



Cush Wind Farm
Phase II

Environmental Impact Assessment Report

Annex 3.4: Planning-Stage Construction Environmental Management Plan

Cush Wind Limited

DOCUMENT CONTROL

Stage	Date	Name
Content	21/10/2026	Declan Owens
Approval	21/10/2026	Gavin Daly

RECORD OF CHANGES

Revision	Issue Date	Summary of Changes	Approved
00	21/10/2026	Content	Declan Owens
01			
02			

DISTRIBUTION LIST

#	Purpose	Company	Name (Optional)
1	Review	Cush Wind Limited	James Carville
2			
3			
Notes:			

© Copyright Galetech Energy Services Ltd. This report has been prepared by Galetech Energy Services Ltd. ("Galetech") for the sole use and benefit of the named recipient (the "Client"). Unless expressly agreed otherwise in writing by Galetech, no other person or entity is entitled to use the contents of this report. Galetech expressly disclaims all liability to any third party who may access or rely on this report, whether in whole or in part, and whether such access or reliance is authorised or unauthorised. No liability is accepted by Galetech for any use of this report other than for the specific purpose for which it was prepared. This report has been prepared by Galetech in accordance with the specific instructions, requirements, scope and limitations set forth in our agreement with the Client, as well as the project's timeframes, budgetary constraints, and in line with customary industry standards. The approach, methodology, assumptions, limitations and sources of information used by Galetech are outlined in this report (as appropriate). The scope of Galetech's services is strictly limited to the conditions described herein. Where conclusions and recommendations are based on information provided by third parties, including the Client or its agents, Galetech accepts no responsibility for the accuracy, validity, or completeness of such information. It is assumed that all relevant data and documentation requested have been provided in full, are accurate, and reflect the current situation. No independent verification of this information has been undertaken by Galetech unless explicitly stated otherwise. The conclusions presented in this report represent Galetech's professional judgement based on observations made during any site visit (if applicable), and the information available at the time of preparation. While Galetech has exercised reasonable skill, care, and diligence in preparing this report, no express or implied warranty, guarantee, or representation is made regarding its completeness, accuracy, or fitness for a particular purpose. Galetech is under no obligation to update this report or any of its findings or recommendations should additional information become available, or circumstances change after the report's date. All intellectual property rights, including copyright, in the content of this report are and shall remain the exclusive property of Galetech unless otherwise agreed in writing. The Client is granted a limited, non-transferable license to use this report solely for its intended purpose under the terms of the engagement with Galetech.

Contents

1.0	Introduction.....	1
1.1	Purpose of this Report	1
1.2	Objectives of the CEMP	1
1.3	Structure of the CEMP	1
1.4	Roles & Responsibilities	2
1.5	Reporting Procedures	2
2.0	Description of the Project.....	2
3.0	General Construction Sequence.....	3
3.1	Construction Method	4
3.2	Site Entrances.....	4
3.3	Hardstanding Areas and On-Site Access Tracks.....	5
3.4	Temporary Site Facilities, Laydown and Equipment Storage Areas.....	6
3.5	Chemical Storage & Refuelling	6
3.6	Construction Waste Management	6
3.7	Construction Employment	7
3.8	Construction Traffic	7
4.0	Environmental Mitigation & Management Measures	8
4.1	'Designed-In' Measures	9
4.2	Construction Phase Environmental Mitigation and Monitoring Schedule ..	11
5.0	Implementation of Environmental Management Measures	38
6.0	Communication Plan.....	38
7.0	Staff Training & Environmental Awareness.....	39
8.0	Emergency Response Procedures	39
9.0	Recording & Reporting	39
10.0	Compliance & Review Procedures	40
10.1	Site Inspections & Environmental Audits	40
10.2	Auditing	40
10.3	Environmental Compliance.....	41
10.4	Corrective Actions.....	41

1.0 INTRODUCTION

Galetech Energy Services (GES), on behalf of Cush Wind Limited, has prepared this Planning-Stage Construction Environmental Management Plan (CEMP) for the construction of the Cush Wind Farm Phase II.

1.1 PURPOSE OF THIS REPORT

This CEMP has been prepared to outline the management of activities during the construction of the project to ensure that all construction activities are undertaken in an environmentally responsible manner. This CEMP summarises the environmental commitments made in respect of the project and the measures to be adopted to ensure compliance with legislation and the requirements of statutory bodies.

This CEMP (Planning-Stage/Preliminary) is a live document and will be updated by the appointed contractor prior to the commencement of development. Prior to the commencement of construction, the updated CEMP will be reviewed by the Environmental Manager (EM) and Ecological Clerk of Works (ECoW), as necessary, to confirm the appropriateness of the measures set out therein. This CEMP will form part of the main civil construction works contract. The contractor will take account of the structure, content, methods and requirements contained within the various sections of this CEMP when further developing this document (to include environmental plans and other related construction management plans and method statements) as required.

1.2 OBJECTIVES OF THE CEMP

This CEMP has been developed in accordance with the Institute of Environmental Management and Assessment (IEMA) *Practitioner Environmental Management Plans Best Practice Series Volume 12 (December 2008)* and has been designed to address the proposed environmental construction strategies that are to be implemented in advance of and during the construction of the project.

This CEMP aims to define good working practices as well as specific actions required to implement mitigation requirements as identified in the Environmental Impact Assessment Report (EIAR), Natura Impact Statement (NIS), the planning process, and/or other licensing or consenting processes.

1.3 STRUCTURE OF THE CEMP

The CEMP has been structured such that it can be read as a consolidated document or as discreet documents addressing specific environmental topics. In particular, we refer to the technical annexes enclosed which address specific matters such as emergency responses (**Annex 1**), waste management (**Annex 2**), peat/spoil management (**Annex 3**), surface water management (**Annex 4**), and water quality management (**Annex 5**).

A copy of the CEMP will be maintained in the site offices for the duration of the construction phase and will be available for review at any time. The contractor's EM will be responsible for the continued development of the CEMP throughout the construction phase.

Where specific construction management plans or method statements are prepared by the contractor, these will be inserted into the relevant section of this CEMP.

1.4 ROLES & RESPONSIBILITIES

Cush Wind Limited, and its appointed Project Manager, will be responsible for the overall implementation of the environmental measures and procedures set out in the CEMP. The role of the Project Manager relates to compliance monitoring with the CEMP and other planning/environmental/licensing requirements. Additionally, the Project Manager shall be empowered to halt works where he/she considers that continuation of the works would be likely to result in a substantial environmental risk.

The Project Manager will also carry out site checks that the works are being undertaken in accordance with the CEMP and will prepare a record of same.

The Contractor will appoint an EM who will be responsible for coordination and development of the CEMP and any other surveys, reports or construction management plans necessary for the discharge of the requirements of the CEMP. The EM will also review the contractors construction management plans as required, carry out compliance auditing during the construction phase and coordinate the Environmental Management Group (see below) and required liaisons between Cush Wind Limited, the Contractor, and other statutory authorities.

Prior to commencement of construction, the Contractor will identify a core Environmental Management Group, comprising of specific project personnel and including the Project Manager, EM and ECoW. The Environmental Management Group will meet monthly to discuss the monthly environmental report and will advise site personnel on areas where improvements may be made on site. The group will draw on technical expertise from relevant specialists where required and will liaise with other relevant external bodies as required.

1.5 REPORTING PROCEDURES

Appropriate reporting procedures are key to the proper implementation of the measures outlined within this CEMP and include reporting between parties involved in the construction of the project and also external stakeholders, such as the relevant local authorities.

Emergency and environmental incident reporting procedures are set out in the Environmental & Emergency Response Plan (see **Annex 1**).

2.0 DESCRIPTION OF THE PROJECT

Cush Wind Limited proposes to construct Cush Wind Farm Phase II, comprising a three-turbine extension to the permitted Cush Wind Farm Phase I. The project comprises:

- 3 no. wind turbines with overall tip heights within the range of 199.1 m to 200 m, rotor diameters within the range of 158 m to 175 m and hub heights within the range of 111.6 m to 120.9 m;
- all associated turbine foundations and crane hardstanding areas;
- construction of approximately 1.7km of new internal site access tracks and upgrading of existing and permitted access tracks and access arrangements;
- use of the construction compounds permitted as part of Cush Wind Farm Phase I;
- 1 no. electrical switch room building and associated compound, including a new site entrance from the L300321 local road;

- underground electrical and communications cabling within the wind farm site;
- storage of excavated peat and spoil within designated peat and spoil deposition areas;
- site drainage, surface water management and environmental protection measures;
- reinstatement, environmental stabilisation and drainage management works, having regard to the wider rehabilitation objectives for Galros Bog;
- a c.5 km underground electricity line extending from the proposed electrical switch room to facilitate connection of the proposed wind farm to the national electricity network;
- temporary and permanent accommodation works along the turbine component haul route to facilitate the delivery of turbine components; and
- all associated and ancillary site development, excavation, construction, landscaping, reinstatement and environmental mitigation works.

The wind farm site is located in rural County Offaly, approximately 4 km north of Birr and c.28 km south-west of Tullamore. It extends across the townlands of Galros East, Whigsborough, Ballycollin, and Eglish, County Offaly.

The c.5 km underground electricity line will extend from the proposed electrical switch room, located on the southern side of the wind farm site, to the connection point at the proposed Mullanafawnia 110 kV substation. The Mullanafawnia 110 kV substation is third-party infrastructure that is subject to a separate consenting process and does not form part of the project.

The turbine component haul route and associated accommodation works extend through Counties Galway, Roscommon, Westmeath and Offaly. Turbine components will be transported from the Port of Galway through Counties Galway, Roscommon and Westmeath to the wind farm site in County Offaly.

The following environmental documents have informed the preparation of this CEMP:

- the Environmental Impact Assessment Report, prepared by Galetech Energy Services; and
- the Natura Impact Statement, prepared by SLR Consulting.

3.0 GENERAL CONSTRUCTION SEQUENCE

The construction phase is anticipated to last approximately 15–18 months, commencing with enabling works and continuing through turbine installation and commissioning to site reinstatement and landscaping.

Construction activities will be carried out between 07:00 and 19:00 Monday to Friday, excluding public holidays, and between 07:00 and 13:00 on Saturdays. Works outside these hours will be required on occasion to make optimal use of suitable weather conditions or during critical stages of the construction programme. These works will include turbine installation activities requiring low-wind conditions, continuous concrete pours and the delivery of large turbine components along public roads.

Where works are required outside the normal working hours, nearby residents and the Planning Authority will be notified in advance. Work on Sundays or public holidays will

only be undertaken in exceptional circumstances and will be agreed in advance with the Planning Authority.

3.1 CONSTRUCTION METHOD

The construction of the project will generally comprise the following sequence of activities, with a number of activities occurring concurrently or progressively:

- Implementation of traffic management and surface water protection measures;
- Establishment of the site entrances;
- Use of the temporary construction compounds permitted as part of Cush Wind Farm Phase I, including bunded areas for the storage of oils, fuels and lubricants;
- Establishment of peat/spoil deposition areas;
- Construction of internal access tracks and turbine hardstands;
- Excavation and construction of turbine foundations.
- Temporary accommodation works along the turbine delivery haul route;
- Trenching for underground ducting and laying of cables;
- Construction of the switch room building and compound, and associated electrical apparatus;
- Construction of the underground electricity line between the wind farm switch room and the proposed Mullanafawnia 110 kV substation;
- Erection of wind turbines.
- Testing and commissioning of the wind turbines, electrical apparatus and underground electricity line; and
- Progressive site reinstatement, restoration and landscaping, including re-profiling of spoil/peat deposition areas and removal of construction compounds.

Once the turbines are installed, and the switch room and electrical system completed, the turbines will be tested and commissioned.

In addition to the roles of the EM and ECoW described above, the construction phase will be supervised by a range of environmental and engineering specialist personnel; including a Project Supervisor for the Construction Stage (PSCS), Archaeological Clerk of Works (ACoW), and Geotechnical Clerk of Works (GCoW), among others; who will liaise closely with the appointed contractor's on-site EM to monitor construction activities and to ensure that all applicable environmental control measures are implemented in full.

3.2 SITE ENTRANCES

A total of 3 no. site entrances will be used to facilitate access to the project site, as described in **Chapter 3** and **Chapter 14** of the EIAR. These comprise:

- 1 no. permitted construction phase site entrance from the N62 national road, permitted as part of Cush Wind Farm Phase I, which will be used for construction traffic and turbine component deliveries;

- 1 no. permitted operation phase site entrance from the L300321 local road, permitted as part of Cush Wind Farm Phase I; and,
- 1 no. new site entrance from the L300321 local road to provide construction and operational access to the proposed electrical switch room building and associated compound.

The detailed design and assessment of the proposed site entrance, including visibility splays and traffic management requirements, are set out in **Chapter 3** and **Chapter 14** of the EIAR. The construction and use of the site entrances will be undertaken in accordance with the planning application drawings, the requirements of the Planning Authority and a Traffic Management Plan to be prepared prior to commencement of development (see **Section 3.8** below).

The new switch room entrance will be constructed within the defined entrance footprint and will include the placement of geotextile or geogrid, granular fill and surface dressing as required. Drainage features will be installed, where required, to manage runoff and prevent sediment-laden water from entering adjacent drains or surface water features. Temporary traffic management measures will be implemented during the works to ensure the safety of road users and construction personnel.

Following completion of the construction phase, the N62 construction phase entrance will be closed off and retained for occasional use in the event that access is required for major turbine component replacement during the operation phase. The permitted operation phase entrance from the L300321 local road and the new switch room entrance will be retained for operation phase access.

3.3 HARDSTANDING AREAS AND ON-SITE ACCESS TRACKS

The construction of crane hardstanding areas and on-site access tracks is described in **Chapter 3** of the EIAR. The purpose of this section is to summarise the principal construction and environmental management measures to be implemented during these works.

Hardstanding areas and access tracks will generally be constructed using imported granular material and, where suitable, re-used excavated material. The works will typically comprise the placement of geotextile or geogrid, followed by the placement and compaction of granular fill in layers to the required design depth. All such areas will remain permeable insofar as practicable, to minimise the generation of surface water runoff.

Where access tracks or hardstanding areas interface with existing drainage features, appropriate drainage measures will be installed in accordance with the drainage design and the mitigation measures set out in **Chapter 7** of the EIAR. These measures will be designed to maintain existing drainage patterns, prevent sediment release and avoid obstruction of surface water flow.

Temporary turbine component set down areas and crane assembly areas will be reinstated following completion of turbine installation works. Reinstatement will generally comprise the removal of temporary stone and geotextile, re-profiling with suitable excavated material and allowing the areas to revegetate naturally, unless otherwise required by the final reinstatement design. Permanent crane hardstanding areas and access tracks will be retained during the operation phase to facilitate maintenance access and potential major component replacement.

3.4 TEMPORARY SITE FACILITIES, LAYDOWN AND EQUIPMENT STORAGE AREAS

Temporary construction phase facilities, laydown areas and equipment storage areas required to support the works will be provided in accordance with the final contractor's method statements and the detailed CEMP to be prepared prior to commencement of development. These facilities will support construction management only and do not comprise a separate operational element of the project.

The final location, layout and management of any temporary site facilities will be confirmed prior to commencement and will have regard to the mitigation measures set out in the EIAR (**Annex 1.9**), including the requirements relating to surface water management, ecological protection, peat/spoil management, traffic management, waste management, chemical storage and emergency response.

Temporary storage and laydown areas will be appropriately demarcated and managed to prevent uncontrolled access, uncontrolled runoff, sediment release, spillages or the spread of waste materials. Following completion of the construction phase, temporary storage and laydown areas will be reinstated, unless otherwise required for operational access or maintenance.

3.5 CHEMICAL STORAGE & REFUELLING

The storage and handling of oils, fuels and chemicals will be undertaken in accordance with the mitigation measures set out in the EIAR (**Annex 1.9**), including **Chapter 7: Water**, and the detailed measures to be included in the final CEMP.

All oils, fuels and chemicals will be stored in appropriately bunded areas, with bunds having sufficient capacity for the quantity of material to be stored. Bunded storage areas will be located away from surface water features and drains, and no fuel, oils or chemicals will be stored or handled within the required buffer of surface water features.

Refuelling will be carried out by suitably trained personnel using appropriate equipment, including double-skinned bowsers, drip trays and spill kits and will not be permitted at works locations within the 50m hydrological buffer, as set out at Hydrological Constraints Map at **Annex 7.4** of the EIAR. Mobile refuelling will be subject to strict controls and will not take place within the surface water buffer zone. Spill kits and absorbent materials will be maintained at refuelling locations, fuel storage areas and in relevant site vehicles.

In the event of an accidental spillage, works will cease in the immediate area and the spill response procedures set out in this CEMP will be implemented. Any contaminated materials arising from a spill will be removed from site by an appropriately authorised waste contractor and brought to a suitably licensed or permitted facility.

3.6 CONSTRUCTION WASTE MANAGEMENT

Construction waste will be managed in accordance with the Waste Management Plan included within this CEMP (**Annex 2** hereto) and the waste management measures set out in **Chapter 3** of the EIAR. The appointed contractor will be responsible for ensuring that all waste generated during the construction phase is managed in accordance with relevant legislation, best practice and the waste hierarchy.

The principal construction waste streams are expected to include:

- surplus hardcore, stone, gravel, concrete and other construction materials;
- timber, packaging, plastics and dry recyclables;
- waste from welfare facilities;
- oils, fuels, chemicals and contaminated materials, where arising; and,
- unsuitable excavated material which cannot be reused on-site.

Waste will be segregated on site and stored in suitable skips, containers or other sealed receptacles within designated waste storage areas. Wherever practicable, suitable materials will be reused on site for reinstatement, landscaping or other appropriate construction purposes. Uncontaminated excavated material will be reused within the project site in preference to importation of clean inert fill, where suitable and subject to the requirements of the Spoil Management Plan.

All waste leaving the site will be transported by appropriately authorised waste contractors and brought to suitably licensed or permitted waste facilities. Waste transfer documentation will be retained by the contractor and made available for inspection as required.

Excavated peat/spoil will be managed separately in accordance with the Peat & Spoil Management Plan (**Annex 3** hereto) and the mitigation measures set out in the EIAR (**Annex 1.9**), including **Chapter 6** and **Chapter 7**.

3.7 CONSTRUCTION EMPLOYMENT

The construction phase workforce is described in **Chapter 3** and assessed, where relevant, in **Chapter 4** of the EIAR.

Cush Wind Farm Phase II will be constructed concurrently with the permitted Cush Wind Farm Phase I as part of a single coordinated construction programme. The project will require an additional construction workforce of up to 40 people, with the number present on site varying according to the activities being undertaken.

Employment will be the responsibility of the appointed contractor. Where practicable, opportunities for local employment and local supply chain participation will be supported during the construction phase.

3.8 CONSTRUCTION TRAFFIC

Vehicular construction traffic is assessed in detail in **Chapter 14** and is also described in **Chapter 3** of the EIAR. The purpose of this section is to summarise the principal traffic management measures to be implemented during the construction phase.

Construction traffic will include HGVs delivering construction materials, turbine components, electrical equipment and cabling; tipper trucks and excavation plant; cranes and crane support vehicles; and light vehicles associated with the construction workforce.

Turbine components are expected to be transported from the Port of Galway to the project site via the N6, M6, N52 and N62, before accessing the project site via the permitted construction phase site entrance from the N62. Turbine component deliveries will be undertaken in accordance with the Route Access Survey (**Annex 3.5**), a Traffic Management Plan and the requirements of the Planning Authority

(Authorities). Deliveries of turbine components will be timed to avoid peak traffic periods, where practicable, and will be accompanied by escort vehicles as required.

