, consents and permits applicable for this project. Copies of these will be retained on site and all conditions will be complied with as written and compliance tracked and documented where applicable.

Table 5.2 Consents and Permits

Licenses / Consents / Permits	Authority	Reference Number	Responsibility
Written notification of the date of commencement of any works on the site - Condition 2 Notifications as per 3.1. and 3.2	FCC NRW-ML	[FUL/000705/25] & FUL/000246/23 CML2365	LB CCS
Written notification of the date of the material start of each phase of development - Condition 2 Notifications as per 3.1. and 3.2	FCC NRW-ML		LB CCS
Town and Country Planning Permission CTMP - Condition 5	FCC	[FUL/000705/25] & FUL/000246/23	LB CCS
Arboricultural Method Statement - Condition 7	FCC	FUL/000246/23	Principal Contractor
CEMP approval - Condition 8 Condition 3.25	FCC NRW-ML	[FUL/000705/25] & FUL/000246/23 CML2365	Principal Contractor / LB CCS
Archaeological Mitigation Scheme - Condition 11	FCC	[FUL/000705/25] & FUL/000246/23	Principal Contractor

Licenses / Consents / Permits	Authority	Reference Number	Responsibility
Surface Water Drainage - Condition 16	FCC	[FUL/000705/25] & FUL/000246/23	Principal Contractor
Biosecurity Risk Assessment and Method Statement - Condition 17 Condition 3.25	FCC NRW-ML	[FUL/000705/25] & FUL/000246/23 CML2365	Principal Contractor
Noise and Vibration Management Plan - Condition 23 Condition 3.25	FCC NRW-ML	[FUL/000705/25] & FUL/000246/23 CML2365	Principal Contractor
Groundwater Investigation Consent	NRW	PAN-028867 - Point of Ayr Gas Terminal	Principal Contractor
Construction Environmental Permit for discharge to surface water – PoA	NRW	TBC	Principal Contractor
Section 61 Notice (only for works outside of core hours)	FCC	TBC	Principal Contractor
Abstraction Licence	NRW	TBC	Principal Contractor
Waste Carriers Licence - PoA* Held by waste contractors	NRW	TBC	Principal Contractor
Mobile treatment permit for crushing plant - PoA* Held by waste contractors	FCC	TBC	Principal Contractor
Badger Licence	NRW	TBC	Principal Contractor
Bat Licence	NRW	TBC	Principal Contractor

6.0 ENVIRONMENTAL ASPECTS

The key environmental sensitivities are summarised in this section, with consideration as to how this may be affected by the works that will take place onsite.

6.1 Ecology

Ecological surveys were conducted as part of the TCPA application during 2022. New and additional surveys for several notable species and habitats have been undertaken in 2024 and 2025, and the updated findings are summarised in Table 6.4 and Table 6.5. A Biosecurity Risk Assessment and Method Statement (where relevant) to be submitted under Requirement 17 of the Planning Conditions.

6.1.1 Designated Sites

The desk study identified five statutory nature conservation sites of international importance within 10km of the TCPA RLB for the PoA Terminal, including:

Table 6.1 Statutory and Non-Statutory Designated Sites

Site	Designation	Distance from Site
Statutory Designated Sites		
Dee Estuary/Aber Afon Dyfrdwy	Site of Special Scientific Interest (SSSI)	Within RLB
The Dee Estuary	Special Protection Area (SPA) & Ramsar	Within RLB
Dee Estuary/Aber Dyfrdwy	Special Area of Conservation (SAC)	Within RLB
Gronant Dunes and Talacre Warren	SSSI	Within RLB
Liverpool Bay/Bae Lepwl	SPA	Within RLB
Mersey Narrows and North Wirral Foreshore	SPA and Ramsar	7.0km
Halkyn Mountain/Myndd Helgain	SAC	8.7km southeast
Dee West	Shelfish Protected Area	500m
NVZ ID: 135 (Groundwater)	NVZ	1,600m southwest
Non-Statutory Designated Sites		
Dee Estuary	RSBP Reserve	270m east
Gronant Dunes	Local Nature Reserve (LNR)	1.4km
Tanlan Banks and Ffynnongroyw Woods	Wildlife Site (WS)	757m south
Big Pool Wood	North Wales Wildlife Trust Reserve	1km
Talacrew Abbey and Woods	WS	824m southwest

6.1.2 Intertidal Habitats

The HDD Exit Pit will be located on the habitat types (LS.LSa.MuSa Polycheate_bivalve-dominated muddy sandy shores, and Mosaic: 85% LS.LSa.MoSa Barren or amphipod-dominated mobile sandy shores, 15% LS,LSa.MuSa Polycheate bivalve dominated muddy sandy shores), as shown in Figure 6.1.

While all intertidal flats at Talacre form part of the qualifying SAC habitat H1140, the mobile/barren sand biotopes, in which the HDD Exit Pit will be located, are of comparatively lower ecological value. This is because of their low species richness and opportunistic fauna. Whereas muddy sand flats with Macoma and Arenicola are of higher conservation importance owing to their biodiversity, structural complexity and critical function in supporting internationally important bird populations.

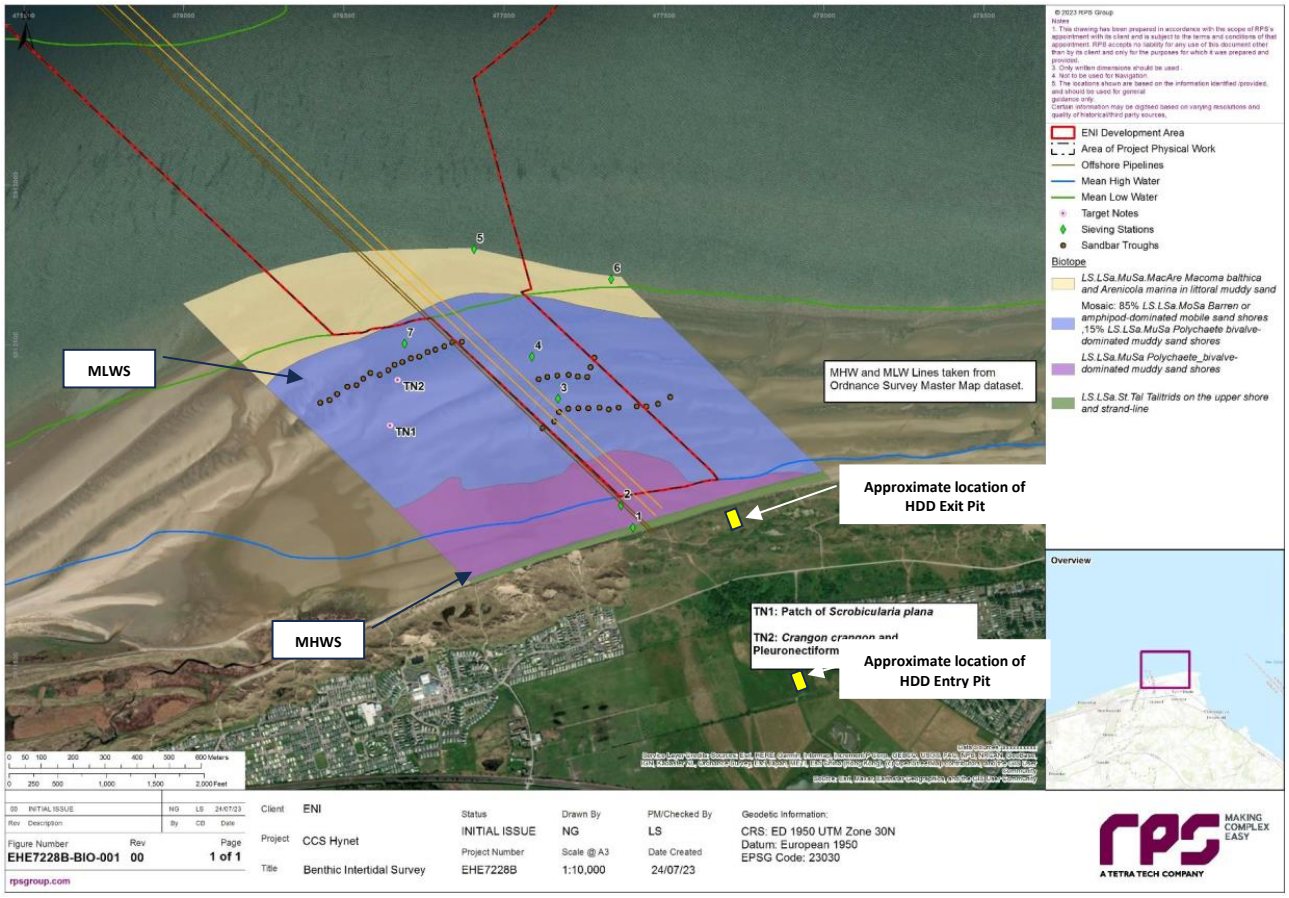

Figure 6.1 HDD Exit Pit in relation to Habitat Types for Talacre (Dee Estuary, Annex I 1140 Habitat)

Liverpool Bay CCS Limited recognise that ecological value can mean slightly different things depending on context (conservation importance, biodiversity richness, functional role, designation sensitivity). Notwithstanding, to demonstrate that the HDD Exit Pit will be in an area of 'lowest' ecological value within the red line boundary, Table 6.2 presents estimations of the relative value of the categories of habitats at Talacre Beach (Dee Estuary, Annex I 1140 habitat).

Table 6.2 Relative 'Ecological Value' of Habitat Types for Talacre (Dee Estuary, Annex I 1140 Habitat)

Habitat Type	Estimation of relative value
Mobile / barren sand shores (amphipod-dominated)	• **Biodiversity:** Typically **low** – sparse infauna, sometimes dominated only by amphipods (*Bathyporeia* spp.) or essentially barren due to sediment mobility. • **Functional role:** Important as prey base for some fish and shorebirds, but overall **less structurally complex** and supports fewer specialist species. • **Conservation value:** Generally considered the **lowest ecological value** of the listed types because of low species richness and high natural disturbance.
Polychaete–bivalve dominated muddy sand / Mixed muddy sand (Macoma balthica, Arenicola marina)	• **Biodiversity:** Much richer; supports **diverse polychaetes, bivalves, and bioturbators**. • **Functional role: High** – influences sediment structure, nutrient cycling, and provides food for waders and fish. • **Conservation value: Higher**, especially since *Macoma* flats are recognised as important prey grounds for estuarine birds.
Strand-line (talitrids, beach hoppers)	• **Biodiversity:** Often dominated by talitrid amphipods but linked to **wrack and detrital processing**. • **Functional role: Significant** as part of the wrack-associated food web (e.g., birds, beetles). • **Conservation value: Higher** than "barren sand," though patchy.

Therefore, among the Talacre Beach habitats, the mobile / barren sand shores (amphipod-dominated), in which the HDD Exit Pit will be located, can be considered of the 'lowest' ecological value, due to low species richness, simple trophic structure, and high natural disturbance making them less critical for conservation relative to muddy sand flats and strand-line habitats.

Table 6.3 provides a summary of some of the UK reference sources that support the notion that the mobile / barren sand / amphipod-dominated biotopes are lower in ecological value, in terms of species richness, functional complexity, and sensitivity, especially compared with, for example, muddy-sand flats with Macoma, Arenicola, etc.

Table 6.3 Reference Sources supporting 'Lower' Ecological Value or Mobile/Barren Sands

Reference source	Key points from reference source	Evidence for how it supports "lower ecological value" for mobile/barren sands
JNCC Biotope: "Barren or amphipod-dominated mobile sand shores" (biotope type LS.LSa.MoSa)	Describes the habitat as "mobile sands … limited range of species … barren, highly mobile sands to more stable clean sands supporting communities of isopods, amphipods and a limited range of polychaetes." (https://mhc.jncc.gov.uk/biotopes/jnccmncr00001522)	Indicates that species richness is low; the community is relatively simple and dominated by opportunistic fauna. Such simplicity often correlates with lower conservation priority relative to richer biotopes.
MarLIN: "Amphipods and Scolelepis spp. in littoral medium-fine sand" (LS.LSa.MoSa.AmSco)	Assesses sensitivity to changes (e.g. salinity) as "Low", with "High" resilience. That is, the habitat can recover well from disturbance and is not highly sensitive. (Amphipods and Scolelepis spp. in littoral medium-fine sand - MarLIN - The Marine Life Information Network)	A habitat that is not very sensitive, with high resilience, often implies lower ecological "risk" or lower ecological "value" in trade-off terms, since loss or disturbance is less damaging in the long-term compared to sensitive habitats.
MarLIN: "Infralittoral mobile clean sand with sparse fauna"	Characterised by a scarcity of species resulting from sediment mobility and abrasion. Fauna are transient, opportunistic. (Infralittoral mobile clean sand with sparse fauna - MarLIN - The Marine Life Information Network)	Sparse fauna, opportunism, high disturbance regime — all hallmarks of a lower complexity, lower ecological value biotope. Such habitats contribute less in terms of stable structure and specialized ecosystem services.

Reference source	Key points from reference source	Evidence for how it supports "lower ecological value" for mobile/barren sands
MarLIN: "Barren littoral coarse sand"	Notes that coarse sands drain rapidly, have low water and organic content, and high sediment mobility; macrofaunal community is mostly lacking. (Barren littoral coarse sand - MarLIN - The Marine Life Information Network)	Nearly barren, few faunal elements, largely abiotic environment. Clearly lower faunal biodiversity and lower functional complexity.

6.1.3 Other Habitats of Conservation Importance

The desk study identified ten areas of Ancient Woodland within 1km of the TCPA RLB for the PoA Terminal. This included six Restored Ancient Woodland sites and four Ancient and Semi-Natural Woodland sites. None were within or directly adjacent to the TCPA RLB.

A UK habitat classification survey was conducted between the 17th – 19th September 2024 and identified the following habitats:

- Developed land – Developed land; sealed surface and artificial unvegetated, unsealed surface
- Vegetated urban land – sparsely vegetated urban land, vacant or derelict land and open mosaic habitats on previously developed land
- Modified grassland
- Other neutral grassland
- Mobile Dunes
- Dune Slacks
- Intertidal habitat
- Dense scrub and introduced shrub
- Other broadleaved woodland
- Ponds
- Hedgerows
- Ditches

Table 6.4 Summary of Habitats Present

Feature	Summary
Developed Land	Developed land within the Site is almost entirely devoid of vegetation and is concentrated around the gas terminal. It primarily comprises several roads or access tracks (including Station Road) and more extensive areas of hardstanding including an abandoned car park to the south of the former colliery.
Vegetated Urban Land	Aside from a small species-poor compound area to the north-west of the Site, the majority of vegetated urban land is located south of the terminal. One of these areas is a large (c.0.5 ha) rectangular area, presumably an infrequently used car park, which is surrounded by woodland. The other is a larger, amorphous area of disused colliery land which merges into surrounding scrub.
Dense scrub and introduced shrub	In relation to the PoA Terminal facilities and in several places, though almost entirely around the disused colliery, land has been abandoned, unmanaged or less intensely grazed for a longer period of time, and a much more substantial volume of dense scrub has developed. There are some small areas dominated by Bramble to the south-west of the Site, but the majority is a mix of species, with the non-native species Entire-leaved Cotoneaster and Butterfly-bush dominating in areas closer to the centre of the disused colliery, and more native species extending out from the edges of woodland. In relation to the HDD activities under Gronanat dunes and foreshore cable lay in talacre beach, to the south of the access track, the habitat consisted predominantly of dense scrub classified as h3h mixed scrub in UKHab and A2.1 dense/continuous scrub in Phase 1. There were also some more open patches, dominated by false oat-grass Arrhenatherum elatius between less dense scrub patches and towards the north-east of the mapped dense scrub area. The scrub consisted mostly of bramble Rubus fruticosus, with frequent sycamore Acer pseudoplatanus, hawthorn Crataegus monogyna and grey willow Salix cinerea. Some individual larger trees or small tree groups were also present and were recorded and condition assessed separately for use during NBB assessment. The habitat in this area comprises a mosaic of MG1 Arrhenatherum elatius grassland, W24 Rubus-Holcus undershrub, W2 Salix-Betula-Phragmites woodland and W6 Alnus-Urtica woodland.
Modified grassland	The majority of grassland on the Site is species-poor semi-improved or improved grassland, fitting the description of modified grassland. By far the largest areas are to the north-west of the Survey Area, in fields which at the time of the survey were being grazed by cattle. Further to the south around the entrance to the terminal, there are several areas of non-agricultural modified grassland, managed as access tracks through woodland or grassland verges alongside the paths and roads. In relation to the HDD activities under Gronant Dunes and the Foreshore cable lay in Talacre Beach to the south of the dense scrub, there was a large, pasture field at Warren Farm, classified as g4 modified grassland in UKHab and B4 improved grassland in Phase 1. It is not within the Site but is within the Survey Area. The field was species-poor and dominated by perennial rye-grass Lolium perenne and white clover Trifolium repens, giving a close match to the NVC community MG7 Lolium perenne leys.
Other neutral grassland	Some of the non-agricultural modified grassland around the terminal merges into slightly less species-poor grassland.

Feature	Summary
Dunes	The foredunes habitat type equates to UKHab s3a5 embryonic shifting dunes, Annex I embryonic shifting dunes (H2110) and NVC communities SD4 Elymus farctus ssp. boreali-atlanticus foredune community and SD5 Leymus arenarius mobile dune community. There is no separate classification to separate this habitat type from open dunes in Phase 1 methodology. Embryonic shifting dunes were recorded along the seaward edge of the dunes in 2021/22 (with small amounts of the NVC SD4 Elymus farctus ssp. boreali-atlanticus foredune community being present) but were absent in 2025 during the walkover. Kim Norman of ENI informed the surveyors that large sections of foredunes had collapsed during storms over the winter of 2024/25, which accounted for the absence of embryonic shifting dunes. The majority of habitat within the Survey Area was classified as s3a6 shifting dunes with marram (UKHab). This equates to H6.8 open dune in Phase 1 and constitutes the Annex I habitat; shifting dunes with marram (H2120). Within the shifting dunes with marram/open dunes there were three well-defined dune slacks in the eastern half of the Survey Area. These were classified as humid dune slacks s3a3 within UKHab and dune slack H6.4 in Phase 1. This habitat constitutes the Annex I habitat, humid dune slacks (H2190). The middle slack was partially enclosed by a post and wire fence around its northern section, whilst the southern section was un-fenced. Consequently, the vegetation coverage was far thicker in the fenced section, at the time of the walkover, with a thick carpet of pointed spear-moss Calliergonella cuspidata present within the fenced area. SD14 Salix repens-Campylium stellatum dune slack community and the SD16 Salix repens-Holcus lanatus dune slack community were recorded within the dune slacks. Areas dominated by pointed spear-moss would also seem to indicate an affinity with the SD15 Salix repens-Calliergon cuspidatum dune-slack community. A long, narrow strip of short grassland, which ran east to west across the middle of the shifting dunes with marram/open dunes and between two of the dune slacks was recorded during the walkover. This shorter grassland was dominated by red fescue Festuca rubra and was classified as s3a7 dune grassland in UKHab, which equates to H6.5 dune grassland in Phase 1 and comprises the Annex I habitat, dune grassland (H2130).
Intertidal habitat	Immediately to the north of the open dune/shifting dunes with marram, the Survey Area encompassed a strip of beach. This strip would be classified as t2d5 intertidal mudflats and sandflats in UKHab and as H1.1 intertidal mud/sand in Phase 1. This habitat constitutes Annex I intertidal mudflats and sandflats (H1140). The mud and sand habitat extends northwards towards the sea covering most of the intertidal area.
Other broadleaved woodland	The majority of the woodland on the Site is semi-mature and had such a dense understorey, that it was mostly inaccessible and had to be surveyed from the outside alone.
Ponds	Despite several large ponds in the wider landscape, only one shallow but presumably permanent pond was recorded on the Site within an area of hardstanding.
Hedgerows	There are several hedgerows around and on the Site. Most are along the boundaries or only just within the Site, though there is one just to the west of Station Road which cuts across the route. This hedge and others in that area are mostly heavily managed and species-poor with Hawthorn and Blackthorn being the most abundant species. There are also some non-native or only partly native hedgerows, most notably surrounding an abandoned car parking area to the south-east of the Site. Only two of the hedges on or very close to the Site were species-rich, both being short but relatively tall and wide, and both located just to the south-west of the terminal.
Ditches	There are three main ditches on the Site, one to the north along a field boundary crossed by the route, and two extensive ditches all around the south-west of the terminal, culverted multiple times under roads and pathways. The ditch to the north of the Site held some water, but was relatively minor and choked with tall, dense vegetation, with only a few areas of open water. The ditches to the south-east of the Site are much more substantial (c.7 metres wide from bank to bank, with a c.4-metre-wide stretch of water) and included a wider variety of vegetation except where heavily shaded by surrounding woodland.

6.1.4 Protected and Notable Species

6.1.4.1 Badgers

Badger surveys were undertaken on August 27th and October 11th, 2024, by a suitably qualified ecologist to provide updated baseline information. Seven badger setts were recorded during the two surveys. Badger bait marking will be undertaken in March / April 2025 to inform a licence submission, and outcomes of this will be included within an Ecological Management Plan (EMP) [Ref 19].

The scrub habitat present within the RLB presents suitable foraging and sett building habitat for badger. Badgers are also known to build setts in sand dunes. Whilst no setts have been recorded within the Survey Area, the presence of badgers cannot be discounted.

6.1.4.2 Bats

A Preliminary Risk Assessment for bats has been undertaken and identified a building inside the Poa Terminal with low potential for roosting. A dusk survey was undertaken on this building in May 2025, and results included within an EMP [Ref 19].

Surveys carried out in the vicinity of the proposed HDD Entry Pit, and HDD Exit Pit have found no bat activity within 500m of the works areas. Bat foraging was observed around 650m to the south west of the HDD Entry Pit, potentially associated with confirmed bat roosts in farm buildings on Station Road. Regular monitoring of the roosts will be carried out by an ECoW and that if it appears the colony has moved, or is being disturbed by the works, then contractors will follow advice from the ECoW.

Notwithstanding, the Applicant confirms that lighting mitigation measures, to address ecological sensitivities, are presented in Appendix D - Lighting Management Plan.

6.1.4.3 Birds

Habitats within the Red Line Boundary of the proposed Foreshore, Warren Farm and PoA terminal works may have the potential to support nesting/roosting/overwintering bird species. The Dee Estuary SPA and The Dee Estuary Ramsar are located within the Red Line Boundary and are designated specifically for their bird assemblages. Therefore, breeding and wintering bird surveys have been undertaken to inform of the presence, distribution and population size of Annex I species within the Red Line Boundary. The potential therefore exists for direct physical impacts (e.g. loss of nests) and indirect impacts (e.g. disturbance to nesting birds through light spill and noise) to birds during construction.

Field surveys were undertaken as part of a Habitats Regulation Assessment [Ref 4] within the Red Line Boundary, which includes the PoA Terminal and the former PoA Colliery site to the south and south-east of the Terminal sand dunes, mud and sandflats, wetlands, improved grassland, scrub and ex-industrial land. Two transects were undertaken monthly from April 2021 to March 2022 and concluded that construction activities have the potential to affect Little Tern, Redshank, Teal, Pintail, Oystercatcher, Dunlin, Black-tailed Godwit, and Curlew. In addition, some temporary habitat loss could affect Redshank, Oystercatcher and Dunlin. If incurred at sensitive times of the year for these species, could affect breeding, passage or overwintering behaviours and, in turn, affect the long-term survival of the bird populations present. These would be in direct contravention of the conservation objectives of the SPA and Ramsar sites.

Cetti's Warbler

Liverpool Bay CCS Limited can confirm that HDD works at Warren Farm are unlikely to be within 25m of the habitat identified as suitable for Cetti's warbler. Furthermore, the main works in Warren Farm are not scheduled to coincide with the breeding (late March to Mid-April), and peak nesting (April to June) periods for Cetti's warbler.

Barn Owl

Several surveys for Barn Owl were undertaken during 2022 within suitable trees and structures located within the Red Line Boundary or connected to the Proposed Development via suitable habitat.

No trees with suitable features to support barn owls were recorded. Barn Owls were found to be present within the buildings at Location 1, which also contained signs of occupation including feathers, droppings and pellets but breeding was not conclusively confirmed. At location 2, feathers, feeding remains, pellets and droppings were present and breeding was confirmed.

This will be detailed within an EMP [Ref 19].

Wintering Birds

Figure 6.2 below presents the wintering bird survey numbers at Warren farm from the last two winters (2024 and 2025) up to 9th December 2025.

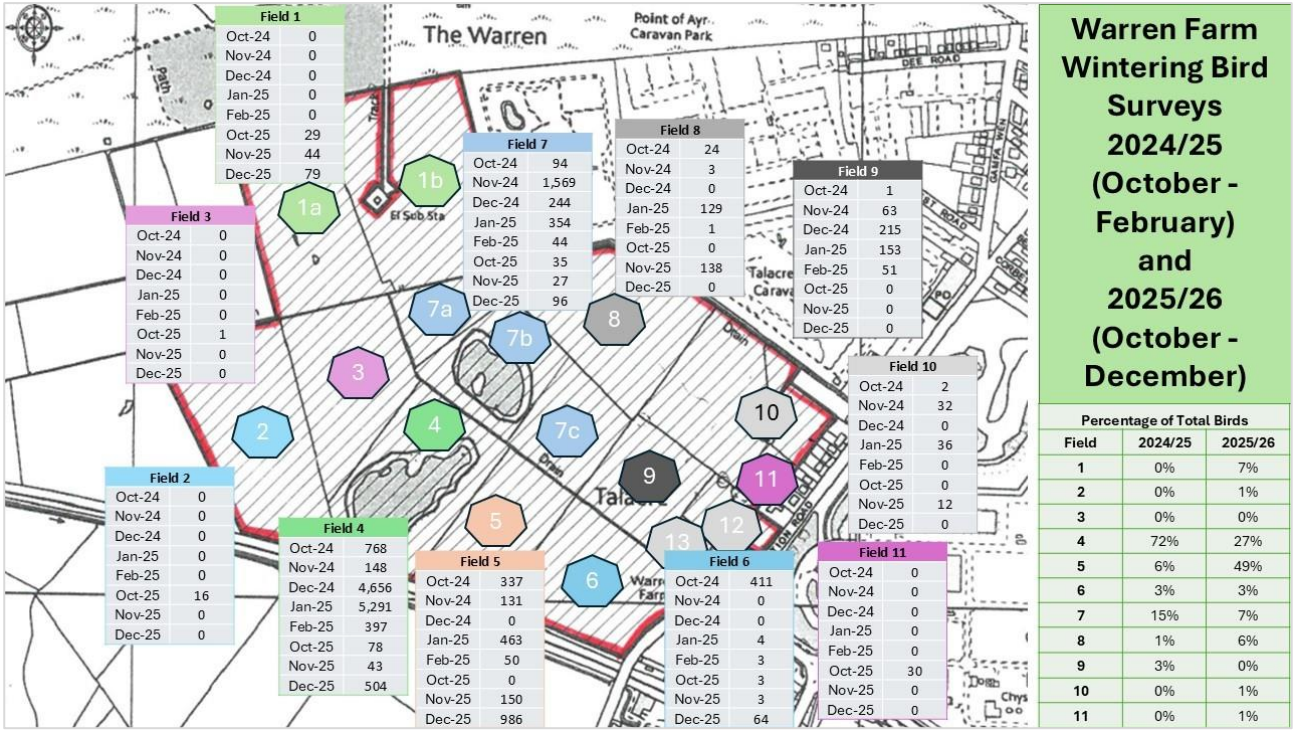

Figure 6.2 Wintering Bird Numbers at Warren Farm for Winters 2024 and 2025

6.1.4.4 Otter

A Riparian Mammal survey was undertaken on September 3rd, 2024, and found habitats on and adjacent to the site to be suitable for otter. Although there were no definitive signs of otter identified (i.e., spraints or footprints), their presence cannot be ruled out as a potential otter couch/rest area was recorded within the

survey area and, large areas of the watercourses could not be surveyed fully due to the density of vegetation. In addition, previous surveys of the site completed by WSP in 2022 identified a spraint and possible resting area on the Talacre Brook Centre as well as a spraint on the bank of the Penstock Lagoon. As such, otters are likely to frequent the area. An additional survey will be undertaken in April 2025, and the outcome of this will be detailed within an EMP [Ref 19].

6.1.4.5 Water Vole

A Riparian Mammal survey was undertaken on September 3rd, 2024, and found habitats on and adjacent to the site to be suitable for water vole. However, no field signs of water vole were recorded during the survey. An additional survey is required in April 2025 to get a second confirmed false outcome of findings, this will be detailed within an EMP [Ref 19].

6.1.4.6 Summary of Baseline Species and Habitats

Table 6.5 Summary of Baseline Species and Habitats

Species, Species Group or Habitat	Baseline Summary
Non-Native invasive plant species	Wall cotoneaster was recorded within the dense scrub in the Colliery Area.
Bats	The plantation woodland edges and areas of dense scrub around the perimeter of the Terminal provide suitable foraging habitat for bats.
Breeding and wintering birds	The majority of the RLB covers the Terminal, which does not provide suitable habitat to support breeding or wintering birds. However, habitats present in the land surrounding the Terminal, such as the scattered trees, dense and scattered scrub, and plantation woodland, provide nesting and foraging opportunities for a variety of bird species. Ponds and wet ditches can also act as foraging/roosting and nesting places for waterfowl. Warren Farm remains a working farm with a tenant farmer. Generally, the farm holds grazing cattle during the summer months and sheep during the winter, when the cattle are kept inside various sheds. The fields are designed to be seasonally flooded from September to March via an irrigation system installed when the gas pipeline was laid. The irrigation system was constructed as part of the mitigation works for the PoA gas terminal. As a result, new habitats have been created which, when flooded, are ideal for feeding and roosting waders and wildfowl. The two large, lined ponds are provided for waders and wildfowl throughout the winter period. Wildfowl species usually present include teal, wigeon, mallard, tufted duck, shoveler and pintail. Wader species include curlew, oystercatcher, redshank, lapwing and black-tailed godwit. The hedgerows surrounding the farm support foraging migratory thrush and passerine species such as redwing and fieldfare. The seven key species at Warren Farm are teal, mallard, oystercatcher, golden plover, curlew, lapwing and redshank. A further two species of increasing significance, black-tailed godwit and wigeon have also been included as key species in more recent years.
Badger	Badger field signs and associated activity were recorded within the RLB, including active setts, footprints, guard hairs, and mammal paths. Badgers are also known to build setts in sand dunes. Whilst no setts have been recorded within the Survey Area, the presence of badgers cannot be discounted.
Amphibians	Suitable terrestrial habitat was recorded within the RLB surrounding the Terminal, such as woodland and sense scrub, which could support foraging and sheltering Great Crested Newts (GCN).

Species, Species Group or Habitat	Baseline Summary
Reptiles	Habitats within the PoA Terminal were considered sub-optimal. However, surrounding the Terminal areas of scrub and woodland within the RLB were assessed suitable to support reptiles, with rides and paths through the scrub/woodland, woodland edge habitat and scrub/grassland interfaces.
Otter and water vole	There were four wet ditches recorded within the PoA Terminal RLB which could provide suitable foraging and community habitat for otter and/or water vole. The earth banks of the ditches may also provide burrowing habitat for water vole. There are no watercourses present within the HDD activities under Gronanat dunes and Foreshore cable lay in Talacre Beach survey Area. However, the scrub and dune habitat provide suitable foraging and commuting habitat for otters. The presence of otters cannot be discounted due to the suitable watercourses in proximity of the Survey Area. There was no suitable habitat for water voles within the above Survey Area.
Invertebrates	The scattered scrub and hardstanding habitat to the south of the Terminal has the potential to support a variety of notable invertebrate species. The Dee Estuary SSSI is located partly within the RLB and is designated for the presence of the sandhill rustic moth.
Aquatic receptors	Three wet ditches and three ponds were recorded within the Red Line Boundary. Two ponds were within the Terminal and surrounded by buildings and hardstanding. The third was to the south within an area of previously developed land consisting of hardstanding and scattered scrub. The wet ditches were around the Terminal perimeter within the plantation woodland. A further two ponds and one ditch are present in the wider area. There is the potential for these waterbodies to support fish, macroinvertebrates and macrophytes. Sea lamprey Petromyzon marinus and river lamprey Lampetra fluviatilis are qualifying features for the designation of the Dee Estuary SAC, which lies within a small section of the PoA Terminal Red Line Boundary.

6.1.5 Invasive Non-Native Species

Schedule 9 invasive cotoneaster species', particularly Entire-leaved Cotoneaster (Cotoneaster integrifolius), are abundant within and around the area to the south of the gas terminal. Before any work takes place within the disused colliery, a detailed invasive species management plan, and possibly a more detailed further survey to inform that plan will be required to avoid the illegal spread of this species into the wild.

National Biodiversity Network (NBN) data (2023) indicated no INNS are present within the Proposed Development area. However, within the wider area of the Proposed Development, Liverpool Bay is known to have INNS present within ports and harbours. As the Proposed Development will require the use of vessels during the construction, operational and maintenance, and decommissioning phases, INNS that have been identified within ports and harbours have been listed on a precautionary basis. Non-Native Species known to be present throughout Liverpool Bay include:

- American lobstor *Homarus Americanus*
- Chinese mitten crab *Eriocheir siensis*
- Wakame *Undaria pinnatifida*
- Slipper limpet *Crepidula fornicata*
- Japanese skeleton shrimp *Caprella mutica*
- Wireweed *Sargassum muticum*
- Pacific oyster *Crassostrea gigas*
- Acorn Barnacle *Elminius modestus*

- Bay barnacle *Amphibalanus improvisus*
- Bryozoan *Bugulina simplex*
- Bryozoan *Bugulina stolonifera*
- Carpet sea squirt *Didemnu vexillum*
- Colonial sea squirt *Aplidium cf. glabrum*
- Compass sea squirt *Asterocarpa humilis*
- Chain Tunicate *Botrylloides violaceus*
- Darwin's barnacle *Austrominius modestus*
- Devil's tongue weed *Grateloupia turuturu*
- Green sea fingers *Codium fragile fragile*
- Polychaete *Goniadella gracilis*
- Orange-striped anemone *Diadumene lineata*
- Orange-tipped sea squirt *Corella eumyota*
- Red ribbon bryozoan *Watersipora subatra*
- Tufty buff byozoan *Tricellaria inopinata*
- Trumpet tubeworm *Ficopotamus enigmaticus*
- Leathery sea squirt *Styela clava*

A Terrestrial INNS Management Plan is included within APPENDIX K.
A Biosecurity Risk Assessment and Method Statement is being prepared [Ref 25] and will submit to FCC to discharge planning condition 17. This is also for a Marine licence CML2365 and will be submitted to Flintshire County Council, and Natural Resources Wales, related to the cable Lay Vessel (CLV). Adherence to the MARPOL regulations (inspection history), anti-fouling coating and management of ballast water are considered to limit introduction or spread of INNS (see APPENDIX M).

6.1.6 Arboriculture

An Arboricultural survey was undertaken on July 9th and 10th by a qualified Professional Tree Inspector. An Arboricultural Method Statement (AMS) [Ref 24] and Tree and Hedgerow Protection Plan [Ref 22] will be produced and submitted to FCC to discharge planning condition 7.

6.2 Nuisance

6.2.1 Residents and Local Community

Given the location and nature of the development, construction activities may affect nearby residential properties. The sensitivity of each receptor will depend on their location and proximity to the site and identified transport routes. Potential issues include:

- Mud on roads spread by construction traffic.
- Excessive or poorly directed light.
- Litter.
- Dust and fumes from transport and construction activity.
- Noise and vibration from transport and construction activity.
- Traffic and transport disruption.
- Disruption to business.
- Reduction of access to amenity space.

Given the existing use of the PoA terminal, the project is not expected to cause a permanent nuisance. However, temporary nuisances during the construction activities are likely to the surrounding receptors. These include:

- Talacre Beach Resort and holiday homes
- Silver Birch Caravan Park
- Presthaven Beach Resort
- Residents in Gwespyr Village, Flintshire

Measures and mitigation for managing nuisances during Construction Phase are detailed in Section 7.3.

6.2.2 Air Quality

Atmospheric emissions from the activities carried out during Construction Phase will depend on both the potential for emissions (the type of activity and prevailing conditions) and the effectiveness of control measures. Generally, two sources of emissions need to be controlled to minimise the potential for adverse environmental effects:

- Exhaust emissions from site plans, equipment and vehicles.
- Fugitive dust emissions from site activities.

6.2.2.1 Exhaust Emissions from Site Plans, Equipment and Vehicles

The operation of vehicles and equipment powered by internal combustion engines results in the emission of exhaust gases, including nitrogen oxide (NOx), particulate matters (PM_{10}), volatile organic compounds (VOC), and carbon monoxide (CO). Emission levels depend on factors like engine type, service history, pattern of usage and fuel composition. While exhaust emissions will occur from site activities, they are not expected to be significant compared to emissions from vehicle movements on surrounding roads. Construction Phase traffic will include haulage and construction vehicles, as well as vehicles for workers' commutes.

6.2.2.2 Fugitive Dust Emissions from Site Activities

Fugitive dust emissions arising from construction activities depend on the type and extent of activities, soil type, moisture levels, road surface conditions and weather. Dry weather combined with high winds can increase dust generation. Key activities that may produce dust on site include:

- Earth moving, due to the handling storage and disposal of soil and subsoil materials.
- Construction aggregate usage, due to the transport, unloading, storage and use of dry and dusty materials (such as cement and sand).
- Movement of heavy site vehicles on dry or untreated haul roads.
- Movement of vehicles over surfaces where muddy materials have been transferred off-site (for example, onto public highways).

Fugitive dust arising during the Construction Phase can potentially impact upon human health.

A Dust Management Plan (DMP) detailing full risk and controls for the Construction Phase is included in APPENDIX A. Measures and mitigation for managing air quality during construction are detailed in Section 7.3.1.

6.2.3 Lighting

A Lighting Management Plan detailing full risk and controls for the Construction Phase is included in APPENDIX D. Control measures and mitigation for managing lighting during Construction Phase are detailed in Section 7.3.2.

During construction, task orientated lighting will be used in shifts at the lowest luminosity necessary for safe delivery of each task i.e. it will not be continuous. It will be designed, positioned, and directed to reduce the intrusion into adjacent properties and habitats. The exception to this will be at trenchless crossings where 24-hour working will be required for the actual drilling activity. The overall duration of works at each site will be an approximate 4-weeks at each location. It is therefore considered temporary in nature and unlikely to result in significant effects. Control measures and mitigation for managing lighting during the cable laying activities are detailed in Section 7.3.2.

6.2.4 Noise and Vibration

Noise and vibration from construction activities, including equipment and vehicular movements, have the potential for short-term impacts. To manage these, standard construction methodologies are to be employed to control noise and vibration during Construction Phase in accordance with current legislation and standards including British Standard 5228-1:2009+A1:2014: ‘Code of Practice for noise and vibration control on construction and open sites – Noise’.

The Control of Pollution Act 1974 (COPA 74) gives local authorities power for controlling noise and vibration from worksites. If deemed necessary by the Local Planning Authority a Section 61 consent may be used to agree on methods, times, durations and noise levels with the client. A Section 61 prior consent would need to be used prior to work starting. The lead period for this to be determined is 28 days, meaning that any application to work outside of the permitted hours, shall be required giving at least 28 days’ notice.

A Noise and Vibration Management Plan detailing full risk and controls for the Construction Phase is included in APPENDIX F. Control measures and mitigation for managing noise and vibration during construction are detailed in Section 7.3.3.

6.2.5 Traffic, Transport and Public Rights of Way

A Worker Travel Plan detailing full risk and controls for the Construction Phase is part of the CTMP and can be found in APPENDIX L.

6.2.5.1 Traffic and Transport

The area around the PoA Terminal is well-connected by the existing infrastructure. The TCPA RLB for the site crosses Station Road, which bisects Talacre, and includes an alternative bridge crossing to the east, providing access to the existing compound. There are three access gates to the PoA facility - two on the western side and one in the south-eastern corner.

All personnel attending the PoA Terminal will be required to access via the main entrance off the A548 Coast Road/Station Road, Talacre, Holywell, CH8 9RD. Access to Warren Farm, for the Dune Valve Replacement Works, will be via Station Road.

6.2.5.2 Public Rights of Way

Public Rights of Way (PRoW) within the study area for the existing outline TMP include footpaths, bridleways, restricted byways, and byways open to all traffic that are expected to interact with the TCPA Proposed Development.

Around the PoA Terminal, there are direct impacts where working areas within the TCPA RLB are expected to interact with PRoW. For example, Footpath No. 409/27/10 extends around the south and east boundaries of the existing PoA Terminal and runs in an east-west alignment between the Point of Ayr and Prestatyn.

A temporary diversion of the footpath has been proposed through Talacre Dunes. Additionally, a section of the proposed Centralised Compound access road may require the management of PRoW users and/or temporarily closure of the route. However, neither of these routes will be relevant to the works carried out during the Construction Phase undertaken as described in Section 4.5.PRoW include footpaths, bridleways, restricted byways, and byways open to all traffic that are expected to interact with the HDD activities and the foreshore Cable lay in Talacre Beach. The PRoW at the top of Talacre Beach along the base of the dunes will be impacted by cable laying the works on the beach.
This PRoW will be signposted to identify a temporary diversion through Talacre Dunes for the periods when access would be restricted during cable laying activities.

Measures and mitigation for managing traffic, transport and public rights of way are detailed in Section 7.3.4.1.

6.3 Water Resources and Flood Risk

6.3.1 Water Resources

The Environmental Statement (ES) identified that the site is close to, or within the PoA Brook, Dee Estuary SSSI/SAC/SPA/Ramsar, Gronant Dune and Talacre Warren SSSI, and Liverpool Bay SPA. All these sites have sensitivities that could be impacted by construction activities related to either surface water quality, hydrology, and/or hydromorphology. If not properly managed, these sensitivities could be impacted by construction activities that affect the quality or availability of groundwater and surface water resources. Measures to mitigate the potential impacts are presented in Section 7.4.1.

6.3.2 Flood Risk

There are no records of past flood events in the areas affected by the Construction Phase or its immediate vicinity.

6.3.2.1 Flooding from coastal and tidal sources

The site lies within the Flood Zone C1, an area benefiting from significant flood defences. According to the NRW Flood Risk Assessment Wales Map, the existing PoA Terminal is located within an area at “Low” risk of coastal flooding (areas of land with between 0.5% and 0.1% chance of flooding each year from the sea).

6.3.2.2 Flooding from Fluvial sources

The Environmental Statement (ES) includes fluvial flood maps available on the NRW Development Advice Map (DAM) website. The NRW mapping indicates that fluvial flooding at the site is primarily associated with the Ty’n Y Morfa and Talacre New Drain (“main rivers”) and nearby. Although the NRW DAM identifies the site

as being in Zone C1, a review of the NRW Flood Risk Assessment (FRA) Wales map shows the site is at negligible risk of flooding from fluvial sources, with the fluvial flood extents contained within the waterbodies surrounding the site.

Consistent with the above, the open watercourses are not considered likely to overtop their banks, as they have small catchments and are controlled downstream by the existing penstock on the Sluice House Gutter, which would prevent tidal ingress in the channel during extreme scenarios. The sluice is located near the southern boundary of the site, at the former Llawndy Mines (previously known as PoA Collieries), and it prevents tidal water from entering the series of open watercourses serving the site.

6.3.2.3 HDD Activity under Gronant Dunes and Talacre Beach

The Proposed Development will involve the installation of a marine electrical cable, which is critical for delivering electricity from the onshore grid to offshore infrastructure. This cable will be fully buried under the inter-tidal zone, within a designated flood risk area (Flood Zone 3 according to the Flood Map for Planning). In accordance with operational requirements. Due to the specified route, avoiding this flood zone is not feasible; however, burial of the cable ensures that flood defences will be unaffected, and existing or future flood risk levels at the site are not affected.

Recent revisions to TAN15 requirements and updates to flood mapping have not altered the flood risk associated with this development, as previously assessed for planning permission FUL/000246/23. Consequently, no further mitigation measures are required for the fully buried permanent works.

Nevertheless, Liverpool Bay CCS Limited has undertaken a review of the requirements of TAN15 in relation to the works proposed under planning permission FUL/000705/25, and concludes the following:

> *"The proposed HDD cable conduit beneath the dunes at Gronant has been assessed against the requirements of TAN15 and NRW guidance. The permanent elements of the scheme, the buried conduit at approximately 15 m below ground, and cable buried at 2.5-3m in depth across the inter-tidal area, are fully resilient to flooding. They will not be affected by tidal, fluvial, surface water or groundwater flooding, nor will it alter flood storage or flow routes. The only elements at direct flood risk are the temporary entry and exit pits, one of which lies within Flood Zone 3. The construction works are short-term, of limited footprint, and will be managed through appropriate mitigation measures including timing of works, temporary protection, and reinstatement. As such, the development will not increase flood risk elsewhere, will remain safe for its intended use, and will not compromise the function of coastal defences or natural dune systems. The scheme therefore complies with the objectives of TAN15 and Planning Policy Wales in relation to development and flood risk."*

The Contractor Saipem, as Principal Contractor, is registered with the NRW Flood Warning system in the area, and an Emergency Response plan is in place that covers flood risk and emergency procedures. This plan enables rapid response to events such as an unlikely breach of tidal flood defences.

The installation of the HDD conduit under Gronant Dunes does not pass under any main river and does not affect, and nor is it within 16 m of, any formal flood defences. There was no objection raised to the application from the Local Lead Flood Authority (LLFA) and the FCC drainage team. The works covered by this CEMP and those permitted under planning permission FUL/000705/25 and the approved CEMP (PoA Cable Route and Foreshore Works CEMP Rev05) will not affect any watercourse or formal flood defences. The Applicant understands from its reading of Natural Resources Wales / Check if you need a Flood Risk Activity Permit

(FRAP) and the NRW Technical Guidance (GN 044 Technical Guidance: Flood risk activity exemptions) that it will not require a FRAP under the Environmental Permitting (England and Wales) Regulations (EPR) 2016, for either the permanent, or temporary works.

6.3.2.4 Flooding from groundwater sources

During the consultation process, the Local Lead Flood Authority (LLFA) advised that the groundwater table is likely to be high at the PoA Terminal. The superficial deposits are composed of tidal and glacial deposits, consisting of a poorly sorted mixture of sandy silt, gravel, clays that coarsen with depth. These deposits are believed to be connected to the wider groundwater table. Groundwater levels at the site are likely influenced by variations in sea levels, though the surrounding landscape may limit the depth of the groundwater table. This information, however, has not been fully confirmed.

A Flood Action Plan (FAP) detailing full risk and controls for the Construction Phase is included IN APPENDIX B.

Control measures and mitigation for managing water resources and flood risk are detailed in Section 7.4.

6.3.3 Interaction with Groundwater

The HDD method is a closed, pressurised system designed to avoid surface disturbance, with drilling fluid (water, and bentonite clay) contained and recovered via a sump at the Exit Pit.

Based on the groundwater conditions previously outlined, Liverpool Bay CCS Limited has assessed the potential impact that a 500m long, 0.4m diameter HDD conduit installed beneath the dunes at an average depth of approximately 15 metres below ground level may have on groundwater levels within the dune system.

Given the ground conditions, depth of the HDD conduit, and its 0.4m diameter profile, it is expected to be drilled with minimal impact and is unlikely to form a low permeability barrier. Its effect on groundwater levels in the dune slacks is anticipated to be negligible and probably unmeasurable. The primary risks to water levels are related to the execution of the bore, including factors such as fluids, grouting, and pit dewatering, rather than the pipe itself. For this reason, careful management of drilling fluid pressures will be employed during HDD activities, as described in CEMP at Section 6.3.4.2. Every effort is made to avoid significant fluid losses, as they can interfere with the success of the HDD activity.

The influence of the HDD conduit under Gronant Dunes will therefore be minimal for the following reasons:

- **The HDD conduit represents a tiny obstruction relative to the aquifer.** A 0.4 m diameter cylinder at 15 m depth displaces a very small fraction of the flow field in a thick, high-hydraulic conductivity, sandy dune aquifer. Any up-/down-gradient head perturbation around the pipe decays within a few pipe diameters. Hydraulic gradients to drive groundwater flow are also expected to be very low due to the topography of this coastal location (all close to sea level).
- **Depth of HDD conduit versus existing controls on dune slack water levels.** Dune slack water levels are dominated by seasonal recharge and evapotranspiration and, near the foredune, a weak tidal signal. A small, deep linear feature will not alter those controls in a detectable way.
- **Orientation of HDD conduit to prevailing direction of groundwater movement.** The HDD conduit will be installed perpendicular to the shore. This means that its hydraulic ‘shadow’ is very thin at ~0.4m in thickness, and the HDD conduit will therefore not act as a cut-off wall. The HDD conduit will certainly

have a tiny influence in comparison to the existing 0.3m diameter combined sewer that runs parallel to the shore along the boundary of the dunes and Warren Farm. This existing sewer is not reported to be having any discernible influence at all.

- It is highly unlikely that the HDD conduit will create a **'preferential drainage path'**. This is because the conduit will be constructed within the groundwater zone, which already hydraulically connects two different head zones (e.g., the up-gradient Entry Pit to the down-gradient Exit Pit). Given that the HDD conduit will use watertight joints, seal the entry and exit interfaces, and continuously monitor fluid pressures, it will not leave the annulus as an open path that could act as a drain, thereby marginally lowering local heads.
- Additionally, the Entry and Exit Pits will be located <50m outside any dune slacks and will be temporarily sheet-piled to prevent water ingress. Any dewatering would therefore cause only a very short-term, if any, drawdown in the immediate vicinity of the pits.

The dune slacks at Gronant are characterised by a seasonally fluctuating water table. These areas may experience waterlogging or standing water during winter and spring, with soils tending to dry in summer, depending on local meteorological, and hydrological conditions. It is essential to acknowledge that the slacks form an integral part of the larger dune system, which functions as a unified eco-hydrological entity. Consequently, the HDD conduit, installed perpendicular to the shoreline with a minimal profile, is expected to create only a very limited hydraulic 'shadow' and will not act as a cut-off wall. The conduit is therefore anticipated to have a **negligible effect** on the overall hydrological dynamics of the dune system.

6.3.4 Groundwater Management and Monitoring Plan

6.3.4.1 Overview

Liverpool Bay CCS Limited has prepared, in respect of planning Condition 8 of TCPA **FUL/000246/23**, a Groundwater Management and Monitoring Plan (GWMMP). The GWMMP described below gives details of the groundwater monitoring methodology, and the mitigation measures and contingency plans in relation to the PoA and foreshore works, which includes the HDD under Gronant Dunes. The GWMMP measures relevant to the HDD under Gronant Dunes are presented below.

The Groundwater Management and Monitoring Measures in relation to the HDD Works are focussed on managing drilling fluids to prevent 'break out', and release of fluids and drill cuttings into the water environment. These measures are summarised in Table 6.6 and include the following key elements:

- **Annular pressure monitoring:** Continuously record down-hole annular pressure and fluid discharge rates during both pilot drilling and reaming; discrepancies between pumped and returned volumes indicate losses into aquifer or hydrofractures.
- **Closed-loop containment:** Implement a closed-loop system to capture all drilling returns, with transfer pumps and **retention** pits, preventing seepage to the surrounding dune groundwater.
- Install **a mini-piezometer**: at a suitable depth, off-alignment, at the northern boundary of Field No. 1 at Warren Farm between the dunes, and the HDD Entry Pit. Log at intervals over one spring–neap cycle **before**, **during**, and **after** works.

Table 6.6 Summary of Principles for Groundwater Management and Monitoring Plan

Design measure	Description
Baseline	Install piezometer, collect pre-drill water-level and quality data
Entry/Exit Pit Control	Freeboard management, cofferdams/sheet piles, closed-loop fluid containment
Drilling	Monitor annular pressure, fluid flow, detect inadvertent returns; use of approved additives
Monitoring Network	Piezometer, pressure transducers, visual inspections daily
Contingency	Defined thresholds, IR response protocols, regulatory notification procedures
Post-drilling Restoration	Decommission wells or grout in place, restore dunes, continued monitoring

6.3.4.2 HDD Works Groundwater Management and Monitoring Plan

1. Pre-construction (Baseline)

- **Hydrogeological baseline assessment:** Collect baseline groundwater levels, seasonal tides, salinity, hydraulic gradients, and soil permeability beneath dunes and nearshore.

2. Groundwater Control During Drilling

Entry and Exit Pits

- **Pit freeboard management:** Maintain at least a 1-ft freeboard above drilling fluid in both pits to minimise overflow and infiltration risks.
- **Groundwater inflow control:** Install temporary sheet piling cofferdam around the pits, especially the exit pit in the intertidal zone, to prevent groundwater ingress.

Drilling Fluid & Pressure Monitoring

- **Annular pressure monitoring:** Continuously record down-hole annular pressure and fluid discharge rates during both pilot drilling and reaming; discrepancies between pumped and returned volumes indicate losses into aquifer or hydrofractures.
- **Fluid additives:** Use of PLONOR drilling fluids.
- **Closed loop containment:** Implementation of a closed loop system to capture all drilling returns, with transfer pumps and retention pits, preventing seepage to the surrounding dune aquifer.

3. Groundwater & Environmental Monitoring

Monitoring Network

- Install **a mini-piezometer**: at a suitable depth, off-alignment at the northern boundary of Field No. 1 at Warren Farm. Log at intervals over one spring–neap cycle **before**, **during**, and **after** works.
- **Surface and subsurface observation:** Conduct daily visual inspections, pedestrian surveys of mud or seepage (especially along dunes), looking for inadvertent returns, sinkholes or depressions along the alignment.
- **Record drilling parameters** (loads, torque, pressure, fluid volume), and log visual/field observations after each shift.

4. Contingency & Response Planning

- **Event thresholds:** Define alert levels—e.g. fluid loss beyond defined parameters, unexpected hydraulic head rise/drop, or detection of fluid in monitoring wells.

- **Immediate response protocols:** Include e.g., shutdown procedures, pressure relief, pilot hole pausing, or re-routing alignment. NRW must be immediately contacted (by phoning our 24-hour incident hotline at **0300 065 3000**).
- **Notification lines:** Pre-establish regulatory and client notifications; maintain field logs and operators trained in inadvertent returns protocols.

5. Post-drilling / Restoration

- **Well decommissioning:** All temporary monitoring point installations will be decommissioned with proper grouting to prevent creating conduits.
- **Surface restoration:** Regrade pits and dune disturbance zones, reinstall vegetation, erosion controls and reseed where necessary.
- **Follow-up monitoring:** Continue water level and quality monitoring for several months to confirm no residual impacts.

It is unlikely that temporary dewatering is required, however, should extensive dewatering be necessary, the requirement for an abstraction licence will be confirmed following further ground investigation. Any abstraction will be managed in accordance with relevant NRW guidance and permitting requirements.

6.3.5 Surface Water Management

To prevent discharges of drilling fluid at the Entry and Exit Pits, the HDD contractor will continuously record down-hole annular pressure and fluid discharge rates during both pilot drilling and reaming. Discrepancies between pumped and returned volumes indicate losses into aquifer or hydrofractures. The contractor will also implement a closed-loop system to capture all drilling returns, with transfer pumps and retention pits, preventing seepage to the surrounding dune groundwater. On completion of the works, drilling fluids and cutting will be tankered away for offsite disposal at a registered site in accordance with legislative requirements.

The relevant Pollution Control measures are detailed within this CEMP, as well as the Surface Water Management and Monitoring Plan (SWMMP) (Appendix J) and GWMMP (Appendix C).

No dewatering or discharge is anticipated during HDD activities at Warren Farm. While the HDD Exit Pit will be in the inter-tidal environment, there are no terrestrial surface watercourses located within 500m of the HDD works. Notwithstanding, monitoring checks and inspections will be conducted prior to and during works. If monitoring indicates that current mitigation measures are insufficient, adaptive mitigation strategies will be implemented accordingly.

Liverpool Bay CCS Limited does not foresee the need to seek an abstraction or impoundment licence, as the HDD operations will neither extract water from an underground source nor alter or remove any impoundment structures. The scope of the HDD activity involves installing a cable conduit beneath the dune system, thereby eliminating the need for an open trench and minimising disturbance to the groundwater. Successful installation of the HDD conduit depends on the careful regulation of drilling fluid pressures to mitigate water loss. Upon completion of the drilling process, the conduit will be sleeved with watertight polyethylene pipework to prevent water ingress and preserve the integrity of both the conduit and the electrical cable. Given its relatively narrow diameter (approximately 450mm) and position below the water table, it is considered unlikely that the HDD conduit will:

- Impede groundwater flow;

- Establish a preferential pathway for groundwater movement; or
- Influence groundwater levels. It is anticipated that groundwater will flow naturally around the installed conduit.

6.4 Land and Soil

To inform necessary controls for land and soils, multiple surveys have been undertaken at the PoA Terminal to inform the TCPA REAC [Ref 3]. The Study Area for these included a 50m buffer beyond the TCPA RLB. This is considered to be the area that could be impacted in terms of land and soil based on the proposed construction works, surrounding sensitive receptors and contamination migration potential. The following surveys have been conducted as part of the TCPA application:

- A preliminary site reconnaissance visit was undertaken by WSP on 2 January 2022 to inspect the RLB.
- An intrusive Agricultural Land Classification (ALC) survey has been undertaken for the Red Line Boundary.
- An intrusive Ground Investigation (GI) has been undertaken by the Applicant.
- A Coal Mining Risk Assessment (CMRA) has been produced by the Applicant for the Red Line Boundary.
- Geotechnical boreholes, drilled in July 2025 for HDD detailed design, close to the alignment of the HDD works, in Warren Farm, the dunes, and on Talacre Beach,

6.4.1 Soil Quality

The PoA Terminal consists of loamy and clay soils of coastal flats with naturally high groundwater. Habitats comprise wet brackish coastal flood meadows covered in arable and grassland. Soils have medium carbon and are lime rich to moderate.

The PoA Terminal has Made Ground in the south of the TCPA RLB, overlying tidal flat deposits:

- Tidal Flat Deposits comprising clay, silt and sand across most of the site.
- Saltmarsh deposits along the eastern boundary comprising clay silt and sand.
- Storm beach deposits in the north comprising sand and gravel.

Blown sand mineral resource identified across parts of the foreshore, 8.50 to 21.00 thickness from BGS (British Geology Survey) blogs. The Site is not within an MSA (Material Safeguarding Area) under LDP (Local Development Plan). Primary shallow coal mineral resource identified across the Site. Coal mineral resources have not been considered further as do not require safeguarding under the LDP, in line with PPW11 (Planning Policy Wales) and supported by local authority consultation.