Construction traffic will be managed in accordance with a Traffic Management Plan to be prepared prior to commencement of development. The Traffic Management Plan will include, as appropriate:

- signage at site entrances and along relevant construction traffic routes;
- management of construction vehicle movements to and from the site;
- temporary traffic management measures at site entrances and works areas;
- measures to keep temporary traffic restrictions to the minimum necessary duration and extent;
- arrangements for abnormal load deliveries, including escort vehicles and consultation with relevant authorities;
- measures to prevent the deposition of mud, spoil or debris on the public road network;
- speed restrictions for construction traffic within and approaching the project site;
- arrangements for maintaining access for local residents, landowners and emergency services; and,
- contact details for a designated person responsible for traffic/access management.

Temporary and permanent accommodation works required along the turbine component haul route are described in **Chapter 3** and assessed in **Chapter 14**. These works will be undertaken in consultation with the relevant road authorities and in accordance with all necessary consents, licences and permits.

4.0 ENVIRONMENTAL MITIGATION & MANAGEMENT MEASURES

This section consolidates the construction phase environmental mitigation and monitoring measures derived from the Project Environmental Impact Assessment Report (EIAR), together with the relevant requirements of the Natura Impact Statement (NIS). The measures apply to the construction of Cush Wind Farm Phase II, comprising turbines T9–T11 and associated wind farm infrastructure, the proposed switch room, the c.5km underground electricity line and turbine haul route accommodation works. They cover activities before and during construction and the reinstatement of temporary working areas.

The appointed Contractor will incorporate these measures into the detailed Construction Stage CEMP, construction method statements, work instructions and site inductions. The Environmental Manager (EM), Ecological Clerk of Works (ECoW), Archaeologist and Geotechnical Engineer will oversee the relevant specialist measures. The requirements of the EIAR, Natura Impact Statement (NIS), supporting environmental management plans and any conditions of consent will be implemented in full.

References to the Peat & Spoil Management Plan (PSMP), Surface Water Management Plan (SWMP), Water Quality Management Plan (WQMP), Waste Management Plan (WMP) and Environmental & Emergency Response Plan (EERP) relate to the accompanying CEMP plans. The detailed plans will develop the

arrangements for implementing the assessed measures before works commence.

4.1 'DESIGNED-IN' MEASURES

The following measures will be implemented, as standard, as part of the construction of the project:-

- The turbine model will be selected within the assessed dimension range: rotor diameter 158m–175m, hub height 111.6m–120.9m and overall tip height 199.1m–200m. Construction will remain within the assessed development footprint and the scope of the planning permission. Any permitted micro-siting will retain the environmental constraints and protection measures identified in the EIAR;
- The construction arrangements will use the access infrastructure and temporary construction compounds permitted for Cush Wind Farm Phase I, as described in Chapter 3. The Phase II Contractor will coordinate shared facilities, deliveries and site activities with the Phase I construction team. Phase I will remain subject to the requirements of its own permission;
- The principal construction entrance will be from the N62. A separate entrance will serve the proposed switch room from the L300321 local road. Visibility splays of 90m in both directions, measured from a 2.4m setback, will be provided at the switch room entrance in accordance with the planning drawings;
- Internal wind farm cabling and the c.5km electricity line will be installed underground. The line will cross the N52 and L7006 public roads and the Rapemills River at two locations using horizontal directional drilling (HDD). These four crossings avoid open trenching within the public roads and river channel;
- No access-track crossing of a natural or EPA-designated watercourse is proposed within the wind farm site. Where tracks cross artificial bog drains, appropriately sized culverts or cross-drains will maintain the existing drainage pathways;
- The 50m buffer to natural watercourses will be maintained at the wind farm infrastructure. The specific pollution-prevention, HDD and flood-risk controls set out at Table C.1 will apply to underground electricity line works within this buffer;
- The extent of vegetation clearance and ground disturbance will be restricted to the works required for the assessed infrastructure. Retained hedgerows, treelines and habitats will be protected from unnecessary disturbance, with access between working areas restricted to the approved access/works corridor;
- Vegetation, topsoil, peat, subsoil and geological material excavated during construction will be segregated and managed in accordance with the Peat & Spoil Management Plan. Suitable material will be reused for reinstatement and landscaping, with surplus material placed within the designated deposition areas as assessed;
- The deposition arrangements will comprise the dedicated area southeast of T11 and the smaller deposition areas identified on the project drawings. The permissible locations, loading and construction methods will follow the Peat

Stability Assessment at Annex 6.1 and the Peat & Spoil Management Plan;

- Access tracks and crane hardstands will be constructed using the assessed methods, including floated construction where appropriate, geotextile and compacted aggregate. The Contractor will consult the turbine supplier during detailed design to confirm access and lifting requirements within the consented scheme;
- Temporary turbine-component set-down and crane-assembly areas will be located as shown on the planning drawings. Following their use, temporary aggregate and geotextile will be removed, the ground reinstated and the areas allowed to revegetate. The permanent crane hardstands and access tracks required for the operation phase will be retained;
- The site drainage system will be installed progressively ahead of the respective earthworks. Clean runoff will be separated from construction runoff, and sediment-laden water will be collected, attenuated and treated before controlled discharge. The drainage system will reflect the design assessed in Chapter 7 and the accompanying SWMP;
- The existing Galros Bog drains will be integrated with the project drainage where appropriate, having regard to the draft Galros Bog Rehabilitation Plan at Annex 6.2. The existing Bord na Móna settlement ponds provide supplementary attenuation/treatment; the project will not rely on those ponds as a substitute for its own drainage controls;
- Before construction, the Contractor will prepare detailed method statements for excavation, peat/spoil management, underground-line installation, HDD, construction drainage and working within watercourse buffers. The EM and relevant specialist will review the methods before the affected work commences;
- Only short sections of underground electricity line trench will be open at one time. Topsoil and subsoil will be stored separately and reinstated in sequence, subject to the technical requirements for bedding and cable protection. Completed working areas will be reinstated promptly;
- Works within the mapped Kilcormac Esker County Geological Site will remain confined to the cable trench and necessary working area. Geological material will be reinstated in its original sequence so far as practicable, original contours restored and no spoil permanently deposited within the mapped geological site;
- Materials will be sourced from appropriately authorised suppliers. Asphalt/road cuttings and other material unsuitable for on-site reuse or deposition will be removed by appropriately authorised collectors to appropriately authorised facilities;
- Fuels, oils and chemicals will be stored in the designated bunded compound facilities. Refuelling will use the specified double-skinned bowser, drip trays and spill-response equipment, with the watercourse and Rath Group Water Scheme restrictions set out at Table C.1;
- Temporary welfare facilities will use sealed chemical toilets/portaloos maintained by an authorised supplier. No untreated welfare wastewater will discharge to ground, surface water or the site drainage system;

- Normal construction hours will be 07:00–19:00 Monday to Friday, excluding public holidays, and 07:00–13:00 on Saturdays. Occasional works outside these hours will be necessary for favourable low-wind conditions, continuous concrete pours and delivery of large turbine components. Nearby residents and the Planning Authority will be notified in advance. Sunday or public-holiday working will occur only exceptionally and with the prior agreement of the Planning Authority;
- The ecological timing, species-buffer and lighting measures in Table C.1 will be addressed in the construction programme and work method statements. The Contractor will obtain ECoW input before activities that could disturb protected fauna or their breeding/resting places;
- Turbine component deliveries will follow the assessed Galway Port–N6–M6–N52–N62 route and the Route Access Survey at Annex 3.5. Abnormal loads will have the required permits, approvals and escorts, with timing agreed with the relevant road authorities and An Garda Síochána;
- A designated Project Manager and EM will coordinate the environmental requirements, supported by appropriately qualified ecological, archaeological and geotechnical personnel. Site inductions and toolbox talks will explain the relevant work-area constraints, pollution controls and incident reporting arrangements; and
- Temporary works, material stores and redundant construction facilities will be removed following their use. Reinstatement will proceed progressively, with drainage and erosion controls retained until the affected surfaces have stabilised.

4.2 CONSTRUCTION PHASE ENVIRONMENTAL MITIGATION AND MONITORING SCHEDULE

Table C.1 below sets out the consolidated construction phase mitigation and monitoring measures for implementation through this CEMP. It provides the measures in full, with references to the relevant EIAR chapters and NIS provisions for traceability. Construction implementation procedures are included where the assessments require their development or implementation through this CEMP.

The measures in Table C.1 will be implemented alongside the designed-in measures in **Section 4.1**. They include the construction, installation and reinstatement requirements for drainage, landscaping, aviation and other infrastructure that remains in use during the operation phase.

Topic and source	Construction mitigation and monitoring measures
Population & Human Health EIAR Chapter 4, Section 4.6.1	Landowner agreements As identified above, a series of measures has been agreed with involved landowners regarding the management of agricultural activities during the construction phase. These measures have been incorporated into signed legal agreements with the landowners and will be implemented in full.
Biodiversity EIAR Chapter 5, Section 5.6.1.1	Environmental supervision and construction practice A CEMP (Annex 3.4) has been prepared for the project to ensure adequate protection of the water environment. All personnel working on the project will be responsible for the environmental control of their work and will perform their duties

Topic and source	Construction mitigation and monitoring measures
	<p>in accordance with the requirements and procedures of the CEMP.</p> <p>During the construction phase, all works associated with the construction of the project will be undertaken in accordance with the guidance contained within CIRIA Document C741 'Environmental Good Practice on Site' (CIRIA, 2015). Any groundwater encountered will be managed and treated in accordance with CIRIA C750, 'Groundwater control: design and practice' (CIRIA, 2016).</p>
<p>Water Quality</p> <p>Natura Impact Statement, construction practice requirements</p>	<p>CEMP and construction practice</p> <p>A CEMP has been prepared for the Project to ensure adequate protection of the water environment. All personnel working on the project will be responsible for the environmental control of their work and will perform their duties in accordance with the requirements and procedures of the CEMP.</p> <p>During the construction phase, all works associated with the construction of the project will be undertaken in accordance with the guidance contained within CIRIA Document C811 'Environmental Good Practice on Site' . Any groundwater encountered will be managed and treated in accordance with CIRIA C750, 'Groundwater control: design and practice' .</p>
<p>Biodiversity</p> <p>EIAR Chapter 5, Section 5.6.1.2</p>	<p>Habitats and replacement planting</p> <p>Any treelines or hedgerows removed will be replaced in-situ or elsewhere in the Project at appropriate locations (i.e. designed to maximise ecological connectivity and outside of bat mitigation buffers). All new treelines or hedgerows will be planted using native species and in a similar composition to treelines or hedgerows lost.</p> <p>To avoid widespread disturbance to habitats, access within the project will be restricted to the footprint of the proposed works corridor and no access between different parts of the project will be permitted, except via the proposed works corridor. An Ecological Clerk of Works (ECoW) will be employed throughout the construction phase to ensure that construction activities do not encroach, unnecessarily, into any important habitats outside of the footprint of the Project.</p>
<p>Biodiversity</p> <p>EIAR Chapter 5, Section 5.6.1.1</p>	<p>Vegetation clearance and water protection</p> <p>Mitigation by Avoidance. There is a requirement in the Forest Service Code of Practice and in the FSC Certification Standard for the installation of buffer zones adjacent to aquatic zones at planting stage.</p> <p>During the construction phase, a self-imposed conservative buffer zone of 50m will be maintained for all Rapemills River and West Galros Stream where possible.</p> <p>The large distance between the majority of the felling areas and sensitive aquatic zones means that any poor quality runoff arising from felling areas can be adequately managed and attenuated prior to even reaching the aquatic buffer zone and primary drainage routes. Where tree felling is required in the vicinity of streams, the additional mitigation measures outlined below will be employed.</p> <p>Mitigation by Design. Mitigation measures which will reduce the risk of entrainment of suspended solids and nutrient release in surface watercourses comprise best practice methods, as follows:-</p> <ul style="list-style-type: none"> • Machine combinations (i.e. handheld or mechanical) will be chosen which are most suitable for ground conditions and which will minimise soils disturbance; • Checking and maintenance of tracks and culverts will be ongoing through any felling operation. No tracking of vehicles through watercourses will occur.

Topic and source	Construction mitigation and monitoring measures
	<p>Where possible, existing drains will not be disturbed during felling works;</p> <ul style="list-style-type: none"> • Ditches which drain from the areas to be felled towards existing surface watercourses will be blocked, and temporary silt traps will be constructed. No direct discharge of such ditches to watercourses will occur. Drains and sediment traps will be installed during ground preparation. Collector drains will be excavated at an acute angle to the contour (~0.3%-3% gradient), to minimise flow velocities. Main drains to take the discharge from collector drains will include water drops and rock armour, as required, where there are steep gradients, and avoid being placed at right angles to the contour; • Sediment traps will be sited in drains downstream of felling areas. Machine access will be maintained to enable the accumulated sediment to be excavated. Sediment will be carefully disposed of in the spoil disposal areas. All new silt traps will be constructed on even ground and not on sloping ground; • In areas particularly sensitive to erosion or where felling inside the 50m buffer is required, it will be necessary to install double or triple sediment traps; • All drainage channels will taper out before entering the 50m buffer zone. This ensures that discharged water gently fans out over the buffer zone before entering the aquatic zone, with sediment filtered out from the flow by ground vegetation within the zone. On erodible soils, silt traps will be installed at the end of the drainage channels, to the outside of the buffer zone; • Drains and silt traps will be maintained throughout all felling works, ensuring that they are clear of sediment build-up and are not severely eroded. Correct drain alignment, spacing and depth will ensure that erosion and sediment build-up are minimized and controlled; • Brash or bog mats will be used to support vehicles on soft ground, reducing topsoil and mineral soils erosion and avoiding the formation of rutted areas, in which surface water ponding can occur. Brash mat renewal will take place before they become heavily used and worn. Provision will be made for brash mats along all off-road routes, to protect the soil from compaction and rutting. Where there is risk of severe erosion occurring, extraction will be suspended during periods of high rainfall; • Timber will be stacked in dry areas, and outside the 50m watercourse buffer. Straw bales and check dams will be emplaced on the down gradient side of timber storage/processing sites; • Works will be carried out during periods of no, or low, rainfall in order to minimise entrainment of exposed sediment in surface water run-off; • Checking and maintenance of roads/tracks and culverts will be ongoing through the felling operation; • Refuelling or maintenance of machinery will not occur within 50m of a watercourse. Mobile bowser, drip kits, qualified personnel will be used where refuelling is required; • A permit to refuel system will be adopted; • Branches, logs or debris will not be allowed to build up in aquatic zones. All such material will be removed when harvesting operations have been completed, but care will be taken to avoid removing natural debris deflectors; • Trees will be cut manually from along streams and using machinery to extract whole trees; and • Travel will only be permitted perpendicular to and away from surface water features. <p>Silt Traps. Silt traps will be strategically placed down-gradient within forestry drains near streams. The main purpose of the silt traps and drain blocking is to slow water flow, increase residence time and allow settling of silt in a controlled manner.</p> <p>Drain Inspection and Maintenance. The following items will be carried out during</p>

Topic and source	Construction mitigation and monitoring measures
	<p>pre-felling inspections and regularly thereafter:-</p> <ul style="list-style-type: none"> • Communication with tree felling operatives in advance to determine whether any areas have been reported where there is unusual waterlogging or bogging of machines; • Inspection of all areas reported as having unusual ground conditions; • Inspection of main drainage ditches and outfalls. During pre-felling inspections, the main drainage ditches will be identified. Where possible, the pre-felling inspection will be carried out during rainfall; • Following tree felling, all main drains will be inspected to ensure that they are functioning; • Extraction tracks within 10m of drains will be broken up and diversion channels created to ensure that water in the tracks spreads out over the adjoining ground; • Culverts on drains exiting the site, if impeded by silt or debris, will be unblocked; and • All accumulated silt will be removed from drains and culverts, and silt traps, and this removed material will be deposited away from watercourses to ensure that it will not be carried back into the trap or stream during subsequent rainfall. <p>Surface Water Quality Monitoring. Sampling will be completed before, during (if the operation is conducted over a protracted time) and after the felling activity. The 'before' sampling will be conducted within 4-weeks of the felling activity commencing, preferably in medium-to-high water flow conditions. The 'during' sampling will be undertaken once a week or after rainfall events. The 'after' sampling will comprise as many samplings as necessary to demonstrate that water quality has returned to pre-activity status (i.e. where an impact has been shown).</p> <p>Details of the proposed surface water quality monitoring programme are outlined in the Water Quality Monitoring Plan (Annex 5 of this CEMP).</p> <p>The surface water sampling locations used in this EIAR for the project site and grid connection (i.e. SW1 – SW4) will also be used as sampling locations during felling activities.</p> <p>Also, daily surface water monitoring forms (for visual inspections and field chemistry measurements) will also be utilised at every works site near any watercourse. These will be taken daily and kept on site for record and inspection.</p>
<p>Biodiversity</p> <p>EIAR Chapter 5, Section 5.6.1.4</p>	<p>Invasive species biosecurity</p> <ul style="list-style-type: none"> • Prior to working on the Site, all contractors will be briefed on invasive species and will be provided with information on identification, and of the need to prevent further spread of invasive species, as well as details of the biosecurity protocol. • Any additional positive or suspected identification of invasive non-native species during Site works shall be reported to an ecologist for verification, so that appropriate advice can be given. • Cleaning operations will take place in a designated area to prevent further spread. • Mud and organic debris will not be allowed to accumulate on tracks, tyres or under wheel arches. • Personnel shall check and clean their footwear and tools each day before leaving the area to work on other Sites, or other parts of the Site.

Topic and source	Construction mitigation and monitoring measures
Biodiversity EIAR Chapter 5, Section 5.6.1.5	<p>Nesting birds and vegetation clearance</p> <p>The following will be implemented to reduce the possibility of damage and destruction (and disturbance to sensitive species) to occupied bird nests:-</p> <ul style="list-style-type: none"> • clearance of woodlands and uncultivated vegetation i.e. trees and hedgerows (including vegetation removal for creation/maintenance of bat mitigation buffers), will be undertaken outside the main breeding season from March to August inclusive; • if other site clearance and construction activities are required to take place during the main breeding bird season, pre-commencement survey work will be undertaken to ensure that nest destruction and disturbance is avoided; • once vegetation has been removed from the works corridor, these areas will be retained in a condition that limits suitability for nesting birds for the remainder of the construction phase e.g. vegetation cover for ground nesting species will be kept short by cutting or tracking over with an excavator; and • a suitably experienced Ecologist will be employed for the duration of the construction period to make contractors aware of the ornithological sensitivities of the Project and to undertake surveys for nesting birds throughout the construction period, enforcing exclusion areas as required.
Biodiversity EIAR Chapter 5, Section 5.6.1.5	<p>Breeding wader buffers</p> <p>In addition to the general measures set out above, species-specific disturbance-free buffers will be applied around any active nests of northern lapwing, common snipe and common ringed plover identified through pre- construction survey, reflecting the confirmed or probable breeding presence of these species within or adjacent to the site during baseline surveys.</p> <p>Accordingly, where pre-commencement or construction-phase survey identifies an active nest or breeding territory of these species within 500m of proposed works, a buffer will be established around the confirmed nest location, informed by the published disturbance distances applicable to each species (108m for northern lapwing (Hoetker et al., 2006) and 100–200m for common ringed plover (Goodship et al., 2022)). No published disturbance buffer exists for common snipe; in the absence of a quantified figure, a precautionary buffer of 100m will be applied, informed by the species' documented tolerance of close approach and the concentration of recorded foraging movements by incubating birds within 70m of the nest (Green, 1988). No construction activity will take place within the relevant buffer until breeding has concluded or the nest is confirmed to have failed, as determined by the site ECoW.</p>
Bird Protection Natura Impact Statement, Section 5.6.1 — General Pre-Construction Confirmation Surveys	<p>Pre-construction and seasonal bird checks</p> <p>Checks for nesting birds and/or wintering birds will be required for construction undertaken during the bird breeding season and/or winter season, respectively. If nests/wintering birds are recorded, ongoing monitoring and appropriate exclusion zones will be implemented to determine when and where works can proceed. If exclusion zones cannot be implemented, NPWS will be contacted and based on their advice, additional avoidance and mitigation measures will be implemented, with relevant licences applied for, if required.</p>
Biodiversity EIAR Chapter 5, Section 5.6.1.6	<p>Protected mammals</p> <p>Habitat features important for mammals will be retained as much as possible (e.g. hedgerows, treelines and scrub).</p> <p>A pre-construction walkover survey of the project will be undertaken. This will</p>

Topic and source	Construction mitigation and monitoring measures
	<p>search for mammal resting/breeding places, which could change over time. If any are identified, then appropriate exclusion zone(s) will be implemented and construction activities timed to avoid sensitive periods, such as the breeding season or hibernation, as relevant.</p> <p>The following will be implemented to reduce the possibility of direct and indirect effects on mammals:-</p> <ul style="list-style-type: none"> • limiting constructions works to daylight hours. Proposed construction hours are 07:00 and 19:00 Monday to Friday, excluding public holidays, and between 07:00 and 13:00 on Saturdays. Should these fall outside daylight hours, cowl and directional lighting will be used to avoid light spillage beyond the footprint of works; • providing exit points for any excavations (e.g. escape planks or spoil runs) so mammals do not become trapped; and • a suitably qualified Ecologist will be employed for the duration of the construction period to make contractors aware of the mammalian sensitivities of the Project and to undertake surveys for breeding or resting mammals throughout the construction period, enforcing exclusion areas as required. Though currently not required based on the baseline data, if this changes during pre-construction surveys, these are 50m for red squirrel, 100m for pine marten, 150m for otter and 50m for badger. • Vegetation/brush clearance will be undertaken outside November-March to avoid the hibernation period.
<p>Otter Protection</p> <p>Natura Impact Statement, Section 5.5.1.2 — Otters</p>	<p>Otter surveys and safeguards</p> <p>A pre-construction walkover survey of the project will be undertaken. This will search for otter holts/couches, which could change over time. If any are identified, then appropriate exclusion zone(s) will be implemented and construction activities timed to avoid sensitive periods, such as the breeding season.</p> <p>The following will be implemented to reduce the possibility of direct and indirect effects on otters:</p> <ul style="list-style-type: none"> • limiting construction works to daylight hours; • providing exit points for any excavations (e.g. escape planks or spoil runs) so otters do not become trapped; and • a suitably qualified Ecologist will be employed for the duration of the construction period to make contractors aware of the otter sensitivities of the project and to undertake surveys for breeding or resting otters throughout the construction period, enforcing exclusion areas (150 m) as required. If in the unlikely event that exclusion zones cannot be implemented, advice will be sought from NPWS, and appropriate avoidance and mitigation measures will be put in place and an application will be made to NPWS for a derogation licence if required.
<p>Biodiversity</p> <p>EIAR Chapter 5, Section 5.6.1.7</p>	<p>Bats and roost safeguards & Lighting</p> <p>Similarly, trees within the works corridor will be re-assessed for bat roosting potential, with any emergence surveys carried out as required.</p> <p>Along the grid connection, immediately in advance of construction works, an ecologist will undertake a comprehensive survey of bridges / structures / trees with bat roosting potential (see Annex 5. 6) and emergence surveys will be carried out to determine if bats are present following Collins (2023) guidelines.</p> <p>No destruction or disturbance of active bat roosts is predicted to be required. While one PRF-I tree was recorded within the UGL study area, this was located c.</p>

Topic and source	Construction mitigation and monitoring measures
	<p>11m from the proposed UGL and will be retained. No roosting bat, nor evidence of use by bats was observed. Regardless, 'soft felling' measures will still be implemented (BCT,2018). This will be carried out in suitable weather conditions and at appropriate times of year. Briefly, this involves the following:-</p> <ul style="list-style-type: none"> • removal of the tree in sections, starting with the top branches and working down the trunk avoiding cutting through cavities; • lowering of any sections with potential roost features with care, positioning them on the ground with potential entrances to roosts facing upwards to allow bats to exit the roost; and • leaving these sections in place for at least 24 hours in suitable weather. • The following will also be implemented to reduce the possibility of direct and indirect effects on bat species: lighting will be limited to daylight hours. However, where this cannot be avoided, directional lighting and cowlings will be used, avoiding light spill onto linear habitats and trees.
<p>Biodiversity EIAR Chapter 5, Section 5.6.1.8</p>	<p>Amphibian safeguards</p> <p>Pre-construction checks will be undertaken for spawning frogs if construction works are undertaken in February.-April Adults and spawn will be translocated under NPWS licence (currently available without application as licence no. 04/2026 and this would be revised in 2027, as available) to suitable alternative locations if present. Pitfall traps and drift fences will be used to capture adult frogs.</p> <p>Amphibian-proof fencing close to any waterbodies will be used to prevent frogs or smooth newts from accessing any parts of the Project most hazardous to amphibians during the construction phase.</p>
<p>Biodiversity EIAR Chapter 5, Section 5.6.2.3 and Table 5.19; EIAR Annex 5.7 — construction buffer constraints</p>	<p>Bat buffers</p> <p>NatureScot (2021) guidelines state that a 50m distance from the blade tips of the turbine to the nearest habitat feature must be maintained free of trees and shrubs for the duration of wind farm operation.</p> <p>The turbine buffer areas are already open, and no initial vegetation clearance is required. Their management will maintain separation between turbine blades and surrounding bat commuting and foraging habitat features and prevent the establishment of trees or scrub closer to the turbines. No reduction in recorded bat activity arising from initial vegetation clearance has therefore been assumed.</p> <p>Bat mitigation buffers will be established as specified in Chapter 5 (of the project EIAR) and the Habitat and Species Management Plan before the relevant turbines enter operation. The buffer geometry will reflect the selected turbine dimensions within the assessed range.</p>
<p>Biodiversity EIAR Chapter 5, Sections 5.6.1.2, 5.7.1 and 5.7.2; Tables 5.18, 5.20 and 5.21; EIAR Annex 5.7</p>	<p>Replacement planting and enhancement</p> <p>Any treelines or hedgerows removed will be replaced in-situ or elsewhere in the Project at appropriate locations (i.e. designed to maximise ecological connectivity and outside of bat mitigation buffers). All new treelines or hedgerows will be planted using native species and in a similar composition to treelines or hedgerows lost. Temporary habitat losses and reinstatement requirements are set out in EIAR Chapter 5 — Biodiversity, Table 5.18: Mitigation for Temporary Habitat Loss.</p> <p>To compensate for permanent habitat loss, compensation planting will be carried out within the Project site. The placement of these will be designed to ensure connectivity between habitat features at the project is maintained and</p>

Topic and source	Construction mitigation and monitoring measures
	<p>enhanced. The replacement of treelines and hedgerows will also ensure that there is no net loss as a result. The placement of these replacement hedgerows will also be used to help enhance biodiversity (see EIAR Chapter 5 — Biodiversity, Section 5.7.2). A balance sheet is presented in EIAR Chapter 5 — Biodiversity, Table 5.20: Compensation for Habitat Loss.</p> <p>Enhancement measures are detailed in the Habitat and Species Management Plan, EIAR Annex 5.7, with a balance sheet presented in EIAR Chapter 5 — Biodiversity, Table 5.21: Enhancement Measures – Habitats.</p>
<p>Land & Soils EIAR Chapter 6, Sections 6.5.1.1 and 6.5.1.2</p>	<p>Excavation and erosion control</p> <p>The excavation and long term storage of materials will be completed in accordance with best practice for the management and treatment of such materials.</p> <ul style="list-style-type: none"> • Mats will be used, as necessary, to support construction plant and machinery on soft ground, thus reducing the likelihood of soil and subsoil erosion and avoiding the formation of rutted areas. This will substantially reduce the likelihood for surface water ponding to occur; • Excavated material required for reinstatement or landscaping will be temporarily stored only in locations identified as suitable in the Peat Stability Assessment and Peat and Spoil Management Plan, outside identified peat-stability exclusion areas and applicable surface-water buffers. Material not required for reinstatement or landscaping will be transported directly to the designated spoil deposition areas; • Silt fences, and all necessary surface water management measures (including upslope interceptor drains), will be installed around all temporary stockpiles to limit movement of entrained sediment in surface water runoff. All slopes will be sealed with the bucket of an excavator; • In order to minimise erosion during the construction phase, works will not take place during periods of intense or prolonged rainfall (to prevent increased silt laden runoff). Drainage systems, as outlined in Chapter 7, will be implemented to limit runoff effects during the construction phase; • At the designated spoil deposition areas, material will be placed in layers to ensure stability is maintained and works will be undertaken in accordance with best practice construction methodologies. Works at the spoil deposition areas will be monitored, on a weekly basis during the construction phase and monthly for a 6 no. month period thereafter, by an appropriately qualified Geotechnical Engineer. In the event that any ground stability issues arise, the Engineer will have the power to cease works until such time as remedial works have been completed to his/her satisfaction; • Permanently mounded spoil; for example, berms surrounding turbines and hardstands, berms located along access tracks and at the spoil deposition areas; will be seeded and grassed over at the earliest opportunity to prevent erosion; and, • The underground electricity line trench will be reinstated to the required specification and in accordance with landowner requirements and will be reseeded or allowed to vegetate naturally (on agricultural land) or topped with tarmacadam (or similar along public roads) at the earliest opportunity to prevent erosion.
<p>Land & Soils EIAR Chapter 6, Section 6.5.1.3</p>	<p>Fuel, chemicals and spill protection</p> <ul style="list-style-type: none"> • The volume of fuel and oil stored on site will be minimised. Fuel and oil will be stored within appropriately bunded areas at the temporary construction compounds permitted as part of Cush Wind Farm Phase I and used during construction of the project. The bunded areas will be roofed to prevent rainfall

Topic and source	Construction mitigation and monitoring measures
	<p>ingress and will have a capacity of at least 110% of the volume stored;</p> <ul style="list-style-type: none"> • Refuelling of plant and machinery will be undertaken using a mobile double-skinned fuel bowser operated by trained and competent personnel. The bowser will be filled and stored at the construction compounds when not in use. Drip trays, absorbent mats and spill-response materials will be used during refuelling. Fuel and chemicals will not be stored or handled, and refuelling will not take place, within 50m of a surface-water feature; • All plant and machinery used during construction will be regularly inspected for leaks and fitness for purpose; • Spill kits will be available to deal with any accidental spillages within the temporary construction compound and during re-fuelling; • All asphalt or other road-cutting material arising from the haul-route accommodation works will be removed from the site and delivered to an appropriately authorised waste facility. This material will not be used for reinstatement or deposited within the spoil deposition areas; and • An emergency plan for the construction phase to deal with accidental spillages is contained within the Planning-Stage Construction and Environmental Management Plan (Annex 1 of this CEMP). This emergency plan will be further developed by the contractor prior to the commencement of construction.
Land & Soils EIAR Chapter 6, Section 6.5.1.4	Reinstatement <p>Areas of temporarily disturbed or levelled soil will be reinstated and allowed to revegetate. Silt fencing will be installed, where required, to prevent the mobilisation of soil into surrounding drains while vegetation becomes established.</p>
Land & Soils EIAR Chapter 6, Section 6.5.1.5; EIAR Annex 6.1	Peat stability controls <p>Sections of access roads to the nearest infrastructure element will be subject to the same mitigation/control measures that apply to the nearest infrastructure element.</p> <ul style="list-style-type: none"> • Appointment of experienced and competent contractors; • The site will be supervised by experienced and qualified personnel; • Allocate sufficient time for the project (be aware that decreasing the construction time has the potential to increase the risk of initiating a localised peat movement); • Prevent undercutting of slopes and unsupported excavations; • Maintain a managed robust drainage system; • Prevent placement of loads/overburden on marginal ground; • Implementation of safety buffers around deep peat areas; • Adhere to the spoil and peat storage restriction areas detailed in the Peat Stability Assessment (FT, 2026); • Set up, maintain and report findings from monitoring systems as outlined in the Peat Stability Assessment (FT, 2026); • Ensure construction method statements are developed and agreed before commencement of construction and are followed by the contractor; and, • Revise and amend the Construction Risk Register as construction progresses to ensure that risks are managed and controlled for the duration of construction.
Land & Soils EIAR Chapter 6, Section 6.5.1.6	Kilcormac Esker crossing safeguards <p>The following measures will be implemented where the underground electricity</p>

Topic and source	Construction mitigation and monitoring measures
	<p>line crosses the mapped Kilcormac Esker County Geological Site:</p> <ul style="list-style-type: none"> • The extent of the working area will be clearly demarcated before construction and will be kept to the minimum area required to safely complete the works; • Excavation will be confined to the underground electricity line trench and associated working area, and unnecessary disturbance of the adjoining esker slopes and landform will be avoided; • Topsoil, subsoil and underlying geological material will be excavated and stored separately to prevent mixing; • Excavated material will be reused within the trench, where technically suitable, and reinstated in its original sequence so far as practicable. Imported material will be limited to any bedding and surround required for the laying of the underground electricity line; • Excavated material will not be permanently deposited within the mapped geological heritage site; • Following installation of the underground electricity line, the trench and working area will be reinstated to the original ground levels, contours and surface condition as soon as practicable; • The works will be carried out in accordance with a site specific method statement reviewed by a suitably qualified geotechnical engineer or engineering geologist before construction; and • A photographic record of the crossing locations will be prepared before, during and following completion of the works to confirm that the landform and surface profile have been appropriately reinstated.
<p>Land & Soils EIAR Chapter 6, Section 6.5.4</p>	<p>Geotechnical monitoring</p> <p>Monitoring of land, soils and peat stability will be undertaken during the construction phase and for a six-month period following completion of construction. All excavated or raised areas, including cut-and-fill areas, reinstated or landscaped ground and the spoil deposition areas, will be inspected for signs of erosion or instability by an appropriately qualified Geotechnical Engineer appointed by the Developer. Inspections will be undertaken weekly during the construction phase and monthly for six months following completion of construction. The monitoring systems specified in the Peat Stability Assessment (Annex 6.1 of the project EIAR) will also be installed and maintained, with the findings recorded and reported in accordance with the requirements of that assessment. Where signs of erosion or instability are identified, appropriate remedial measures will be implemented under the direction of the Geotechnical Engineer.</p>
<p>Water EIAR Chapter 7, Section 7.5</p>	<p>Surface water drainage design</p> <p>The SWMP (Annex 4 of this CEMP) has regard to Greenfield runoff rates and is designed to mimic same and is sufficient to accommodate a 1-in-100 year rainfall event.</p> <ul style="list-style-type: none"> • All surface water runoff will be directed to specially constructed swales surrounding all areas of ground proposed to be disturbed (including the area for the temporary storage of material); • The swales will direct runoff into settlement ponds/silt traps where silt/sediment will be allowed to settle; • Following treatment, clean water will be discharged indirectly to the local drainage network via buffered outfalls thus ensuring that no scouring occurs; and, <p>The suite of proposed surface water drainage infrastructure will include</p>

Topic and source	Construction mitigation and monitoring measures
	interception drains, collector drains swales, sedimats, flow attenuation and filtration check dams, settlement ponds/silt traps, and buffered outfalls.
Water EIAR Chapter 7, Section 7.5.1.1; Natura Impact Statement, Section 5.5.1.1	<p>Watercourse buffers</p> <p>The key mitigation measure during the construction phase is the avoidance of sensitive aquatic areas by using a 50m buffer. From the constraints map (Annex 7.4 of the project EIAR) it is evident that only the underground electricity line is within a 50m buffer zone. In relation to hydrological constraints, a 50m hydrological buffer has been applied to natural watercourses within the wind farm site. All wind farm infrastructure is located outside this buffer. Sections of the underground electricity line necessarily pass within 50m of the Rapemills River and cross beneath it at two locations using HDD; the specific controls set out in Chapter 7 of the EIAR will apply to those works. Artificial bog and field drains are not treated as natural-watercourse constraints and will be maintained using appropriately sized culverts or cross-drains where crossed.</p> <p>As described above and at Chapter 3, specific mitigation measures, incorporated into the design of the project and through implementation of best practice methodologies (discussed below) will be employed where work inside buffer zones is proposed.</p> <ul style="list-style-type: none"> • Avoidance of physical damage to watercourses, and associated release of sediment; • Avoidance of excavations within close proximity to surface water courses; • Avoidance of the entry of suspended sediment from earthworks into watercourses; and, • Avoidance of the entry of suspended sediment from the construction phase drainage system into watercourses, achieved in part by ending drain discharge outside the buffer zone and allowing percolation across the vegetation of the buffer zone.
Water EIAR Chapter 7, Section 7.5.1.1; Natura Impact Statement, Section 5.5.1.1	<p>Sediment source and treatment controls</p> <ul style="list-style-type: none"> • Source controls to limit the likelihood for 'dirty water' to occur; • Interceptor drains, vee-drains, diversion drains, flume pipes, erosion and velocity control measures such as use of sand bags, oyster bags filled with clean washed gravel, filter fabrics, and other similar/equivalent or appropriate systems; • Small working areas, covering stockpiles, weathering off stockpiles, cessation of works in certain areas or other similar/equivalent or appropriate measures. • In-Line controls to ensure appropriate management of silt laden water: • Interceptor drains, vee-drains, oversized swales, erosion and velocity control measures such as check dams, sand bags, oyster bags, straw bales, flow limiters, weirs, baffles, silt bags, silt fences, sedimats, filter fabrics, and collection sumps, temporary sumps/attenuation lagoons, sediment traps, pumping systems, settlement ponds, temporary pumping chambers, or other similar/equivalent or appropriate systems. • Treatment systems to fully attenuate silt laden waters prior to discharge: • Temporary sumps and attenuation ponds, temporary storage lagoons, sediment traps, and settlement ponds, and proprietary settlement systems such as Siltbuster, and/or other similar/equivalent or appropriate systems; and • The existing settlement ponds lagoons on the BnM lands.