The potential for working the blown sand mineral resource deposits is restricted by environmental designations across site and existing sterilisation from infrastructure (existing pipeline). Incidental extraction and reuse within the TCPA Proposed Development is considered feasible during excavation within the blown sand deposits.

A Soil Management Plan (SMP) detailing full risk and controls for the Construction Phase is included in APPENDIX H.

6.4.2 Coal Mining

A Coal Mining Risk Assessment, produced by the Applicant (April 2022) presented in the Environmental Statement concluded the following items in regard to the PoA Terminal and former PoA colliery:

- No shallow coal workings, only historic coal mining infrastructure for deep coal workings identified.
- Mine shafts were fully sealed in accordance with designs in 1997.
- Area has been completely cleared; hence unrecorded potential shafts / adits are considered low risk.
- There is not foreseen to be any risk for temporary use of this area during construction.

Non-coal mining

The PoA Terminal is in a region where localised small scale underground mining may have occurred related to iron ore (bedded) deposits. No other non-coal mining activities or features are identified within 250m.

There are no coal mining deposits, or any contaminants associated with coal mining within the area of the HDD activity in Warren Farm, under the dunes, and on Talacre Beach. There are no historical sources of ground contamination associated with previous land uses at Warren Farm, Gronant Dunes, and Talacre Beach. As anticipated, soil samples taken from the boreholes drilled in 2025 returned no indication of contamination.

6.4.3 Hydrogeology

The superficial tidal flat deposits which cover the majority of the PoA Terminal and Foreshore Works are classified as Unproductive Strata of low permeability that have negligible significance for water supply or river base flow. Superficial blown sand deposits present in the northern portion of the Foreshore Works area are classified as a Secondary A Aquifer, formed of permeable layers capable of supporting water supplies at local scale, and in some cases forming an important source of base flow to rivers.

The underlying bedrock of the Lower and Middle Pennine Coal Measures are classified as Secondary A Aquifers (aquifer properties defined above).

The PoA Terminal does not lie within, or within 500m, of source protection zones (SPZs).

The PoA Terminal is adjacent to the River Dee Estuary (east) and the Welsh Channel area of the Irish Sea (north and west). In addition, there are multiple on-site surface water features:

- Two inland water bodies in the west, likely artificial features constructed for the PoA Terminal.
- Two surface water features located along the southern and western perimeters (identified at PoA Ditch No.2 and Talacre Brook.
- A tidal channel located adjacent to the eastern boundary, linked to water bodies to the north.

All risks and controls for the Construction phase are described in detail in the following plans:

- APPENDIX C - Groundwater Management and Monitoring Plan
- APPENDIX G - Sediment Management Plan (SeMP)
- APPENDIX J - Surface Water Management and Monitoring Plan

Measures and mitigation for managing land and soils are detailed in Section 7.4.

6.5 Resource Use and Waste Management

The project will generate waste and contribute to the consumption of materials. A Materials Management Plan (MMP) detailing full risk and controls for the Construction Phase is included in APPENDIX E and in Section 7.6.2.

The waste management foreseen for the Proposed Development will arise from the use, generation, and handling of the following:

- Drilling Fluids.
- Cuttings.
- Unplanned bentonite break out.
- Water abstraction for water supply on site.
- Potential Dewatering discharge. Permit.
- Other waste such as:
    - Toilet water;
    - Dirty water;
    - Canteen waste;
    - Wood/steel/concrete waste;
    - Packaging / plastic;
    - Oil and waste fuel; and
    - Other.

6.6 Archaeology

There are two Second World War aircraft crash sites in the vicinity of HDD activities under the dunes and at Talacre Beach. There are two Spitfire wrecks that are recorded as being near the Proposed Development. The Joint Casualty and Compassionate Centre of the Ministry of Defence confirmed that the aircraft crash locations are approximate, and that any aircraft remains would need to be excavated under licence and should be recorded and handled in line with legislation and all professional guidance. A further license is not required from Flintshire Council for aircraft crash site excavation.

The Archaeological Fieldwork Contractor will be appointed and inform the Archaeological Consultant immediately, who will then consult with the LPA Archaeological Advisor.

The area of potential archaeological impact will be within the footprint of the HDD exit pit at the MHWS and its temporary access. Shallow archaeological remains may be affected by movement of vehicles and plant involved in construction activities, for example through rutting and compaction.

Due to the method through which the trench between the exit pit and the MLWS will be excavated and filled in, these works are excluded from this PD and will be monitored through the implementation of the Protocol for Archaeological Discoveries submitted with the Marine Licence Application (Licence number: CML2365) for the marine elements of the works (Environmental Statement Report Volume 4, Appendix U).

In the unlikely event that remains of very high significance are identified, the Archaeological Fieldwork Contractor will inform the Archaeological Consultant immediately, who will then consult with the LPA Archaeological Advisor.

6.7 Unexploded Ordnance (UXO)

A magnetometer run will be performed via a drone survey farm field, dunes, and the intertidal area. Any targets that are classified as potential UXO (pUXO) and interfering with the work area are removed by Company prior work execution. This would require digging and investigation of the found target by a specialised 3rd party company.

It is expected that due to most of the works pUXOs are to be expected located in the beach area, uncovering can be done by e.g. excavator and manually by e.g. shovels. After target investigation, the created hole can be backfilled with the same material (i.e. sand). The target itself will be contained and transported off site or requires measures on site. A specialised company will be engaged to remove the UXO.

Explosive Ordnance Clearance (EOC) Engineer support is required for ground investigation works in the area with potential UXO hazards. All staff involved with excavation on site are given a formal UXO awareness briefing.

7.0 ENVIRONMENTAL MANAGEMENT PROCEDURES

This section of the CEMP outlines the site-specific control measures currently identified at this stage of the development. These measures will be implemented by the Construction Contractor, and where relevant, by its Subcontractors during the construction stage. Most of mitigation measures comes from national laws and Register of Environmental Actions and Commitments (REAC), references related to REAC will be mentioned in specific/ad-hoc environmental plans.

General control measures from the REAC to prevent harm to the environment from the construction activities are listed below in Table 7.1. These shall be implemented at all times, and further environmental management measures have been developed to prevent, or where that is not possible, minimise the environmental impacts associated with the works carried out during the Construction Phase.

Table 7.1 Register of Environmental Actions and Commitments

Action/Commitment	Topic	REAC Reference	Compliance Demonstration
The Construction Contractor(s) will set up and maintain a register with details of consents, permits and licences required for the TCPA Proposed Development.	General	T-GN-001	POA Construction CEMP (Doc. 102700DFPA09704) Section 5.5
The Construction Contractor(s) will prepare and implement appropriate measures to control the risk of pollution due to construction activities, materials and extreme weather events.	General	T-GN-002	• POA Construction CEMP (DOC. 102700DFPA09704) Section 1.3 • APPENDIX A – DUST MANAGEMENT PLAN (DOC. 102700DFPA09758)APPENDIX A – DUST MANAGEMENT PLAN (DOC. 102700DFPA09758) • APPENDIX B – FLOOD ACTION PLAN (DOC.102700DFPA09759) • APPENDIX C – GROUNDWATER MANAGEMENT AND MONITORING PLAN (DOC.102700DFPA09760) • APPENDIX D – LIGHTING MANAGEMENT PLAN (DOC.102700DFPA09761) • APPENDIX G – SEDIMENT MANAGEMENT PLAN (DOC. 102700DFPA09764) • APPENDIX J – SURFACE WATER MANAGEMENT AND MONITORING PLAN (DOC. 102700DFPA09768)
The Construction Contractor(s) will be required to investigate and provide a report to The Applicant in the event a pollution incident does occur, including the following: - A description of the pollution incident, including its location, the type and quantity of contaminant and the likely receptor(s); - Contributory causes; - Adverse effects and the measures implemented to mitigate adverse effects; and - Recommendations to reduce the risk of reoccurrence.	General	T-GN-003	• POA Construction CEMP (DOC. 102700DFPA09704) Section 8.4.2 • APPENDIX A – DUST MANAGEMENT PLAN (DOC. 102700DFPA09758)APPENDIX A – DUST MANAGEMENT PLAN (DOC. 102700DFPA09758) • APPENDIX B – FLOOD ACTION PLAN (DOC.102700DFPA09759) • APPENDIX C – GROUNDWATER MANAGEMENT AND MONITORING PLAN (DOC.102700DFPA09760) • APPENDIX G – SEDIMENT MANAGEMENT PLAN (DOC. 102700DFPA09764) • APPENDIX J – SURFACE WATER MANAGEMENT AND MONITORING PLAN (DOC. 102700DFPA09768)

Action/Commitment	Topic	REAC Reference	Compliance Demonstration
The Construction Contractor(s) will consult with the relevant organisations, statutory bodies and other relevant parties when preparing response measures.	General	T-GN-004	POA Construction CEMP (Doc. 102700DFPA09704) Section 9.2.4
The Detailed CEMP will set out as a minimum: - Description of the relevant phase(s) of the TCPA Proposed Development, and clear figures identifying receptors that could be affected by construction activities; - An outline of the pre-construction and construction works; - An organogram showing names, roles, responsibilities and communication methods; - Protocol for external reporting and community relations; - Staff competence and requirements for training personnel, identifying mechanisms on how these are achieved and maintained; - Information on inductions (including environmental), site briefings and toolbox talks to ensure staff are briefed on environmental matters and procedures specific to their location; - A protocol to manage change as work progresses (e.g. updating evidence of compliance with the REAC, and detailed CEMP and having an audit trail of changes in line with the Construction Contractor(s) EMS), including procedures for updating, sign off and version control of environmental asset data and as built drawing requirements; and - Emergency response, preparedness and non-conformance processes.	General	T-GN-006	POA Construction CEMP (DOC. 102700DFPA09704) Section 4.4, 8.0, 9.1 and 9.2
The Construction Contractor(s) will have an EMS certified to BS EN ISO 14001.	General	T-GN-007	POA Construction CEMP (DOC. 102700DFPA09704) Section 1.3.1
Site inspections will be recorded in an environmental log book, incorporating all environmental areas.	General	T-GN-008	POA Construction CEMP (DOC. 102700DFPA09704) Section 9.3
Key assets of the PoA Terminal, where practicable, will be reused or reutilised, such as drainage systems, access roads, buildings.	Description of the TCPA Proposed Development	T-PD-002	Included as general guidance which will be complied with through detailed design.
Where the Proposed Development is introducing new impermeable surfaces, new and existing drainage systems will be utilised to re-route the run-off.	Description of the TCPA Proposed Development	T-PD-003	Included as general guidance which will be complied with through detailed design.

Action/Commitment	Topic	REAC Reference	Compliance Demonstration
Open Drains Systems would be provided at all new facilities to handle non-hazardous fluids generated, i.e., those which have arisen from a non-hazardous area.	Description of the TCPA Proposed Development	T-PD-004	Included as general guidance which will be complied with through detailed design.
Construction lighting will follow BS EN 12464 (Parts 1 and 2) and guidance notes from the Institution of Lighting Professionals. In general, lighting will be used in shifts at the lowest luminosity necessary for safe delivery of each task i.e. it will not be continuous. It will be designed, positioned, and directed to reduce the intrusion into adjacent properties and habitats.	Description of the TCPA Proposed Development	T-PD-005	• POA Construction CEMP (DOC. 102700DFPA09704) Section 7.3.2 • APPENDIX D – LIGHTING MANAGEMENT PLAN (DOC.102700DFPA09761)
Access for pedestrians along the foreshore will be maintained where possible and safe between Station Road and the dunes. Where this is not possible or safe, temporary diversions will be arranged for pedestrians.	Description of the TCPA Proposed Development	T-PD-008	APPENDIX L – CONSTRUCTION TRAFFIC MANAGEMENT PLAN (INC. WORKER TRAVEL PLAN (DOC. 102700DJPC09406)
A temporary drainage system would be implemented where necessary prior to the start of any construction work.	Description of the TCPA Proposed Development	T-PD-009	• POA Construction CEMP (DOC. 102700DFPA09704) Section 7.6 • APPENDIX B – FLOOD ACTION PLAN (DOC.102700DFPA09759) • APPENDIX C – GROUNDWATER MANAGEMENT AND MONITORING PLAN (DOC.102700DFPA09760) • APPENDIX J – SURFACE WATER MANAGEMENT AND MONITORING PLAN (DOC. 102700DFPA09768)
The Construction Contractor(s) will prepare a detailed Surface Water Drainage Strategy which will be based on the Outline Surface Water Drainage Strategy Report.	Description of the TCPA Proposed Development	T-PD-011	APPENDIX J – SURFACE WATER MANAGEMENT AND MONITORING PLAN (DOC. 102700DFPA09768)
The Construction Contractor(s) will be responsible for obtaining all required environmental permits, licences and consents from the relevant authorities where required.	Description of the TCPA Proposed Development	T-PD-012	POA Construction CEMP (DOC. 102700DFPA09704) Table 5.2

Action/Commitment	Topic	REAC Reference	Compliance Demonstration
Materials excavated for the trenching work will be stockpiled adjacent to the trenching work itself and reused during backfilling of the trenches.	Description of the TCPA Proposed Development	T-PD-014	• POA Construction CEMP (DOC. 102700DFPA09704) Sections 7.5 and 7.6 • APPENDIX E – MATERIALS MANAGEMENT PLAN (DOC. 102700DFPA09762)
Temporary track mats will be placed along the Foreshore Area to facilitate vehicle movements over the soft sand as necessary.	Description of the TCPA Proposed Development	T-PD-016	POA Construction CEMP (DOC. 102700DFPA09704) Section 4.5
Trenchless methods to be used to install cables beneath Station Road and the Gronant Dunes and Talacre Warren SSSI.	Consideration of Alternatives	T-CA-001	POA Construction CEMP (DOC. 102700DFPA09704)
Siting of Centralised Construction Compound within the PoA Terminal and disused colliery adjoining the PoA Terminal.	Consideration of Alternatives	T-CA-002	• APPENDIX B – FLOOD ACTION PLAN (DOC.102700DFPA09759) • APPENDIX D – LIGHTING MANAGEMENT PLAN (DOC.102700DFPA09761)
The Stakeholder Communications Plan that includes community engagement will be implemented before work commences on site.	Air Quality	T-AQ-001	APPENDIX I – STAKEHOLDER COMMUNICATIONS PLAN (DOC. 102700DFPA09767)
The name and contact details of person(s) accountable for air quality and dust issues will be displayed on the Site boundary and within site cabins. This may be the environment manager/engineer or the Site manager. The head or regional office contact information will also be displayed.	Air Quality	T-AQ-002	APPENDIX A – DUST MANAGEMENT PLAN (DOC. 102700DFPA09758)
The Dust Management Plan (DMP) will be implemented on site by the Construction Contractor. This will include measures to control other emissions, in addition to dust and PM10 mitigation measures.	Air Quality	T-AQ-003	APPENDIX A – DUST MANAGEMENT PLAN (DOC. 102700DFPA09758)
All dust and air quality complaints will be recorded, and causes identified. Appropriate remedial action will be taken in a timely manner with a record kept of actions taken including of any additional measures put in-place to avoid reoccurrence.	Air Quality	T-AQ-004	• APPENDIX A – DUST MANAGEMENT PLAN (DOC. 102700DFPA09758) • APPENDIX I – STAKEHOLDER COMMUNICATIONS PLAN (DOC. 102700DFPA09767)
The complaints log will be made available to the local authority on request.	Air Quality	T-AQ-005	APPENDIX I – STAKEHOLDER COMMUNICATIONS PLAN (DOC. 102700DFPA09767)

Action/Commitment	Topic	REAC Reference	Compliance Demonstration
Any exceptional incidents that cause dust and/or air emissions, either on- or off-site will be recorded, and then the action taken to resolve the situation recorded in the site logbook.	Air Quality	T-AQ-006	APPENDIX A – DUST MANAGEMENT PLAN (DOC. 102700DFPA09758)
Daily on-site and off-site inspections (up to a minimum of 50m from the site boundary) will be undertaken by a suitably experienced person, where receptors (including roads) are nearby (within 100m of Site or access roads) to monitor dust. The inspection results will be recorded and made available to the local authority when asked. This will include regular dust soiling checks of surfaces such as street furniture, cars, and windowsills within 100m of construction works.	Air Quality	T-AQ-007	APPENDIX A – DUST MANAGEMENT PLAN (DOC. 102700DFPA09758)
The frequency of Site inspections will be increased when activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions.	Air Quality	T-AQ-008	APPENDIX A – DUST MANAGEMENT PLAN (DOC. 102700DFPA09758)
Continuous dust monitoring will be undertaken at agreed points prior to work commencing on site and throughout construction.	Air Quality	T-AQ-009	APPENDIX A – DUST MANAGEMENT PLAN (DOC. 102700DFPA09758)
The Site layout will be designed and planned so that machinery and dust causing activities are located away from sensitive receptors, as far as reasonably practicable.	Air Quality	T-AQ-010	APPENDIX A – DUST MANAGEMENT PLAN (DOC. 102700DFPA09758)
Where practicable, erect solid screens or barriers around dusty activities or the Site boundary that are at least as high as any stockpiles on Site.	Air Quality	T-AQ-011	• APPENDIX A – DUST MANAGEMENT PLAN (DOC. 102700DFPA09758) • APPENDIX H – SOIL MANAGEMENT PLAN (DOC. 102700DFPA09766)
Runoff of water and/or mud will be mitigated against while the Site is being set up and maintained.	Air Quality	T-AQ-012	APPENDIX A – DUST MANAGEMENT PLAN (DOC. 102700DFPA09758)
Manage earthworks and exposed areas or soil stockpiles to prevent wind-borne dust. Use methods such as covering, seeding or using water suppression.	Air Quality	T-AQ-013	• APPENDIX A – DUST MANAGEMENT PLAN (DOC. 102700DFPA09758) • APPENDIX H – SOIL MANAGEMENT PLAN (DOC. 102700DFPA09766)
Ensure all vehicle operators switch off engines when not in use and ensure there is no idling.	Air Quality	T-AQ-014	APPENDIX A – DUST MANAGEMENT PLAN (DOC. 102700DFPA09758)
Where reasonably practicable reduce the use of diesel- or petrol-powered generators, for example by using hybrid site generators.	Air Quality	T-AQ-015	APPENDIX A – DUST MANAGEMENT PLAN (DOC. 102700DFPA09758)
A maximum-speed-limit of 15 mph on surfaced and 10 mph on unsurfaced haul roads and work areas will be imposed.	Air Quality	T-AQ-016	APPENDIX A – DUST MANAGEMENT PLAN (DOC. 102700DFPA09758)

Action/Commitment	Topic	REAC Reference	Compliance Demonstration
Only use cutting, grinding or sawing equipment fitted or in conjunction with suitable dust suppression techniques such as water sprays or local extraction, for example, suitable local exhaust ventilation systems.	Air Quality	T-AQ-017	APPENDIX A – DUST MANAGEMENT PLAN (DOC. 102700DFPA09758)
Ensure an adequate water supply is on the Site for effective dust/particulate matter suppression/mitigation, using nonpotable water where possible and appropriate.	Air Quality	T-AQ-018	APPENDIX A – DUST MANAGEMENT PLAN (DOC. 102700DFPA09758)
Covered skips will be used to reduce the risk of materials or dusty materials blowing out and contaminating the surrounding site.	Air Quality	T-AQ-019	POA Construction CEMP (DOC. 102700DFPA09704) Section 7.3.4
Ensure equipment is readily available on-site to clean any dry spillages and clean up spillages as soon as reasonably practicable after the event using wet cleaning methods.	Air Quality	T-AQ-020	POA Construction CEMP (DOC. 102700DFPA09704) Section 7.6.1
Avoid scabbling (roughening of concrete surfaces) if possible, to reduce concrete dust.	Air Quality	T-AQ-021	APPENDIX A – DUST MANAGEMENT PLAN (DOC. 102700DFPA09758)
For smaller supplies of fine powder materials ensure bags are sealed after use and stored appropriately to prevent dust.	Air Quality	T-AQ-022	APPENDIX A – DUST MANAGEMENT PLAN (DOC. 102700DFPA09758)
All construction plant and equipment will be maintained and in good working order.	Air Quality	T-AQ-023	APPENDIX A – DUST MANAGEMENT PLAN (DOC. 102700DFPA09758)
Use water-assisted dust sweeper(s) on the access and local roads, to remove, as necessary, any material tracked out of the Site. This may require the sweeper being in frequent use.	Air Quality	T-AQ-024	APPENDIX A – DUST MANAGEMENT PLAN (DOC. 102700DFPA09758)
Avoid dry sweeping of large areas.	Air Quality	T-AQ-025	APPENDIX A – DUST MANAGEMENT PLAN (DOC. 102700DFPA09758)
Ensure vehicles entering and leaving sites are covered to prevent escape of materials during transport.	Air Quality	T-AQ-026	APPENDIX A – DUST MANAGEMENT PLAN (DOC. 102700DFPA09758)
Inspect on-site haul routes for integrity and instigate necessary repairs to the surface as soon as reasonably practicable.	Air Quality	T-AQ-027	APPENDIX A – DUST MANAGEMENT PLAN (DOC. 102700DFPA09758)
Record all inspections of haul routes and any subsequent action in a site logbook.	Air Quality	T-AQ-028	APPENDIX A – DUST MANAGEMENT PLAN (DOC. 102700DFPA09758)
Where practicable, hard surfaced haul routes will be installed, which are regularly damped down with fixed or mobile sprinkler systems, or mobile water bowsers and regularly cleaned.	Air Quality	T-AQ-029	APPENDIX A – DUST MANAGEMENT PLAN (DOC. 102700DFPA09758)

Action/Commitment	Topic	REAC Reference	Compliance Demonstration
Access points to the local highway will be prepared with temporary hard surfacing and wheel-washing facilities.	Air Quality	T-AQ-030	APPENDIX A – DUST MANAGEMENT PLAN (DOC. 102700DFPA09758)
Ensure construction traffic does not pass along sensitive roads (residential roads, congested roads, via unsuitable junctions, etc.) where possible, and that vehicles are kept clean (using wheel washers, etc.) and sheeted when on public highways. Timing of large-scale vehicle movements to avoid peak hours on the local road network will also be beneficial.	Air Quality	T-AQ-031	APPENDIX A – DUST MANAGEMENT PLAN (DOC. 102700DFPA09758)
There will be no bonfires or burning of waste materials.	Air Quality	T-AQ-035	POA Construction CEMP (DOC. 102700DFPA09704) Section 7.6.2
Only remove the stockpile cover (where implemented) in small areas during work and not all at once	Air Quality	T-AQ-036	APPENDIX A – DUST MANAGEMENT PLAN (DOC. 102700DFPA09758)
Ensuring welfare facilities are cooled	Climate Resilience	T-CR-005	POA Construction CEMP (DOC. 102700DFPA09704) Section 5.4
Provision of adequate rest, shade and Personal Protective Equipment on site.	Climate Resilience	T-CR-006	POA Construction CEMP (DOC. 102700DFPA09704) Section 5.4
Switching off machinery when not in use to avoid overheating	Climate Resilience	T-CR-007	POA Construction CEMP (DOC. 102700DFPA09704) Section 7.7.1
Ensuring that the Construction Compounds drainage has sufficient capacity	Climate Resilience	T-CR-008	Included as general guidance which will be complied with through detailed design.
Consider adjusting the programme of activities and reviewing the wind speed prior to any work at height.	Climate Resilience	T-CR-009	POA Construction CEMP (DOC. 102700DFPA09704) Section 8.3
The installation of the new cables across the Talacre dune system will utilise a trenchless crossing technique of horizontal directional drilling (HDD). This drilling technique requires the excavation of entry and exit pits at either end of the HDD section. It is expected that there will be limited potential for archaeological deposits to be observed during HDD activity but an archaeological watching brief may be required on the excavation of the entry and exit pits.	Cultural Heritage	T-CH-001	POA Construction CEMP (DOC. 102700DFPA09704) Section 7.8
Prior to construction, walkover surveys will be undertaken where necessary to allow historic asset to be avoided and/or recorded.	Cultural Heritage	T-CH-003	POA Construction CEMP (DOC. 102700DFPA09704) Section 7.8

Action/Commitment	Topic	REAC Reference	Compliance Demonstration
In order to minimise unnecessary habitat loss as a result of the TCPA Proposed Development, habitats that will not be permanently lost during construction are to be reinstated upon completion of the works.	Biodiversity	T-BD-001	Included as general guidance which will be complied with through detailed design.
Temporary construction facilities are to be located within the PoA Terminal and the Centralised Compound, as far as feasible, thus minimising the amount of land-take required and associated habitat damage or destruction.	Biodiversity	T-BD-003	POA Construction CEMP (DOC. 102700DFPA09704) Section 5.4
The use of horizontal directional drilling (HDD) will ensure that there are no direct impacts to Talacre Brook, the Talacre dune system, and an area of grassland that forms part of the Dee Estuary Ramsar/SPA and the Gronant Dunes and Talacre Warren SSSI.	Biodiversity	T-BD-004	POA Construction CEMP (DOC. 102700DFPA09704) Sections 4.5 and 7.1
Temporary mats will be laid down, where necessary, across the beach between Talacre beach car park and the HDD exit pit. This will be implemented to facilitate access across areas of soft sand, but it will also minimise damage or destruction of the existing habitats along the route. No access will be taken across the dunes. Access to the beach will be through an existing gap in the dunes at Talacre beach car park.	Biodiversity	T-BD-005	POA Construction CEMP (DOC. 102700DFPA09704) Section 4.5
Some Atlantic salt meadow habitat has colonised the Talacre beach car park. This habitat is a qualifying feature of the adjacent Dee Estuary SAC. The car park is proposed to be used as a compound area during the construction stage of the TCPA Proposed Development, for parking only. Micro-siting is to be employed to avoid impacts to the salt meadow habitat.	Biodiversity	T-BD-006	POA Construction CEMP (DOC. 102700DFPA09704) Section 4.5

Action/Commitment	Topic	REAC Reference	Compliance Demonstration
Prior to construction, a team of suitably qualified and experienced Ecological Clerks of Works (ECoWs), will be appointed to support, oversee and monitor the Construction Contractor with the implementation of measures defined within the OCEMP. Multiple ECoWs may be required during construction to ensure appropriate oversight of multiple active works locations. Broadly, the ECoW will: • Provide ecological advice to the Construction Contractor over the entire construction programme, at all times as required. • Undertake or oversee pre-construction surveys for protected species in the areas affected by the TCPA Proposed Development. • Monitor ecological conditions during the Construction Stage to identify additional constraints that may arise as a result of natural changes to ecological baseline over time, e.g., the monitoring of badger activity within and in close proximity to construction works. • Provide ecological toolbox talks to site personnel to make them aware of ecological constraints and information; highlight mitigation to minimise impacts; and make site personnel aware of their responsibility with regards to wildlife and sensitive habitats in the context of legislation and policy. Toolbox talks will include, as required, all ecological receptors considered within the ES as a minimum. • Monitor the implementation of mitigation measures during the Construction Stage to ensure compliance with protected species legislation, licensing, and commitments within the ES. The ECoW will have previous experience in similar ECoW roles and be approved by the Applicant. The ECoW will be appointed in advance of the main construction programme commencing to ensure pre-construction surveys are undertaken and any advance mitigation measures required are implemented.	Biodiversity	T-BD-008	POA Construction CEMP (DOC. 102700DFPA09704) Section 7.1
An application for SSSI assent will be made. This will detail how the works will be carried out and how impacts will be minimised. This is to reduce impacts on Dee Estuary SSSI, Gronant Dunes and Talacre Warren SSSI. EPS or NRW licences may need to be obtained in relation to certain species at any point during the works, depending on the outcome of ongoing and future surveys. Upon granting of any licences, ongoing monitoring will be required if determined necessary by NRW, depending on the significance of any species populations to be affected. Exact requirements and timings of the monitoring will be determined by NRW when processing the relevant licence application(s). Only once licence/permit applications have been granted, and any initial licenced actions completed, can works commence. Licences and permits are likely to include, but are not limited to, derogation licences for protected species, permits for in-water works, etc.	Biodiversity	T-BD-009	POA Construction CEMP (DOC. 102700DFPA09704) Section 7.1

Action/Commitment	Topic	REAC Reference	Compliance Demonstration
Micro siting of Localised Compounds, the Equipment Yard and the Centralised Compound will be employed to minimise habitat loss and disturbance.	Biodiversity	T-BD-010	POA Construction CEMP (DOC. 102700DFPA09704) Section 4.5
Construction works will be restricted to daylight hours, as far as practicable, to avoid the need for any artificial lighting during the works. The exception would be in winter when artificial lighting is likely to be required for part of the day due to daylight hours being reduced.	Biodiversity	T-BD-014	• POA Construction CEMP (DOC. 102700DFPA09704) Section 7.3.2 • APPENDIX D – LIGHTING MANAGEMENT PLAN (DOC. 102700DFPA09761)
A lighting management plan will be developed outlining measures to avoid unnecessary lighting disturbances to bats and will follow best practice guidance. Measures include: - sensitive positioning of lighting to avoid unnecessary spill onto any confirmed active roosts or any suitable commuting foraging/commuting habitat, such as trees and hedgerows; - the use of covers/cowls and reducing the height and angle of lighting columns to avoid unnecessary spill; - as mentioned previously, the use of sensor-activated or manual lighting to avoid the use of permanent lighting; and - use of lighting sources with a lower UV output.	Biodiversity	T-BD-015	• POA Construction CEMP (DOC. 102700DFPA09704) Section 7.3.2 • APPENDIX D – LIGHTING MANAGEMENT PLAN (DOC. 102700DFPA09761)
In relation to accidental pollution events resulting from spills, pollution prevention measures are provided within the CEMP and REAC and will be used by the Construction Contractor to prepare a detailed CEMP to be implemented during the works to ensure that pollution events do not occur. Further pollution prevention measures are referred to within the separate marine licence application.	Biodiversity	T-BD-017	POA Construction CEMP (DOC. 102700DFPA09704) Section 7.6.1
Watercourse pollution control measures will be implemented at Afon Nant-y-Flint and watercourses around the PoA Terminal. Works within 8m of watercourses will be avoided where practicable to avoid pollution incidents. For any works around the PoA Terminal and Foreshore Area, an 8m exclusion zone will be demarcated around the watercourses to avoid unnecessary encroachment during the works, other than where direct crossing of a watercourse will be required.	Biodiversity	T-BD-019	• POA Construction CEMP (DOC. 102700DFPA09704) Sections 7.2.4, 7.2.5 and 7.4 • APPENDIX B – FLOOD ACTION PLAN (DOC. 102700DFPA09759)

Action/Commitment	Topic	REAC Reference	Compliance Demonstration
The three further badger setts located within close proximity to the PoA Terminal are not expected to be directly impacted by the proposed works but may incur noise and vibrational disturbance during construction. • A detailed Method Statement will be produced to outline how significant effects on badgers will be avoided during the works. This is likely to include the use of appropriate exclusion zones, toolbox talks for site contractors, and appropriate selection of plant machinery to minimise disturbance. If it is determined that significant disturbance effects cannot be avoided during the works, then a license from NRW may also be required to legally permit works around these setts. • Again, update surveys are likely to be required to update the status of the setts and ensure that any survey information used to help inform the mitigation is accurate.	Biodiversity	T-BD-021	• POA Construction CEMP (DOC. 102700DFPA09704) Section 7.2.2 • APPENDIX F – NOISE AND VIBRATION MANAGEMENT PLAN (DOC. 102700DFPA09763)
To prevent entrapment of wildlife, where trenches or voids are to be left overnight, a suitable means of escape will be provided (such as a ramp at no greater than a 45° angle) at regular intervals along the excavated trench channel/excavations. Any void/trench channel should be visually inspected prior to re-starting works each morning to confirm the absence of entrapped wildlife. All escape measures will be discussed and agreed with the ECoW to ensure they are suitable for the size of void and wildlife that may become trapped.	Biodiversity	T-BD-023	Included as general guidance which will be complied with through detailed design and construction.
The noise level associated with the works will be assessed in relation to the bat roost location and, if considered loud enough to have an impact, noise mitigation features will be implemented, such as sound barriers (fences, walls or landscape). Again, as far as practicable, construction hours will be limited to daylight hours, avoiding night-time work.	Biodiversity	T-BD-024	• POA Construction CEMP (DOC. 102700DFPA09704) Section 7.2.3 • APPENDIX F – NOISE AND VIBRATION MANAGEMENT PLAN (DOC. 102700DFPA09763)
Given the proximity of the works to the roosts, the works will be undertaken under a Precautionary Working Method Statement and a toolbox talk will be given to brief site contractors on site on the potential presence of bats, identification and the legal protection. It will also outline the measures to be taken if a bat is found on site.	Biodiversity	T-BD-025	POA Construction CEMP (DOC. 102700DFPA09704) Section 7.1

Action/Commitment	Topic	REAC Reference	Compliance Demonstration
Two common pipistrelle day roosts at Warren Farm are expected to be indirectly disturbed during the construction period, but no existing roosts are due to be lost. Where practicable, trees containing roosts will be retained and an exclusion buffer of a minimum of 10 m demarcated around the identified tree to reduce disturbance during construction. If trees with suitability to support roosting bats are required to be felled then precautionary measures are required. This includes a prefell check, soft-felling techniques and the presence of an ECoW. If a tree or structure is required to be removed that has a confirmed bat roost, work will be suspended until a NRW Protected Species licence is approved. If a roost does need to be destroyed, then appropriate compensation measures will need to be implemented such as the installation of bat boxes/houses/tree veteranisation. The ECoW will assess potential for disturbance in response to the type, duration and extent of works proposed in proximity to known roosts, advising of the need to implement mitigation or else apply for a European Protected Species Licence (EPSL) to facilitate works.	Biodiversity	T-BD-026	POA Construction CEMP (DOC. 102700DFPA09704) Section 7.1
Where practicable, works will be programmed to take place outside of the typical nesting season for barn owls, which is the period from March - August. Regardless of when works are undertaken, internal surveys of the buildings barn owls may be using will be carried out prior to any works to check for the presence of nesting barn owls. In the event active nesting is confirmed, additional mitigation measures (such as noise and vibration reduction measures and suitable exclusion zones) will be implemented to minimise the likelihood of disturbance. If significant disturbance is expected and cannot be mitigated for via standardised measures, a mitigation licence from NRW is likely to be required to legally permit disturbance of any nesting barn owls.	Biodiversity	T-BD-030	• POA Construction CEMP (DOC. 102700DFPA09704) Section 7.2.1 • APPENDIX D – LIGHTING MANAGEMENT PLAN (DOC. 102700DFPA09761)
Pre-start inspections of known barn owl locations will be undertaken prior to the commencement of construction works to determine any changes in nesting behaviour since the most recent surveys were carried out. The extent of any exclusion zones and other measures required for disturbance avoidance will be detailed fully once the further internal inspections of the two locations. These inspections should be undertaken by a suitably experienced person holding a NRW barn owl licence.	Biodiversity	T-BD-031	POA Construction CEMP (DOC. 102700DFPA09704) Section 7.2.1

Action/Commitment	Topic	REAC Reference	Compliance Demonstration
Invasive Non-Native Species (INNS) are present within the Red Line Boundary, including Crangonyx pseudogracilis/floridanua, Physella sp., signal crayfish or New Zealand mud snails. A Biosecurity Method Statement will be implemented throughout the construction of the TCPA Proposed Development. The Biosecurity Method Statement will detail the locations and extent of any INNS identified, alongside appropriate measures to control and prevent spread or propagation of INNS. High-level recommendations for the treatment and removal of INNS will be identified, and will include the following: • Prior to the start of works, an updated survey of all terrestrial working areas will be undertaken by a suitably qualified person to map the current extent of INNS. This must be carried out during the main vegetative growing season (April – September) to allow for maximum visibility of any plants present and ensure that their extents are fully captured. • Any invasive plant species recorded within the working areas will be demarcated and avoided during the works as far as feasible. • The non-native invasive entire-leaved cotoneaster will be removed from the Point of Ayr colliery site • Where complete avoidance of invasive species (INNS) within working areas may not be feasible, an appropriate treatment and removal programme (appropriate to the specific species in question) will be agreed and implemented and an INNS management plan will be produced, prior to any construction works being carried out. • A separate INNS management plan will be produced for the intertidal works and will include the methods to avoid the spread of INNS via marine vessels used during the construction phase.	Biodiversity	T-BD-032	• POA Construction CEMP (DOC. 102700DFPA09704) Section 7.2.8 • APPENDIX K – TERRESTRIAL INNS MANAGEMENT PLAN (DOC. 102700DFPA09769) • Biosecurity Risk Assessment and Method Statement (DOC. 102700DFQJ09791) [Ref 25]
Works within the intertidal area and around waterbodies and watercourses will follow best practice pollution prevention measures, as detailed in the CEMP, to avoid significant impacts on notable aquatic macroinvertebrates that may be using these habitats. Vibration reduction measures on plant and equipment, as detailed in the CEMP, will be implemented at all times and works kept to as short a duration as possible in order to minimise indirect disturbance.	Biodiversity	T-BD-034	Included as general guidance which will be complied with through detailed design and construction.

Action/Commitment	Topic	REAC Reference	Compliance Demonstration
Where practicable vegetation and site clearance works will be undertaken outside the bird nesting period, recognised as March to August inclusive, to avoid damage or destruction of nests. Where this is not possible, site clearance will be preceded by an inspection from an experienced ECoW within 24 hours of clearance works commencing to confirm the absence of active nests or nesting activity. If an active nest or activity is recorded, a minimum exclusion buffer of 5 m within which no works can take place will be implemented (exclusion buffer size will be at the discretion of the ECoW and in response to the species of bird encountered) and remain in place until the nest is confirmed inactive (either eggs hatch and chicks have fledged, or the nest attempt fails). All cleared vegetation will be rendered unsuitable for nesting birds, for example, by covering or chipping depending on the end purpose of the vegetation or will be removed from the works area.	Biodiversity	T-BD-035	POA Construction CEMP (DOC. 102700DFPA09704) Section 7.2.1
To avoid disturbance to flocks of non SPA-qualifying species at Warren Farm, including the Birds of Conservation Concern (BoCC) red-listed lapwing and amber-listed wigeon, works within Warren Farm will be carried out outside of the typical wildfowl wintering period, as far as practicable.	Biodiversity	T-BD-036	POA Construction CEMP (DOC. 102700DFPA09704) Sections 4.5 and 7.1
If avoiding works completely during the overwintering period is not feasible, works would be avoided within a three-hour period either side of high tide each day to minimise the likelihood of disturbing any overwintering birds present nearby where practicable. The Construction Contractor keeps a record of tide times as part of ongoing management and monitoring and this would be employed to help plan the works. In addition, physical screening of the working areas would be employed where considered necessary in order to minimise visual disturbance to wintering birds.	Biodiversity	T-BD-037	POA Construction CEMP (DOC. 102700DFPA09704) Sections 4.5 and 7.1
To minimise the likelihood of pollution events affecting GCN terrestrial habitat, best practice measures will be followed during construction, as detailed in the CEMP. With regard to vibrational disturbance, any groundworks (including the HDD) will avoid the GCN hibernation season (typically October/November – March, depending on weather and temperature), as far as practicable, to avoid significant disturbance of any hibernating newts. Where any suitable GCN habitat will not be directly affected but may still incur vibrational impacts, appropriate vibration reduction measures will be employed to the extent possible. In the event that GCN presence is confirmed at any stage, works must cease and the ECoW must be contacted for advice on how to proceed.	Biodiversity	T-BD-038	POA Construction CEMP (DOC. 102700DFPA09704) Section 7.1
To minimise the likelihood of significant impacts on terrestrial invertebrate species of conservation concern, details of dust mitigation and pollution prevention in the CEMP will be followed at all times during works around the Talacre dune system.	Biodiversity	T-BD-040	POA Construction (DOC. 102700DFPA09704) Section 7.1

Action/Commitment	Topic	REAC Reference	Compliance Demonstration
To ensure killing or injury of species such as common toad, common reptile and other mammals, is avoided during site clearance, a PWMS will be produced prior to the works, detailing how clearance works will be undertaken to minimise impacts. Clearance works will be directly supervised by an ECoW, who will provide a toolbox talk to site contractors prior to any works being carried out. If any common toads, common reptiles and other mammals are found during clearance, the ECoW will carefully move them to a safe location outside of the areas of works, or they will be allowed to move off of their own accord. All works will be carried out in accordance with measures detailed in the CEMP, with appropriate vibrational controls on machinery and best practice followed in relation to pollution prevention.	Biodiversity	T-BD-041	POA Construction CEMP (DOC. 102700DFPA09704) Section 7.2.7
Details of proposed mitigation measures to protect the Natterjack Toad include: […] • precautionary hand searches of any areas of the PoA Terminal that natterjack toads could feasibly access but are unlikely to be present; and	Biodiversity	T-BD-042	POA Construction CEMP (DOC. 102700DFPA09704) Section 7.2.6
In addition to implementing the above during construction and operation, the Construction Contractor will also continue to monitor the PoA terminal for calling natterjack toad as part of their on-going surveys. This will be carried out in accordance with the Management Plan for Talacre Dunes and The Warren, in which natterjack toad are mentioned as a specific feature for monitoring.	Biodiversity	T-BD-043	POA Construction CEMP (DOC. 102700DFPA09704) Section 7.2.6
In line with Policy STR13 of the Flintshire Local Development Plan (FLDP) permanent habitat loss will be minimised along the TCPA Proposed Development as far as reasonably practicable.	Biodiversity	T-BD-044	Included as general guidance which will be complied with through detailed design.
The HDD exit pit falls within the intertidal working area, directly adjacent to the embryonic shifting dune habitat. At the exit pit, a 10m3 containment sump will be present to contain any spillage of any drilling fluid. To further avoid potential contamination by drilling fluid, minimal use of a plant-friendly alternative to bentonite, which will be contained within the working area, will be used during HDD. Drilling mud will be cleaned up by hand using hand shovels, buckets, and soft-bristled brooms, minimising damage to existing vegetation. This will form part of wider pollution prevention measures, which will be detailed in the CEMP.	Biodiversity	T-BD-047	POA Construction CEMP (DOC. 102700DFPA09704) Section 4.5

Action/Commitment	Topic	REAC Reference	Compliance Demonstration
In order to reduce impacts on the Dee Estuary Ramsar and Natterjack Toads: […] If avoidance of significant disturbance during the breeding period is not feasible for any reason, it will be necessary to apply to NRW for a European Protected Species Licence (EPSL) to legally permit any works likely to disturb Natterjack Toads. It may be necessary to consult with NRW prior to application to help determine appropriate mitigation measures to be followed during the works. Such measures are likely to include noise and vibrational controls on any plant and equipment to be used, and minimise the duration of works, as far as feasible. Regardless of the requirement for an EPSL, appropriate pollution and dust controls (as outlined previously) will be implemented during works affecting Natterjack Toad habitat. These will be secured via the CEMP. Where Natterjack toad could be present within the PoA terminal, the ground will be hand-searched with an ECoW present.	Biodiversity	T-BD-048	• POA Construction CEMP (DOC. 102700DFPA09704) Section 7.2.6 • APPENDIX A – DUST MANAGEMENT PLAN (DOC. 102700DFPA09758) • APPENDIX F – NOISE AND VIBRATION MANAGEMENT PLAN (DOC. 102700DFPA09763)
In order to reduce impacts on bird species (Little Tern, Redshank, Teal, Pintail, Oystercatcher, Dunlin, Black-tailed Godwit and Curlew) in the DEE Estuary SPA/Ramsar and Mersey Narrows and North Wirral Foreshore Ramsar: Mitigation will involve avoidance of construction works during periods of significant numbers or levels of activity of these species within the potential disturbance distance buffer of 300m from works. The requirement for this mitigation will be informed by an ECoW, who will monitor the bird activity within this buffer in relation to time of year and state of tide. Where practicable, avoidance of sensitive periods of the year will be implemented when birds from European sites are likely to be present in significant numbers, and the construction period will be limited to the minimum practicable time for completing the works in order to minimise the duration of any significant impacts. Any risk of disturbance would be monitored and works will cease completely until such time that the bird species are no longer within the Zone of Influence, if such a threat exists. Temporal restrictions outlined here will broadly cover the period of September to March, inclusive. To avoid potential disturbance of bird species associated with the European sites, works should take place between April and August, where practicable. However, if this is not feasible and works must be carried out between September and March, this can only be carried out under supervision of the ECoW. As a general rule, no ECoW supervision would be required between April and August; however, a watching brief would be undertaken by the ECoW in relation to the established Little Tern colony if any construction works are to be undertaken around the PoA Terminal between April and July, inclusive. If any birds are showing disturbance behaviour within the 300m buffer zone during any stage of the works, the ECoW would stop work until it can be determined that disturbance has subsided. Full details of the mitigation will be written into the CEMP.	Biodiversity	T-BD-049	POA Construction CEMP (DOC. 102700DFPA09704) Section 7.1

Action/Commitment	Topic	REAC Reference	Compliance Demonstration
The Detailed Design of the TCPA Proposed Development will ensure the design is optimised to avoid unnecessary permanent design aspects, and minimising material consumption and waste generation, as far as reasonably practicable.	Greenhouse Gases	T-GG-001	POA Construction CEMP (DOC. 102700DFPA09704) Section 7.6.2
The Detailed Design of the TCPA Proposed Development will aim to substitute-in and use alternative raw materials and resources , where practicable.	Greenhouse Gases	T-GG-002	Included as general guidance which will be complied with through detailed design and POA Construction CEMP
The Detailed Design of the TCPA Proposed Development will aim to reduce the elements required and maximise the reuse of existing equipment where possible.	Greenhouse Gases	T-GG-003	Included as general guidance which will be complied with through detailed design and POA Construction CEMP (DOC. 102700DFPA09704) Section 7.6
Maximising the opportunity to use more sustainable materials and products with reduced embodied carbon emissions and materials/resources featuring recycled content (where safe and of sufficient integrity for engineering), eventually supported with eco- and carbon labels or verified Environmental Product Declarations (EPD), are preferred.	Greenhouse Gases	T-GG-004	POA Construction CEMP (DOC. 102700DFPA09704) Section 7.6
Construction materials will be sourced from local suppliers and local waste disposal facilities will be used where available and practicable to minimise the distance materials are transported from source to Site and from Site to disposal.	Greenhouse Gases	T-GG-005	• POA Construction CEMP (DOC. 102700DFPA09704) Section 7.6.2 • Waste Management Plan (DOC. 102700DFPA09780) [Ref 23]
Avoid disposal of construction waste to landfill, maximising recycling and reuse of waste where possible.	Greenhouse Gases	T-GG-006	• POA Construction CEMP (DOC. 102700DFPA09704) Section 7.6.2 • Waste Management Plan (DOC. 102700DFPA09780) [Ref 23]
Using modern and efficient low emission construction plant and delivery vehicles, and/or those powered by electricity from alternative/lower carbon fuels, as far as practicable. Construction Contractors will ensure high performance of plant and equipment through correct and efficient operation, maintenance, and servicing of vehicle fleet to avoid polluting emissions.	Greenhouse Gases	T-GG-007	POA Construction CEMP (DOC. 102700DFPA09704) Section 7.7.1
Training policies will be in place during site induction to avoid idling of engines, spills of fuels (for example, when refuelling) and safe/environmentally sensitive driving techniques to maximise fuel saving.	Greenhouse Gases	T-GG-008	POA Construction CEMP (DOC. 102700DFPA09704) Sections 7.7.1 and 9.2.3
The sustainability credentials of suppliers and companies in the supply chain will be considered as part of the procurement process.	Greenhouse Gases	T-GG-009	POA Construction CEMP (DOC. 102700DFPA09704) Section 7.6

Action/Commitment	Topic	REAC Reference	Compliance Demonstration
To reduce the level of energy consumption used during construction, innovative construction methods will be utilised where practicable. These may include: - avoiding sharp acceleration and braking to conserve fuel; - adjusting haul and access road/points to smoother gradients to avoid unnecessary fuel usage;	Greenhouse Gases	T-GG-010	POA Construction CEMP (DOC. 102700DFPA09704) Section 7.7.1
The design of the TCPA Proposed Development will be undertaken with a view to maximising the operational lifespan and minimising the need for maintenance and refurbishment.	Greenhouse Gases	T-GG-011	POA Construction CEMP (DOC. 102700DFPA09704) Section 7.6
Specifying efficient mechanical and electrical equipment that is long-lasting and based on its durability, repairability and energy efficiency credentials	Greenhouse Gases	T-GG-012	POA Construction CEMP (DOC. 102700DFPA09704) Section 7.6
The design progression of the PoA Terminal will ensure that variable speed drive CO2 compressors will be selected	Greenhouse Gases	T-GG-014	POA Construction CEMP (DOC. 102700DFPA09704) Section 7.6
Low-voltage electrical installations will comply with IEC60364, Part 8-1: Energy Efficiency.	Greenhouse Gases	T-GG-016	POA Construction CEMP (DOC. 102700DFPA09704) Section 7.6
Where practicable, designing, specifying, and dismantling the TCPA Proposed Development with a view to maximising the potential for the reuse/repurposing, recycling and/or recovery of materials and components of the TCPA Proposed Development at its end-of-life stage.	Greenhouse Gases	T-GG-021	POA Construction CEMP (DOC. 102700DFPA09704) Section 7.6
Any facilities for the storage of oils, fuels or chemicals will be sited on impervious bases and surrounded by impervious bund walls. The volume of the bunded compound should be 110% of the capacity of the tank, all filling points, gauges, vents and sight glasses will be located within the bund. Associated pipework should be located above ground and protected from accidental damage. All filling points and tank overflow pipe outlets will be detailed to discharge downwards into the bund and refuelling will be supervised at all times, preferably on an impermeable surface. This system will reduce the potential for the addition of new contaminants to the existing baseline environment (e.g., spill or leak).	Land and Soils	T-LS-002	POA Construction CEMP (DOC. 102700DFPA09704) Section 7.6.1
Any waste materials generated as a result of the TCPA Proposed Development will be disposed of satisfactorily by registered waste carriers and in accordance with Section 34 of the Environmental Protection Act 1990 and NRW relevant guidance on waste management. Uncontrolled disposal or discharge of waste is strictly forbidden, and compliance of all activities related to the management of waste with all existing local laws and regulations shall be assessed and assured by the subsidiary.	Land and Soils	T-LS-003	POA Construction CEMP (DOC. 102700DFPA09704) Section 7.6.2

Action/Commitment	Topic	REAC Reference	Compliance Demonstration
Acute exposure to potential contamination will be mitigated through normal working practice using appropriate Risk Assessment Method Statement and use of standard PPE and hygiene best practice. Where contamination is suspected, construction workers will be provided with appropriate Personal Protective Equipment (PPE) or Respiratory Protective Equipment (RPE) (over and above the standard PPE) to prevent direct contact, ingestion or inhalation of potential soil or groundwater contamination.	Land and Soils	T-LS-004	Remediation Strategy (DOC. 0743746) [Ref 28]
Earthworks will be completed in accordance with a Contaminated Land: Applications in Real Environments (CL:AIRE) compliant Materials Management Plan (MMP) to ensure re-used material does not present a risk to human health or the environment and complies with UK waste legislation regulations. An earthworks specification will be produced that will include protocols for testing and limiting values to ensure that imported materials are suitable for their intended use in terms of their chemical quality.	Land and Soils	T-LS-005	APPENDIX E – MATERIALS MANAGEMENT PLAN (DOC. 102700DFPA09762)
Incorporation of a temporary surface water drainage strategy will limit any contaminated run-off entering surrounding surface watercourses.	Land and Soils	T-LS-006	• Remediation Strategy (DOC. 0743746) [Ref 28] • APPENDIX G – SEDIMENT MANAGEMENT PLAN (DOC. 102700DFPA09764) • APPENDIX J – SURFACE WATER MANAGEMENT AND MONITORING PLAN (DOC. 102700DFPA09768)
Additional ground investigation at the Point of Ayr to provide a more robust data set on ground conditions and refine the understanding of the hydrogeological regime	Land and Soils	T-LS-007	APPENDIX C – GROUNDWATER MANAGEMENT AND MONITORING PLAN (DOC. 102700DFPA09760)
Appropriate measures to limit contamination to the ground from construction related plant/machinery and storage of materials will be incorporated within the detailed CEMP.	Land and Soils	T-LS-008	• POA Construction CEMP (DOC. 102700DFPA09704) Sections 7.4 and 7.6.1 • APPENDIX B – FLOOD ACTION PLAN (DOC. 102700DFPA09759) • APPENDIX C – GROUNDWATER MANAGEMENT AND MONITORING PLAN (DOC. 102700DFPA09760) • APPENDIX G – SEDIMENT MANAGEMENT PLAN (DOC. 102700DFPA09764)
The handling and temporary storage of soils will be in accordance with DEFRA (2009) Construction code of Practise (Ref. 11.31) and the IoQ (2021) Soil Handling Guide (Ref. 11.32).	Land and Soils	T-LS-009	APPENDIX E – MATERIALS MANAGEMENT PLAN (DOC. 102700DFPA09762)

Action/Commitment	Topic	REAC Reference	Compliance Demonstration
A Soil Management Plan (SMP) will be implemented in order to maintain the integrity of the soil during construction and to prevent significant loss of Best Most Versatile (BMV) agricultural land or other significant impact on the viability of farm practices.	Land and Soils	T-LS-010	APPENDIX H – SOIL MANAGEMENT PLAN (DOC. 102700DFPA09766)
Any unexpected disused below ground tanks, structures and / or pipework/ services encountered during construction that cannot be avoided will be appropriately decommissioned and removed (where necessary) by an appropriately qualified person as appointed by the Construction Contractor	Land and Soils	T-LS-011	Remediation Strategy (DOC. 0743746) [Ref 28]
Disused services will be decommissioned appropriately to ensure that no preferential pathways for contamination remain.	Land and Soils	T-LS-012	Remediation Strategy (DOC. 0743746) [Ref 28]
Where practicable appropriate drainage at TCPA infrastructure will be implemented to prevent contamination migration into and then via any trench fill where required.	Land and Soils	T-LS-014	Remediation Strategy (DOC. 0743746) [Ref 28]
Groundwater and surface water monitoring plans will be developed by the Construction Contractor to ensure appropriate monitoring before, during and after the construction works. The details of this monitoring will be agreed between the Construction Contractor and the regulator (Local CLO and NRW) prior to the commencement of the Construction Stage.	Land and Soils	T-LS-016	• APPENDIX G – SEDIMENT MANAGEMENT PLAN (DOC. 102700DFPA09764) • APPENDIX J – SURFACE WATER MANAGEMENT AND MONITORING PLAN (DOC. 102700DFPA09768)APPENDIX J - SURFACE WATER MANAGEMENT AND MONITORING PLAN (DOC. 102700DFPA09768)
Monitoring of gas ingress, such as mine gas, will be undertaken during trenching and drilling works where necessary. In addition, any trenches / excavations should be gas tested (as it is standard practice) prior to entry.	Land and Soils	T-LS-017	Remediation Strategy (DOC. 0743746) [Ref 28]
Backfilling of earthworks and use of trenchless crossing technologies to reduce loss of Site won material.	Land and Soils	T-LS-018	POA Construction CEMP (DOC. 102700DFPA09704) Section 7.5
Suitable storage and re-use of agricultural soil to reduce adverse effects to quality.	Land and Soils	T-LS-019	POA Construction CEMP (DOC. 102700DFPA09704) Section 7.5
Combination of cable trenching and horizontal directional drilling (HDD) to reduce loss of BMV agricultural land, avoid damage to environmentally sensitive land uses and controlled waters, and prevent exposure pathways to human health within the dunes area of the Foreshore of this ES.	Land and Soils	T-LS-020	POA Construction CEMP (DOC. 102700DFPA09704) Section 7.5

Action/Commitment	Topic	REAC Reference	Compliance Demonstration
It is proposed to select a site level that achieves a balanced cut and fill and so avoid import or export of materials to and from the site. Materials excavated for the trenching work will be stockpiled adjacent to the works and reused during backfilling of the trenches. Any topsoil or organic surface material will be stockpiled separately for re-use on completion of the works and revegetated as necessary. These methods reduce loss of site won material	Land and Soils	T-LS-021	APPENDIX E – MATERIALS MANAGEMENT PLAN (DOC. 102700DFPA09762)
Temporary installation or upgrade of existing access tracks for the Construction Compounds and work-fronts will be set up. Options include provision of bog matts (where wet soil conditions are anticipated) and compacted gravel tracks (where road-going vehicles or heavy traffic is anticipated).	Land and Soils	T-LS-023	POA Construction CEMP (DOC. 102700DFPA09704) Section 5.2
Any concrete used in below ground infrastructure will be selected based on the appropriate sulphate classifications.	Land and Soils	T-LS-024	Included as general guidance which will be complied with through detailed design and construction.
If, during the trenched ploughing, unexpected contamination is encountered, the open trench will be lined in order to inhibit water percolation and subsequent leachate generation	Land and Soils	T-LS-025	Remediation Strategy (DOC. 0743746) [Ref 28]
The Construction Contractor will appoint an appropriately qualified person (e.g., Environmental Clerk of Works (EnvCoW)) to maintain a Watching Brief for the duration of any ground excavations. The aim and scope of the Watching Brief will be to identify any unexpected contamination and advise on the correct course of action if discovered. Should unexpected Made Ground or unexpected contaminated ground (i.e., visual or olfactory evidence of contamination) be encountered during the construction phase the ECoW or equivalent qualified person will be notified. Testing of Made Ground for a minimum of asbestos, metals, petroleum hydrocarbons and polyaromatic hydrocarbons to assess suitability for re-use and potential risks to construction works should be undertaken.	Land and Soils	T-LS-026	• Remediation Strategy (DOC. 0743746) [Ref 28] • Pollution Prevention and Control Plan (DOC. 102700DFPA09776) [Ref 21]
If following T-LS-007 above remediation is determined to be required. A suitable remediation strategy will be produced following the additional Ground Investigation of point sources of contamination or if unexpected Made Ground is encountered during the construction phase. The remediation strategy will be approved by the Local Authority (FCC / NRW) prior to being implemented to mitigate unacceptable contaminated land related risks.	Land and Soils	T-LS-027	Remediation Strategy (DOC. 0743746) [Ref 28]

Action/Commitment	Topic	REAC Reference	Compliance Demonstration
Made Ground is discussed in Ground Investigation Report (Appendix 11.5, Volume III). Some areas of Made Ground have been tested and are below the GAC, Appendix 11.5 recommends additional investigation at the PoA Terminal. Any Made Ground tested (to date) and below the GAC is considered suitable for re-use within the TCPA Proposed Development however its re-use will be supervised in a watching brief.	Land and Soils	T-LS-028	• Remediation Strategy (DOC. 0743746) [Ref 28] • APPENDIX E – MATERIALS MANAGEMENT PLAN (DOC. 102700DFPA09762)
An Unexploded Ordnance (UXO) assessment will be undertaken and will be used during the production of all risk assessments and method statements.	Land and Soils	T-LS-029	POA Construction CEMP (DOC. 102700DFPA09704) Section 6.7
Construction Compound sites will be located to avoid being in close proximity to residential properties to minimise the number of receptors that could be affected.	Landscape and Visual	T-LV-001	APPENDIX F – NOISE AND VIBRATION MANAGEMENT PLAN (DOC. 102700DFPA09763)
Horizonal Directional Drilling (HDD) will be used under the sand dunes; minimising visibility and avoiding key landscape features.	Landscape and Visual	T-LV-002	POA Construction CEMP (DOC. 102700DFPA09704) Section 4.5
Land disturbed to make way for Construction Compounds that is not then utilised as part of the TCPA Proposed Development during operation will be reinstated and returned to existing land uses following completion of the construction stage.	Landscape and Visual	T-LV-003	Included as general guidance which will be complied with through detailed design.