Topic and source	Construction mitigation and monitoring measures
Water EIAR Chapter 7, Section 7.5.1.1; Natura Impact Statement, Section 5.5.1.1	Existing drains and controlled discharge <p>It should be noted for this site that an extensive network of bog drains already exists, and these will be integrated and enhanced as required and used within the wind farm drainage system.</p> <ul style="list-style-type: none"> • Apart from interceptor drains, which will convey clean runoff water to the downstream drainage system, there will be no direct discharge (without treatment for sediment reduction and attenuation for flow management) of runoff from the wind farm drainage into the existing site drainage network. This will reduce the likelihood of any increased risk of downstream flooding or sediment transport/erosion; • Silt traps will be placed in the existing drains upstream of any streams where construction works is taking place, and these will be diverted into proposed interceptor drains, or culverted under/across the works area; and • Buffered outfalls, which will be numerous over the site, will promote percolation of drainage waters across vegetation and close to the point at which the additional runoff is generated, rather than direct discharge to the existing drains of the site.
Water EIAR Chapter 7, Section 7.5.1.1; Natura Impact Statement, Section 5.5.1.1	Additional water treatment and filtration <p>If the discharge water from construction areas fails to be of a high quality, then a filtration treatment system (such as a 'Siltbuster' or similar equivalent treatment train [sequence of water treatment processes]) will be used to filter and treat all surface discharge water collected in the dirty water drainage system. This water treatment train will apply for the entirety of the construction phase.</p> <p>Silt fences will be emplaced within drains down-gradient of all construction areas.</p> <p>Inspection and maintenance of these structures during construction phase is critical to their functioning to stated purpose. They will remain in place throughout the entire construction phase. Double silt fences will be emplaced within drains down-gradient of all construction areas inside the hydrological buffer zones to provide an additional layer of protection in these areas.</p> <p>Silt bags will be used where small to medium volumes of water need to be pumped from excavations. As water is pumped through the bag, most of the sediment is retained by the geotextile fabric allowing filtered water to pass through. Silt bags will be used with natural vegetation filters or sedimats (sediment entrapment mats, consisting of coir or jute matting) placed at the silt bag location to provide further treatment of the water outfall from the silt bag. Sedimats will be secured to the ground surface using stakes/pegs. The sedimat will extend to the full width of the outfall to ensure all water passes through this additional treatment measure.</p>
Water EIAR Chapter 7, Section 7.5.1.1; Natura Impact Statement, Section 5.5.1.1	Spoil deposition drainage <p>It is proposed that excavated overburden/spoil will be utilised for reinstatement of excavated areas etc. and for landscaping purposes. Excess material, or material which is unsuitable for this purpose, will be stored, permanently, at 1 no. dedicated spoil deposition area located southeast of proposed turbine T11 as well as smaller deposition areas at each of the 3 no. turbine locations.</p> <p>All proposed spoil deposition areas are located outside the 50m stream buffer zone (refer to Annex 7.4 of the project EIAR).</p> <p>During the initial placement of spoil in the deposition areas, silt fences, straw bales and biodegradable matting will be used to control surface water runoff. Double silt fencing will be placed along the edge of each bog drain that intercepts the</p>

Topic and source	Construction mitigation and monitoring measures
	<p>deposition areas.</p> <p>Drainage from overburden deposition areas will ultimately be into to the existing bog drain network where it is proposed that check dams will be installed every 20m or so to create a series of settlement ponds, before being discharged.</p> <p>Spoil deposition areas will be sealed with a digger bucket and vegetated as soon possible to reduce sediment entrainment in runoff. Once re-vegetated and stabilised, spoil deposition areas will no longer be a likely source of silt laden runoff. Surface water protection infrastructure will be left in place until the areas have stabilised.</p>
<p>Water</p> <p>EIAR Chapter 7, Section 7.5.1.1; Natura Impact Statement, Section 5.5.1.1</p>	<p>Underground electricity line works</p> <ul style="list-style-type: none"> • All existing dry drains that intercept the works area will be temporarily blocked down-gradient of the works using temporary check dams/silt traps (e.g. straw bales); • Clean water diversion drains will be installed upgradient of the works areas, as required; • Check dams/silt fence arrangements (silt traps or straw bales) will be placed in all existing drains that have surface water flows and also along existing roadside drains; • A double silt fence perimeter will be placed down-slope of works areas that are located inside the watercourse 50m buffer zones; • At drain crossing locations, where open trenching is required, damming and over pumping method will be used to manage flows in the drain.
<p>Water</p> <p>EIAR Chapter 7, Section 7.5.1.1; Natura Impact Statement, Section 5.5.1.1</p>	<p>Horizontal directional drilling</p> <ul style="list-style-type: none"> • Firstly, the crossing works area will be clearly marked out with fencing or flagging tape to avoid unnecessary disturbance of vegetation; • A minimum 10m vegetated buffer will be maintained between the HDD working areas, including launch and receiving pits, and the riverbank. Plant entry into this buffer will be avoided. Where limited access within the buffer is demonstrably unavoidable, ground-protection mats will be used and the duration and extent of access will be minimised. There will be no storage of material/equipment, excavated material or overnight parking of machinery inside the 10m buffer zone; • Double silt fencing will be placed upslope of the buffer zone on each side of the watercourse. • Mats will be used underneath the excavator, inside the 10 metre vegetative buffer zone, to prevent soil erosion/rutting and potential surface water quality impacts from localised surface water runoff; • Temporary storage of excavated material will be undertaken outside of the 10m buffer on flat ground or within a local hollow area. A containment berm will be placed downslope of the excavated material which in turn will be surrounded by secondary silt fence protection to prevent saturated soil from flowing back into the watercourse; • Operation of machinery and use of equipment within the 10m buffer will be kept to a minimum to avoid any unnecessary disturbance; • There will be no refuelling allowed within 50m of the watercourse crossing; • All plant will be checked for purpose of use prior to mobilisation at the watercourse crossing; and, • Works shall not take place during periods of heavy rainfall and will be scaled back or suspended if heavy rain is forecasted.

Topic and source	Construction mitigation and monitoring measures
Water EIAR Chapter 7, Section 7.5.1.1; Natura Impact Statement, Section 5.5.1.1	Drilling fluid containment <p>Mitigation Measures relating to the use of a mixture of a natural, inert and fully biodegradable drilling fluid such as Clear Bore™ and water for directional drilling include:</p> <ul style="list-style-type: none"> • The area around the Clear Bore™ batching, pumping and recycling plants will be bunded using terram and sandbags in order to contain any spillages; • One or more lines of silt fences will be placed between the works area and adjacent rivers and streams on both banks; • Accidental spillage of fluids will be cleaned up immediately and transported off site for disposal at a licensed facility; and, • Adequately sized skips will be used for temporary storage of drilling arisings during directional drilling works. This will ensure containment of drilling arisings and drilling flush.
Water EIAR Chapter 7, Section 7.5.1.1; Natura Impact Statement, Section 5.5.1.1	Frac-out prevention and response <p>A Fracture Blow-out (Frac-out) Prevention and Contingency Plan will be prepared by the drilling contractor prior to construction and will include the following measures:</p> <ul style="list-style-type: none"> • The drilling fluid/bentonite will be non-toxic and naturally biodegradable (i.e., Clear Bore Drilling Fluid or similar will be used); • The area around the drilling fluid batching, pumping and recycling plants will be bunded using terram and/or sandbags to contain any potential spillage; • A double row of silt fencing will be placed between the works area and the adjacent river; • Spills of drilling fluid will be cleaned up immediately and transported off-site for disposal at a licensed facility; • Adequately sized skips will be used where temporary storage of arisings are required; • The drilling process/pressure will be constantly monitored to detect any possible leaks or breakouts into the surrounding geology or local watercourse; • This will be gauged by observation and by monitoring the pumping rates and pressures. If any signs of breakout occur then drilling will be immediately stopped; • Any frac-out material will be contained and removed off-site; • The drilling location will be reviewed, before re-commencing with a higher viscosity drilling fluid mix; and, • If the risk of a further inadvertent return remains high, the drilling methodology and alignment will be reviewed within the assessed works corridor before drilling recommences.
Water EIAR Chapter 7, Section 7.5.1.1; Natura Impact Statement, Section 5.5.1.1	Weather controls and suspension thresholds <p>The works programme for the initial construction stage of the development will also take account of weather forecasts, and predicted rainfall in particular. Large excavations and movements of soil/subsoil or vegetation stripping will be suspended or scaled back if prolonged or intense rain is forecast. The extent to which works will be scaled back or suspended will relate directly to the amount of rainfall forecast.</p> <p>The following forecasting systems are available and will be used on a daily basis at the site to direct proposed construction activities:</p> <ul style="list-style-type: none"> • General Forecasts

Topic and source	Construction mitigation and monitoring measures
	<ul style="list-style-type: none"> • Meteo Alarm • 3 hour Rainfall Maps • Rainfall Radar Images • Consultancy Service <p>Works will be suspended if forecasting suggests either of the following is likely to occur:</p> <ul style="list-style-type: none"> • >10 mm/hr (i.e. high intensity local rainfall events); • >25 mm in a 24-hour period (heavy frontal rainfall lasting most of the day); or, • >half monthly average rainfall in any 7 days. <p>Prior to works being suspended the following control measures will be completed:</p> <ul style="list-style-type: none"> • Secure all open excavations; • Provide temporary or emergency drainage to prevent back-up of surface runoff; and, • Avoid working during heavy rainfall and for up to 24-hours after heavy events to ensure drainage systems are not overloaded.
<p>Water</p> <p>EIAR Chapter 7, Section 7.5.1.1; Natura Impact Statement, Section 5.5.1.1</p>	<p>Drainage installation and water quality monitoring</p> <p>The construction of the site drainage system will be carried out, at the respective locations, prior to other activities being commenced. The construction of the drainage system will only be carried out during periods of, where possible, no rainfall, therefore avoiding runoff. This will avoid the risk of entrainment of suspended sediment in surface water runoff, and transport via this pathway to surface watercourses. Construction of the drainage system during this period will also ensure that attenuation features associated with the drainage system will be in place and functional for all subsequent construction works.</p> <p>Prior to the commencement of development, a detailed Site Drainage Plan and SWMP will be prepared to detail the siting and composition of the surface water management measures. The respective plans, which will form part of a detailed Construction Environmental Management Plan (CEMP), will be prepared prior to the commencement of development.</p> <p>The CEMP will also include a detailed Water Quality Monitoring Plan for the monitoring of surface waters in the vicinity of the construction site by a designated Environmental Manager. The monitoring programme will comprise field testing and laboratory analysis of a range of agreed parameters. The civil works contractor, who will be responsible for the construction of the site drainage system, and Environmental Manager will undertake regular inspections of the drainage system to ensure that all measures are functioning effectively. The surface water sampling locations used in this EIAR (i.e. SW1 – SW4) will be used during construction activities. Regular inspections of all installed drainage systems will be undertaken, especially after heavy rainfall, to check for blockages, and ensure there is no build-up of standing water in parts of the systems where it is not intended.</p> <p>Any excess build-up of silt levels that may decrease the effectiveness of the drainage feature, will be removed and disposed of in an appropriate manner.</p>
<p>Water</p> <p>EIAR Chapter 7, Section 7.5.1.2</p>	<p>Excavation dewatering</p> <ul style="list-style-type: none"> • Appropriate interceptor drainage, to prevent upslope surface runoff from entering excavations, will be put in place; • The interceptor drainage will be discharged to the site constructed drainage system or onto natural vegetated surfaces and not directly to surface waters

Topic and source	Construction mitigation and monitoring measures
	<p>to ensure that Greenfield runoff rates are mimicked;</p> <ul style="list-style-type: none"> • If required, pumping of excavation inflows will prevent build-up of water in the excavation; • The pumped water volumes will be discharged via volume and silt/sediment ponds and settlement lagoons adjacent to excavation areas, or via specialist treatment systems such as a Siltbuster unit; • There will be no direct discharge to surface watercourses, and therefore no risk of hydraulic loading or contamination will occur; • Daily monitoring of wind farm excavations by the Environmental Manager will occur during the construction phase. If high levels of seepage inflow occur, excavation work at this location will cease immediately and a geotechnical assessment undertaken; and, • A mobile 'Siltbuster' or similar equivalent specialist treatment system will be available on-site for emergencies. • They will be used as final line of defence if needed.
<p>Water ElAR Chapter 7, Section 7.5.1.3</p>	<p>Fuel storage, refuelling and spills</p> <ul style="list-style-type: none"> • The volume of fuels or oils stored on site will be minimised. All fuel and oil will be stored in an appropriately bunded area within the temporary construction compound. Only an appropriate volume of fuel will be stored at any given time. The bunded area will be roofed to avoid the ingress of rainfall and will be fitted with a storm drainage system and an appropriate oil interceptor; • All bunded areas will have 110% capacity of the volume to be stored; • On site refuelling of machinery will be carried out using a mobile double skinned fuel bowser. The fuel bowser, a double-axel custom-built refuelling trailer will be re-filled at the temporary compound and will be towed around the site by a 4x4 jeep to where plant and machinery is located. No refuelling will be permitted at works locations within the 50m hydrological buffer. The 4x4 jeep will also be fully stocked with fuel absorbent material and pads in the event of any accidental spillages. The fuel bowser will be parked on a level area in the construction compound when not in use and only designated trained and competent operatives will be authorised to refuel plant on site. Mobile measures such as drip trays and fuel absorbent mats will be used during all refuelling operations to avoid any accidental leakages; • All plant and machinery used during construction will be regularly inspected for leaks and fitness for purpose; • Spill kits will be readily available to deal with and accidental spillages; • All waste tar material arising from road cuttings (from trenching or other works in public roads) will be removed off-site and taken to a licensed waste facility. Due to the potential for contamination of soils and subsoils, it is not proposed to utilise this material for any reinstatement works; and • An outline emergency plan for the construction phase to deal with accidental spillages is contained within the Planning-Stage CEMP (Annex 1 of this CEMP). This emergency plan will be further developed prior to the commencement of development, and will be agreed with the Planning Authority as part of the detailed CEMP.
<p>Water ElAR Chapter 7, Section 7.5.1.4</p>	<p>Concrete and cement controls</p> <ul style="list-style-type: none"> • No batching of wet-cement products will occur on site. Ready-mixed concrete will be brought to site as required and, where possible, emplacement of pre-cast products, will take utilised; • All drain crossings will utilise pre-cast products and the use of wet-cement products within the hydrological buffer will be avoided;

Topic and source	Construction mitigation and monitoring measures
	<ul style="list-style-type: none"> Where concrete is delivered on site, only the chute will be cleaned, using the smallest volume of water practicable. Chute cleaning will be undertaken at lined cement washout ponds with waters being stored in the temporary construction compound, removed off site and disposed of at an approved licensed facility. No discharge of cement contaminated waters to the construction phase drainage system or directly to any artificial drain or watercourse will be allowed; Weather forecasting will be used to ensure that prolonged or intense rainfall is not predicted during concrete pouring activities; and, The concrete pour site will be kept free of standing water and plastic covers will be ready in case of sudden rainfall event.
Water EIAR Chapter 7, Section 7.5.1.6	Receiving water treatment standards <p>With regard to treatment standards, the drainage system has been designed to achieve compliance with surface water Environmental Quality Standards (EQS) in the downstream receiving waters. Details of monitoring proposals, to ensure this compliance, is described in the Planning-Stage SWMP (Annex 4 of this CEMP).</p>
Water EIAR Chapter 7, Section 7.5.1.7	Rath Group Water Scheme source protection <p>No refuelling or handling of fuels/oil/lubricants/chemicals will be permitted within 100m of the mapped source protection area boundary.</p> <p>In addition, to prevent potential leaching of cement from the electricity cable trenching, a geotextile liner will be placed around the founding layer (lean mix concrete) where concrete is to be poured.</p> <p>Also, there will be clear signage in place inside the source protection area to remind construction workers that the area is inside a drinking water protection area and that there are restrictions around the use of fuels/oil/lubricants/chemicals.</p>
Water EIAR Chapter 7, Section 7.5.1.8	Flood warnings and managed retreat <p>The first point of mitigation is ongoing monitoring of weather forecasts and weather warnings. The project Environmental Manager (EM) or the site Ecological Clerk of Works (ECoW) will be responsible for monitoring weather forecasts during the construction phase.</p> <p>When the forecast indicates rainfall exceeding any of the works-suspension thresholds set out above, or where a Met Éireann Status Yellow or higher rainfall warning is issued, the planned responses detailed below will be implemented.</p> <p>A managed retreat from the fluvial flood zone will be implemented in the event of a forecasted high intensity rainfall event and/or weather warning related to rainfall. This will include the following:</p> <ul style="list-style-type: none"> Any areas where soil/subsoil is exposed at the surface will be compacted firmly with a digger bucket of a suitably sized excavator. Open trenches will be backfilled and compacted. Existing sediment control measures will be removed, as these may be washed away and deposited elsewhere by the floodwaters. All plant, machinery and equipment will be removed from the flood zones. Works will be postponed in the event of flood or high flows in the river. <p>Exposed soils/peat (exposed temporary stockpiles) will be covered with plastic sheeting during all relatively heavy rainfall events and during periods where works have temporarily ceased before completion at a particular area (e.g., overnight</p>

Topic and source	Construction mitigation and monitoring measures
	<p>and weekends).</p> <p>Cessation of all construction works until the storm event, including the storm runoff has passed. All construction works will cease during storm events such as yellow warning rainfall events. Following heavy rainfall events, and before construction works recommence, the project site will be inspected and corrective measures implemented to ensure safe working conditions e.g. dewatering of standing water in open excavations, etc.</p>
<p>Water</p> <p>ElAR Chapter 7, Section 7.5.2.2 — drainage installation requirements</p>	<p>Operation drainage</p> <ul style="list-style-type: none"> • Interceptor drains will be installed up-gradient of all infrastructure to collect clean surface runoff, in order to minimise the amount of runoff reaching areas where suspended sediment could become entrained. It will then be directed to areas where it can be re-distributed over the ground by means of a level spreader; • Swales/road side drains will be used to collect runoff from access tracks, turbine hardstanding areas and switch room compound areas which may contain entrained suspended sediment, and channel it to settlement ponds for sediment settling; • Transverse drains ('grips') will be constructed, where appropriate, in the surface layer of access tracks to divert any runoff into swales/track side drains; • Check dams will be used along sections of access tracks drains to intercept silts at source. Check dams will be constructed from a 40mm non-friable crushed rock or similar; • Swales and check dams will buffer volumes of runoff discharging from the drainage system during periods of high rainfall, by retaining water until the storm hydrograph has receded, thus reducing the hydraulic loading to watercourses; and, • Settlement ponds will be designed in accordance the greenfield runoff rate requirements; and, • Imported rock for construction purposes and road surfacing will be strong, well-graded limestone which will be resistant to erosion and have a low likelihood to generate fines in hardstand runoff.
<p>Air Quality</p> <p>ElAR Chapter 8, Sections 8.5.1.1 and 8.5.1.2</p>	<p>Communications and complaints</p> <ul style="list-style-type: none"> • Display the name and contact details of person(s) accountable for air quality and dust issues on the site boundary. This may be the environment manager/engineer or the site manager. • Display the head or regional office contact information. • Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken. • Make the complaints log available to the local authority when asked. • Record any exceptional incidents that cause dust and/or air emissions, either on- or offsite, and the action taken to resolve the situation in the logbook.
<p>Air Quality</p> <p>ElAR Chapter 8, Section 8.5.1.3</p>	<p>Site layout, maintenance and stockpiles</p> <ul style="list-style-type: none"> • Plan site layout so that machinery and dust causing activities are located away from receptors, as far as is possible. • Use localised screening or enclosure around specific dust-generating activities where necessary and practicable. • Avoid site runoff of water or mud.

Topic and source	Construction mitigation and monitoring measures
	<ul style="list-style-type: none"> • Keep site fencing, barriers and scaffolding clean using wet methods. • Remove materials that have a potential to produce dust from site as soon as possible, unless being re-used on site. If they are being re-used on-site cover as described below. • Cover, seed or fence stockpiles to prevent wind whipping.
Air Quality ElAR Chapter 8, Section 8.5.1.4	Vehicles and machinery <ul style="list-style-type: none"> • Ensure all vehicles switch off engines when stationary – no idling vehicles. • Avoid the use of diesel- or petrol-powered generators and use mains electricity or battery powered equipment where practicable. • Impose and signpost a maximum-speed-limit of 25kph on surfaced and 15kph on unsurfaced haul roads and work areas (if long haul routes are required these speeds may be increased with suitable additional control measures provided, subject to the approval of the nominated undertaker and with the agreement of the local authority, where appropriate).
Air Quality ElAR Chapter 8, Section 8.5.1.5	Dust-generating operations <ul style="list-style-type: none"> • Only use cutting, grinding or sawing equipment fitted or in conjunction with suitable dust suppression techniques such as water sprays or local extraction, e.g. suitable local exhaust ventilation systems • Ensure an adequate water supply on the site for effective dust/particulate matter suppression/mitigation, using non-potable water where possible and appropriate • Use enclosed chutes and conveyors and covered skips. • Minimise drop heights from conveyors, loading shovels, hoppers and other loading or handling equipment and use fine water sprays on such equipment wherever appropriate. • 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 ElAR Chapter 8, Section 8.5.1.6	Waste burning <ul style="list-style-type: none"> • Bonfires and burning of waste materials are legally prohibited.
Air Quality ElAR Chapter 8, Section 8.5.1.7	Earthworks <ul style="list-style-type: none"> • Re-vegetate earthworks and exposed areas/soil stockpiles to stabilise surfaces as soon as practicable • Use Hessian, mulches or trackifiers where it is not possible to re-vegetate or cover with topsoil, as soon as is practicable. • Only remove the cover in small areas during work and not all at once.
Air Quality ElAR Chapter 8, Section 8.5.1.8	Construction materials <ul style="list-style-type: none"> • Avoid scabbling (roughening of concrete surfaces) if possible. • Ensure sand and other aggregates are stored in bunded areas and are not allowed to dry out, unless this is required for a particular process, in which case ensure that appropriate additional control measures are in place. • Ensure bulk cement and other fine powder materials are delivered in enclosed tankers and stored in silos with suitable emission control systems to prevent escape of material and overfilling during delivery.