Action/Commitment	Topic	REAC Reference	Compliance Demonstration
The avoidance of loss and/or replacement of any vegetation loss, in particular hedgerow and tree planting pertinent to landscape character is part of the iterative design process. Other key areas of mitigation include: • Avoid areas of woodland (including but not limited to National Forest Inventory and Ancient Woodland Inventory); • Avoid removal of trees covered by Tree Preservation Orders; • Avoid direct and indirect effects on designated areas on landscape features designated for their cultural heritage value such as Conservation Areas, Listed Buildings, and Ancient Monuments; • Avoid proximity to well settled areas and the larger urban centres and locate the TCPA Proposed Development outside of settlement boundaries; • Minimise potential for visual intrusion by locating TCPA Proposed Development sites away from future settlements, and outside of settlement boundaries; • Avoid direct effects on locally valued landscape features including woodland, hedgerows, and field drains, by siting BVSs to avoid these areas, including root protection zones of existing mature trees; • Avoid locations which are prominent within the landscape, to minimise their influence on the landscape setting and potential visual effects; • Utilise existing visual screening, through location in proximity to areas of woodland, belts and/or locally enclosed topography, such as valley bottoms or dips in localised undulations; • Minimise potential for visual intrusion by locating BVS sites away from larger settlements, and outside of settlement boundaries; • Where hedgerow, trees and woodland loss is unavoidable and takes place to make way for temporary access, these will be replaced on a like-for like basis and as close to the original location as practicable; • Utilise trenchless methods of construction around existing sand dunes, Station Road and maintain recreational routes as well as vegetation associated with these features and/or roadside hedgerow; and • Minimise loss of mature trees wherever possible.	Landscape and Visual	T-LV-004	Included as general guidance which will be complied with through detailed design.

Action/Commitment	Topic	REAC Reference	Compliance Demonstration
Where trees (stems) sit outside of the Red Line Boundary, the Root Protection Areas (RPAs) of these trees will be protected and retained. Protective measures will be detailed within a site specific Arboricultural Method Statement (AMS) and shown on a Tree Protection Plan (TPP) and where necessary, working methods will be monitored by a suitable Arboricultural Clerk of Works (ACoW). The Construction Contractor will prepare the AMS prior to construction and will ensure works within root protection areas will be appropriately supervised in line with BS5837:2012. The AMS will include details of: • Arboricultural monitoring; •Tree protection fencing •Construction Exclusion Zones (CEZ) •Temporary hard surfaces in RPAs. It is recommended that the AMS is viewed as a live document, which will be reviewed and updated (if necessary) at the following stages: • Design progression and discharge of conditions or reserved matters; • Construction Contractor engagement; • Pre-commencement; and • Prior to any instance where the site clearance or construction methodology is amended.	Landscape and Visual	T-LV-005	• Arboricultural Method Statement (DOC. 102700DFQJ09789) [Ref 24] • Tree Protection Plan (DOC. 102700DFPA09779) [Ref 22]
Arable land not required in operation will be cultivated and returned to agricultural use upon completion of construction. Fenced boundaries will be reinstated and gaps in hedgerows will be replanted. Grassland will be cultivated and reinstated. Protective fencing to areas of grassland reinstatement would typically remain in place for up to 12 months to exclude livestock and allow re-seeded grass to establish. It is considered that the majority of agricultural landscape will return to its previous use and form within a year of construction, if not earlier.	Landscape and Visual	T-LV-006	Included as general guidance which will be complied with through detailed design.
Where the TCPA Proposed Development crosses through boundaries with hedgerow, trees or watercourses, design of the TCPA proposed development will aim to optimise the extent of hedgerow removal to no more than a 15m width, to the extent that construct-ability can be feasibly achieved at each given location. Where practicable and where access allows, this will be reduced in some locations.	Landscape and Visual	T-LV-007	Included as general guidance which will be complied with through detailed design.

Action/Commitment	Topic	REAC Reference	Compliance Demonstration
Where mature trees unavoidably need to be removed, they will be replaced using an agreed method with the relevant local planning authority (refer to Appendix 9.1: Arboricultural Impact Assessment, Volume III, Document Reference: T.4.3.9.1).	Landscape and Visual	T-LV-010	Included as general guidance which will be complied with through detailed design.
Sections of other boundary features removed during construction, such as fences, will be replaced to match the original and/or adjacent boundary features. Boundary Marker posts for the new Foreshore Cables will be located at some boundaries to aid aerial surveillance and ground-based monitoring, and also to alert people to the presence of the TCPA. Proposed Development to reduce any risk of damage to it. The location and design of these markers will be selected to minimise intrusion on the landscape.	Landscape and Visual	T-LV-011	Included as general guidance which will be complied with through detailed design.
Any working areas, including Construction Compound (s) will be kept tidy through robust Construction Compound Management.	Landscape and Visual	T-LV-015	POA Construction CEMP (DOC. 102700DFPA09704) Section 7.6.2
A Dust Management Plan has been produced outlining measures to control dust, including timing works outside of prolonged dry weather and using dust suppression techniques.	Landscape and Visual	T-LV-016	APPENDIX A – DUST MANAGEMENT PLAN (DOC. 102700DFPA09758)
Habitats that are being retained during construction of the TCPA Proposed development should be protected using physical barriers, such as Heras fencing, to demarcate these areas and avoid the risk of encroachment and accidental damage.	Landscape and Visual	T-LV-017	Included as general guidance which will be complied with through detailed design.
Retention and protection of existing mature vegetation, where feasible. Retained trees and hedgerows, including their root system, shall be protected through the implementation of suitable Root Protection Zones (RPZ) in accordance with BS 5837:2012 Trees in relation to design, demolition and construction recommendations;	Landscape and Visual	T-LV-018	• Arboricultural Method Statement (DOC. 102700DFQJ09789) [Ref 24] • Tree Protection Plan (DOC. 102700DFPA09779) [Ref 22]
The construction programme will be kept to the minimum practicable time to reduce the duration of any ecological and/or landscape impacts. The TCPA Proposed Development will be delivered on a phased basis. Areas will be cleared for construction as close as possible to works commencing and top soiling, reseeding and planting will be undertaken during the next available season after sections of work are complete;	Landscape and Visual	T-LV-019	POA Construction CEMP (DOC. 102700DFPA09704) Section 4.6
Work during hours of darkness will be avoided as far as practicable to avoid the need for temporary lighting. Any lighting will be sensor or manually operated avoiding the need for any permanent lighting;	Landscape and Visual	T-LV-020	APPENDIX D – LIGHTING MANAGEMENT PLAN (DOC. 102700DFPA09761)

Action/Commitment	Topic	REAC Reference	Compliance Demonstration
Wherever possible, access points to the Red Line Boundary area will seek to minimise impacts on hedges and trees.	Landscape and Visual	T-LV-021	• Arboricultural Method Statement (DOC. 102700DFQJ09789) [Ref 24] • Tree Protection Plan (DOC. 102700DFPA09779) [Ref 22]
Retention and protection of trees covered by Tree Preservation Orders (unless agreed otherwise with the Local Planning Authority).	Landscape and Visual	T-LV-022	• Arboricultural Method Statement (DOC. 102700DFQJ09789) [Ref 24] • Tree Protection Plan (DOC. 102700DFPA09779) [Ref 22]
Existing belts of trees within the proposed Centralised Compound to the south of the PoA Terminal and those located to the east of the PoA temporary working area (see Figure 3.3: TCPA Temporary Works, Volume IV) will be protected and retained during construction.	Landscape and Visual	T-LV-026	POA Construction CEMP (DOC. 102700DFPA09704) Section 6.1.6
The construction stage(s) of the TCPA Proposed Development will be managed through the implementation of the Construction Phase Plan (required under the CDM Regulations 2015).	Major Accidents and Disaster	T-MD-001	Included as general guidance which will be complied with through construction.
All construction risks will be managed in accordance with the CDM Health & Safety Plan and Construction Phase Plan.	Major Accidents and Disaster	T-MD-005	Included as general guidance which will be complied with through construction.
The Applicant and Construction Contractor will implement a Construction and Environmental Management systems (including the CEMP).	Major Accidents and Disaster	T-MD-009	POA Construction CEMP (DOC. 102700DFPA09704) Section 1.3.1
The Construction Contractor will ensure that the application of circular economy principles will be followed, as implemented in the detailed CEMP, including: • Design solutions to prevent the production of waste where feasible, and to send the waste produced for recovery where possible; • Considering all phases of construction, operation and decommissioning in a lifecycle approach; and Identification of resource streams that might be considered by-products (i.e. not wastes, as per applicable legislation) and reused or recycled	Material Assests and Waste	T-MW-001	• POA Construction CEMP (DOC. 102700DFPA09704) Section 7.6.2 • APPENDIX E – MATERIALS MANAGMENT PLAN (DOC. 102700DFPA09762) • Waste Management Plan (DOC. 102700DFPA09780) [Ref 23]
The Waste Management Plan, which will be produced by the Construction Contractor(s), will adhere to all relevant legislation and the Applicant's waste management procedures including technical guidance note (AMTE TG 010) as detailed in the Applicant's policy.	Material Assests and Waste	T-MW-002	• POA Construction CEMP (DOC. 102700DFPA09704) Section 7.6.2 • Waste Management Plan (DOC. 102700DFPA09780) [Ref 23]

Action/Commitment	Topic	REAC Reference	Compliance Demonstration
Waste storage areas will be incorporated into the design with waste segregation measures put in place by the Construction Contractor.	Material Assests and Waste	T-MW-003	• POA Construction CEMP (DOC. 102700DFPA09704) Section 7.6.2 • Waste Management Plan (DOC. 102700DFPA09780) [Ref 23]
Identification and specification of material resources that can be acquired responsibly, in accordance with BES 6001 Responsible Sourcing of Construction Products	Material Assests and Waste	T-MW-004	• POA Construction CEMP (DOC. 102700DFPA09704) Section 7.6.2 • Waste Management Plan (DOC. 102700DFPA09780) [Ref 23]
The Construction Contractor will implement, and follow guidance within, the Materials Management Plan (MMP) in accordance with the CL:AIRE Definition of Waste: Code of Practice.	Material Assests and Waste	T-MW-005	• POA Construction CEMP (DOC. 102700DFPA09704) Section 7.6.2 • APPENDIX E – MATERIALS MANAGMENT PLAN (DOC. 102700DFPA09762)
Engage early with Construction Contractors to identify possible enhancement and mitigation measures to identify opportunities to further reduce any waste through collaboration and regional synergies.	Material Assests and Waste	T-MW-006	• POA Construction CEMP (DOC. 102700DFPA09704) Section 7.6.2 • Waste Management Plan (DOC. 102700DFPA09780) [Ref 23]
The Noise and Vibration Management Plan will detail the noise mitigation measures included in the Detailed Design, the noise and vibration limits to be met and a programme of noise and vibration monitoring which should be followed during the Construction Stage.	Noise and Vibration	T-NV-001	• POA Construction CEMP (DOC. 102700DFPA09704) Section 7.3.3 • APPENDIX F – NOISE AND VIBRATION MANAGEMENT PLAN (DOC. 102700DFPA09763)
After current design, and before the commencement of the construction period, a Noise and Vibration Management Plan will be produced and agreed with the Local Authority setting out the requirements for noise and vibration mitigation measures.	Noise and Vibration	T-NV-003	APPENDIX F – NOISE AND VIBRATION MANAGEMENT PLAN (DOC. 102700DFPA09763)
The Construction Contractor will nominate a Community Liaison Representative (or equivalent title) who will be a nominated competent site contact for whom the contact details will be shared with local residents and other third parties within close proximity to the construction works and will be displayed clearly within the site compounds.	Noise and Vibration	T-NV-004	• POA Construction CEMP (DOC. 102700DFPA09704) Section 9.2.4 • APPENDIX F – NOISE AND VIBRATION MANAGEMENT PLAN (DOC. 102700DFPA09763) • APPENDIX I – STAKEHOLDER COMMUNICATIONS PLAN (DOC. 102700DFPA09767)

Action/Commitment	Topic	REAC Reference	Compliance Demonstration
Construction works will utilise low noise generating plant and equipment and will adopt methods which minimise noise and vibration, wherever practicable.	Noise and Vibration	T-NV-005	• POA Construction CEMP (DOC. 102700DFPA09704) Section 7.3.3 • APPENDIX F – NOISE AND VIBRATION MANAGEMENT PLAN (DOC. 102700DFPA09763)
Where required, temporary acoustic barriers will be considered around significant noise producing plant that are in close proximity to sensitive receptors. The locations of these screens will be optimised for acoustic mitigation whilst considering other potential impacts.	Noise and Vibration	T-NV-006	• POA Construction CEMP (DOC. 102700DFPA09704) Section 7.3.3 • APPENDIX F – NOISE AND VIBRATION MANAGEMENT PLAN (DOC. 102700DFPA09763)
Optimal location(s) of all equipment with the potential to cause a significant effect on noise on site will be agreed with the Local Authorities as part of the Noise and Vibration Management Plan prior to construction to minimise noise disturbance to local sensitive receptors.	Noise and Vibration	T-NV-007	• POA Construction CEMP (DOC. 102700DFPA09704) Section 7.7.1 • APPENDIX F – NOISE AND VIBRATION MANAGEMENT PLAN (DOC. 102700DFPA09763)
During construction, the Construction Contractor will ensure that the provision of acoustic enclosures around static plant, where practicable, is in place to reduce noise disturbance.	Noise and Vibration	T-NV-008	• POA Construction CEMP (DOC. 102700DFPA09704) Section 7.7.1 • APPENDIX F – NOISE AND VIBRATION MANAGEMENT PLAN (DOC. 102700DFPA09763)
Construction vehicles will, wherever practicable, be fitted with less intrusive warning alarms, such as broadband vehicle reversing warnings.	Noise and Vibration	T-NV-009	APPENDIX F – NOISE AND VIBRATION MANAGEMENT PLAN (DOC. 102700DFPA09763
Where possible, a standard working-day of 10 hours per day and 5 days per working week and 5 hours on Saturdays is will be implemented for the construction of the TCPA Proposed Development	Population and Human Health	T-PH-002	POA Construction CEMP (DOC. 102700DFPA09704) Section 5.1
A Construction Traffic Management Plan will be prepared and will provide details of procedures for construction related traffic.	Population and Human Health	T-PH-003	APPENDIX L – CONSTRUCTION TRAFFIC MANAGEMENT PLAN (INC. WORKER TRAVEL PLAN (DOC. 102700DJPC09406)
The public will be informed of the nature, timing and duration of particular construction activities and the duration of the construction works by newsletters and liaison with the construction contractor.	Population and Human Health	T-PH-004	APPENDIX I – STAKEHOLDER COMMUNICATIONS PLAN (DOC. 102700DFPA09767)
Construction Compounds will be set out and managed so as to reduce impacts on access to / from private property and housing, and community facilities as far as practicable.	Population and Human Health	T-PH-005	POA Construction CEMP (DOC. 102700DFPA09704) Section 5.2

Action/Commitment	Topic	REAC Reference	Compliance Demonstration
Clear signage and directions for any alternative routes and appropriate alternative diversions will be provided and diversions clearly publicised to maintain access. Signage to advertise that businesses are open and operating as normal will also be provided where required.	Population and Human Health	T-PH-006	• POA Construction CEMP (DOC. 102700DFPA09704) Section 7.3.4.1 • APPENDIX L – CONSTRUCTION TRAFFIC MANAGEMENT PLAN (INC. WORKER TRAVEL PLAN (DOC. 102700DJPC09406)
Community Facilities will be consulted prior to construction where access arrangements will be directly affected. Traffic management systems and diversion routes will be put in place to maintain access to identified community facilities.	Population and Human Health	T-PH-007	• POA Construction CEMP (DOC. 102700DFPA09704) Section 7.3.4.1 • APPENDIX L – CONSTRUCTION TRAFFIC MANAGEMENT PLAN (INC. WORKER TRAVEL PLAN (DOC. 102700DJPC09406)
Vehicular access will be maintained at all times to community facilities which perform emergency service activities.	Population and Human Health	T-PH-008	• POA Construction CEMP (DOC. 102700DFPA09704) Section 7.3.4.1 • APPENDIX L – CONSTRUCTION TRAFFIC MANAGEMENT PLAN (INC. WORKER TRAVEL PLAN (DOC. 102700DJPC09406)
A Dust Management Plan has been prepared to set out mitigation measures for dust and PM10. This is provided within the CEMP (Document Reference: T.5.1).	Population and Human Health	T-PH-009	APPENDIX A – DUST MANAGEMENT PLAN (DOC. 102700DFPA09758)
Construction activities that take place adjacent to Point of Ayr Holiday Park and Haven Presthaven Holiday Park, where practicable will be outside of the peak holiday seasons (e.g. peak summer season (July – August) as well as half terms and Easter holidays.	Population and Human Health	T-PH-010	POA Construction CEMP (DOC. 102700DFPA09704) Section 7.3
Careful consideration will be taken of the siting of temporary access points during construction. Access points will require the incorporation of site-specific and appropriate visibility splays, turning radii and, where deemed necessary or appropriate, speed limit reductions.	Traffic and Transport	T-TT-001	• POA Construction CEMP (DOC. 102700DFPA09704) Section 7.3.4.1 • APPENDIX L – CONSTRUCTION TRAFFIC MANAGEMENT PLAN (INC. WORKER TRAVEL PLAN (DOC. 102700DJPC09406)
The Construction Contractor will follow the mitigation measures in the Construction Traffic Management Plan (CTMP) during construction works.	Traffic and Transport	T-TT-002	• POA Construction CEMP (DOC. 102700DFPA09704) Section 7.3.4.1 • APPENDIX L – CONSTRUCTION TRAFFIC MANAGEMENT PLAN (INC. WORKER TRAVEL PLAN (DOC. 102700DJPC09406)

Action/Commitment	Topic	REAC Reference	Compliance Demonstration
Sensitive selection and specification of construction access points off the public highway. Construction traffic routes have been selected to reduce, where possible, traffic effects on links that would be more sensitive to changes in traffic volumes, due to the presence of built environment indicators used by sensitive affected parties.	Traffic and Transport	T-TT-003	• POA Construction CEMP (DOC. 102700DFPA09704) Section 7.3.4.1 • APPENDIX L – CONSTRUCTION TRAFFIC MANAGEMENT PLAN (INC. WORKER TRAVEL PLAN (DOC. 102700DJPC09406)
Details of temporary diversions for footpaths are provided within the Outline CTMP included within the OCEMP (Document Reference: T.5.1), of which the Construction Contractor will implement on site.	Traffic and Transport	T-TT-004	• POA Construction CEMP (DOC. 102700DFPA09704) Section 7.3.4.1 • APPENDIX L – CONSTRUCTION TRAFFIC MANAGEMENT PLAN (INC. WORKER TRAVEL PLAN (DOC. 102700DJPC09406)
Community Engagement and Public Information. Information regarding construction traffic activities and movements would be provided to the public. The means of communication would include online updates, letter drops, information boards and details of key contacts.	Traffic and Transport	T-TT-005	• APPENDIX I – STAKEHOLDER COMMUNICATIONS PLAN (DOC. 102700DFPA09767) • APPENDIX L – CONSTRUCTION TRAFFIC MANAGEMENT PLAN (INC. WORKER TRAVEL PLAN (DOC. 102700DJPC09406)
CTMP measures to include other standard forms of mitigation including for example temporary traffic management, hazard signage, timing restrictions – details and requirement for these measures to be agreed with the LPA. Specific measures to include: • the introduction of temporary speed restrictions; • controls on timings to minimise HGV deliveries at peak times; and • the use of traffic marshals to manage HGV movements with local traffic and pedestrians/cyclists to minimise exposure for these groups to construction traffic; • the details and requirement for these measures to be agreed with Flintshire County Council by the contractor in development of the full CTMP.	Traffic and Transport	T-TT-006	APPENDIX L – CONSTRUCTION TRAFFIC MANAGEMENT PLAN (INC. WORKER TRAVEL PLAN (DOC. 102700DJPC09406)
Implement a Travel Plan. Travel plan to include measures to reduce single occupancy car trips via a car sharing scheme and the use of minibuses to transport workers to compounds and access locations.	Traffic and Transport	T-TT-007	• POA Construction CEMP (DOC. 102700DFPA09704) Section 7.3.4.1 • APPENDIX L – CONSTRUCTION TRAFFIC MANAGEMENT PLAN (INC. WORKER TRAVEL PLAN (DOC. 102700DJPC09406)

Action/Commitment	Topic	REAC Reference	Compliance Demonstration
When laying the Foreshore Cables, HDD trenchless method will be used to cross the Talacre Brook and the Gronant Dune and Talacre Warren SSSI. The PoA Ditch 1 will be crossed using a trench and during this the hydrological regime will be maintained through temporary diversion or pumping and there will be careful control of sediment and pollutants. The bed and banks will be reinstated, and similar vegetation will be replanted.	Water Resources and Flood Risk	T-WR-001	POA Construction CEMP (DOC. 102700DFPA09704) Section 4.0
In areas already served by a surface water management system the drainage strategy will re-use and enhance existing drainage systems.	Water Resources and Flood Risk	T-WR-003	APPENDIX K – SURFACE WATER MANAGEMENT AND MONITORING PLAN (DOC. 102700DFPA09768)
Construction works will avoid the positioning of temporary material stockpiles near to watercourses and will ensure material stockpiles are located outside of the flood zone where practicable.	Water Resources and Flood Risk	T-WR-004	APPENDIX H – SEDIMENT MANAGEMENT PLAN (DOC. 102700DFPA09764)
The Construction Contractor will produce a Sediment Management Plan and ensure that a sufficient working area is made available for effective sediment management for works within watercourses.	Water Resources and Flood Risk	T-WR-005	APPENDIX H – SEDIMENT MANAGEMENT PLAN (DOC. 102700DFPA09764)
Stockpiles will be located a minimum of 10m from the top of bank of any watercourse, where practicable.	Water Resources and Flood Risk	T-WR-006	APPENDIX H – SEDIMENT MANAGEMENT PLAN (DOC. 102700DFPA09764)
Where necessary, temporary stockpiles will be covered when not in use.	Water Resources and Flood Risk	T-WR-007	APPENDIX H – SEDIMENT MANAGEMENT PLAN (DOC. 102700DFPA09764)
Surface water runoff from construction works within 10m of watercourses will be treated by use of a sediment trap where required.	Water Resources and Flood Risk	T-WR-008	APPENDIX H – SEDIMENT MANAGEMENT PLAN (DOC. 102700DFPA09764)
Temporary drainage systems will be used where required to alleviate both flood risk and help to prevent sediment laden runoff entering the watercourse.	Water Resources and Flood Risk	T-WR-009	APPENDIX H – SEDIMENT MANAGEMENT PLAN (DOC. 102700DFPA09764)
All drains within the construction works areas will be identified and labelled and measures implemented to those considered most at risk of polluting substances from entering them.	Water Resources and Flood Risk	T-WR-010	APPENDIX H – SEDIMENT MANAGEMENT PLAN (DOC. 102700DFPA09764)

Action/Commitment	Topic	REAC Reference	Compliance Demonstration
Areas with a greater risk of spillage (for example, vehicle maintenance and storage areas for hazardous materials) will be carefully sited (for example, away from drains or areas where surface waters may pond) and on an impermeable surface.	Water Resources and Flood Risk	T-WR-011	APPENDIX H – SEDIMENT MANAGEMENT PLAN (DOC. 102700DFPA09764)
Emergency response plans will be developed, and spill kits made available on-site.	Water Resources and Flood Risk	T-WR-012	APPENDIX H – SEDIMENT MANAGEMENT PLAN (DOC. 102700DFPA09764)
Measures to be put in place to prevent pollution from construction plant including: - activities involving vehicles and machinery including refuelling and lubricating are to be carried out in designated areas, on an impermeable surface, with appropriate cut-off drainage located away from watercourses; - plant to be maintained in a good condition with wheel washing in place (avoiding vehicle cleaning near to existing watercourses), - all refuelling would be supervised and carried out in a designated area. In the event of plant breakdown, drip trays would be used during any emergency maintenance and spill kits would be available on-site. Guidance for Pollution Prevention would be used to inform the CEMP.	Water Resources and Flood Risk	T-WR-013	POA Construction CEMP (DOC. 102700DFPA09704) Section 7.6.1
Fuels and potentially hazardous construction materials would be stored in bunds that have areas with external cut-off drainage; fuel would be stored in double skinned tanks with 110% capacity.	Water Resources and Flood Risk	T-WR-014	POA Construction CEMP (DOC. 102700DFPA09704) Section 7.6.1
Construction plant will be checked regularly for oil and fuel leaks, particularly when construction works are undertaken in or near the existing waterbodies.	Water Resources and Flood Risk	T-WR-015	POA Construction CEMP (DOC. 102700DFPA09704) Section 7.6.1
Waste fuels and other fluid contaminants will be collected in leak-proof containers prior to removal from the construction area to an approved recycling processing facility.	Water Resources and Flood Risk	T-WR-016	POA Construction CEMP (DOC. 102700DFPA09704) Section 7.6.1.2
Oil absorbent booms will be made available at construction compounds and works areas and will be deployed as soon as possible in the event of a significant spillage.	Water Resources and Flood Risk	T-WR-017	POA Construction CEMP (DOC. 102700DFPA09704) Section 8.1
Measures implemented to control spillage or pollution risks for site runoff […] will be regularly inspected to ensure they are working effectively.	Water Resources and Flood Risk	T-WR-019	APPENDIX H – SEDIMENT MANAGEMENT PLAN (DOC. 102700DFPA09764)

Action/Commitment	Topic	REAC Reference	Compliance Demonstration
Concrete wash out will only take place at designated concrete washout areas.	Water Resources and Flood Risk	T-WR-020	POA Construction CEMP (DOC. 102700DFPA09704) Section 7.6.1.2
Avoid pumping or similar processes of concrete over or adjacent to open water where possible and such works will be closely observed to ensure the swift shut off any pumps if a spillage occurs.	Water Resources and Flood Risk	T-WR-021	POA Construction CEMP (DOC. 102700DFPA09704) Section 7.6.1.2
Surface water run-off and excavation dewatering will be captured and settled out prior to disposal where practicable. The Construction Contractor will ensure that any contaminants are to be suitably removed prior to disposal.	Water Resources and Flood Risk	T-WR-022	POA Construction CEMP (DOC. 102700DFPA09704) Section 7.4
Where works are within 10m of watercourses, sediment barriers will be provided between earth works and the construction zone and the watercourse to prevent sediment from washing into the river.	Water Resources and Flood Risk	T-WR-023	APPENDIX H – SEDIMENT MANAGEMENT PLAN (DOC. 102700DFPA09764)
Silt fences, silt traps, filter bunds, settlement basins and/or proprietary units' will be used to treat sediment laden water generated on-site before discharge.	Water Resources and Flood Risk	T-WR-024	APPENDIX H – SEDIMENT MANAGEMENT PLAN (DOC. 102700DFPA09764)
Sewage generated from site welfare facilities will be disposed of appropriately. This may be by discharge to the foul sewer network or by collection in septic tank for disposal off-site.	Water Resources and Flood Risk	T-WR-025	POA Construction CEMP (DOC. 102700DFPA09704) Section 5.4
Works will be undertaken in compliance with the relevant sections of BS6031:2009 Code of Practice for Earthworks (British Standards, 2009) with respect to protection of water quality and control of Site drainage including washings, dewatering, abstractions, and surface water.	Water Resources and Flood Risk	T-WR-026	APPENDIX H – SEDIMENT MANAGEMENT PLAN (DOC. 102700DFPA09764)
Avoid construction activities during high flow events and heavy rainfall where practicable. Monitoring of flows and rainfall within the upstream catchment will be undertaken and action taken to halt works should high flows be anticipated due to prevailing weather conditions.	Water Resources and Flood Risk	T-WR-029	APPENDIX H – SEDIMENT MANAGEMENT PLAN (DOC. 102700DFPA09764)

Action/Commitment	Topic	REAC Reference	Compliance Demonstration
A groundwater management and monitoring plan (GWMMP) will be implemented alongside a CEMP. The GWMMP will consider: limits to the scale, depth and time of temporary dewatering by change of method or by division of works to reduce the zone of influence of dewatering; reduction in the use of damaging construction methods to aquifer physical properties such as consolidating; provision of (compensatory) discharges to Groundwater Dependant Terrestrial Ecosystems (GWDTEs) or use of water recycling during dewatering to support water level and flows where these may be reduced and provision of monitoring of water levels in nearby wells or surface water to enable/ identify further mitigation measures when needed.	Water Resources and Flood Risk	T-WR-030	APPENDIX C – GROUNDWATER MANAGEMENT AND MONITORING PLAN (DOC. 102700DFPA09760)
A Flood Action Plan will be adoption and implementation and will include measures such as: • Sign up for flood warnings and check online warnings regularly; • Avoid works in the undefended floodplain or in the watercourse during high flow events, intense rainfall events or when a flood warning is issued; • Checklist of procedures that can be quickly accessed by staff during a flood; • Materials and mobile machinery to be stored outside the undefended floodplain; and • If a flood warning is received from NRW, move all machinery and equipment out of the undefended floodplain. If this cannot be completed in a safe time, secure equipment to prevent it being washed away.	Water Resources and Flood Risk	T-WR-031	APPENDIX B – FLOOD ACTION PLAN (DOC. 102700DFPA09759)
The contractor will develop and implement a Surface Water Management and Monitoring Plan to ensure appropriate monitoring of water quality is carried out before, during and after the construction works and that adaptive mitigation is implemented if monitoring shows that existing mitigation measures are not deemed sufficient	Water Resources and Flood Risk	T-WR-032	APPENDIX J – SURFACE WATER MANAGEMENT AND MONITORING PLAN (DOC. 102700DFPA09768)
The Groundwater Management and Monitoring plan will establish a protocol for the assessment and response to monitoring data and provide methods to assess compliance with the conditions of development consents, environmental protection licences and legislation relating to groundwater and GWDTE	Water Resources and Flood Risk	T-WR-033	APPENDIX C – GROUNDWATER MANAGEMENT AND MONITORING PLAN (DOC. 102700DFPA09760)
At the trenched crossings of PoA Ditch 1, there will be a control of flows via over-pumping to avoid an increase of flood risk.	Water Resources and Flood Risk	T-WR-034	• POA Construction CEMP (DOC. 102700DFPA09704) Section 7.4 • APPENDIX B – FLOOD ACTION PLAN (DOC. 102700DFPA09759)

Action/Commitment	Topic	REAC Reference	Compliance Demonstration
At the PoA Terminal, a subsurface utilities survey including drainage should be undertaken as required to inform the design progression works to ensure the information provided as part of the Issued for Construction drawing produced in 1993 is still accurate	Water Resources and Flood Risk	T-WR-036	POA Construction CEMP (DOC. 102700DFPA09704)
Groundwater monitoring will be undertaken as required to understand any potential risk of groundwater flooding to inform the design progression.	Water Resources and Flood Risk	T-WR-037	APPENDIX C – GROUNDWATER MANAGEMENT AND MONITORING PLAN (DOC. 102700DFPA09760)

This section includes the site-specific control measures identified in relation to the whole TCPA development. These measures shall be incorporated into the Risk Assessments and Method Statements (RAMS) prepared by the Construction Contractor, and all RAMS shall be communicated to the workforce.

7.1 Archaeology

A draft Written Scheme of Investigation (WSI) was shared with Heneb in July for consultation prior to submitting the planning application. Following feedback received from Heneb, a final WSI has been submitted with the planning application.

The WSI has been finalised as '***Project Design for Archaeological Monitoring and Recording – Point of Ayr HDD Cable Installation and Foreshore Works***' (PD). The PD document sets out the required **archaeological monitoring and recording strategy**.

The PD scheme ensures that archaeological remains encountered during construction are **identified, recorded, and appropriately managed** in compliance with local planning conditions, national legislation, and professional archaeological standards.

The Key Elements of the PD are as follows:

- **Legislative Framework:** Compliance with the Historic Environment (Wales) Act 2023, Protection of Military Remains Act 1986, and related planning policies.
- **Archaeological Baseline:** The site has moderate potential for prehistoric, medieval, and post-medieval remains; low potential for Roman and early medieval finds. WWII features and aircraft crash sites are known nearby.
- **Methodology:**
    - Supervised mechanical excavation and hand excavation.
    - Recording through written, photographic, and digital methods.
    - Environmental sampling, finds recovery, and specialist conservation as required.
    - Specific protocols for human remains, aircraft crash sites, and unexpected discoveries.
- **Reporting & Archiving:** Findings will be reported to the client and local authority within eight weeks of fieldwork, archived with the National Monuments Record for Wales, and disseminated through professional and public channels.
- **Programme & Staffing:** Monitoring is expected to commence in **February 2026**. Qualified archaeological contractors will be appointed, overseen by an archaeological consultant liaising with local heritage authorities.
- **Health & Safety:** Compliance with CDM 2015 regulations, site-specific RAMS, UXO awareness, and standard PPE requirements.
- **Monitoring & Assurance:** Weekly progress reporting, consultant oversight, and flexibility in construction scheduling to accommodate archaeological discoveries.

The PD establishes a robust framework to safeguard and document archaeological assets during the Point of Ayr HDD and foreshore works. It balances construction requirements with heritage protection, ensuring compliance with statutory obligations and best practice in archaeological monitoring.

A fully illustrated archaeological watching brief report will be made available to LBCCS and the LPA Archaeological Advisor within six weeks of the completion of fieldwork, in accordance with the CIfA standards and guidance (2023a-b) as stated in the WSI developed for this for the HDD and lay of the cable activities.

7.2 Ecology

Further Ecological surveys will be carried out and, once the results are available, they will be included in an EMP [Ref 19] with species and site specific control measures.

7.2.1 Birds

Further surveys on bird species are required, this will be undertaken in 2025 and results included in an EMP [Ref 19].

During 2027 there is currently proposed to be a 3-4 week period where overlapping construction works will be undertaken with Warren Farm, however this is expected to be within June / July so outside of the overwintering period.

In accordance with REAC measure T-BD-037 (FUL/000246/23), if avoiding works completely during the overwintering period is not feasible, works would be avoided within a three-hour period either side of high tide each day to minimise the likelihood of disturbing any overwintering birds present nearby where practicable. The Contractor keeps a record of tide times as part of ongoing management and monitoring and this would be employed to help plan the works. Notwithstanding, physical screening of the HDD Entry Pit will be employed by a close boarded fence to provide noise and visual screening.

Where practicable, vegetation and site clearance works will be undertaken outside the bird nesting period, recognised as March to August inclusive, to avoid damage or destruction of nests. Where this is not possible, site clearance will be preceded by an inspection from an experienced ECoW within 24 hours of clearance works commencing to confirm the absence of active nests or nesting activity. If an active nest or activity is recorded, a minimum exclusion buffer of 5m within which no works can take place will be implemented and remain in place until the nest is confirmed inactive or the nest fails. Should suitable breeding habitat within 25m of the RLB be disturbed during Cetti's warbler's nesting season, pre-construction checks for the presence of Cetti's warbler should be completed. If an active nest or activity is recorded, a minimum exclusion buffer of 25m within which no works can take place will be implemented and remain in place until the nest is confirmed inactive or the nest fails. The HDD works at Warren Farm are unlikely to be within 25 m of the habitat identified as suitable for Cetti's warbler. Furthermore, the main works in Warren Farm are not scheduled to coincide with the breeding (late March to Mid-April), and peak nesting (April to June) periods for Cetti's warbler.

Little tern: The installation of the HDD Exit Pit on Talacre Beach are currently programmed to avoid most of the little tern breeding season by carrying out the HDD Conduit, and Exit Pit works during February and March 2026.
Additionally, Liverpool Bay CCS Limited will continue to work with NRW and the local wildlife groups to design and deliver the nature conservation and management activities it currently undertakes around Gronant, and Talacre Dunes.
Refer to Sections 7.3.2 and 7.3.3 for control measures regarding lighting, noise and vibration.

Barn Owl: The structure where two Barn Owls were roosting (Location 1) is located directly adjacent to a proposed site compound and start of directional drilling works. It is likely that Barn Owl, if present, will be disturbed by these works.
In accordance with T-BD-030 and T-BD-031 – REAC, the ECoW will carry out further surveys to determine the status of barn owl at both identified locations and the wider area.
If barn owls are recorded nesting or roosting, an exclusion zone of 50 - 100 m should be set up around the feature.
Where barn owls are not nesting, access to the feature should be temporarily blocked, or closed to avoid disturbance during construction where possible. Once construction is complete, all features and / or boxes that were blocked, closed or removed must be re-opened/replaced.

7.2.2 Badgers

Bait marking is required to inform the licence application, this has been undertaken in March / April 2025 and results are included in an EMP [Ref 19]. If required, an additional badger survey may be conducted around the PoA Terminal and at Warren Farm to update the setts locations.

In accordance with T-BD-008 and T-BD-021 – REAC, construction works in areas considered suitable for badger can continue under supervision of an ECoW. However, to avoid impacting a sett, works should be planned with liaison by a suitably qualified ecologist:

- Works will need to be planned: to ensure no impact on known badger setts (see REAC measures in Table 7.1).
- Further survey works vegetation clearance is recommended in areas that require construction activities. If any setts are recorded during these additional surveys, then works should be planned to ensure no impact to setts occurs.
- Low impact works can be undertaken following a precautionary working method statement (PWMS), provided that steps are detailed to not impact badger setts. The badger setts located near the Foreshore Works area have been avoided, and a buffer zone of 30m will be put in place around the nearest sett on Warren Farm, which lies approximately 100m to the west of the HDD Entry Pit.
- In the event that avoidance is not feasible and/or the above buffer zones cannot be adhered to, a mitigation licence will need to be obtained from NRW (once planning permission has been granted) to legally permit works affecting the setts.
- For the HDD activity, direct impacts to the setts can be avoided, by implementing the measures described below.

The badger sett located at the northern boundary of Warren Farm, with the dunes, has been avoided. This sett lies approximately 100m to the west of the HDD Entry Pit and a buffer zone of 30m will be put in place to fence off this area of Warren Farm. Notwithstanding, pre-commencement checks will be carried out by the ECoW. During the works the ECoW will:

- Supervise works near known or suspected setts.
- Check for new burrowing activity.
- Liaise with the site manager and halt works if potential disturbance occurs.
- Undertake regular compliance checks and report findings.

To prevent entrapment of wildlife, where excavations are left overnight, a suitable means of escape will be provided (such as a ramp at no greater than a 45° angle). Any open excavation will be visually inspected prior

to re-starting works each morning to confirm the absence of entrapped wildlife. All escape measures will be discussed and agreed with the ECoW to ensure they are suitable for the size of open excavation and wildlife that may become trapped.

Construction materials, fuel, and chemicals will be stored in secure, bunded areas away from watercourses and mammal paths, and the ECoW will ensure that spoil heaps and stockpiles are covered or fenced to prevent burrowing or sheltering by mammals. Where practicable mammal corridors (e.g., hedgerows, field margins) will be maintained to prevent fragmentation.

If these avoidance and mitigation measures prove unsuccessful, and/or the buffer zones cannot be adhered to, a mitigation licence will be obtained from NRW (once planning permission has been granted) to legally permit works affecting the setts.

7.2.3 Bats

A dusk survey will be undertaken to determine if a licence is required, this has been undertaken in May 2025 and results included in an EMP [Ref 19].

In accordance with T-BD-008, T-BD-024, T-BD-025 and T-BD-026 – REAC, construction works can continue under supervision of an ECoW. However, to avoid impacting roosting and foraging bats, works should be planned with liaison by a suitably qualified ecologist. Control measure include:

- Lighting shall be suitably designed to illuminate work areas only to a safe level, and avoid lighting woodlands and hedgerows.
- Site/vegetation clearance and tree felling will be kept to a minimum, as far as practicable, to reduce impacts of habitat loss and fragmentation. If vegetation clearance is required:
    - Any tree pruning will need an oversight and check by an ECoW prior to ensure no features are removed.
    - Any trees to be felled (outside of small ones in the compound) will need an oversight and check by a ECoW prior to ensure it does not hot roosting potential.
- Given the proximity of the works to the roosts, the works will be undertaken under a Precautionary Working Method Statement and a toolbox talk will be given to brief site contractors on site on the potential presence of bats, identification and the legal protection.

The construction lighting has accounted for the guidance for permanent lighting schemes provided in the Institution of Lighting Guidance Note 08/23: Bats and Artificial Lighting at Night. The figures show that lighting is directed towards the tasks being carried out to avoid unnecessary light spill. A Lighting Management Plan detailing has been produced detailing full risk and controls for the Construction Phase is included within APPENDIX D.

7.2.4 Otter

Habitats on and adjacent to the Site were found to be suitable for otter, and a Riparian Mammal survey was undertaken in April 2025. As a result of the survey, it is recommended that pre-works checks for otter holts and/or resting places are completed as the watercourse on / adjacent to the Site have the potential to support Otters. Further results will be included within an EMP [Ref 19].

In accordance with T-BD-008, T-BD-019 and T-BD-027 – REAC, the following control measures will be implemented:

- All works will be at least 8m back from watercourses where practicable, with appropriate noise, vibration, pollution, and (where necessary) lighting controls in place.
- Construction materials will be stored away from the watercourses and secured so that otters are unable to gain access.
- All tools, food, litter and construction materials and packaging that may constitute a hazard to otters will be removed daily from the site.
- Trenches will not be left open overnight. If this is not possible for any reason, then mammal ladders will be placed into the trenches to allow any trapped animals to escape.
- Appropriate working hours will be adopted to reduce the potential for disturbance to otter, with construction works to commence no sooner than one hour after sunrise and finish no later than one hour before sunset.
- An ECoW will also be present to supervise works in any sensitive locations, and provide toolbox talks to site contractors, outlining the potential presence of otters and measures to be taken to avoid significant impacts. The ECoW will check any areas that may be suitable for otters immediately prior to works commencing.

No otters are identified in the area of the HDD activities under Gronant Dunes and the Foreshore Cable lay in Talacre Beach.

7.2.5 Water Vole

A Riparian Mammal survey was undertaken in April 2025, and confirmed no further surveys or mitigation is required for Water Vole. Further information is included within an EMP [Ref 19].
In accordance with T-BD-008, T-BD-019 and T-BD-028 – REAC, to ensure any indirect impacts to water voles are avoided, the following controls shall be implemented:

- Working areas remaining at least 8m back from watercourses where practicable, with appropriate noise, vibration, pollution, and (where necessary) lighting controls in place. A pre-start survey will be carried out shortly prior to works in close proximity to any of the watercourses. This will help determine any change in water vole activity around the PoA Terminal and identify the presence of any active burrows.
- In the event any active burrows are identified, a suitable exclusion zone must be kept in place for the duration of the works.

An ECoW will also be present to supervise works in any sensitive locations, and provide toolbox talks to site contractors, outlining the potential presence of water voles and measures to be taken to avoid significant impacts.

No water vole are identified in the HDD activities area under the Gronanat Dunes and the Foreshore Cable lay in Talacre Beach.

7.2.6 Amphibians

Further surveys are required in 2025 for GCN and Natterjack Toads. These will be undertaken in 2025 and results included in an EMP [Ref 19]. In accordance with T-BD-008, T-BD-042 and T-BD-048 – REAC, appropriate mitigation measures to limit disturbance to Natterjack Toads include:

- Precautionary hand searches (under licence with an ECoW present) of any areas of the PoA Terminal that natterjack toads could feasibly access but are unlikely to be present.

In the event that GCN presence is confirmed at any stage, works must cease and the ECoW must be contacted for advice on how to proceed.

No Amphibians were identified in the area of the HDD Entry Pit, and Exit Pit locations, although natterjack toad, and sand lizard inhabit the sand dunes. However, the installation of the cable conduit under the dunes using the trenchless HDD method will avoid direct impacts on the amphibians and reptiles, and their habitats in the dunes. The depth of the HDD conduit means impacts on protected species within the dunes are not anticipated. This is because, as Natterjack toads typically burrow to depths of less than 50cm (although can be deeper in winter) and sand lizard burrow to up to 1m deep.

Furthermore, to ensure that significant indirect impacts to breeding Natterjack Toads are avoided, the HDD works, likely to cause significant disturbance around Talacre Dune system, will be undertaken in February and March, thereby avoiding the Natterjack Toad breeding period (approximately April – July).

A preconstruction survey by an ECoW will be carried out in Warren Farm across the area suitable for GCN in the grassland close to the entry pit. Prior to the works, the grass will be kept mown short at the entry pit to reduce the favourability of the area for amphibians and reptiles and the area will be hand searched by the ECoW prior to works commencing. However, if amphibian or reptile presence is confirmed at any stage of the works, activities must cease and the ECoW contacted for advice on how to proceed. If natterjack toads, sand lizards or GCN are found during the works, or the ECoW determines that significant disturbance or harm to individuals cannot be avoided, it will be necessary to apply to NRW for a European Protected Species Licence (EPSL) to legally permit works to continue.

7.2.7 Mammals and Reptiles

In accordance with T-BD-008, T-BD-023 and T-BD-041 – REAC, appropriate mitigation measures include:

- To ensure killing or injury of species such as common toad, common reptile and other mammals, is avoided during site clearance, a PWMS will be produced prior to the works, detailing how clearance works will be undertaken to minimise impacts.
- Clearance works will be directly supervised by an ECoW, who will provide a toolbox talk to site contractors prior to any works being carried out. If any common toads, common reptiles and other mammals are found during clearance, the ECoW will carefully move them to a safe location outside of the areas of works, or they will be allowed to move off of their own accord.
- Where trenches or voids are to be left overnight, a suitable means of escape will be provided (such as a ramp at no greater than a 45° angle) at regular intervals along the excavated trench channel/excavations.

7.2.8 Invasive Non-Native Species

Invasive Non-Native Species (INNS) are present within the Red Line Boundary. In accordance with T-BD-032 - REAC a Biosecurity Method Statement [Ref 25] and Terrestrial INNS Management Plan (APPENDIX K) will be implemented throughout the TCPA Proposed Development. The Biosecurity Method Statement will detail the locations and extent of any INNS identified, alongside appropriate measures to control and prevent spread or propagation of INNS.

High-level recommendations for the treatment and removal of INNS will be identified, and will include the following:

- Any invasive plant species recorded within the working areas will be demarcated and avoided during the works as far as feasible.
- The non-native invasive entire-leaved cotoneaster will be removed from the Point of Ayr colliery site, in accordance with the Terrestrial INNS Management Plan.
- Any plant, equipment or PPE that comes into contact with invasive plant material will be thoroughly cleaned before being removed from the working area.
- A toolbox talk will be provided to site contractors by a suitably qualified individual on the potential presence of these presence of these species and appropriate actions to be taken.

The onshore plant and equipment, and the offshore vessels are highly unlikely to be a source of the amphibian fungus Chytrid. Notwithstanding, the applicant recognises the importance of preventing the introduction and spread of this amphibian fungus. Especially given that the native UK populations of Natterjack toad that have been tested, have returned positive for the fungi Batrachochytrium dendrobatidis (“Bd”), albeit apparently unaffected.

All plant and equipment, and vessels will be thoroughly cleaned, in accordance with national and international protocols, prior their mobilisation to site, in accordance with the Intertidal Invasive Non-Native Species Management Plan included as APPENDIX M.
High-level recommendations for the treatment and removal of INNS will be identified, and will include the following:

- Any invasive plant species recorded within the working areas will be demarcated and avoided during the works as far as feasible.
- The non-native invasive entire-leaved cotoneaster will be removed from the Point of Ayr colliery site, in accordance with the Terrestrial INNS Management Plan.
- Any plant, equipment or PPE that comes into contact with invasive plant material will be thoroughly cleaned before being removed from the working area.
- A toolbox talk will be provided to site contractors by a suitably qualified individual on the potential presence of these presence of these species and appropriate actions to be taken.
- Any man-made structure to be used for the Proposed Development should be of terrestrial origin (i.e. not coming from another marine environment) and inspected for INNS prior to placement in the marine environment.
- The contractor must ensure that all equipment, materials, machinery, Personal Protection Equipment (PPE) and vessels used are in a clean condition prior to their arrival on-site to minimise the risk of INNS introduction into the marine environment.
- Vessels will be required to have an anti-fouling coating, inspection history complying with relevant regulations (MARPOL Regulations) and to manage ballast water.
- Vessels will have anti-fouling coating and adhere to the MARPOL regulations and ballast standards to reduce the risk of INNS being present on the hulls of vessels.
- Compliance of cable lay vessel (CLV) with international marine regulations as adopted by the Flag State, notably the International Regulations for Preventing Collisions at Sea (COLREGs) (IMO, 1972/78) and the International Convention for the Safety of Life at Sea (SOLAS) (IMO, 1974).

On completion of construction, the Applicant will continue with its long-term habitat management, and the achievement of net benefits for biodiversity, as outlined in the 'Net Benefit for Biodiversity and Green Infrastructure Statement'. The Applicant has included specific habitat and species work programmes that are in addition to the continuing current management practices. These measures involve control of the invasive elm scrub, and skylark breeding population surveys.

7.2.9 Habitats

A UK Habitat Survey is required in 2025, and results will be included within an EMP [Ref 19]. In accordance with T-BD-004, T-BD-007, T-BD-008 and T-BD-009 – REAC, control measures to protect habitats include:

- Care should be afforded to dense stands of bramble or similar vegetation, which may be used by sheltering hedgehog or other wildlife, particularly during the winter months.
- Where woody vegetation are to be felled/ cleared, the felled material will, where practicable, be used to create hibernacula within appropriate retained habitats rather than being chipped. Locations will be identified by the appointed ECoW and agreed during detailed design of the TCPA Proposed Development / during the execution phase.

7.3 Nuisance

Mud, dust, noise, light, litter and water pollution must be minimised to prevent complaints or environmental degradation of the surrounding area. The following processes and procedures shall be implemented to manage potential nuisance issues.

7.3.1 Air Quality

A Dust Management Plan detailing full risk and controls for the Construction Phase is included in APPENDIX A. Best practice measures for controlling dust and mud on worksites include:

- Follow Control of Dust from Construction Sites (BRE DTi Feb 2003).
- Use dust barriers/fencing for significant dust-generating activities.
- Plan earthworks to minimize handling and traffic movements.
- Limit soil stripping and stockpiling; keep site roads clear of debris.
- Park all vehicles in designated areas.
- Reduce or postpone work if dust levels remain high despite controls.
- Use water to dampen dusty materials and maintain vehicles to prevent mud build-up.
- Manage washdown facilities to control contaminants.
- Locate machinery away from sensitive receptors when possible.
- Enclose operations likely to produce high dust levels.
- Use hoarding to contain dust and consider green/vegetated hoarding.
- Use hard-surfaced or damped-down haul routes, cover stockpiles, and reduce drop heights.
- Cover loads entering/leaving the site and use mechanical sweepers as needed.

7.3.2 Lighting

A Lighting Management Plan detailing full risk and controls for the Construction Phase is included in APPENDIX D. The construction lighting has accounted for the guidance for permanent lighting schemes provided in the Institution of Lighting Guidance Note 08/23: Bats and Artificial Lighting at Night. In accordance with T-BD-014, T-BD-015 and T-PD-005 - REAC, best practice measures for minimising light pollution include:

- Follow BS EN 12464-2:2014 for lighting of outdoor workplaces.

- Turn off lighting when not in use, unless needed for safety or security.
- Use inward-directed, horizontally-mounted lights to reduce glare.
- Install temporary lights with full cut-off or shielding to contain illumination.
- Adjust lighting after installation to minimise light spill and avoid shadows on footpaths.
- Direct lighting below the horizontal plane to reduce spillage.
- It will be designed, positioned, and directed to reduce the intrusion into adjacent properties and habitats.

7.3.3 Noise and Vibration

A Noise and Vibration Management Plan detailing full risk and controls for the Construction Phase is included in APPENDIX F. In accordance with T-NV-003, T-NV-004, T-NV-005, T-NV-006, T-NV-007, T-NV-008 and T-NV-009 – REAC. Best practice measures to reduce noise and vibration include:

- Follow BS 5228-1:2014 for noise and vibration control.
- Use quieter or electrically powered plant when possible.
- Use noise-compliant equipment and acoustic screens where required.
- Limit noisy activities to core working hours unless agreed with local authorities.
- Consider the impact of high-noise activities on nearby residents and limit such work to suitable times.

7.3.4 Residents and Local Community

In accordance with T-AQ-019 and T-NV-001 – REAC, best practice measures to care and protect the local community include:

- Maintain good site housekeeping to control litter, insects, and vermin.
- Skips will be kept in designated areas, waste containers will be covered, and hazardous materials will be properly stored.

The Applicant will conduct proactive community engagement prior to the commencement of the works. This will focus on the receptors identified within this document. Community engagement will be conducted through a combination of community newsletters (postal and email), posters and boundary notifications (contact details) and project websites. The following information will be made available to the surrounding community at the commencement of the project (overview of project) and prior to any high impact activity:

- Project overview;
- Start and duration of works;
- Proposed working hours;
- Steps being undertaken by the team to control noise and vibration;
- Informing the community about high noise or vibration demolition activities, particularly for sensitive periods or structures, and providing advance notice of the timing;
- Any work which might be required out of specified working hours; and
- A helpline for queries and complaints.

7.3.4.1 Traffic, Transport and Public Rights of Way

The Construction Contractor shall manage pedestrian and vehicle safety on and off site, in line with health and safety regulations, ensuring safe access, parking and movement areas. A Worker Travel Plan is part of the CTMP. In accordance with T-TT-001, T-TT-002, T-TT-003, T-TT-004, T-TT-005, T-TT-006, T-TT-007 and T-PH-008 – REAC, best practice measures include:

- Follow BS 5489-1:2020 and BS 8442:2022 for temporary and permanent traffic controls.
- Promotion, management and control of such general provisions and measures for traffic management and control to be implemented by all contractors and sub-contractors throughout the extent and duration of the Construction Phase.
- On-site provision for site access roads and pedestrian footways, with controlled access from the public domain for pedestrians and vehicles, on-site parking provisions, standing, lay-down and unloading facilities for delivery vehicles, and on-site compound, welfare facilities and material holding areas for use by all contractors and sub-contractors.
- Ensuring that the on-site provisions are controlled, managed and shall be safe at all times through the provision of planned and informed procedures and segregation between vehicular and pedestrian traffic.
- Liaise with FFC on planned diversion of footpath No. 409/27/10 and safe management of PRoW users in the proposed centralised compound access road.

7.3.4.2 Traffic, Transport and Public Rights of Way arrangements for HDD Works

Site access for the proposed works will be via the following locations:

- HDD Entry Pit Establishment – via Warren Farm entry.
- HHD Exit Pit Establishment – via beach entry near Talacre car park incl. movements between Entry site and Exit Site via agricultural tractor and trailer. Unloading of equipment at Talacre car park, and unloading at the bottom of the ramp of the seawall prior driving to the car park/beach.
- Pipe welding – site compound at/near HDD exit pit establishment
- Site Establishment – establishment for cable installation works similar to Entry and Exit Pit.
- Drilling Fluid Break-out – access to dune area for clean-up required in contingency situation.

A maximum-speed-limit of 15 mph on surfaced and 10 mph on unsurfaced haul roads and work areas will be imposed. Crew/personnel/visitors are using same site access on daily basis. Car sharing to limit vehicles on site is promoted.

Truck movements will be undertaken during early mornings when the area is quieter, and to be minimised at peak times during the days of the holiday season. Clear signage and directions for any alternative routes and appropriate alternative diversions will be provided and diversions clearly publicised to maintain access. Signage to advertise that businesses are open and operating as normal will also be provided where required. It should be noted that no diversions of public roads are planned at this stage.

Temporary mats may be laid down where necessary, across the beach between Talacre car park and HDD exit site, and from Warren Farm to the Valve Field. This will be implemented to facilitate access across areas of soft sand, but it will also minimise damage of the existing habitats along the route.

Access for pedestrians is expected only to be affected at Talacre car park, beach entry and at the beach itself. The aim is to have both the car park and beach entry accessible throughout the operations for pedestrians and emergency vehicles, however temporary diversions may be required to keep them clear of work sites.

At the beach, site compounds and work areas are temporarily fenced off for the public. However during the pipe pull-back, and cable installation preparations, installation and burial works the work area cannot be practically fenced off due to the area being intertidal. Appropriate measures will be taken for pedestrians to

walk by safely. Temporary diversions on the beach for pedestrian use will be arranged as required, either between the HDD exit pit and the dunes or across the dunes in the case that the beach must be fully closed, full closure of the beach will be reduced to the minimum. It should be noted that barriers cannot be placed on the beach intertidal areas, as these may get loose due to the tide and become a pollutant and a hazard for shipping activities. Workers will look out at the public for them to pass the work site safely or works are stopped if they are too close in the vicinity.

Expected Traffic Volume:

As explained in the programmes of the activities the works are scheduled for the following months:

- HDD activities: February to April 2026
  - HDD entry and Talacre car park welding 08-02-2026 until 05-04-2026.
  - HDD exit 01-03-2026 until 01-04-2026.

When setting up and demobilising sites, the majority of truck movement are required. Throughout the project consumable runs are required to e.g. transport food, water, bentonite, fuel, equipment consumables to site and also to be able to dispose cuttings, waste and wastewater. Below overview gives an indication for this truck movements. The daily numbers are estimates and could be more one day and none the next day. A separation is made between truck movements towards Warren Farm and truck movements towards Talacre car park and the beach area, as truck movements via Warren Farm are expected not to limit the area too much. Also please note that equipment may be offloaded first at the Warren Farm and thereafter transported by tractor/trailer towards the Exit pit site on Talacre beach, which implies two truck movements in table below. The following considerations can be and have been taken to limit the impact:

- Where practicable, deliveries are made on weekdays (Monday to Friday).
- It has been checked that there is no school between the site compounds and the main road (A548). i.e., no movements need to be planned outside school hours.
- Consideration can be given, where possible, to reduce the truck movements during peak times/afternoon, and increase these in the morning and evenings.
- Truck drivers will receive delivery instructions to keep them on the right roads as planned and agreed upon. Do and don’ts can be included within this instruction.