Topic and source	Construction mitigation and monitoring measures
	<ul style="list-style-type: none"> For smaller supplies of fine powder materials, ensure bags are sealed after use and stored appropriately to prevent dust.
Air Quality EIAR Chapter 8, Section 8.5.1.9	Trackout <ul style="list-style-type: none"> 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 continuously in use. Avoid dry sweeping of large areas. Ensure vehicles entering and leaving sites are covered to prevent escape of materials during transport. Inspect on-site haul routes for integrity and instigate necessary repairs to the surface as soon as reasonably practicable. Record all inspections of haul routes and any subsequent action in a site logbook. Implement a wheel washing system (with rumble grids to dislodge accumulated dust and mud prior to leaving the site where reasonably practicable). Access gates to be located at least 10m from receptors where possible.
Air Quality EIAR Chapter 8, Section 8.6.1	Dust inspections <ul style="list-style-type: none"> Undertake daily on-site and off-site visual inspections, where receptors (including roads) are nearby, to monitor dust, record inspection results in the site inspection log. This should include regular dust soiling checks of surfaces such as street furniture, cars and windowsills within 100m of construction works, with cleaning to be provided if necessary. Increase the frequency of site inspections by the person accountable for air quality and dust issues on site when activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions.
Climate EIAR Chapter 9, Section 9.6.1	Plant and material efficiency <ul style="list-style-type: none"> Prevention of on-site or delivery vehicles from leaving engines idling, even over short periods. Ensuring that fossil fuel powered plant and equipment meet the Euro Stage V emission standard. Ensure all plant, machinery and vehicles are well maintained and inspected regularly. Ensuring, that site vehicles and delivery vehicles meet the Euro VI/Euro 6 standards for emissions. Excavated material will be reused within the project where suitable, with remaining peat and spoil managed within the designated peat/spoil deposition areas in accordance with the Peat and Spoil Management Plan. Specifying electrically powered plant and equipment where practicable and using grid connections for electric power when practicable instead of fossil fuel powered generators. On-site segregation of all waste materials into appropriate categories including, for example, topsoil, bedrock, concrete, bricks, tiles, oils /diesels, metals, dry recyclables e.g. cardboard, plastic, timber. Sourcing materials locally will be prioritised. This will help to reduce transport related CO₂ emissions and helps support local suppliers, further promoting economic sustainability.

Topic and source	Construction mitigation and monitoring measures
Climate ElAR Chapter 9, Section 9.6.1	Low carbon procurement <ul style="list-style-type: none"> For procurement of low carbon materials, the following low carbon material choices will be implemented unless there is a specific design practicality that prohibits it: <ol style="list-style-type: none"> Concrete: GGBS (Ground granulated blast-furnace slag), 30% lower clinker content cement, or better, where practicable; Fibre reinforced concrete or similar instead of steel reinforcement Steel: recycled or electric arc foundry steel, cross laminated timber; Bricks and aggregates: reclaimed or recycled.
Climate ElAR Chapter 9, Section 9.7.1	Climate resilience in design <ul style="list-style-type: none"> The wind farm drainage system has been designed to accommodate a 1-in-100-year rainfall event, as described in Chapter 7. The proposed turbines to be installed, are designed to the appropriate standards to account for the high wind loadings. High quality, durable building materials will be selected for the proposed project to reduce their sensitivity to extreme temperatures. Lightning protection conduits are integral to the construction of the blades. <p>The Proposed Project will be constructed having taken the most up to date Eurocodes, design practices and climate data into account prior to maximise resilience of the project against climate change hazards.</p>
Climate ElAR Chapter 9, Section 9.7.2	Construction weather hazards <p>In terms of impact on the proposed project due to climate change, during construction the Contractor will be required to mitigate against the effects of extreme rainfall/flooding, extreme temperatures and wind and storms through site risk assessments, method statements and good site management practice. All materials used during construction will be accompanied by certified datasheets which will set out the limiting operating temperatures. Temperatures can affect the performance of some materials, and this will require consideration during construction.</p>
Climate ElAR Chapter 9, Section 9.7.5	Carbon and weather monitoring <p>Monitoring and reporting of the embodied carbon in the construction phase will be conducted. The aim of monitoring will be to seek further ways to minimise climate impacts. Monitoring will include contractual obligations, in line with the most recent Climate Action Plan and sectoral targets, for the successful tenderer to ensure that the proposed development stays in line with updated aims. Commitments to monitor GHG emissions during the construction phase will also be secured through the final Construction Environmental Management Plan (CEMP). Monitoring will include embodied carbon of construction materials, water usage, power and fuel usage, and waste generation (including reuse and recycling rates). Where monitoring shows that the proposed development is not meeting its targets, further mitigation will be put in place.</p> <p>Monitoring should also include reviewing potential for extreme weather events which may cause damage during construction. Contractors' Environmental Management System (EMS) will include measures to address risks during such events i.e. flooding.</p>

Topic and source	Construction mitigation and monitoring measures
Landscape EIAR Chapter 10, Section 10.5.1	Embedded landscape measures <ul style="list-style-type: none"> • The colour will be industry standard off-white/light grey semi-matt non-reflective finish; • All internal wind farm electrical and communications cabling, together with the proposed c.5km underground electricity line, will be installed underground; • Special care will be taken to preserve any features, insofar as possible, which contribute to the landscape character of the study area; and, • Counter rotation of blade sets will be avoided.
Landscape EIAR Chapter 10, Section 10.5.2	Construction management and reinstatement <p>All construction activities will follow best practice methods to reduce effects on the environment, as outlined in the Construction and Environmental Management Plan (CEMP) which will manage the environmental commitments of the project through the construction phase. It is noted that an Environmental Manager (EM) and Ecological Clerk of Works (ECoW) with appropriate experience will be appointed for the duration of the construction phase to ensure that the CEMP is effectively implemented.</p> <p>The appropriate management and reinstatement of excavations in a timely manner will ensure that any adverse effects caused, for example at site entrances or road upgrade locations, are minimised insofar as possible.</p> <p>Temporary construction working areas will be reinstated to their original condition, with all vegetation lost to facilitate works replaced. Replacement planting of hedgerows and treelines will be undertaken in accordance with the measures set out in Chapter 5 of the project EIAR and the Habitat and Species Management Plan at Annex 5.7, under the supervision of the ECoW. All hedgerows and treelines lost during construction will be replaced within the Project, ensuring no net loss, with additional hedgerow planting providing a net gain. Planting locations will maintain and enhance connectivity between habitat features.</p> <p>The following standards are widely adopted as representing best practice in landscape operations:-</p> <ul style="list-style-type: none"> • BS 4428:1989 Code of practice for general landscape operations (excluding hard surfaces); • BS 5837:2012 – Trees in Relation to design, demolition and construction; • BS 8545 Trees: from nursery to independence in the landscape – Recommendations; and, • BS 3936 – Part 1: Nursery stock specification for trees and shrubs.
Landscape EIAR Chapter 10, Section 10.5.5	Landscape management and maintenance <p>It is reiterated that an EM and ECoW with appropriate experience will be appointed for the duration of the construction phase so that the CEMP is effectively implemented and that all landscape works will be subject to ongoing management and maintenance.</p>
Cultural Heritage EIAR Chapter 11, Section 11.6.1	Advance archaeological testing <ul style="list-style-type: none"> • Post-consent pre-construction test trenching shall be carried out within the footprint of the three turbine bases and hardstand areas. Test trenching will be carried out under licence to the Department of Housing, Local Government and Heritage and the National Museum of Ireland, and to the satisfaction of Offaly County Council. Provision will be made for the full excavation and

Topic and source	Construction mitigation and monitoring measures
	<p>recording of any archaeological features or deposits that may be exposed during test trenching.</p>
<p>Cultural Heritage ElAR Chapter 11, Section 11.6.1</p>	<p>Archaeological monitoring and boundary records</p> <ul style="list-style-type: none"> Archaeological monitoring of all excavations associated with construction of the wind farm shall be carried out. Monitoring will be carried out under licence to the Department of Housing, Local Government and Heritage and the National Museum of Ireland, and to the satisfaction of Offaly County Council. Provision will be made for the full excavation and recording of any archaeological features or deposits that may be exposed during monitoring; Archaeological monitoring of all excavations associated with construction of the underground electricity line shall be carried out. Monitoring will be carried out under licence to the Department of Housing, Local Government and Heritage and the National Museum of Ireland, and to the satisfaction of Offaly County Council. Provision will be made for the full excavation and recording of any archaeological features or deposits that may be exposed during monitoring; Archaeological monitoring of all excavations at townland, parish and barony boundaries shall be carried out. Monitoring will be carried out under licence to the Department of Housing, Local Government and Heritage and the National Museum of Ireland, and to the satisfaction of Offaly County Council. Provision will be made for the full excavation and recording of any archaeological features or deposits that may be exposed during monitoring; Written and photographic records will be created of any townland, parish and barony boundaries that may be impacted on. The written and photographic records will be created in advance of excavations commencing on site.
<p>Cultural Heritage ElAR Chapter 11, Section 11.6.2</p>	<p>Micrositing restriction</p> <p>It is recommended that micrositing associated with construction of the underground electricity line not be allowed within the historic garden recorded on the National Inventory of Architectural Heritage.</p>
<p>Noise & Vibration ElAR Chapter 12, Section 12.7.1; existing CEMP construction control schedule</p>	<p>Construction controls</p> <ul style="list-style-type: none"> The contract documents will specify that the Contractor undertaking the construction works will be obliged to adopt best practice noise abatement measures contained in British Standard BS 5228-1:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites – Noise and BS 5228-2:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites – Vibration. Evening, night-time, and Sunday working will be required during certain periods to facilitate large turbine component deliveries. The planning of such works will take consideration of sensitive receptors, in particular any nearby residential receptors. Construction activities will be scheduled in a manner that reflects the location of the site and the nature of neighbouring properties. Construction activities / plant items will be considered with respect to their potential to exceed CNTs at NSLs and will be scheduled according to their noise level, proximity to NSLs, and possible options for noise control. In situations where an activity with the potential to exceed CNT is scheduled, other construction activities will be scheduled to not result in significant cumulative noise levels. To ameliorate any potential noise effects that may present during the construction phase, a schedule of noise control measures has been formulated in accordance with best practice guidance, and the contract documents will require the Contractor to implement these measures. These

Topic and source	Construction mitigation and monitoring measures
	<p>are outlined in this CEMP.</p> <p>Construction noise and vibration control schedule</p> <ul style="list-style-type: none"> • Programme activities likely to generate higher noise or vibration within the normal working hours where practicable, and apply the prior-notification and exceptional-working arrangements at Section 4.1; • Establish communication between the Contractor, Developer, local authorities and residents, and appoint a site representative responsible for noise and vibration matters; • Monitor typical noise and vibration during critical activities and at sensitive locations as required by the construction programme, complaints investigation or consent conditions; • Keep site access tracks even and in good condition to minimise vibration and impact noise from HGVs; • Select plant with low inherent noise/vibration, and locate noisy or vibratory equipment as far from sensitive properties as the works permit; • Maintain plant, fit and retain effective silencers and other acoustic components, and avoid unnecessary idling; • Screen or enclose stationary noise sources, such as generators, compressors and pumps, where required, particularly where operation outside normal hours is necessary; • Use temporary acoustic screens or barriers where these are necessary to reduce exposure at nearby sensitive receptors, including at the more sensitive HDD or other local works locations; and • Record noise complaints, investigate the activity and operating conditions involved and implement appropriate corrective measures. The Acoustic Consultant will advise where specialist assessment or monitoring is required. <p>Rock Breaking and Vibration</p> <p>Significant rock breaking is not anticipated on the basis of the ground conditions described in the EIAR. If localised rock breaking is required, the following measures will be used where necessary:-</p> <ul style="list-style-type: none"> • Fit appropriate mufflers or sound-reduction equipment to the tool and seal compressed-air lines; • Use a dampened bit where appropriate to avoid ringing; • Place acoustic screening between the source and sensitive receptors, obscuring direct line of sight where practicable; and • Use a suitable portable/fixed acoustic enclosure with ventilation where required. <p>Construction methods and plant use will remain consistent with the noise and vibration assessment in Chapter 12. The Contractor will review vibration-generating activities near receptors with the Engineer and Acoustic Consultant where necessary.</p>
<p>Material Assets Transport & Access</p> <p>EIAR Chapter 14, Section 14.2.5.1</p>	<p>Construction hours and traffic controls</p> <ul style="list-style-type: none"> • Traffic movements will be limited to 07:00-19:00 Monday to Friday and 07:00-13:00 on Saturdays with no movements on Sundays or public holidays. It may be occasionally necessary to undertake works outside of these hours to avail of favourable weather conditions or during extended concrete pours. Where construction activities are necessary outside of the normal working hours, local residents and the Planning Authority will receive prior notification; • A wheel washing facility will be provided, as necessary, to prevent any debris being transferred from site to the adjacent public roads. All drivers will be

Topic and source	Construction mitigation and monitoring measures
	<p>required to ensure that their vehicle is free from dirt and stones prior to departure from the project site. Where conditions exist for dust to become friable, techniques such as damping down of the affected areas will be employed and vehicles/loads will be covered to reduce dust emissions;</p> <ul style="list-style-type: none"> • A Traffic Management Plan shall be agreed as part of the Construction Environmental Management Plan (CEMP) with the Local Authority prior to the commencement of development. The Traffic Management Plan shall include inter alia confirmed details of construction material haul routes; confirmed details of vehicle specifications; a materials delivery programme; traffic management measures including details of 'Stop/Go' systems, signage, road closures and diversionary routes; and road reinstatement details; • All works to the public road shall be undertaken in consultation with, and agreed in advance with, the relevant local authority; and • All reasonable steps shall be taken to ensure that only national and regional routes are used to transport all materials to the site, in so far as is possible.
<p>Material Assets Transport & Access</p> <p>ElAR Chapter 14, Section 14.2.5.2</p>	<p>Road surveys and repairs</p> <p>As described above; prior to and post construction, pavement condition surveys will be undertaken along all non-national access routes proposed to be utilised in the delivery of construction materials. Following the completion of the pre-construction survey, any works (additional to those which have been identified and described at Chapter 3) which are assessed as necessary to facilitate the delivery of components and materials to the project site shall be undertaken. Any deterioration of carriageways or structures identified in the post-construction survey shall be put right at the expense of the Developer and to the satisfaction of the relevant local authority.</p>
<p>Material Assets Transport & Access</p> <p>ElAR Chapter 14, Section 14.2.5.1</p>	<p>Signage, parking and access</p> <ul style="list-style-type: none"> • Adequate signage shall be provided at entrances providing access, safety and warning information; • Speed limit compliance; particularly along the local roads (including the L300321 local road); will be emphasised to all staff and contractors prior to the commencement of construction during site induction, and will be strictly enforced throughout the construction phase; • Sufficient car parking spaces will be available at the temporary construction compound during the construction phase. Additionally, during construction of the proposed grid connection, it is likely that agricultural premises will be used for the temporary storage of materials (e.g. ducting, cabling, etc.) and for the parking of construction plant, machinery, and work vehicles (cars, vans, etc.). No parking of cars by persons associated with the project will be permitted on any part of the public road that is not closed to traffic. All staff will be instructed to ensure that private entrances remain unobscured (particularly along the grid connection route); • Road sweeping, particularly along the proposed grid connection route, will be carried out as appropriate to ensure construction traffic does not adversely affect road conditions; • Traffic restrictions shall be kept to minimum duration and extent; • Appropriate traffic management; including maintenance of local access, pedestrian access (where safe to do so) and diversions (where required); shall be implemented to facilitate continued public use of roads where temporary traffic restrictions have to be put in place. Precise details of these measures will be detailed in the Traffic Management Plan to be agreed with the Planning Authority prior to the commencement of development.

Topic and source	Construction mitigation and monitoring measures
Material Assets Transport & Access EIAR Chapter 14, Section 14.2.5.1	Abnormal loads and coordination <ul style="list-style-type: none"> • The timing of oversized/abnormal loads shall be agreed with the relevant local authorities and An Garda Síochána, and all relevant licenses and permits shall be obtained in advance. All oversized/abnormal loads shall be accompanied by escort vehicles to ensure the maintenance of public safety; • Maximum axle loadings for abnormal/oversized loads shall be strictly enforced in accordance with the Road Traffic (Construction and Use of Vehicles) Regulations 2003 (S.I. No. 5 of 2003); • A designated contact point and coordinator will be put in place to manage all access arrangements and to interface with the public and the respective local authorities; and • The site shall be closed, and strictly secured, to the public during the construction phase.
Material Assets Aviation EIAR Chapter 14, Section 14.3.7.1	Crane notification and lighting As requested by the IAA in its consultation response, a minimum of 30-days prior notification will be provided regarding the commencement of crane operations at the project site. Additionally, as is best practice and implemented as standard, warning lights will be fitted to cranes during the erection of the wind turbines.
Material Assets Aviation EIAR Chapter 14, Section 14.3.7.2 — installation and completion requirements	Turbine lighting and as-constructed information The proposed wind turbines will, as requested by the IAA in their consultation response and implemented as standard, be fitted with aviation warning lighting in accordance with specification to be agreed with the IAA and the Planning Authority prior to the commencement of development. At a maximum of 30-days following the installation of all proposed turbines, 'as-constructed details' will be provided to the IAA to allow for the updating of mapping charts, including:- <ul style="list-style-type: none"> • The number of wind turbines; • WGS-84 coordinates of each turbine; • Ground elevation of each turbine (Malin Head OD); • Blade tip elevation of each turbine (Malin Head OD); • Height of Turbine; • Contour maps at the requisite scale; and • A note of which turbines have been fitted with obstacle warning lights.
Material Assets Telecommunications EIAR Chapter 14, Section 14.4.4.2; existing CEMP construction coordination	ESB link protection The developer will continue to consult with ESB to ensure that interference and degradation of any ESB link does not occur. The Developer will continue detailed coordination with ESB Networks using the proposed turbine details to agree measures safeguarding its radio links, including the line-of-sight interaction identified in relation to T11. Required measures will be agreed and implemented before erection of the affected turbine. The Project Manager will retain the coordination records and communicate the agreed requirements to the turbine supplier and Contractor. The relevant construction provisions in the Radio Telescope Impact Assessment at Annex 14.2 will be implemented. The Developer will maintain liaison with affected telecommunications operators during construction. The 2n protocol and consultation response at Annex 14.3 identify the arrangements applicable to

Topic and source	Construction mitigation and monitoring measures
	Phase II for investigating and remediating attributable television interference; the protocol will remain available to the project team.
Material Assets Resources & Utilities EIAR Chapter 14, Section 14.5.4; existing CEMP utility protection procedures	Existing services and aggregate sourcing <p>As identified above, accidental collision with overhead wires, sub-surface cables/pipes and/or forestry will be mitigated through the implementation of good construction practice and procedures.</p> <p>The sourcing of aggregates locally and from facilities which have been subject to EIA, will mitigate against the likelihood of significant effects during the construction phase.</p> <p>Additionally, during the process of connecting the project to the national grid, EirGrid will balance the loading on the network to ensure that no significant disruption occurs, and likely significant effects do not arise.</p> <ul style="list-style-type: none"> • Confirm existing underground and overhead service locations before excavation, using the relevant utility records and on-site verification appropriate to the work; • Agree required protection, crossing, clearance and safe-working arrangements with utility owners before the affected construction begins; • Obtain the necessary approvals before service diversions or connections and avoid unplanned interruption of existing services; • Construct the switch room water connection in accordance with the Eglis, Rath & Drumcullen Ltd Group Water Scheme requirements and the approved layout; and • Apply the waste, fuel, chemical and wastewater arrangements set out above to all utility and switch-room construction works.
Material Assets Waste Management EIAR Chapter 3, waste management provisions; EIAR Chapter 14, Section 14.5.4; CEMP Waste Management Plan	Construction waste <p>Construction waste will be segregated and stored in suitable receptacles within designated areas of the construction compounds. Materials will be reused or recycled where practicable, while waste requiring removal from site will be transported by appropriately permitted contractors to suitably authorised waste facilities. Records of waste removed from site will be maintained in accordance with applicable requirements. Further details are provided in the Waste Management Plan at Annex 2 of this CEMP.</p> <p>In the event that material is generated which is unsuitable for the deposition areas (e.g. asphalt) or excess material arises which cannot be accommodated on-site, it will be removed from the site to an appropriately licensed waste facility.</p> <p>The Contractor will implement the accompanying Waste Management Plan and apply the waste hierarchy throughout construction. Waste prevention, material reuse and recycling will be prioritised, with disposal used for residual material that cannot be appropriately recovered.</p> <ul style="list-style-type: none"> • Segregate waste at source into the appropriate streams, including packaging, timber, metals, cabling, concrete, general welfare waste and hazardous materials; • Provide clearly identified and secure storage facilities/skips, with covers and bunding/containment as appropriate to the waste type. Keep containers within capacity and arrange collection at suitable intervals; • Use appropriately authorised waste collectors and receiving facilities, retain transfer/collection records and maintain the waste inventory identifying the waste type, quantity, destination and relevant authorisation; • Store and handle oils, chemicals, used absorbents and other hazardous waste

Topic and source	Construction mitigation and monitoring measures
	<p>separately so that there is no leakage to soil, drains or watercourses;</p> <ul style="list-style-type: none"> • Manage construction welfare effluent through sealed units and authorised servicing; no discharge to ground or surface waters is permitted; • Manage excavated peat/spoil under the Peat & Spoil Management Plan, maximising suitable reuse and retaining surplus only within the assessed deposition arrangements; • Remove asphalt/road cuttings and other material unsuitable for on-site reuse/deposition to an appropriately authorised facility; • Do not burn waste on site. Brief personnel on the waste arrangements at induction and through toolbox talks; and • Inspect waste facilities and maintain records of collections, incidents and corrective actions in accordance with the Waste Management Plan.

Table C.1: Construction Phase Environmental Mitigation & Monitoring Measures

5.0 IMPLEMENTATION OF ENVIRONMENTAL MANAGEMENT MEASURES

In the first instance, the construction phase of the project shall be undertaken in strict compliance with all relevant measures set out in the EIAR, Natura Impact Statement and this CEMP, except where such measures are required to be updated or supplemented in order to comply with a condition of planning permission. All relevant conditions of consent shall be inserted at **Table C.2** below.

Planning Conditions		
Condition No.	Content	Relevance to Construction Phase (Yes/No)

Table C.2: Construction Related Conditions of Consent Table

This CEMP, which will be further developed prior to the commencement of construction, and all associated documentation, construction management plans, and construction method statements shall be prepared to ensure strict accordance with each of the measures of the EIAR, NIS, and conditions of consent. As stated at **Section 1.4** above, it will be the responsibility of the EM to ensure coordination between this CEMP, all associated construction management plans & method statements, and the requirements set out in relation to the project.

6.0 COMMUNICATION PLAN

Given the multitude of stakeholders to be involved in the construction phase of the project, a clear and concise communications plan will be implemented to ensure that all matters arising are appropriately reported and recorded. The Communications Plan, which will be developed by the contractor will include a reporting strategy including, but not limited to, the following personnel: -

- Cush Wind Limited Project Manager;

- Contractor Project Manager;
- Cush Wind Limited Project Supervisor for the Construction Stage (PSCS);
- Contractor Site Foreman;
- Environmental Manager;
- Ecological Clerk of Works;
- Geotechnical Clerk of Works; and
- Archaeological Clerk of Works.

Additionally, Cush Wind Limited shall appoint a designated person who shall be responsible for engaging with members of the local community regarding the provision of project updates, etc., and shall also be responsible for relaying any matters raised to the project team.

A list of project contacts, to be developed prior to the commencement of construction and included within the detailed CEMP, shall be made available to all construction staff while a copy shall also be provided at the site offices.

7.0 STAFF TRAINING & ENVIRONMENTAL AWARENESS

Only staff who have received appropriate training and have the necessary safety training/certification shall be permitted on-site.

All construction phase personnel will receive environmental awareness information as part of their initial site induction. The extent of their induction shall be tailored to the scope of their work; however, as a minimum, all environmental protection matters will be addressed in full. This will ensure that staff are familiar with environmental obligations associated with the construction process and the procedures and measures to be implemented. Staff will also be advised of the likely effects of any non-compliance with the relevant environmental measure.

As described at **Section 1.4**, the EM shall provide regular environmental updates to personnel and shall advise of any improvements which can be implemented.

Toolbox talks will be held by the EM, or other relevant personnel at the commencement of each day or at the commencement of new activities. The aims of the toolbox talks are to identify the specific work activities that are scheduled for that day or phase of work. In addition, the necessary work method statements will be identified and discussed. Additionally, any non-compliance with a measure in this CEMP will also be discussed with the aim of avoiding a re-occurrence of the same non-compliance.

8.0 EMERGENCY RESPONSE PROCEDURES

Prior to the commencement of construction, the Contractor shall prepare a comprehensive emergency response procedure to be implemented by on-site personnel. This on-site procedure shall be incorporated within the Environmental & Emergency Response Plan to ensure that appropriate procedures are in place to manage any incident and report same to the relevant stakeholders.

Planning Stage emergency and environmental incident reporting procedures are set out in the Environmental & Emergency Response Plan (see **Annex 1** hereto).

9.0 RECORDING & REPORTING

Over the course of the construction phase, a significant volume of reporting will be undertaken to record the activities, methodologies, and measures implemented during the construction phase. With regard to environmental recording, the following is a non-exhaustive list of reports/records which are likely to be appended to the CEMP as the construction phase progresses: -

- Site Sign-In Records;
- Weekly Environmental Reports;
- Monthly Environmental Reports;
- Site Visual Inspection Checklists;
- Environmental Audits;
- Ecological Survey Reports;
- Water Quality Monitoring Reports;
- Archaeological Monitoring Reports;
- Geotechnical Monitoring Reports;
- Traffic Management Plans;
- Waste management documentation;
- All relevant licences, consents, and permits;
- All correspondence (internal and external) regarding environmental matters; and,
- Staff Training Records.

10.0 COMPLIANCE & REVIEW PROCEDURES

10.1 SITE INSPECTIONS & ENVIRONMENTAL AUDITS

Routine inspections of construction activities will be carried out on a daily and weekly basis by the Contractor Project Manager, PSCS, Contractor Site Foreman, EM, and ECoW to ensure all environmental controls, relevant to the construction activities taking place at the time, are in place. Environmental inspections will ensure that the works are undertaken in accordance with this CEMP and all other relevant documentation.

10.2 AUDITING

The contractor will be responsible for ensuring that all construction staff are aware of the requirement to, and understand the importance of, strictly implementing the procedures of the CEMP. Environmental audits will be undertaken during the construction phase of the project. In contrast to monitoring and inspection activities, audits are designed to identify the underlying causes of non-compliances, and not to merely detect the non-compliance itself.

Moreover, audits are the means by which system and performance improvement opportunities may be identified. Environmental audits will be carried out by the contractor or by external personnel acting on their behalf. The impartiality and objectivity of the audit process is crucial in the identification of improvements to the activities being undertaken at the project site. Environmental audits will be scheduled and conducted at regular intervals to determine whether the CEMP is being

appropriately implemented. The findings of the audits will be provided to the Cush Wind Limited Project Manager, Contractor Project Manager, PSCS, EM, and ECoW.

A sample Environmental Audit is included within the accompanying Environmental & Emergency Response Plan.

10.3 ENVIRONMENTAL COMPLIANCE

As has been set out in the preceding sections, construction activities will be continuously and rigorously assessed to ensure that works are undertaken in accordance with the provisions of the detailed CEMP (to be prepared prior to construction). Where an environmental 'event/occurrence' has been identified, the following definitions shall apply: -

- Near-Miss: An event which has not resulted in an adverse environmental effect but which, if not addressed, could re-occur and result in adverse effects;
- Incident: An event which has occurred and which, if un-controlled, could result in substantial effects; however, on-site measures/procedures avoided such effects;
- Exceedance Event: Where an event has resulted in identifiable adverse effects which exceed the appropriate limit value (e.g. a deterioration of downstream water quality below acceptable limits). An exceedance event usually triggers the cessation of particular activities until an investigation has been completed and additional measures implemented; and,
- Non-Compliance: The identification of an un-agreed deviation from prescribed procedures/measures set out in this CEMP.

10.4 CORRECTIVE ACTIONS

A corrective action relates to the implementation of revised measures/procedures to rectify an identified environmental matter/concern/issue. Corrective actions will be implemented by the Contractor Project Manager, as advised by the PSCS and EM.

Corrective actions may be required as a consequence of: -

- Environmental Audits;
- Environmental Inspections; Environmental Monitoring;
- Environmental Incidents; and,
- Environmental Complaints.

A Corrective Action Notice will be used to communicate the details of the action required. A Corrective Action Notice will describe the cause and effect of the environmental issue/concern and will detail the recommended corrective action to be implemented.

If an environmental matter/concern/issue arises which requires immediate intervention; direct communications between the Contractor Project Manager, PSCS and EM will be conducted. A Corrective Action Notice will be completed subsequently.

ANNEX 1 – ENVIRONMENTAL & EMERGENCY RESPONSE PLAN





Cush Wind Farm
Phase II

Planning-Stage Construction Environmental Management Plan

Annex 1: Environmental & Emergency Response Plan

Cush Wind Limited

Contents

1.0	Introduction.....	1
1.1	Purpose of this Report	1
1.2	Environmental Incident	1
1.3	Reference Documents.....	2
2.0	Requirements of an EERP	2
3.0	Description of the Project.....	2
4.0	Incident & Hazard Reporting.....	4
5.0	Waste Disposal after Environmental Incidents	4
6.0	Site Induction & Toolbox Talks	4
7.0	Summary Sheet for Machinery & Plant Operators.....	4
8.0	Communication Plan.....	5
8.1	Environmental Response Plan	6
8.2	External Contacts	7
8.3	Internal Contacts.....	8
8.4	Chemical Product & Waste Inventory	8
8.5	Pollution Prevention Equipment Inventory.....	8
8.6	Site Environmental Incident Report Form	8
8.7	Site Environmental Audit Form.....	8

DOCUMENT CONTROL

Stage	Date	Name
Content	19/10/2026	Declan Owens
Approval	19/10/2026	Gavin Daly

RECORD OF CHANGES

Revision	Issue Date	Summary of Changes	Approved
00	19/10/2026	Content	Declan Owens
01			
02			

DISTRIBUTION LIST

#	Purpose	Company	Name (Optional)
1	Review	Cush Wind Limited	James Carville
2			
3			
Notes:			

© Copyright Galetech Energy Services Ltd. This report has been prepared by Galetech Energy Services Ltd. ("Galetech") for the sole use and benefit of the named recipient (the "Client"). Unless expressly agreed otherwise in writing by Galetech, no other person or entity is entitled to use the contents of this report. Galetech expressly disclaims all liability to any third party who may access or rely on this report, whether in whole or in part, and whether such access or reliance is authorised or unauthorised. No liability is accepted by Galetech for any use of this report other than for the specific purpose for which it was prepared. This report has been prepared by Galetech in accordance with the specific instructions, requirements, scope and limitations set forth in our agreement with the Client, as well as the project's timeframes, budgetary constraints, and in line with customary industry standards. The approach, methodology, assumptions, limitations and sources of information used by Galetech are outlined in this report (as appropriate). The scope of Galetech's services is strictly limited to the conditions described herein. Where conclusions and recommendations are based on information provided by third parties, including the Client or its agents, Galetech accepts no responsibility for the accuracy, validity, or completeness of such information. It is assumed that all relevant data and documentation requested have been provided in full, are accurate, and reflect the current situation. No independent verification of this information has been undertaken by Galetech unless explicitly stated otherwise. The conclusions presented in this report represent Galetech's professional judgement based on observations made during any site visit (if applicable), and the information available at the time of preparation. While Galetech has exercised reasonable skill, care, and diligence in preparing this report, no express or implied warranty, guarantee, or representation is made regarding its completeness, accuracy, or fitness for a particular purpose. Galetech is under no obligation to update this report or any of its findings or recommendations should additional information become available, or circumstances change after the report's date. All intellectual property rights, including copyright, in the content of this report are and shall remain the exclusive property of Galetech unless otherwise agreed in writing. The Client is granted a limited, non-transferable license to use this report solely for its intended purpose under the terms of the engagement with Galetech.

1.0 INTRODUCTION

Galetech Energy Services (GES), on behalf of Cush Wind Limited, has prepared this Environmental and Emergency Response Plan (EERP) which should be instigated if an emergency or environmental incident occurs either within the project site or elsewhere linked to the construction of the project.

1.1 PURPOSE OF THIS REPORT

Many construction and industrial sites have the potential to cause environmental harm which could pose threat to public health, water supplies and wildlife in the event of an environmental incident. The purpose of this report is to outline how, in the event of an emergency, effects on humans and the local environment can be limited through quick action.

This EERP forms part of the pre-commencement requirement for the works and outlines conditions of work for staff, and for every contractor or sub-contractor at the site.

This document is a live document which will be updated regularly and forms part of the Planning-Stage Construction Environmental Management Plan (CEMP) for the Cush Wind Farm. Consequently, the majority of specific details can only be provided prior to the commencement of construction activities.

It contains details of: -

- Who should be contacted in an emergency;
- Procedures to be followed in an emergency; and
- Staff responsibilities in an emergency.

1.2 ENVIRONMENTAL INCIDENT

This EERP should be implemented once there has been an emergency or environmental incident on site or elsewhere linked to the construction of the Cush Wind Farm. Incidents can be a discharge to air, land or water that could cause environmental damage. Causes of environmental incidents on site include:-

- Land Slide;
- Vandalism;
- Fire;
- Leaking plant or equipment;
- Containment Failure;
- Overfilling of containment vessels;
- Discharge of raw or partially treated effluent;
- Inadvertent return of drilling fluid during HDD works;
- Wind-blown waste, litter or dust;
- Flooding on site;
- Leaking Portaloo;
- Fuel drips or spills during refuelling;
- Leak from fuel or chemical containers;

- Failure of pumps and pipelines; and
- Contaminated water or sediment/silt entering a water course or drain.

Any of these incidents could affect drainage systems, surface waters, ecosystems, groundwater and soil. The production of toxic fumes and airborne pollutants could affect air quality which may damage human health, wild and domestic animals and ecosystems.

For each incident the response schedule will include; stop-work trigger, evacuation arrangements, responsible specialist, notification requirements and authority to restart.

1.3 REFERENCE DOCUMENTS

The production of this EERP has been supported by current legislation and will be accounted for in the further development of the appointed contractor's detailed CEMP.

Other guidance documents have been used to develop this EERP; including a Planning-Stage Construction & Environmental Management Plan, Waste Management Plan, Peat & Spoil Management Plan and Surface Water Management Plan.

2.0 REQUIREMENTS OF AN EERP

This EERP provides guidance for environmental incidents and includes:-

- Summaries of local environmental sensitivities;
- An outline of the construction works and sources to relevant existing environmental plans;
- Key mapping reference points for the site;
- Contact information for key external bodies and emergency response numbers who will assist in the event of an emergency;
- An identification of key staff and 24-hour contact details for those who will assist in the event of an emergency;
- An identification of Inventory of Pollution Prevention Equipment;
- Details of an Inventory of Chemical Products and Waste Inventory on Site;
- Details of reporting requirements;
- Details of staff who are trained in the use of spill kits and booms etc.;
- Procedures to be followed in the event of an emergency and an identification of those responsible for re-positioning and moving the plant; and
- A widely available summary sheet for operatives that outlines the key procedures in the event of an emergency.

3.0 DESCRIPTION OF THE PROJECT

Cush Wind Limited intends to construct **Cush Wind Farm Phase II**, comprising a 3 no. wind turbine extension to the permitted Cush Wind Farm Phase I. The project will consist of:-

- 3 no. wind turbines with overall tip heights within the range of 199.1 m to 200 m, rotor diameters within the range of 158 m to 175 m and hub heights within

the range of 111.6 m to 120.9 m;

- all associated turbine foundations and crane hardstanding areas;
- construction of approximately 1.7km of new internal site access tracks and upgrading of existing and permitted access tracks and access arrangements;
- use of the construction compounds permitted as part of Cush Wind Farm Phase I;
- 1 no. electrical switch room building and associated compound, including a new site entrance from the L300321 local road;
- underground electrical and communications cabling within the wind farm site;
- storage of excavated peat and spoil within designated peat and spoil deposition areas;
- site drainage, surface water management and environmental protection measures;
- reinstatement, environmental stabilisation and drainage management works, having regard to the wider rehabilitation objectives for Galros Bog;
- a c.5 km underground electricity line extending from the proposed electrical switch room to facilitate connection of the proposed wind farm to the national electricity network;
- temporary and permanent accommodation works along the turbine component haul route to facilitate the delivery of turbine components; and
- all associated and ancillary site development, excavation, construction, landscaping, reinstatement and environmental mitigation works.

The wind farm site is located in rural County Offaly, approximately 4 km north of Birr and c.28 km south-west of Tullamore. It extends across the townlands of Galros East, Whigsborough, Ballycollin, and Eglish, County Offaly.

The c.5 km underground electricity line will extend from the proposed electrical switch room, located on the southern side of the wind farm site, to the connection point at the proposed Mullanafawnia 110 kV substation. The Mullanafawnia 110 kV substation is third-party infrastructure that is subject to a separate consenting process and does not form part of the project.

The turbine component haul route and associated accommodation works extend through Counties Galway, Roscommon, Westmeath and Offaly. Turbine components will be transported from the Port of Galway through Counties Galway, Roscommon and Westmeath to the wind farm site in County Offaly.

Various environmental reports have been prepared in respect of the project and have been utilised in the preparation of this EERP, including:-

- Environmental Impact Assessment Report (Galetech Energy Services);
- Biodiversity Chapter (SLR Consulting);
- Land & Soil Chapter (Hydro Environmental Services);
- Water Chapter (Hydro Environmental Services); and
- Natura Impact Statement (SLR Consulting).

4.0 INCIDENT & HAZARD REPORTING

To ensure that all environmental incidents or hazards are accurately recorded, a reporting system has been developed. The logging of environmental incident reports will ensure that regular revisions and reviews can be made. In the event of an accident/incident, a blank environmental incident report has been provided, at **Section 8.6** of this report, that includes details of all non-compliance and corrective actions carried out as a result of any incidents.

5.0 WASTE DISPOSAL AFTER ENVIRONMENTAL INCIDENTS

In the event of a pollution incident where a spill kit etc. may be used, operatives must dispose of the used equipment by placing them into a sealed bag or container. Used equipment will then be removed from site by a licensed waste contractor to a licensed waste facility.