Besides truck movements, personnel movements will be done by car, vans, and/or 4x4s to access the beach. No busses transporting personnel to/from and between sites are planned for personnel transfer. Dedicated car parking will be made available on Warren Farm. Personnel movements are not detailed in Table below but will be on a daily basis at time of execution.

Table 7.2 Indicative Overview Truck Movements for Indication Traffic Volume Peaks (*= No Truck Movements Planned)

Month of 2026	Week	Main Activity (no delays considered)	Trucks via Warren Farm	Trucks via Talacre car park / beach (incl. collection at Warren Farm)
February	Wk. 6 (Sun 8 Feb)	Mobilisation Warren Farm road + HDD entry	Up to 5 daily	-*
	Wk. 7 (Mo 9 Feb)	Mobilisation Warren Farm road + HDD entry temp. welfare facilities	Up to 8 daily	Up to 2 daily
	Wk. 8 (Mo 16 Feb)	Mobilisation HDD entry: top soil stripping, rock installation, fencing and hoarding Mobilisation HDD exit at beach	Up to 8 daily	Up to 6 daily

Month of 2026	Week	Main Activity (no delays considered)	Trucks via Warren Farm	Trucks via Talacre car park / beach (incl. collection at Warren Farm)
February	Wk. 9 (Mo 23 Feb)	Mobilisation HDD entry: welfare Mobilisation HDD exit at beach	Up to 6 daily	Up to 6 daily
March	Wk. 10 (Mo 2 Mar)	Mobilisation HDD entry: HDD equipment Mobilisation HDD exit at beach: pipewelding	Up to 3 daily	Up to 6 daily
	Wk. 11 (Mo 9 Mar)	Mobilisation HDD entry: HDD equipment Mobilisation HDD exit at beach: pipewelding HDD drilling mud return line	Up to 3 daily	Up to 4 daily
	Wk. 12 (Mo 16 Mar)	HDD drilling	Up to 3 daily	Up to 4 daily
	Wk. 13 (Mo 23 Mar)	HDD drilling finalisation, extract mud return line Start demobilisation	Up to 5 daily	Up to 6 daily
April	Wk. 14 (Mo 30 Mar)	Demobilisation Beach and Warren Farm	Up to 5 daily	Up to 6 daily
	Wk. 15 (Mo 6 Apr)	Demobilisation Beach and Warren Farm	Up to 5 daily	Up to 4 daily
	Wk. 16 (Mo 13 Apr)	-*	-*	-*
	Wk. 17 (Mo 20 Apr)	-*	-*	-*
	Wk. 18 (Mo 27 Apr)	-*	-*	-*

7.4 Water Resources and Flood Risk

7.4.1 Water Resources

Where practicable, and beneficial, the water resource and pollution control measures set out in Table 7. will be implemented during construction.

Table 7.3 Water Resource Management during Construction

Efficiency Measure	Action
Water resue and recycling	• Hydrostatic testing water reuse: Water used for hydrostatic testing of pipelines captured, treated, and reused for subsequent tests or dust suppression. • Runoff collection systems: Rainwater collection in temporary storage ponds and reused for activities such as vehicle and equipment washing or dust control.
Minimising water use in dust suppressions	• Use of alternative dust suppressants: Where practicable, chemical dust suppressants or biodegradable polymers to reduce the frequency and volume of water used. • Application timing: Spraying water during cooler parts of the day or under low-wind conditions to minimise evaporation and maximise effectiveness.
Erosion and sediment control	• Silt fences and sediment basins: Prevent water loss and contamination by controlling runoff. • Revegetation: Fast-track vegetation of exposed soils to reduce erosion and water use in dust control.
Controlled water abstraction	• Permitted abstraction only: Water sources used only under regulatory permissions, with flow monitoring and limits. • Low-impact withdrawal methods: Use of pumps with screens to prevent aquatic life intake and timing abstraction during high-flow periods.

Efficiency Measure	**Action**
Hydrostatic testing	• Use of non-potable or recycled water: To reduce pressure on local freshwater sources. • Sequential testing: To reduce total volume required by using the same water for multiple pipeline segments. • Minimised discharge: Where water is treated and reused or discharged under controlled conditions to prevent environmental impact.
Concrete batching	**a.** Recycled Water in Batching • Use of reclaimed water: Identify opportunities for treatment (e.g., settling tanks, filtration) and resue, in subsequent batches, of washout water from concrete mixers and batching plant runoff. • Closed-loop systems: Design batching plants with recycling loops for process water, minimising fresh water use. b. Optimised Mix Designs • Low water-to-cement (w/c) ratio designs: Identify opportunities to reduce total water demand while maintaining required workability and strength. • Use of admixtures: Identify opportunities for water-reducing and plasticising admixtures (e.g., superplasticisers) help achieve workable mixes with less water. c. Washout Management Systems • Designated washout areas: Use impermeable, bunded areas to collect water from truck and equipment cleaning. • Solid-liquid separation: Utilise sedimentation tanks or filter presses remove solids, allowing water reuse and compliant disposal of concrete sludge. d. pH Neutralisation • Neutralising agents: Treat alkaline wash water (often pH >11) before reuse or discharge, to meet environmental compliance standards. e. Batch-as-needed Production • Just-in-time batching: Minimise overproduction and associated washout by aligning batching volumes closely with actual demand. f. Modular/Mobile Batching Plants • Small-footprint, mobile plants: By locating close to work fronts, these reduce water transport distances and improve reuse logistics**.**
Environmental and regulatory compliance	a. Permit-Adherent Discharges • Controlled water release: Discharge only treated, monitored water per local environmental licenses (e.g., turbidity, pH, solids thresholds). Discharges of uncontaminated water (such as rainwater) from excavations, will meet the requirements of the temporary dewatering from excavations to surface water regulatory position statement (RPS 261). b. Groundwater and Surface Water Protection • Spill containment: Include secondary containment for tanks and bunded areas around plants prevent contamination. • Runoff diversion structures: Include berms, drains, or swales to divert clean stormwater away from batching zones.
Workforce engagement and monitoring	a. Training and SOPs • Educate staff on water-saving practices and proper washout procedures. b. Water Use Monitoring • Include flow meters and logging to track consumption, identify leaks, and optimise batching operations.

Section 6.3.4 GWMMP and Section 6.3.5 SWMMP further explain the management procedure for ground water and surface water in relation to the HDD activities.

7.4.2 Flood Risk

The site is at low flood risk except for groundwater. A Flood Action Plan detailing full risk and controls for the Construction Phase is included in APPENDIX B. In accordance with T-BD-019, T-BD-038. T-PD-009, T-LS-008, T-WR-001, T-WR-022 and T-WR-034 - REAC, best practice measures to avoid pollution to water bodies include:

- Protecting surface water and drains from silt using guards and barriers.
- Testing potentially contaminated water before discharge.
- Stockpiles of contaminated materials must be situated on an impermeable surface at least 10m from any surface waters or drains, and run-off collected within a bund.
- Tracking or washing out next to drains/surface waters must be avoided.
- The site's oil interceptor and tilted plate separator will remain operational to treat any water pumped to the outfall pond.
- As per the site permit, all discharged from the outfall pond are subject to on-site laboratory testing (pH, temperature, BOD, total oxygen), with quaterly verification by an external laboratory.
- The Construction Contractor will ensure that any contaminants are suitably removed, and when dewatering, pumps shall be switched off before removing the final portion of water to allow suspended solids to settle out before discharge. All drains located adjacent or near to generators to be covered with drain guards.
- Potentially contaminated water must be tested before dewatering. Contaminated water must be treated or discharged off site.
- The Contractor will maintain close communication with NRW during these operations and provide updates on sampling results, water management activities, and any proposed deviations from this plan.
- Using road sweepers as necessary.
- Minimising soil stripping and controlling water for dust suppression.
- If discharge consent is required, then all conditions within the consent must be understood before commencement of dewatering.

7.4.3 Management of Dewatering – Known PFAS Contamination Areas

- Water Collection and Sampling – Any rainwater accumulating in shallow excavations will be pumped to a settlement tank and then transferred to designated IBCs for storage pending the results of PFAS analysis. Water samples from the IBCs will be sent to a UKAS-accredited laboratory for PFAS analysis.
- Water Management Based on PFAS Results – The IBCs will be stored on site until analysis results are received:
    - If no PFAS is detected, the water will be pumped to the outfall pond via the site drainage system and then discharged, following the usual site procedure.
    - If PFAS is detected, the water will be transferred to the site firewater pond and treated using Granular Activated Carbon (GAC) filtration until the agreed target of 100ng/l PFOS / PFOA is achieved, as per the Groundwater and Surface Water Sampling Methodology - SWL24-380-01-WSM-02
    - If Total Petroleum Hydrocarbons (TPH) levels exceed thresholds, water will be treated using appropriate filtration methods such as oil-water separators or carbon filters. A dedicated Water TPH Management Plan will be activated if necessary. Therefore no water will be discharged directly from excavations to the outfall pond.

- Hotspot Area Management – As per our original proposal the identified PFAS hotspot will be fully excavated and the impacted soil removed to a licensed landfill prior to any shallow excavation works in that area. Water generated during this excavation will be managed as described in 1 and 2 above.
- Rainfall Contingency - No emergency discharge of potentially contaminated water will occur during high rainfall events. All water will be managed as described in 1 and 2 above and additional IBC storage capacity will be arranged to accommodate excess water volumes during periods of heavy rainfall, and will be subject to the same sampling and treatment protocols.
- Existing Treatment Infrastructure - The site's oil interceptor and tilted plate separator will remain operational to treat any water pumped to the outfall pond
- Permit Compliance Monitoring - As per the site permit, all discharges from the outfall pond are subject to on-site laboratory testing (pH, temperature, BOD, total oxygen), with quarterly verification by an external laboratory.
- Ongoing Communication - We will maintain close communication with NRW during these operations and provide updates on sampling results, water management activities, and any proposed deviations from this plan.

7.4.4 Management of Dewatering - HDD

No dewatering or discharge is anticipated during HDD activities at the entry pit, exit pits, and Talacre beach locations. While the HDD Exit Pit will be in the inter-tidal environment, there are no terrestrial surface watercourses located within 500m of the HDD works. Notwithstanding, monitoring checks and inspections will be conducted prior to and during works.

A successful HDD conduit is the careful management of drilling fluid pressure to prevent water ingress. Furthermore, once the conduit is drilled, the HDD conduit is sleeved by watertight Glass Reinforced Plastic (GRP) pipework to prevent further water ingress and maintain the integrity of the conduit, and electrical cable. The relatively narrow diameter (around 450mm) HDD conduit, while beneath the water table, is considered unlikely to:

- create a barrier to groundwater flow;
- create a preferential flow pathway for groundwater; or
- affect groundwater levels. Groundwater is expected to flow around the conduit.

If monitoring indicates that current mitigation measures (as outlined in the GWMMP at Annex C), are insufficient, adaptive mitigation strategies will be implemented accordingly. Due to the nature, and location of the construction works dewatering is unlikely. However, should dewatering be required, the method and location will be agreed with NRW.

7.4.5 PFAS Monitoring Wells

Three additional ground water wells are due to be installed along the perimeter of the Terminal to monitor for PFAS. The location of these is shown in blue in Figure 7.1 (for further details see the Attachment 7). These will be installed at least one month prior to commencement of construction to allow for the collection of baseline data. These wells will be monitored in line with our GWMMP.

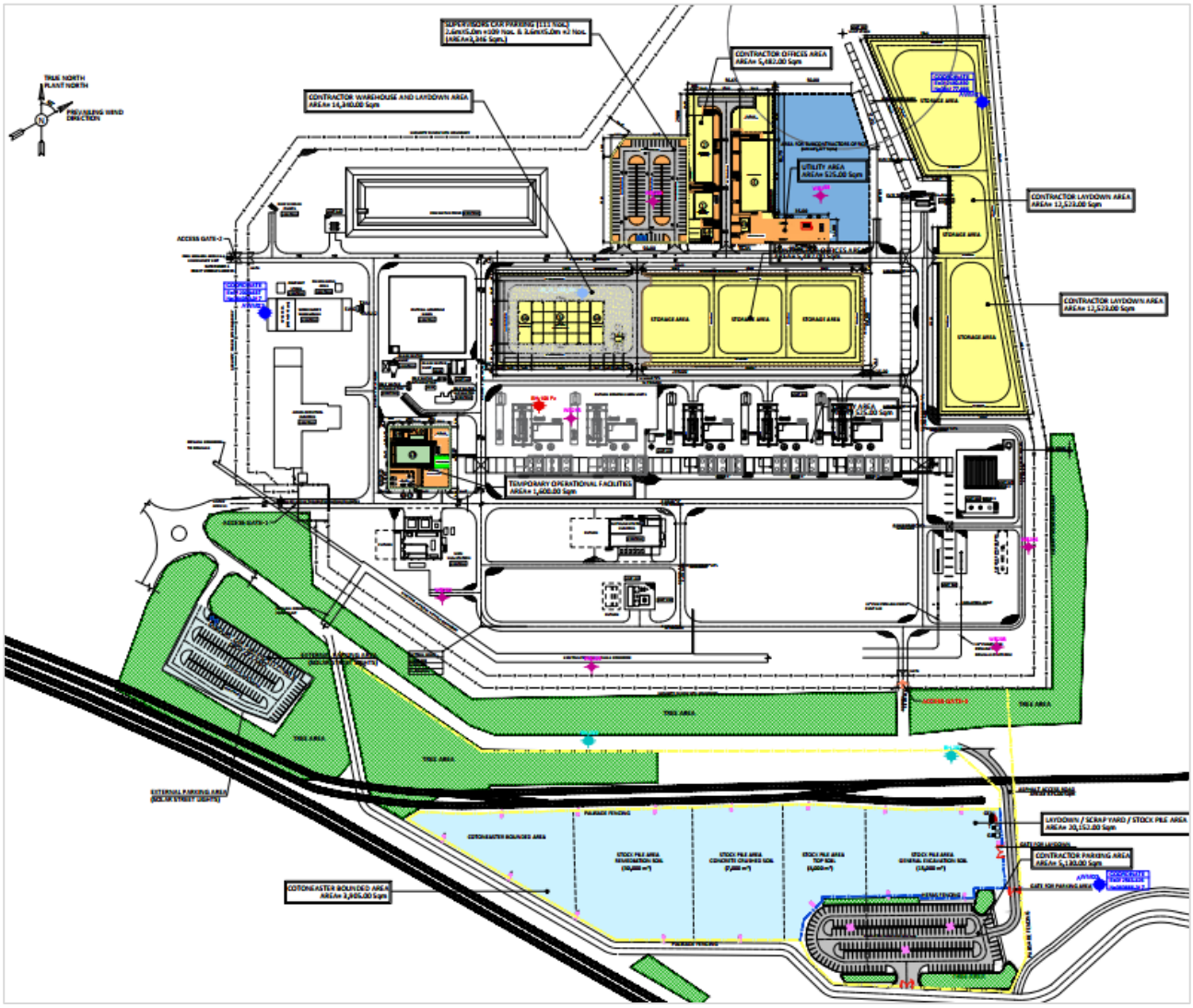

Figure 7.1 PFAS Monitoring Wells Location

In addition to the three new monitoring wells, PFAS will also be monitored in existing wells WS205 and WS206. The Remediation Strategy has concluded that the soils surrounding WS205 and WS206 are impacted by PFAS, as a result of the historic storage of aqueous firefighting foams. However, the risk to groundwater is considered low.

7.4.6 Granulated Activated Carbon Filtering for PFAS

All groundwater arising from dewatering activities during construction at the Point of Ayr Terminal will be filtered via a Granulated Activated Carbon (GAC) filtering system to reduce the risk of PFAS migration to uncontaminated areas. This will be adequately sized based on the pump test results (being undertaken under GIC application reference PAN-028867). The GAC filtering system will be designed to achieved remediation targets of 0.10ug/l PFOS, during the filtering other PFAS will also be removed, however these were less significant across the site. This target is based on vendor information and examples taken from other PFAS

contaminated sites. An example GAC filtering system is shown in Figure 7.2, but the actual configuration may vary depending on market availability.

The discharge will be routed to the firewater pond prior to filtering, once filtered it will be discharged to the outfall basin and eventually to the brook. Preliminary demolition dewatering will be discharged via the existing PoA EP, an application for a dedicated discharge permit is being prepared by Saipem to support the construction dewatering activities.

Prior to discharge the filtering water will be sampled for PFOS, if testing indicates the remediation targets are not being met, NRW will be consulted and the GAC will be modified appropriately.

Figure 7.2 Example GAC Filtering System

7.5 Soil and Land

The following construction methods have the potential to reduce adverse impacts and have been considered as part of the TCPA design. A Soil Management Plan detailing full risk and controls for the Construction Phase is included in APPENDIX H. A Sediment Management Plan detailing full risk and controls for the Construction Phase is included in APPENDIX G. In accordance with T-PD-014. T-LS-018, T-LS-019 and T-LS-020 – REAC, best practice measures include:

- Backfilling of earthworks and use of trenchless crossing technologies to reduce loss of site won material.
- It is proposed to select a site level that achieves a balanced cut and fill and so avoid import or export of materials to and from the site. Materials excavated for the trenching work will be stockpiled adjacent

to the works and reused during backfilling of the trenches. Any topsoil or organic surface material will be stockpiled separately for re-use on completion of the works and revegetated as necessary.

- Temporary installation or upgrade of existing access tracks for the Construction Compounds and work-fronts will be set up to minimise disruption and local environmental impacts to Land and Soil. Options will include provision of bog matts (where wet soil conditions are anticipated) and compacted gravel tracks (where road-going vehicles or heavy traffic is anticipated).

7.5.1 Arable Land

Passage through Warren Farm for HDD is planned to be done by placing matting across the field. However, if required, topsoil can be stripped, but this is currently not planned by the Contractor. This layer is then stockpiled and will be reinstated and returned to existing land at completion of the construction phase.

7.6 Resource Use and Waste Management

In accordance with T-GG-002 and T-GG-004 the Detailed Design of the TCPA Proposed Development will prioritise substituting raw materials with more sustainable alternatives—featuring recycled content, lower embodied carbon, and, where possible, supported by eco-labels or verified EPDs The Construction Contractor will follow a waste hierarchy approach: eliminate, reduce, reuse, recycle, and dispose. In accordance with T-GG-009 the sustainability credentials of suppliers and companies in the supply chain will be considered as part of the procurement process.

In accordance with T-GG-011 and T-GG-012 the design of the TCPA Proposed Development will be undertaken with a view to maximising operational lifespan and minimising the need for maintenance and refurbishment by specifying efficient, long-lasting mechanical and electrical equipment selected for its durability, repairability, and energy efficiency.

In accordance with T-GG-014, T-GG-016 and T-GG-017 the design progression of the PoA Terminal will ensure the selection of variable speed drive CO_2 compressors, compliance of low-voltage electrical installations with IEC 60364 Part 8-1, and integration of an energy monitoring system aligned with ISO 50001 certification.

In accordance with T-GG-018, T-GG-019 the TCPA Proposed Development will be operated, maintained, and refurbished using best practices in energy efficiency and low- or zero-carbon approaches, with the Applicant exploring opportunities to source 100% clean energy for its operation.

In accordance with T-GG-020, T-GG-021 the operational management of the TCPA Proposed Development will include a leak detection and maintenance programme, and where practicable, will be designed and specified to maximise the potential for reuse, recycling, or recovery of materials at end-of-life

7.6.1 Fuel Storage and Refuelling

In accordance with T-BD-017, T-PD-014, T-AQ-020, T-LS-002, T-LS-008, T-WR-013, T-WR-014, T-WR-015 - REAC, and to reduce spills and leaks, fuel storage and refuelling will be managed as follows:

7.6.1.1 Fuel Storage and Refuelling

To reduce spills and leaks, fuel storage and refuelling will be managed as follows on site:

- Materials should never be stored on bare ground, always impermeable surfaces to be used and surrounded by bund walls.
- Materials should never be stored anywhere near to watercourses, soakaways or other sensitive areas.
- Plant nappies of suitable size must be placed under static plant & equipment at all times. Drip trays will be used in the event that plant nappies are not available.
- Construction plant will be routinely inspected for oil and fuel leaks, especially when works are carried out in or near existing waterbodies. Arrange for leaking plant to be taken out of service and maintained.
- Use secondary containment systems with a 110% capacity.
- All filling points, gauges, vents and sight glasses will be located within the bund and associated pipe work will be located above ground and protected from accidental damage.
- All filling points and tank overflow pipe outlets will be detailed to discharge downwards
- into the bund and refuelling will be supervised at all times.
- Spill kits will be kept available near fuel storage areas, along with equipment for dry spills (such as shovels, scoops, etc.). If spill kits are used to contain a spill on site, they will be replenished promptly for future use.
- Lubricating and refuelling activities will take place in designated areas away from water bodies.
- Supervise all fuel transfers and ensure appropriate protective measures are in place.
- Where possible, refuelling should only be carried out in a designated area, which will be secured/locked out of hours.
- The refuelling area shall be located away from drains and watercourses (>10m from a watercourse and >50 meters from a spring, well or borehole).
- Areas of permanent waste oil/fuel/chemical storage will be located 50m away from watercourses or drainage paths. Where this is not possible, advice will be sought from the Field Environmental Manager, and a minimum distance will be agreed with the Client.
- Refuelling will always be supervised by a competent supervisor.
- Mobile plant must be refuelled away from surface waters, drains, permeable pavements and open excavations. A fuel drip tray must be used.
- Oils and diesels must be stored on plant nappies (incl. when in vans). Drip trays will be used in the event that plant nappies are not available.

7.6.1.2 Use and Storage of Hazardous Materials/Substances

Any contaminated topsoil (if encountered) will be managed according to national and local regulations. In accordance with T-WR-016, T-WR-020, T-WR-021 – REAC, the use and storage of solvents, cements, adhesives, grout and concrete shall be managed as follows during the Construction Phase:

- Concrete wash-out on site shall only be permitted when the Contractor has provided a designated, suitably prepared wash-out area with signage identifying the area as suitable for wagon wash-out.
- Concrete wash-out may be dried and crushed to be re-used on site or disposed of in accordance with a Site Waste Management Plan [Ref 23].
- Pumping or similar concrete operations over or near open water will be avoided where possible. Where such works are necessary, they will be closely monitored to ensure pumps can be swiftly shut off in the event of a spillage.
- Surplus dry concrete, cement and grout is to be collected and reused where possible e.g., as inert rubble; reuse of dried materials may require environmental permits or exemptions.

- Areas of permeable pavements are not to be used for the temporary storage of cement bags. If unavoidable ensure adequate protection measures are in place to prevent the pavement from becoming blocked.
- The Contractor is responsible for carrying out a risk assessment of each substance and ensuring that all appropriate storage, protective equipment and if necessary, emergency procedures are put in place on site.
- All hazardous materials shall be labelled, sealed and stored with their Control of Substances Hazardous to Health (COSHH) assessment in a bunded and lockable container away from drains and watercourses when not in use.
- COSHH datasheet will be read and understood before using any hazardous materials.
- Any spent (contaminated) spill kits, absorbent granules, sheets or fibres must be disposed of in accordance with COSHH regulations and Site Waste Management Plan [Ref 23] requirements.
- Hazardous liquids shall be transferred using a funnel and drip tray and sealed and returned to the container immediately after use. Damaged containers shall be reported to the Field Environmental Manager.
- All usages shall comply with its requirements.
- Hazardous liquids must be re-sealed after use. Empty containers are to be disposed of to the designated container within the waste compound.
- Construction workers are required to wear Personal Protective Equipment (PPE) such as gloves and face masks (where appropriate) to prevent dermal contact and inhalation or ingestion.
- Waste fuels and other fluid contaminants will be stored in leak-proof containers before being transported from the construction area to an approved recycling processing facility.

7.6.2 Waste Management

In accordance with T-GG-001 the Detailed Design of the TCPA Proposed Development will ensure the design is optimised to avoid unnecessary permanent design aspects, and minimising material consumption and waste generation, as far as reasonably practicable. The development shall comply with the Waste Duty of Care Code of Practice. The Construction Contractor shall seek to promote the re-use of excavated materials through optimisation of cut and fill operations to improve the sustainable and cost-effective development of land, as per the Definition of Waste: Development Industry Code of Practice (DoWCoP). In many instances the DoWCoP can provide an alternative to Environmental Permits or Waste Exemptions when seeking to reuse excavated materials.

In accordance with T-AQ-035, T-GG-005, T-GG-006, T-LS-003, T-LV-015, T-MW-001, T-MW-002, T-MW-003, T-MW-005 and T-MW-006 – REAC, control measures to follow for good, compliant waste management include:

- Set up waste collection areas with segregated containers for different waste types.
- Use licensed waste carriers and keep duty of care documentation on-site.
- Implement a Site Waste Management Plan and audit waste transfer records.
- Divert waste from landfills by recycling or reusing materials such as timber, metal, and concrete.
- Regularly update recycling progress and report any waste incidents.
- All waste incidents shall be reported immediately to the Construction Manager and Field Environmental Manager.

- Spoil and recycled aggregate transfers shall be carried out in accordance with an approved Materials Management Plan and all transfer tickets must be retained on site.
- Bonfires or burning of any waste materials are strictly prohibited on site.
- The site should be kept tidy at all times, and proper housekeeping practices will be implemented.

7.6.2.1 Drilling Fluid Management

At Warren Farm / HDD Entry site, the used drilling fluids are collected and deposited in a mud lagoon for cleaning prior to re-use. Used drilling mud will be transferred from the storage lagoon to the recycling system by way of an electrical submersible slurry pump. The multi screened cleaning system separates cuttings from the used fluid using a combination of mesh screens and a series of hydro-cyclones to remove coarse and fine particles from the used fluid. Reducing the solids sufficiently allows the used drill fluid to be returned to the mixer and static holding tanks and then re-used downhole. The separated solids removed from the drill fluid are collected and stockpiled for removal from site on completion.

Figure 7.3 Drill Fluid Recycling Plant (Typical)

To prevent discharges of drilling fluid at the Entry and Exit Pits, the HDD contractor will continuously record down-hole annular pressure and fluid discharge rates during both pilot drilling and reaming. Discrepancies between pumped and returned volumes indicate losses into aquifer or hydrofractures. The contractor will also implement a closed-loop system to capture all drilling returns, with transfer pumps and retention pits, preventing seepage to the surrounding dune groundwater.

Given the sensitivity of the area and the distance involved in traveling to the entry site, conducting all transfers by road is not considered efficient. To transfer the drilling fluid back from the HDD exit pit to the HDD Entry site for recycling, a mud return line will be drilled next to the HDD drill line. The drill pipe will remain in place to serve as a transfer line between these two locations. Once the works are complete, this pipe will be removed.

Because cuttings within the fluid can potentially block the mud return line, the drilling fluid is first cleaned at the beach. A shaker system is proposed for installation at Warren Farm. This system separates larger cuttings from the drilling fluid, allowing the fluid to return via the mud return line, while the separated cuttings are contained at the beach before being transported by agricultural tractor or vacuum tankers back to Warren Farm, where they are stockpiled.

Upon project completion, drilling fluid—including fluid in the lagoon—will be collected by tanker. This fluid will either be reused on other projects or disposed of by an accredited waste handler. Soil that has come into contact with drilling fluid (such as at the lagoon, drill rig, HDD entry, and HDD exit pit) will be excavated and transported off site for management by a licensed waste handler.

7.6.2.2 Cuttings

Cuttings from the drilling works are stockpiled during the works and will be removed by transporting them from site on completion of the works. The cuttings will be either stored in skips or tipper lorries for transporting. Disposal of the cuttings will be made in accordance with this Waste Management Plan and legislative requirements.

7.6.2.3 Unplanned drilling fluid break-out

During the drilling process there is an inherent risk that an uncontrolled release of drilling fluids may occur, Contractor will maintain lookout for such occurrence at all stages of the drilling operations. In the event this does occur the drilling will be stopped, and a cleanup and mitigation plan will be implemented. This may require some personnel and equipment to access the sand dunes area.

While precautions will be taken to avoid this happening, if it does, it is required to be able to clean up and drilling fluids that are lost. This would be with handheld equipment where possible, but use of a small, tracked excavator and some pumping equipment or a dumper truck can be required. Access to the dunes is considered to be done via the valve field exit towards the dunes and/or other parking space found in the area.

Appendix N includes *The Breakout Plan for the Liverpool Bay CCS Project (AMS Project J3130)*. The Breakout Plan sets out the procedures and responsibilities for managing drilling fluid “breakouts” during Horizontal Directional Drilling (HDD) works at Talacre, North Wales. It provides a structured approach to prevention, monitoring, containment, and clean-up to minimise environmental impact and ensure health and safety compliance.

The introduction explains the function of drilling fluids in HDD operations and highlights the risk of inadvertent returns to surface when bore pressures exceed local ground strength. The plan describes how Boskalis and AMS will execute the HDD works (a ~500 m bore with a polyethylene duct) and the measures in place to respond to breakout events. It stresses commitment to protecting sensitive dune and beach habitats, supported by the Boskalis HSE Plan and Environmental Management Plan.