6.0 SITE INDUCTION & TOOLBOX TALKS

It is crucial that all contractors, sub-contractors and staff on site are fully familiar with this EERP. Toolbox talks will be regularly given to the workforce on the aspects of health and safety of this project and, during these talks, they will receive regular reminders of the importance of not only the local environment but of the necessary environmental controls that are in place on site.

7.0 SUMMARY SHEET FOR MACHINERY & PLANT OPERATORS

The following procedures are a guide when dealing with incidents. To ensure health and safety for yourself and others, this health and safety guidance should be followed at all times alongside applying common sense:-

1. Identify the source of the spillage and, where safe, stop the release by isolating the equipment, closing a valve or securing the container;
2. Stop the affected works and immediately notify the Project Manager and Environmental Manager. Keep personnel clear of the affected area. Only trained personnel will undertake spill containment, using appropriate protective equipment and where safe to do so;
3. Identify the spillage route. If spillage is in close proximity to a watercourse (drainage/ditch/river), divert spillage away from the watercourse through the use of absorbent materials from the spill kit;
4. Where sediment release or slope failure threatens a watercourse, stop the affected works and notify the Project Manager and Environmental Manager immediately. Contain runoff within the works area using the agreed drainage controls, where safe. The Environmental Manager, ECoW and geotechnical specialist, as appropriate, will direct further measures. Any proposed intervention within a natural watercourse will be assessed and agreed with the relevant authorities before implementation;
5. If there has been an oil spill in the watercourse, do the following:-
 - a. Place flexible absorbent booms across the watercourse, ahead of the contamination within a quiet stretch of water;
 - b. Place absorbent cushions in the water immediately upstream of these booms as well as downstream of the booms; and

- c. Remove and replace saturated absorbent material as required. Please ensure removed cushions are placed in sealed polythene bags/containers and disposed of by the principal waste contractor;
6. Notify all parties in the order listed overleaf. Notification should be made by one member of staff whilst remaining staff present deal with the spill;
7. Contaminated ground will be assessed by the Environmental Manager before recovery works commence. Recovery will take account of ground stability, buried services and ecological constraints. Recovered materials will be segregated, securely contained and removed by an appropriately authorised waste collector to an authorised receiving facility.; and
8. Complete required record of incident and response into reporting system.

For each incident the response schedule will include; stop-work trigger, evacuation arrangements, responsible specialist, notification requirements and authority to restart.

In the event of suspected or actual peat instability, the contingency procedures set out in Section 8.0 of the Peat & Spoil Management Plan (**Annex 3** to the CEMP, provided within EIAR Annex 3.4) will be activated. These include cessation of activities within the affected area, increased monitoring, notification of the relevant authorities and assessment of appropriate stabilisation measures.

On detection of a suspected drilling-fluid breakout, drilling will stop immediately and the HDD contractor's Frac-out Prevention and Contingency Plan will be activated. Drilling will recommence only following the review and corrective measures specified in that plan.

8.0 COMMUNICATION PLAN

A detailed Communication Plan will be provided by the Contractor, in liaison with relevant stakeholders, and will be included in the updated EERP prior to the commencement of construction. An outline Communication Plan is set out below.

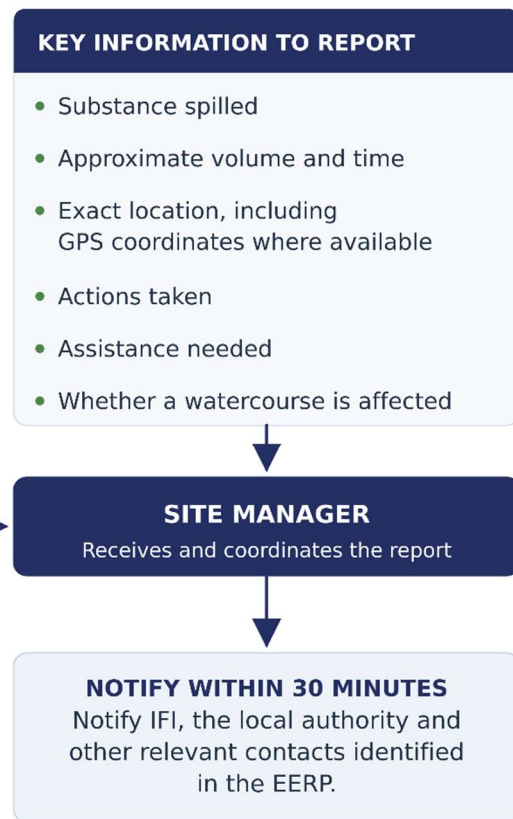
Environmental incident response

CUSH WIND FARM PHASE II / ENVIRONMENTAL & EMERGENCY RESPONSE PLAN

IMMEDIATE SITE RESPONSE



REPORTING AND NOTIFICATION



PROCEDURES AND EQUIPMENT

Response procedures and pollution prevention equipment are detailed in the Environmental and Emergency Response Plan (EERP).

8.1 ENVIRONMENTAL RESPONSE PLAN

Incident Response Plan for the Cush Wind Farm	
Based on template provided in GPP 21 – Guidance for Pollution Prevention	
Site Address: Galros East, Whigsborough, Ballycollin, and Eglish, Co. Offaly.	Coordinates:
Official Company Address: Cush Wind Limited Greaghcrota Tullyco Cootehill Co. Cavan	Map references:
Key Holders for site (Name and Contact numbers):	
Overview of the activities on site:	

Include number of employees at different times of the day:	
Daylight hours:	
Dusk to Dawn	
Weekend Dusk to Dawn:	
Bank Holidays:	
Description of surrounding area:	
Date and Version of the plan:	Name & position of person responsible for compiling/approving the plan:
Review date:	Date of next exercise:
Objectives of the plan:	
List of external organisations consulted in the preparation of this plan with contact details:	
Distribution list of who has received this plan and which version: <i>Please note that it is recommended that you review and revise this plan regularly</i>	

8.2 EXTERNAL CONTACTS

External Contacts		
Contact	Office Hours	Out of Office
Emergency Services (Fire/Police/Ambulance)	999 or 112	999 or 112
Local Garda Station	Birr: +353579169710	
Local Hospital: Midland Regional Hospital, Tullamore	057 932 1501	
Environment Section Offaly County Council Áras an Chontae, Charleville Road, Tullamore, Co. Offaly R35 F893	057 934 6800	
EPA Regional Inspectorate Seville Lodge Callan Road Kilkenny	056 779 6700	
Inland Fisheries Ireland	01 8842600	0818 34 74 24 (24hr pollution reporting)
ESB	01 8529534	1800 372 999 (24hr emergency service)
Telecommunications – Eircom/Eir	1800 475475	

8.3 INTERNAL CONTACTS

Internal Contacts		
Names and position of staff authorised and trainers to activate and co-ordinate the plan. Staff to be contacted if needed to move or evacuate the site		
Other Staff:		
Managing Director		
Project Manager		
Environmental Manager		

8.4 CHEMICAL PRODUCT & WASTE INVENTORY

Chemical Product & Waste Inventory						
Trade name/ substance	Solid/liquid/gas or powder	UN number	Max amount	Location marked on site plan	Type of Containment	Relevant health & Environmental properties

8.5 POLLUTION PREVENTION EQUIPMENT INVENTORY

Pollution Prevention Equipment Inventory (On/Off-Site Resources)			
Type	Location	Amount	Staff contact

8.6 SITE ENVIRONMENTAL INCIDENT REPORT FORM

Site:		Date:	
Time:		Weather:	
Report By:		Position:	
Cush Wind Limited personnel present:		Position:	
Contractor personnel present:		Position:	
Description of Incident:			
Item Spilled:			
Estimate of Volume of Spillage:			

List of actions followed once incident was noted	Time:	Corrective Action	
		Action:	By:
Who first observed incident?			
First action			
Next action			
Time Pollution Hotline was contacted			
Other			
Details of Clean-Up contractor or how contamination was removed from site:			
Details of how this could be avoided in future:			
Details of review of internal procedures as result of this incident:			
Date of Report Completion:			

8.7 SITE ENVIRONMENTAL AUDIT FORM

Mark Yes or No. Where a check does not apply, record N/A and the reason in the corrective action column.

Item	Questions	Yes	No	Corrective Action	
				Action:	By:
1. Miscellaneous					
1.01	Does the contractor carry out regular internal environmental audits, record recommendations and monitor corrective actions?				
1.02	Have environmental incidents been recorded and reported in accordance with the EERP?				
1.03	Does site induction cover environmental requirements and spill procedures, and are attendance records maintained?				
2. Land					
2.01	Are hardstanding areas drained in accordance with the approved drainage design, with separate controls for bunded and refuelling areas?				
2.02	Have local roads been inspected and cleaned where necessary?				
2.03	Have archaeological monitoring and other required measures been implemented in accordance with Chapter 11 and applicable permission conditions?				
2.04	Have site clearance areas been checked by the ECoW before works, in accordance with the ecological mitigation requirements?				
3. Materials and Equipment					
3.01	Are relevant personnel familiar with the IFI construction guidelines (2016), the applicable OPW guidance and the project-specific water protection measures?				
3.02	Are transformers and generators provided with the secondary containment specified in the CEMP and drainage design?				
3.03	Do bunds meet the specified containment requirements, including the 110% capacity requirement stated in Chapter 7?				

Item	Questions	Yes	No	Corrective Action	
				Action:	By:
3.04	Is refuelling undertaken in the designated area or under the approved mobile-bowser procedure, with trained personnel, drip trays and spill equipment?				
3.05	Are drainage and hydrocarbon-interception measures installed and maintained in accordance with the approved drainage design?				
3.06	Are fuel, oil and chemical storage areas located within designated areas and managed in accordance with the project constraints, bunding requirements and drainage plans?				
3.07	Are bund integrity and rainwater levels checked, with any required action recorded and contaminated water managed appropriately?				
3.08	Are contaminated bund water, oil residues and used absorbents securely contained, assessed for hazardous properties and managed through authorised waste routes, without discharge to land or water?				
3.09	Are drums and mobile plant provided with the specified drip trays or secondary containment and located in accordance with the project constraints and drainage plans?				
3.10	Is plant maintained in good condition and free from leaks, with inspection and maintenance records available?				
3.11	Are adequate spill kits readily available close to potential pollution sources, inspected and replenished after use?				
3.12	Are refuelling bowzers double-skinned, locked when not in use and maintained in good condition?				
3.13	Is the site free from unmanaged or unrecorded fuel and oil spillages?				
3.14	Are the specified wheel-cleaning facilities operational and effective?				
3.15	Where wet wheel washing is used, is it a closed system with no discharge to the water environment?				
3.16	Are source and quality records available for imported stone and aggregate, including contamination assessment and accredited laboratory results where required?				

Item	Questions	Yes	No	Corrective Action	
				Action:	By:
3.17	Is refuelling excluded from works locations within the 50m hydrological buffer, in accordance with Chapter 7?				
3.18	Is refuelling and handling of fuels, oils, lubricants and chemicals excluded within 100m of the mapped Rath GWS source protection area boundary?				
4. Noise, Dust & Light					
4.01	Are stockpiles, working areas and site roads dampened where required to control dust?				
4.02	Are vehicles carrying loose material appropriately sheeted to prevent dust and material loss?				
4.03	Are construction activities and deliveries consistent with the permitted working hours, applicable noise criteria and specified mitigation measures?				
4.04	Does construction lighting comply with the specified lighting and ecological controls and applicable permission conditions?				
5. Waste					
5.01	Is the site tidy and free from litter?				
5.02	Is the area beyond the site boundary free from waste arising from the works?				
5.03	Is waste segregated and securely stored in containers within clearly designated areas?				
5.04	Are waste collection permits, transfer records and receiving-facility authorisations available for waste leaving the site?				
5.05	Is waste sent only to facilities authorised to accept the relevant waste types?				
5.06	Are hazardous-waste movements within Ireland accompanied by the required Waste Transfer Form and consigned to an appropriately authorised receiving facility?				
5.07	Is material reused or recycled only where suitable and consistent with the project plans and applicable waste requirements?				
5.08	Are waste management practices consistent with the project Waste Management Plan?				

Item	Questions	Yes	No	Corrective Action	
				Action:	By:
5.09	Is on-site reuse or recovery of waste supported by the applicable Irish authorisation or documented legal status, where required?				
5.10	Is burning of waste prohibited, and is the site free from evidence of waste burning?				
5.11	Is the site free from unauthorised burial or disposal of waste?				
6. Water					
6.01	Are discharges managed in accordance with the approved drainage design and all required authorisations from the relevant competent authority?				
6.02	Have required consents for watercourse engineering works been obtained, including OPW consent where applicable, and are works consistent with agreed methods and IFI consultation requirements?				
6.03	Have proposed water abstractions been checked against EPA registration and licensing requirements, with any required registration or licence in place before abstraction?				
6.04	Are access-road drainage and SuDS installed in accordance with the approved design and any required agreements?				
6.05	Are clean-water diversion drains and dirty-water controls installed in accordance with the drainage design?				
6.06	Has vegetation clearance been minimised and confined to the agreed works footprint?				
6.07	Are settlement and treatment measures functioning to prevent untreated sediment-laden runoff entering receiving waters?				
6.08	Are hydrological buffers marked and maintained, with works inside them limited to the assessed activities and specified controls?				
6.09	Are plant movements and works at watercourse and drain crossings consistent with the assessed methods and any required authorisations?				

Item	Questions	Yes	No	Corrective Action	
				Action:	By:
6.10	Are stockpiles within designated areas and provided with the runoff and sediment controls specified in the Peat and Spoil Management Plan and drainage design?				
6.11	Are silt fences installed and maintained at the specified locations downslope of stockpiles and working areas?				
6.12	Are controls on site roads and within drains effective in limiting sediment runoff, including the specified flow attenuation measures?				
6.13	Are sediment-control materials inspected and maintained, with degraded materials removed before they can cause pollution?				
6.14	Are silt traps inspected and maintained regularly?				
6.15	Can permanent drainage features be accessed and maintained as required by the drainage design?				
6.16	Are receiving waters free from visible construction-related pollution, and are suspected incidents reported under the EERP?				
6.17	Is water-quality monitoring undertaken and recorded in accordance with the specified programme?				
6.18	Are dewatering operations controlled to prevent untreated sediment-laden water entering receiving waters?				
6.19	Is on-site batching of wet-cement products prohibited, and are concrete delivery, placement and washout managed in accordance with the specified mitigation?				
6.20	Are the specified pollution-prevention measures in place during concrete pours?				
7. Landscape					
7.01	Are earthworks and reinstatement undertaken in accordance with the agreed design to support vegetation re-establishment?				
7.02	Are reinstatement and restoration works implemented within the agreed programme?				

Item	Questions	Yes	No	Corrective Action	
				Action:	By:
8. Ecology					
8.01	Are storage areas confined to the agreed works footprint and designated locations, avoiding sensitive habitats in accordance with the ecological mitigation?				
8.02	Have ecological exclusion zones and protective buffers identified in Chapter 5, the NIS and pre-construction surveys been marked and maintained under the direction of the ECoW?				
8.03	Have ecology and environmental responsibility toolbox talks been delivered, with attendance records maintained?				
9. Documentation Check					
9.01	Start-up meeting record				
9.02	Current CEMP and full emergency contact list				
9.03	Induction records				
9.04	Pollution Prevention Measures Register				
9.05	Geotechnical Risk Register				
9.06	Weekly meeting minutes				
9.07	Environmental checks and routine mitigation-monitoring records				
9.08	Water-quality monitoring results				
9.09	Safety and Environmental Awareness Reports (SEARs), filed in the site records				
9.10	Safety and Environmental Audit Reports (record the date of the latest audit in the corrective action column)				
9.11	Contractor environmental plans and Construction Method Statements				



GALETECH
ENERGY SERVICES



ANNEX 2 – WASTE MANAGEMENT PLAN





Cush Wind Farm
Phase II

Planning-Stage Construction Environmental Management Plan

Annex 2: Waste Management Plan

Cush Wind Limited

Contents

1.0	Introduction.....	1
1.1	Purpose of this Report	1
1.2	Scope & Requirements	2
1.3	Waste Policies & Legislation.....	2
1.4	Reference Documents.....	4
2.0	Requirements of a WMP	4
2.1	Planning.....	5
2.2	Implementation	5
2.3	Roles & Responsibilities	5
2.4	Monitoring	6
2.5	Review	7
3.0	General Waste Management Principles.....	7
4.0	Typical Waste Streams	9
4.1	Waste Inventory	9
4.2	Management of Waste	11

DOCUMENT CONTROL

Stage	Date	Name
Content	19/10/2026	Declan Owens
Approval	19/10/2026	Gavin Daly

RECORD OF CHANGES

Revision	Issue Date	Summary of Changes	Approved
00	19/10/2026	Content	Declan Owens
01			
02			

DISTRIBUTION LIST

#	Purpose	Company	Name (Optional)
1	Review	Cush Wind Limited	James Carville
2			
3			
Notes:			

© Copyright Galetech Energy Services Ltd. This report has been prepared by Galetech Energy Services Ltd. ("Galetech") for the sole use and benefit of the named recipient (the "Client"). Unless expressly agreed otherwise in writing by Galetech, no other person or entity is entitled to use the contents of this report. Galetech expressly disclaims all liability to any third party who may access or rely on this report, whether in whole or in part, and whether such access or reliance is authorised or unauthorised. No liability is accepted by Galetech for any use of this report other than for the specific purpose for which it was prepared. This report has been prepared by Galetech in accordance with the specific instructions, requirements, scope and limitations set forth in our agreement with the Client, as well as the project's timeframes, budgetary constraints, and in line with customary industry standards. The approach, methodology, assumptions, limitations and sources of information used by Galetech are outlined in this report (as appropriate). The scope of Galetech's services is strictly limited to the conditions described herein. Where conclusions and recommendations are based on information provided by third parties, including the Client or its agents, Galetech accepts no responsibility for the accuracy, validity, or completeness of such information. It is assumed that all relevant data and documentation requested have been provided in full, are accurate, and reflect the current situation. No independent verification of this information has been undertaken by Galetech unless explicitly stated otherwise. The conclusions presented in this report represent Galetech's professional judgement based on observations made during any site visit (if applicable), and the information available at the time of preparation. While Galetech has exercised reasonable skill, care, and diligence in preparing this report, no express or implied warranty, guarantee, or representation is made regarding its completeness, accuracy, or fitness for a particular purpose. Galetech is under no obligation to update this report or any of its findings or recommendations should additional information become available, or circumstances change after the report's date. All intellectual property rights, including copyright, in the content of this report are and shall remain the exclusive property of Galetech unless otherwise agreed in writing. The Client is granted a limited, non-transferable license to use this report solely for its intended purpose under the terms of the engagement with Galetech.

1.0 INTRODUCTION

Galetech Energy Services (GES), on behalf of Cush Wind Limited, has prepared this Waste Management Plan (WMP) to detail the measures to be implemented for the control, management and monitoring of waste associated with the Cush Wind Farm – Phase II.

Cush Wind Limited intends to construct Cush Wind Farm Phase II, comprising a 3 no. wind turbine extension to the permitted Cush Wind Farm Phase I. The proposed project, as defined and assessed in the EIAR, will consist of:-

- 3 no. wind turbines with overall tip heights within the range of 199.1 m to 200 m, rotor diameters within the range of 158 m to 175 m and hub heights within the range of 111.6 m to 120.9 m;
- all associated turbine foundations and crane hardstanding areas;
- construction of approximately 1.7km of new internal site access tracks and upgrading of existing and permitted access tracks and access arrangements;
- use of the construction compounds permitted as part of Cush Wind Farm Phase I;
- 1 no. electrical switch room building and associated compound, including a new site entrance from the L300321 local road;
- underground electrical and communications cabling within the wind farm site;
- storage of excavated peat and spoil within designated peat and spoil deposition areas;
- site drainage, surface water management and environmental protection measures;
- reinstatement, environmental stabilisation and drainage management works, having regard to the wider rehabilitation objectives for Galros Bog;
- a c.5 km underground electricity line extending from the proposed electrical switch room to facilitate connection of the proposed wind farm to the national electricity network;
- temporary and permanent accommodation works along the turbine component haul route to facilitate the delivery of turbine components; and
- all associated and ancillary site development, excavation, construction, landscaping, reinstatement and environmental mitigation works.