Detailed sections cover the principles of drilling fluid use, including their generally benign nature, and outline proactive monitoring by drill operators and mud technicians to reduce risks. Breakout management is described in four stages: prevention (careful fluid monitoring and bore design), monitoring (continuous inspection and patrols along the drill line), containment (using hay bales, sandbags, pumps, or vacuum tankers to manage spills), and clean-up (safe disposal, reinstatement of affected areas, GPS and photographic recording, and Ecological Clerk of Works monitoring).

The document also lays out clear reporting protocols (**STOP–CONTAIN–NOTIFY**), public and environmental safety considerations for accessing the Warren and dunes, and separate procedures for minor and major breakouts. A list of plant and equipment required for rapid deployment is included. Finally, health and safety provisions are described, including PPE standards, first aid availability, COSHH compliance, and the need for

all personnel to be inducted, competent, and signed onto the risk assessment. A briefing register at the end ensures accountability and awareness of the method statement.

Overall, the breakout plan demonstrates a strong emphasis on environmental protection, health and safety compliance, and clear operational procedures to manage the unlikely event of drilling fluid escape during HDD works.

7.6.2.4 Potential need Abstraction permit for water supply on site / Hydrant licence

For the water supply of the drilling we envisage that water will be delivered by 3rd party, we will ensure that they provide the suitable extraction license for the provision of water. Therefore, this is for information only, we will make sure the supplier takes care of this.

7.6.2.5 Other Waste

Waste originating from the personnel and welfare facilities on site will be disposed of as per local regulations. Waste is stowed in covered skips where possible to prevent materials being blown out by the wind. Waste water coming from the welfare facilities will be contained in tanks. Waste and waste water is removed by trucks from registered waste carriers. Covers are used where required to limit escape of materials during transport. No burning of waste on site is considered.

Good housekeeping is held on the site to limit debris flying around and where possible machinery is switched off when not in use. This also relates to maintenance of construction plant and equipment on site to ensure good working order and to prevent spills. In case of spills, equipment is readily available on-site to clean any dry spillages and clean up spillages as soon as reasonably practicable after the event using wet cleaning methods. See Section 8.0.

Electricity on site is provided by generators, and solar panels and battery packs can also be used for certain equipment to reduce emissions. Fuel is transported to site by truck and stored in double bunded fuel tank on site. When refuelling, the appropriate measures are taken to limit potential spills.

Table 7.1 presents the waste management, and water management related mitigation and monitoring commitments from the REAC in Planning Permission FUL/000246/23 that will be implemented during the execution of the Proposed Development.

7.7 Construction Plant and Site Activities

In accordance with T-GG-003, T-GG-007, T-GG-008, and T-GG-010 – REAC, best practice methods to be followed during construction activities include:

7.7.1 Use of Plant and Equipment

- In accordance with T-NV-007 and T-NV-008 – REAC; Use mains electricity where available will be used to supply the TCF. If not, use generators appropriately sized for the required output; if diesel-powered, they must be set up by the supplier.
- Ensure all plant is properly maintained and use noise screens where needed. Generators should have a sound power level below 65 dB(A), be canopied, and silenced. Position exhausts away from site boundaries and occupied areas.

- Locate generators away from adjacent residents and consider prevailing wind conditions for noise attenuation.
- Site portable generators at least 10m from watercourses and 50m from springs, wells, or boreholes, with drip trays fitted.
- Turn off all plant when not in use and overnight.
- Inspect equipment before use and report defects to the Site Manager.
- Conduct refuelling in designated areas and provide sufficient spill kits, replenishing as needed.

7.7.2 Site Activities

- Obtain Local Authority consent for particularly noisy activities, such as crushing and piling, before starting. Inform all relevant parties of consent conditions.
- Minimise the use of builders' skips and inspect their condition weekly.
- Manage ordered materials to avoid spoilage and overordering, using a lockable storage compound with above-ground, weather-protected areas. Encourage the reuse of cut-offs and arrange for suppliers to take back surplus materials and packaging.
- Locate storage compounds away from identified water features.
- Reuse surplus materials on-site where possible, following valid waste exemptions or voluntary codes of practice.
- Minimise surplus excavated material and document all on-site reuse, including composition and disposal locations.
- If needed, install temporary bunding or settlement ponds to treat sediment-laden or contaminated water before discharge into the drainage system.

7.8 Archaeology

In line with T-PD-016 and T-CH-001 (REAC), to ensure no archaeological remains are damaged:

- Tack mats will be places along the Foreshore Area to facilitate vehicle movements over the sand.
- The installation of the new cables across the Talacre dune system will utilise a trenchless crossing technique of horizontal directional drilling (HDD).
- An archaeological watching brief may be required on the excavation of the HDD entry and exit pits.

A draft Written Scheme of Investigation (WSI) was shared with Heneb in July for consultation prior to submitting the planning application. Following feedback received from Heneb, a final WSI has been submitted with the planning application.

The aims of the archaeological monitoring and recording are:

- To record, as far as reasonably possible, the location, extent, condition, significance and quality of any survival archaeological remains;
- To provide a photographic and written record of the surviving remains; and
- To report the results of the archaeological monitoring and recording and to provide recommendations for post-excavation analysis, if appropriate, in a report to the Client and LPA Archaeological Advisor.

A fully illustrated archaeological watching brief report will be made available to LBCCS and the LPA Archaeological Advisor within six weeks of the completion of fieldwork, in accordance with the CIfA standards and guidance (2023a-b) as stated in the WSI developed for this for the HDD and lay of the cable activities.

8.0 EMERGENCY PREPAREDNESS AND RESPONSE

The following section is in accordance with T-GN-006 – REAC Emergency Preparedness.

8.1 Spill Kits

In accordance with T-WR-017 – REAC, spill kits for hydrocarbon and chemical spills will be available at all worksites, with clear signage for easy identification. The site team shall ensure:

- Additional spill kits are located at construction compounds, fuel storage points, and COSHH stores.
- Each kit will include:
  - Absorbent pads.
  - Absorbent booms.
  - Absorbent granules.
  - Hazardous waste disposal sacks.
- Regular checks will ensure spill kits are fully stocked and ready for use.
- Spill drills will be conducted periodically to ensure the workforce can effectively handle spills.
- All drills will be documented, with records kept throughout the project.

8.2 Fire Prevention

Means to raise the alarm in the event of a fire shall be available at the points of work. An assembly point shall be designated a safe distance from the active works locations and will be communicated to all members of the workforce before works commence. The workforce shall assemble at the point for a rollcall and to receive further instructions. All individuals at the worksite, including visitors, will be obliged to immediately sign in on arrival.

8.3 Extreme Weather

The Construction Contractor's Site Manager shall register to receive Met Office weather warnings. All warnings issued by the Met Office with the potential to impact upon the works shall be communicated by the Construction Manager to the workforce in a timely manner so that measures can be implemented where necessary. In the absence of the Construction Manager the Field Environmental Manager or equivalent person shall also receive and act upon all alerts.

It should be noted that the PoA site operator is registered with the NRW Flood Warning System and has implemented an Emergency Response plan that includes protocols for flood risk and emergency situations. This plan enables rapid response to events such as an unlikely breach of tidal flood defences.

8.4 Incident Reporting and Investigation

8.4.1 Reporting

All environmental incidents, including near misses, shall be classified in accordance with Table 8.1 and reported to the Company within 24 hours.

Major incidents must be reported to the Project Manager as soon as reasonably practicable.

Minor incidents and near misses must be reported to the Company within 24 hours.

After notifying the Company, the Contractor is responsible for reporting any environmental incidents that are legally required to be reported to Natural Resources Wales and/or other relevant statutory or regulatory bodies.

Emergency contact details for all relevant authorities are provided in Section 8.4.3.

Table 8.1 Reporting

Incident Classification	Definition
Near Miss	An event, controlled through implementation of an effective incident control measure (e.g. drip tray used, effective use of noise barrier).
Minor Environmental Incident	Incidents that have caused minor harm or damage to the environment e.g. • A minor fuel spill below 10 litres onto ground which is immediately cleared. • A minor spill of a chemical not classified as presenting an ecotoxic risk. • Exceeding noise levels. • Silt runoff from site which does not enter into a surface water feature; or • Excess dust emissions.
Major Environmental Incident	Incident that have caused or may cause significant harm or damage to the environment e.g. • A minor fuel spill which impacts a sensitive land feature, a water, or drains. • A major fuel spillage or 10 litres. • Any spillage of a chemical which is classified as presenting an ecotoxic risk. • Silt runoff from site which enters a water feature. • Receipt of a nuisance complaint.

8.4.2 Investigation

In accordance with T-GN-003 – REAC, reporting of an incident to the Project Manager shall, where necessary, commence the incident investigation which shall be jointly conducted between Company and its contactor[s].

The Construction Contractor shall prepare an investigation report for all environmental incidents. The report is to include:

- Summary of the environmental incident, describing the:
  - Nature of the incident.
  - Details of any pollutant released including the type and quantity of pollutant released.
  - Location for the incident (e.g. grid reference).
- Receptors that were or could have been impacted.
- An analysis of what led to the incident occurring.
- Summary of immediate actions taken to mitigate the incident.
- Summary of any remedial action required.
- Lessons learned and future measures or actions to be implemented.

Company will verify the incident investigation and agree with its contractors any further actions which are to be implemented to prevent a reoccurrence of comparable incidents. A timeline for the implementation of all actions shall be established and the contractors shall provide details of when they have been implemented.

An incident investigation shall be complete when all details have been recorded on file.

8.4.3 Emergency Contacts

In the event of an emergency occurrence at the Site, the Client and its contractors shall determine the relevant statutory and regulatory bodies that must be notified. Notification shall be in accordance with the measures outlined above in Section 8.4.2.

Table 8.2 Emergency Contacts

Emergency Contacts	
Contact	**Contact Details**
Client Site Manager – [Name/TBC]	TBC
Contractor Site Manager – TBC	TBC
Contractor Environmental Manager – TBC	TBC
Boskalis Emergency number (24/7)	+31 (0) 78 6969 999
National Resources Wales	0300 065 3000
Health and Safety Executive (HSE Construction)	01519 229 235
Local Authority – Flintshire County Council	01352 703020
Major Spill Emergency Response	TBC
Fire	999 / 112
Police	999 / 112
Ambulance	999 / 112

8.5 Incident Response

All pollution incidents should be managed through the STOP – CONTAIN – NOTIFY concept.
As soon as an incident is identified, the first action should be **STOP** and prevent further discharge to drainage/river/ground.

CONTAIN may constitute control of discharge in the event of a spill, or cessation of works if it is the works that are resulting in the incident, e.g. halting excavations until silt runoff is contained. It is recognised that due to personal health and safety risks it may not always be safe to stop the source of the spill, for instance if a significant volume of an unidentified substance has been released.

NOTIFICATION should take place as soon as practicable and frequently can take place while further release is being stopped or while a spill is being contained. The emergency contact numbers outlined in Table 8.2 should be used.

Guidance on managing contaminants and limiting adverse effects is provided in the Oil Spill Containment Plan [Ref 20].

9.0 GENERAL ENVIRONMENTAL REQUIREMENTS

9.1 Roles, Responsibility and Authority

In accordance with T-GN-006 – REAC, the Construction Contractor shall make available sufficient time and resource for the effective management of environmental risks that could arise during construction work. This includes appointing adequately qualified personnel with knowledge and capability in the environmental management of construction site works. Persons having responsibility for environmental site management, and in particular any persons required to undertake and oversee response to any incidents with potential environmental consequences, shall be empowered to make decision and take appropriate action necessary to avoid or mitigate adverse environmental effects, even when this may lead to delay and/or additional cost to the Construction Contractor.

9.1.1 Project Roles

The Point of Ayr team and all appointed contractors will be responsible for ensuring that the potential risks to the environment are adequately avoided or controlled by the application of measures as documented within this POA Construction CEMP, which shall be complained throughout construction stage.

During the execution of the activities foreseen by the Project, the Contractor/Subcontractor:

- will carry out its activities in accordance with the applicable national legislation, its own and the Company's standards, the Environmental Statement (attached to the TCPA) and the Register of Environmental Actions and Commitments (REAC) and international best practices;
- will be responsible for the environmental impacts resulting from its activities and operations and for implementing all measures necessary to avoid or, if not possible, reduce and mitigate them, in accordance with Contractual requirements;
- will react promptly to accidental events for which it is responsible in order to mitigate the resulting impacts as much as possible;
- will implement this CEMP and all identified mitigation and monitoring measures and operational control actions.

The most important Project Functions, responsible for development, implementation and monitoring of the POA Construction CEMP are identified and described in the following sections.

9.1.1.1 Project Director / Project Manager

The Project Director (PD) / Project Manager (PM) is responsible for ensuring that the Project is executed in a responsible manner that is protective of human health and environment.
The responsibilities of the PD / PM are as follows:

- supervise compliance with regulatory requirements and adherence to applicable standards and procedures to which the Contractor has committed to adhere;
- approve this document and ensures its application on Site with the support of the Project HSE Manager and the Project Environmental Manager;
- ensure the availability of adequate funds and human resources for the implementation of this document;
- define the Project strategies in relation to environmental protection measures, supervising the planning and scheduling of activities;

- support initiatives and awareness campaigns on environmental issues.

9.1.1.2 Project HSE Manager

The Project HSE Manager (PHSEM) manages and supervises the Project activities of competence related to health, safety and environment during the development of the Project, ensuring the correct application of the HSE Management System of the Contractor; its function includes:

- ensuring the review of the contractual documents of competence;
- controlling the activities related to the HSE aspects of the Project carried out by the various functions;
- ensuring the preparation of the Environmental Plans for the construction phase in accordance with the HSE objectives of the Project;
- ensuring the review of the Project documents on environmental matters, to verify compliance with the HSE Management System of the Contractor;
- coordinating the HSE audit activities for the Project;
- ensuring, in line with the contractual constraints and local legislation and coordinating with the other Project positions, the definition of the environmental requirements to be considered and applied in all phases of the work, subsequently verifying their implementation.

9.1.1.3 Environmental Manager

The Environmental Manager (EM) shall:

- ensure that the Project activities comply with the requirements of environmental legislation;
- provide guidance to the Environmental Team and the Project on environmental management;
- be overall responsible for the implementation and monitoring of the environmental program;
- monitor the implementation of the environmental management requirements as described in this Plan;
- ensure support to the PM in relations with the Client and with the relevant environmental bodies;
- report environmental incidents to the Client and implement corrective actions of the CEMP when necessary;
- be responsible for ensuring that the CEMP is developed in a timely manner and in accordance with applicable national legislation, current authorizations and international best practices;
- ensure that adequate knowledge is provided to all workers and interested parties regarding the contents of this Plan;
- ensure that adequate training on the contents of this procedure are identified, developed and provided;
- ensure that any corrective actions are correctly identified and implemented;
- identify and develop specific environmental campaigns to raise awareness of environmental issues;
- develop environmental incident management procedures and spill response plans to ensure a rapid and effective response in the event of an environmental incident.

9.1.1.4 Construction Manager

With the support of PHSEM and EM, the Construction Manager (CM) is responsible for:

- ensuring that the planning and programming of the Project take into account the environmental management aspects, coordinating to this end with the other organizations and functions involved in the implementation of the Project and ensuring the most appropriate solutions;
- ensuring the coordination of the environmental management activities with the other Project plans and programs, the Construction Plans, defining the construction methods, logistics, activity programming, tools and control methods;

- participating, as far as it is competent and in conjunction with PHSEM, in the development, updating and adjustment (if necessary) of the CEMP.

9.1.1.5 Filed HSE Manager

In collaboration with CM, Project HSE Manager and Field EM, the Field HSE Manager (FHSEM) has the following responsibilities:

- ensure adequate resources and facilities provided at Site for HSE management in compliance with national legislation and international standards;
- provide training and awareness to all relevant workers to ensure proper implementation of the HSE management plans and procedures;
- monitor Site conditions to ensure that HSE mitigation measures are being implemented;
- monitor the correct implementation of HSE procedures on site;
- coordinate the HSE inspections and audits, ensure the follow-up actions.

9.1.1.6 Field Environmental Manager

The Field EM's responsibilities include:

- ensuring compliance of the CEMP with the requirements of the Contractor and the Company;
- verifying the implementation of the CEMP for construction site activities;
- verifying the implementation of the requirements contained in the environmental permits;
- participating in accident investigations;
- planning and supervising the application of environmental procedures;
- updating and providing training on environmental issues;
- planning and carrying out environmental audits, checks and inspections;
- managing environmental reporting for the Contractor;
- developing and updating the CEMP in relation to possible legislative changes or operational activities;
- ensuring that all personnel are aware of the environmental management strategy in the following Plan and comply with it;
- planning and carrying out environmental emergency response drills;
- participating in the analysis of the causes of any accidents and ensuring the collection of data;
- carrying out the analysis of environmental data and formulating the necessary improvement proposals;
- ensure control over the correct compilation of documentation in compliance with current legislation;
- keep all documents relating to environmental management archived, organized and available for reporting and auditing.

9.1.1.7 Workers

All personnel are responsible for their environmental performance during the Project.
As a minimum, personnel are expected to:

- comply with the requirements of applicable environmental legislation and environmental authorities, including the specific requirements of Project approvals and supporting documentation;
- be responsible for their environment and for fully complying with all plans, procedures and other work instructions applicable to their work activities;
- undertake activities in an environmentally responsible manner;
- undertake activities in accordance with agreed environmental management plans, procedures and working method statements;

- ensure they are aware of the identity of key persons relevant to environmental management on the site;
- report any non-compliance with the CEMP, environmental management procedures or regulatory approval requirements where identified;
- report any incidents which have resulted in, or may potentially result in, environmental damage;
- ensure they attend any environmental training provided relevant to their role and responsibilities.

9.1.1.8 Subcontractors

All environmental requirements for which the Contractor is responsible fall to the Subcontractors, which shall carry out their activities in accordance with the regulatory provisions, this Plan and the ongoing environmental authorization process. Each Subcontractors shall have an operational site structure (e.g. presence of a Field EM) adequate to guarantee complete and efficient control of the environmental aspects of the field and to carry out the necessary management and coordination activities for these issues.

Contractor will provide each Subcontractor with the copy of this document prior to start of their activities and organize additional trainings to all Subcontractors, if required.

Subcontractors are responsible to Contractor for respecting the provisions of this document and are subject to Contractor's supervision and audits. Subcontractors are responsible to provide Contractor with the data of their environmental performances.

9.2 Competence, Training and Awareness

In accordance with T-GN-006 – REAC, the Construction Contractor shall ensure that appropriate awareness training is delivered to all site operatives and only appropriately qualified Subcontractors are appointed.

Every member of the workforce shall be required to participate in a site induction prior to starting work on the site. The level of induction training will depend upon the position and duties the person is to perform. The site induction will include:

- A brief overview of the works to be undertaken and any potential environmental aspects associated with the activities carried out during the Construction Phase.
- A summary of the sensitive environmental receptors near the site.
- An overview of the applicable environmental mitigation and pollution control measures.
- An overview of the health and safety management measures in particular emergency response procedures required at the site.

Company will require its Construction Contractor to provide continuing training and awareness raising of the workforce. This can be delivered in the form of Toolbox Talks tailored to the specific environmental mitigation measures required dependent on the work activities being undertaken and to raise awareness on environmental best practice.

Records of all inductions and Toolbox Talk deliveries shall be maintained at the site office. Copies shall be made available to the Company on request.

9.2.1 Internal Communication

The Construction Contractor's CM, Field EM or equivalent person and other relevant team members shall meet weekly to review the status of environmental aspects including but not limited to:

- Works activities underway and planned.
- Mitigation measures required to be implemented.
- Results of weekly inspections and any audit results/feedback.
- Any corrective and preventative actions required to be implemented.
- Identification of areas for continual improvement.
- Status of staff competence and training needs.
- Status of CEMP and of any required consent and approvals and the need for review and updating.

Company shall be informed of the outcome/minutes of all such meetings.

Additional and ongoing communication of environmental performance and requirements is to be determined by the Construction Contractor and provided as appropriate.

9.2.2 Notice Boards

The Contractor provides and maintains project environmental notice board(s) which are positioned to ensure all operatives are able to review the notice board a daily basis. The notice boards should be updated at least monthly. As a minimum, the notice boards shall contain:

- Clients Environmental Policy.
- Emergency contacts list.
- Relevant statutory and non-statutory advice and guidance.
- Description of the key environmental risks and intended risk mitigation measures.

These environmental notice boards will be situated in prominent positions including the main reception area of the site office.

9.2.3 Toolbox Talks

In accordance with T-GG-008 – REAC, Toolbox Talks will be used to inform all site personnel of key information concerning the management of the site, procedures to be followed and expected standards / controls when working on the project. The Toolbox Talks will cover a broad range of topics including those related to best practice environmental management.

A record of Toolbox Talks will be kept on site, starting date, description of non-conformance, potential implications, proposed corrective actions, individual responsible and target data. Toolbox Talks shall include, but will not be limited to, instances where:

- There is a change to existing legislation, which requires an operation change.
- Site inspections or audits have identified corrective actions which require communicating.
- There are significant changes in environmental conditions i.e. heavy rainfall.

The frequency and topics of the Toolbox Talks shall depend upon the phase construction. They shall be provided as often as necessary to address site-specific environmental requirements.

9.2.4 External Communication

In accordance with T-GN-004 and T-NV-004 – REAC, the Construction Contractor, with the Company's agreement, will notify local residents and relevant businesses of upcoming works at least two weeks before starting, typically via letter. A Liaison Officer may be appointed to handle inquiries and complaints, and a hotline or email may be provided during construction stage.

All received complaints will be assessed and addressed promptly, aiming for same-day contact with the complainant. The CM or an equivalent person will be the contact for regulatory authorities, and any communications received will be reported to the Company immediately. A record of all communications will be maintained, with incident-related communications detailed in Section 8.4.3 of this CEMP.

The workforce will be informed during induction to direct any public inquiries to the CM, who will document these and inform the Company's Project Team.

A Stakeholder Communications Plan has been prepared and is included in APPENDIX I.

9.3 Documentation

In accordance with T-GN-008 – REAC, the Field EM shall be responsible for documenting and retaining safe all suitable records relating to environmental issues at the site and/or arising from site operations. Documents shall be stored in a suitable manner and backups created to safeguard the records. The CEMP shall be controlled document and authorised latest version shall be signed and dated by the responsible person[s]. Other site data records and environmental management document would include, but not necessarily be limited to the following:

- Copies of relevant consents, permissions, or other approvals/ authorisations.
- Environmental data records including waste transfer notes/records of waste collection and treatment/ disposal.
- Records of any environmental incidents including actions taken and resolution.
- Records of all plant/equipment entering / leaving site together with any relevant compliance documentation (for instance in respect of noise or air pollutant emissions class).
- Copies of any enforcement notices or instructions issues by the local authority or statutory regulatory body.
- Record of any prosecutions pending or resolved, and any penalties enforced.
- Records of site inspections and audtis
- Records of staff training including site inductions and toolbox talks.

9.4 Monitoring

The Construction Contractor shall be responsible for managing environmental performance during all site works. This will be supported with a programme of monitoring, inspections and audits.

9.4.1 Daily Inspections

Daily inspections shall be undertaken by the Contractor and recorded as follows:

- Visual inspection of the site perimeter to check for dust deposition (evident as soiling and marking) on vegetation, cars and other objects.

- Visual inspection of the local haul roads to check their condition to ensure there is no build-up of dust or earth deposits liable to cause dust emissions as vehicles pass.
- Vehicles, equipment and plant inspections shall be completed to check the absence of damage or maintenance issues and that it is correctly functioning.
- Visual inspection of all acoustic barriers / screening to check they are present and in good condition.
- Visual inspection of waste containers and waste storage areas to verify wastes are being correctly segregated and to confirm the absence of mixing of hazardous and non-hazardous wastes.
- Visual inspection of all site areas to ensure there is no deposited or wind-blown litter.
- If a waste collection is made, a check shall be made of the Waste Transfer Note / Hazardous Waste Consignment Note provided for the collection.

On all days when potentially dust emitting activities are being conducted, the level of dust generation shall be kept under constant review. A record shall be added to the official site diary when such activities are conducted, the dust emission conditions observed and when necessary, the mitigation measures taken.

Any elements of the site management found to be in an unsatisfactory condition during the site inspection shall be addressed on the day. In the event it is not possible to address the matter on the day it is raised; a note of the reason shall be made on the inspection record sheet.

9.4.2 Audits

Only suitably trained and competent staff will be authorised to perform environmental audits.

Audits (or at a suitable frequency to be determined by the nature / duration of the work) of the worksites and Contractors shall be undertaken by or on behalf of the Company. All aspects of the environmental management at the site shall be assessed against this POA Construction CEMP. The audit shall include checks of the site records including the daily inspection record sheets, vehicle arrival logs and waste disposal paperwork. All audits shall be documented; where audit actions are raised, close out of these actions shall be assessed at the following audit.

An audit of an Environmental Management Process will be undertaken by the EM throughout the Project duration and will typically cover the activities identified in the above chapters.

9.4.3 Non-Conformity and Corrective Action

Where the Company has a concern or raises an issue for resolution, or where potential issues are raised from an inspection or audit of the site/ operations, or by a regulatory authority, the Contractor shall investigate the root cause and any implications arising from the issue and shall if necessary following discussion with the Company implement measures to rectify the problem.

The Contractor shall monitor the effectiveness of the corrective action and report the outcome to the client and where relevant the regulatory authority. All documentation of the issue/ event and corrective action/ outcome shall be retained by the contractor.

9.4.4 Data Reporting

The Construction Contractor may be required to submit the Company all relevant data on the following (list non exhaustive):

- Energy usage (i.e. electricity meter readings and diesel generator fuel used/delivered to site).
- Water consumption (i.e. water meter readings or bowser water deliveries to site).
- Waste collections.
- Heavy Duty Vehicles entering/leaving site.

The Construction Contractor shall comply with any additional reporting requirements that may be introduced through the conditions of any agreements or permits.

9.5 Review and Updates

9.5.1 Management Review

A management review of the performance of the Environmental Management System will be undertaken yearly and will include the Company's PM and senior management (as a minimum this should include the PD, HSEQ Manager and senior corporate representative) key personnel including the Field Environmental Manager.

Matters such as staffing, training, matters arising from audits and inspections and performance against Key Performance Indicators (KPIs) will be discussed and where there is a shortfall in performance, actions shall be agreed to rectify this.

9.6 Legal and Other Requirements

Certain aspects of the construction work for this Project may be subject to environmental permits, consents, authorisations and permissions.

10.0 ATTACHMENT 1 – PLOT PLAN: PROPOSED IN SITE TCF AND TOF AREA FOR CONTRACTOR (REF. 102700DJDD09413_EXDE00_00)

11.0 ATTACHMENT 2 – LAYOUT OF WELFARE FACILITIES: COMPANY OFFICE BUILDING (REF. 102700DJDD09412_EXDE00_01)

12.0 ATTACHMENT 3 – LAYOUT OF WELFARE FACILITIES: CONTRACTOR OFFICE BUILDING (REF. SAABU-UK-LI-AYRG-B-TCF-152)

13.0 ATTACHMENT 4 – LAYOUT OF WELFARE FACILITIES: PROPOSED KITCHEN LAYOUT (REF. JB2042)

14.0 ATTACHMENT 5 – OVERALL PLOT PLAN OF NEW UNITS (REF. 102700DTDG60005)

15.0 ATTACHMENT 6 – DUNE VALVE LOCATION LAYOUT (REF. 1025H0BLDG84145)

16.0 ATTACHMENT 7 - PFAS MONITORING WELLS LOCATION (REF. 102700DJDD09413)

APPENDIX A – DUST MANAGEMENT PLAN (DOC. 102700DFPA09758)

APPENDIX B – FLOOD ACTION PLAN (DOC. 102700DFPA09759)

APPENDIX C - GROUNDWATER MANAGEMENT AND MONITORING PLAN (DOC. 102700DFPA09760)

APPENDIX D - LIGHTING MANAGEMENT PLAN (DOC. 102700DFPA09761)

APPENDIX E - MATERIALS MANAGEMENT PLAN (DOC. 102700DFPA09762)

APPENDIX F - NOISE AND VIBRATION MANAGEMENT PLAN (DOC. 102700DFPA09763)

APPENDIX G - SEDIMENT MANAGEMENT PLAN (DOC. 102700DFPA09764)

APPENDIX H - SOIL MANAGEMENT PLAN (DOC. 102700DFPA09766)

APPENDIX I - STAKEHOLDER COMMUNICATIONS PLAN (DOC. 102700DFPA09767)

APPENDIX J - SURFACE WATER MANAGEMENT AND MONITORING PLAN (DOC. 102700DFPA09768)

APPENDIX K - TERRESTRIAL INNS MANAGEMENT PLAN (DOC. 102700DFPA09769)

APPENDIX L – CONSTRUCTION TRAFFIC MANAGEMENT PLAN (INC. WORKER TRAVEL PLAN) (DOC. 102700DJPC09406)

APPENDIX M - ENVIRONMENTAL STATEMENT - VOLUME 4, APPENDIX T: INVASIVE NON-NATIVE SPECIES MANAGEMENT PLAN (RPS, February 2024)

APPENDIX N - DRILLING BREAKOUT PLAN FOR THE LIVERPOOL BAY CCS PROJECT (AMS PROJECT J3130)