1.1 PURPOSE OF THIS REPORT

The principal purpose of this WMP is to ensure efficient use of material resources, reduce waste at source and reduce the quantity of waste that requires final off-site disposal to landfill in accordance with the waste hierarchy. A secondary aim is to facilitate the transition to a more circular economy thereby minimising the need for new inputs of virgin materials and energy, while reducing environmental pressures linked to resource extraction, emissions, and waste management.

This WMP should be viewed as a live document and will be regularly reviewed and revised as necessary throughout the pre-construction and construction phases so that opportunities to maximise waste reduction are exploited.

The WMP shall be implemented throughout the construction phase of the project to

ensure that: -

- All site activities are effectively managed to minimise the generation of waste and to maximise the opportunities for on-site reuse and recycling of waste materials;
- All waste materials are segregated into different waste fractions and stored on-site in a managed and dedicated waste storage area; and,
- Waste requiring off-site management will be collected by appropriately permitted waste collectors and transferred to facilities authorised to accept the relevant waste types and undertake the proposed recovery or disposal operations.

1.2 SCOPE & REQUIREMENTS

This WMP forms part of the pre-commencement requirement for the works and outlines conditions of work for staff, and for every Contractor or sub-contractor at the site. The Contractor will continually oversee changes to this document and will work alongside the Environmental Manager (EM) prior to any work commencing.

This document is a live document which will be updated regularly and forms part of the Planning-Stage Construction Environmental Management Plan (CEMP) for the Cush Wind Farm. Consequently, the majority of specific details can only be provided prior to the commencement of construction activities.

1.3 WASTE POLICIES & LEGISLATION

The following legislation and guidance is relevant to the preparation and continued development of this WMP: -

- *Waste Framework Directive 2008/98/EC (as amended);*
- *Landfill Directive 1999/31/EC (as amended);*
- *Waste Management Act 1996 (as amended);*
- *Waste Management (Facility Permit And Registration) (Amendment) Regulations 2019;*
- *Waste Management (Collection Permit) (Amendment) Regulations 2023 (S.I. No 63 of 2023);*
- *Litter Pollution Act 1997 (No. 12 of 1997) (as amended);*
- *European Communities (Waste Directive) (Amendment) Regulations 2020;*
- *EU Construction and Demolition Waste Management Protocol (European Commission) (2024 updated edition);*
- *Local Government Ireland National Waste Management Plan for a Circular Economy 2024-2030;*
- *By-Product Guidance Note, A Guide to by-products and submitting a by-product notification under Article 27 of the European Communities (Waste Directive) Regulations 2011 (S.I. No. 126 of 2011) (EPA, 2020);*
- *Circular Economy Action Plan, For a Cleaner and More Competitive Europe (European Commission 2020);*

- *Best Practice Guidelines for the Preparation of Resource & Waste Management Plans for Construction and Demolition Projects* (EPA 2021);
- *The Circular Economy Programme 2021-2027*;
- *Whole of Government Circular Economy Strategy 2026–2028: Accelerating Action*;
- *National Hazardous Waste Management Plan 2021–2027* (EPA 2021);
- *Guidance Document for the Local Authority Sector: Management of Materials Arising from Roadworks* (CCMA 2020);
- *Guidance on the Interpretation of Key Provisions of Directive 2008/98/EC on Waste* (European Commission, 2018);
- *The Management of Waste from National Road Construction Projects* (TII, December 2017); and,
- *Guidelines for the Waste Audits Before Demolition & Renovation Works of Buildings* (European Commission, May 2018).

The Waste Management Priority Hierarchy, which the developer is obligated to apply in the management of waste, is as follows: -

Waste management hierarchy

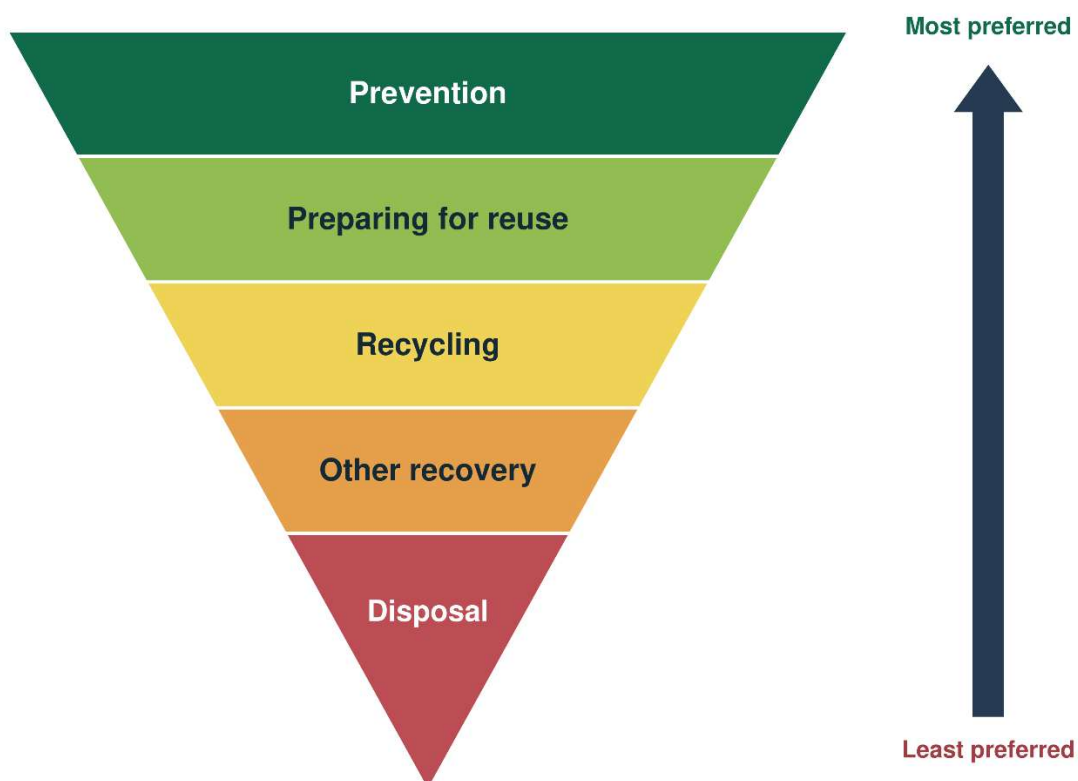


Figure 1: Waste Management Hierarchy

The waste management hierarchy shown above applies to all waste, including hazardous waste. The diagram conveys that above all; the prevention of waste production is the top priority.

The PCB/PCT Directive (Directive 96/59/EC on the disposal of polychlorinated biphenyls and polychlorinated terphenyls) deals with the disposal of certain hazardous chemicals that represent a particular threat to the environment and to human health.

The transport of dangerous goods to and from the site, including hazardous waste classified as dangerous goods for transport, will comply with the European Communities (Carriage of Dangerous Goods by Road and Use of Transportable Pressure Equipment) Regulations 2011 (S.I. No. 349 of 2011), as amended, and the applicable requirements of the Agreement concerning the International Carriage of Dangerous Goods by Road (ADR).

The Contractor, in accordance with the abovementioned Directives, is legally required to: -

- Prevent waste disposal constituting a public nuisance through excessive noise levels or unpleasant odours, or to degrade places of special natural interest;
- Prohibit the dumping or uncontrolled disposal of waste;
- Ensure that the disposal and recovery of waste does not present a risk to water, air, soil, plants and animals;
- Ensure that waste treatment operations are licensed;
- Prepare a Waste Management Plan;
- Require waste collectors to have special authorisation and to keep records; and,
- Ensure that the waste which cannot be prevented or recovered is disposed of without causing environmental pollution.

Waste will be transported by appropriately authorised collectors to facilities authorised for the relevant waste types and management operations. Any on-site waste treatment or recovery will proceed only under the applicable authorisation or documented lawful status.

1.4 REFERENCE DOCUMENTS

The production of this WMP has been supported by best practice manuals, including the *Best Practice Guidelines for the Preparation of Resource and Waste Management Plans for Construction and Demolition Projects* (Environmental Protection Agency, 2021).

Other guidance documents have been used to develop this WMP; including a Planning-Stage Construction & Environmental Management Plan, Peat & Spoil Management Plan, Surface Water Management Plan, and Environmental & Emergency Response Plan.

2.0 REQUIREMENTS OF A WMP

There are four stages to be followed in the management of waste:-

- Planning;
- Implementation;

- Monitor; and,
- Review.

2.1 PLANNING

During the planning/design/development stages of the Cush Wind Farm, the nature of the site has been accounted for as well as the environmental considerations and the design of the project. Insightful planning at the early stages will help minimise the quantity of waste produced.

In accordance with the waste hierarchy, the following targets have been established for the management of excavated materials and construction waste:

- 100% of excavated topsoil to be retained on site for restoration and landscaping;
- More than 95% of excavated peat, soil and subsoil to be retained on site through reinstatement, landscaping or placement within the designated deposition areas identified in the Peat & Spoil Management Plan;
- 100% of packaging materials, metals, timber, plastics, paper and cardboard waste to be sent for recycling or recovery;
- More than 95% of overall waste generated during construction to be sent for recycling or recovery; and
- Less than 5% of overall waste generated during construction to be sent for disposal.

Waste recycling, recovery and disposal targets will be assessed by mass. Excavated materials established as non-waste or by-products will be accounted for separately and excluded from the waste totals.

2.2 IMPLEMENTATION

The detailed WMP, to be prepared prior to construction, will implement the management of the following: -

- A brief of waste types expected to be produced;
- Estimates of quantum of each type of waste expected to be produced;
- An explanation of how the Contractor aims to minimise the different waste types produced prior to any activity that generates this waste; and
- Procedures for identification of the waste management actions proposed for each different waste type, including re-using, recycling, recovery and disposal (as per the waste hierarchy priorities).

All workers will be fully briefed of waste management procedures and aware of their requirements under the WMP. All site visitors will be briefed on appropriate waste storage and disposal units. Littering will not be tolerated, and all personnel will have a duty to challenge those who do not comply with WMP procedures.

2.3 ROLES & RESPONSIBILITIES

Person Responsible	Responsibilities	Contact Details
Developer	<ul style="list-style-type: none"> • To commission a competent Contractor to carry out works and to update WMP; 	

Person Responsible	Responsibilities	Contact Details
	<ul style="list-style-type: none"> To ensure that WMP is submitted and agreed on by the local authority prior to construction; and To commission Contractor to produce end-of-project WMP. 	
Contractor	<ul style="list-style-type: none"> To update, implement and review the WMP throughout the construction phase; To assign relevant duties and responsibilities to the appropriate person; To hire a responsible Project Manager who will implement the WMP; To identify all hauliers engaged to transport each of the resources/wastes off-site; To identify suitable licensed waste facility site for each type of waste; To maintain the records of all waste resources for the duration of the development; and, To prepare an end-of-construction WMP Review Report. 	
Project Manager	<ul style="list-style-type: none"> To maintain and update WMP through the planning and procurement phases of the project; To update record of details and estimated quantities of all projected waste streams; To deliver all training and induction in relation to resource management; To conduct waste checks: - <ul style="list-style-type: none"> To conduct internal audits routinely including as per the requirement of the site; To ensure site infrastructure is supplied and maintained as fit for purpose; To maintain and update the waste register; and, To be available as required for any Local Authority or other audits undertaken 	

2.4 MONITORING

2.4.1 Checks and Records

All stores on site of oil, fuel and chemicals should be visually inspected on a regular basis, especially during extreme weather conditions. Visual inspections will reveal evidence of leaks, spills or contamination.

Records of all visual checks must be maintained and be made available upon request for inspection. The topic of waste management will be regularly discussed during team meetings and, as required, waste management practices should be continually revised.

2.4.2 Waste Inventory

The Contractor will maintain an up-to-date waste inventory, based on the anticipated streams identified in **Section 4.1**, recording the types and quantities of waste generated and their management routes. Records will cover all off-site movements for recycling, recovery or disposal and identify the collection date, LoW code, quantity, permitted waste collector, authorised receiving facility and proposed management operation. Collector and facility details will correspond with the register in **Section 4.2**, and supporting collection receipts, weighbridge records and acceptance documentation will be retained. Excavated materials established as

non-waste or by-products will be recorded separately from the waste inventory.

2.4.3 Monitoring of WMP

The Contractor will appoint the EM to implement and monitor the WMP. The WMP should include an inventory of the types of estimates of the waste to be produced on site. The aim will be to keep the volumes of waste produced below the estimates of waste to be produced. The EM will ensure that a waste audit is carried out every 6-months.

2.5 REVIEW

Upon completion of the construction phase, a waste management review will be undertaken. The aim will be to measure compliance with the WMP objectives and to consider lessons learnt. The review will be carried out by the EM in conjunction with the Contractor.

3.0 GENERAL WASTE MANAGEMENT PRINCIPLES

- All personnel will be informed of the objectives of this WMP and their responsibilities through site induction and appropriate toolbox talks.
- Waste generation will be minimised through material selection, accurate ordering, appropriate storage and handling, and return of surplus materials and reusable packaging to suppliers where practicable. Reuse, recycling and recovery will be prioritised over disposal in accordance with the waste hierarchy.
- Excavated peat, topsoil, subsoil and stone will be managed in accordance with CEMP **Annex 3: Peat & Spoil Management Plan**. Materials used for reinstatement and landscaping will be recorded separately from material placed permanently within deposition areas. Non-waste or by-product status will not be assumed solely because material is uncontaminated or retained on site.
- Designated waste-storage areas will be provided within the construction compounds. Suitable collection arrangements will also be maintained at underground electricity line and haul-route work locations. Storage areas will be clearly identified, accessible for collection and protected against unauthorised access.
- General waste receptacles will not be located within 10m of a surface water feature. Hydrocarbons and hazardous waste chemicals will not be stored within 50m of a watercourse or drainage ditch. Any stricter location-specific restrictions specified in **Chapter 7** or the Surface Water Management Plan will also apply.
- Along the underground electricity line, no refuelling or handling of fuels, oils, lubricants or chemicals will take place within 100m of the mapped Rath Group Water Scheme source-protection area boundary.
- Waste receptacles will be suitable for their contents, maintained in good condition and securely closed or covered as appropriate to prevent litter, rainfall ingress, leakage and access by animals. Containers will be clearly labelled and collected before their capacity is exceeded.
- Paper, cardboard, metals, glass, timber, plastics, food waste and other recoverable materials will be segregated into appropriate streams.

Hazardous waste will be kept separate from non-hazardous waste, and incompatible materials will not be mixed.

- Waste will be classified according to its source, composition and hazardous properties using the appropriate List of Waste code. The inventory in **Section 4.1** will be updated to reflect the actual materials generated.
- Hazardous waste will be handled by appropriately trained personnel and stored in sealed, labelled containers compatible with their contents. Liquid hazardous waste will be provided with suitable secondary containment.
- Liquid waste oil will be stored in sealed, compatible tanks or drums within suitable secondary containment. Liquid waste oil will not be stored in bags.
- Oil-contaminated rags, absorbents and used spill-kit materials will be stored in suitable sealed containers with secondary containment where necessary to prevent the escape of residual oil.
- Food waste will be collected separately in closed containers and removed regularly for authorised biological treatment or recovery, as appropriate.
- Foul waste from welfare facilities will be retained in sealed collection tanks and removed by an appropriately authorised operator to an authorised receiving facility. It will not be discharged to ground, drains or watercourses.
- Waste electrical and electronic equipment and waste batteries will be segregated from general waste, protected against damage and stored securely pending timely collection through an appropriate authorised collection or take-back arrangement.
- Waste will be removed only by appropriately permitted waste collectors and transferred to facilities authorised to accept the relevant waste types and undertake the proposed recovery or disposal operations. The Contractor will verify the relevant authorisations before the first transfer and maintain current records.
- Waste will not be transferred to a contractor's yard or another intermediate location unless the transport, receipt and storage arrangements are lawfully authorised for the relevant waste.
- Hazardous-waste movements within the State will be accompanied by the applicable completed and signed Waste Transfer Form. Waste classified as dangerous goods for transport will also comply with applicable ADR requirements. Waste will not leave the site without the required documentation.
- A waste register will record the waste description, LoW code, quantity, source, collection date, collector and collection-permit details, receiving facility and authorisation details, and intended recovery or disposal operation. Collection receipts, weighbridge records and receiving-facility acceptance records will be retained.
- Waste-storage areas and containers will be inspected at least weekly, with additional inspections following severe weather or any event that could compromise containment. The Waste Checklist provided below will be completed for each inspection. Any defects or required corrective actions will be recorded and addressed promptly, with completed checklists retained in the site environmental records.

- Spills, leaks, uncontrolled waste releases and other waste-related environmental incidents will be reported immediately and managed in accordance with CEMP Annex 1: Environmental & Emergency Response Plan.
- Waste will not be burned, buried, fly-tipped or otherwise deposited or treated without the applicable authorisation or established lawful status.

Waste Checklist		
Waste area checked	Date Checked	Checked By
General office waste		
Bowser		
Portaloo		
Excavated soil		
Washings		
Concrete		
Oil		
Hazardous Waste		

4.0 TYPICAL WASTE STREAMS

4.1 WASTE INVENTORY

The typical waste arising during the construction of the project is provided below. This inventory will be further expanded upon by the Contractor prior to the commencement of construction.

Waste / Material Item	EWK / LoW*	Proposed Management Route
Excavated materials and reinstatement resources		
Excavated peat	17 05 04 (if waste)	Manage in accordance with CEMP Annex 3: Peat & Spoil Management Plan, including use for reinstatement/landscaping and placement of surplus material in designated deposition areas. Record permanent deposition separately from beneficial reuse.
Excavated topsoil and subsoil	17 05 04 (if waste)	Store separately and prioritise suitable material for reinstatement and landscaping in accordance with CEMP Annex 3: Peat & Spoil Management Plan. Manage surplus material through the deposition arrangements identified in that plan.
Excavated natural stone	17 05 04 (if waste)	Use suitable material in access-track and hardstanding construction, subject to engineering suitability and the applicable non-waste status or waste-management authorisation.
Vegetation and green waste	20 02 01 (as applicable)	Keep separate from mineral material and concrete. Retain suitable vegetated sods for reinstatement where specified in the Peat & Spoil Management Plan. Transfer surplus green waste to an authorised biological-treatment or recovery facility.
Clean, hardened concrete	17 01 01	Segregate for authorised collection and transfer to a concrete-recovery facility. Any on-site processing or recovery will require the applicable authorisation or established lawful status.

Waste / Material Item	EWC / LoW*	Proposed Management Route
Reuse and recycling		
Wood pallets	15 01 03, if discarded as waste	Return serviceable pallets to the supplier for reuse. Segregate damaged waste pallets for authorised wood recovery.
Aluminium cans	15 01 04	Segregate for authorised metal-packaging recycling.
Cardboard packaging	15 01 01	Keep clean and dry; segregate for authorised recycling.
Plastic cups	20 01 39	Segregate for authorised plastics recycling where accepted by the receiving facility.
Construction metals	17 04 05 (iron/steel); 17 04 07 (mixed metals)	Segregate by metal type where practicable and transfer for authorised recycling. Use the appropriate 17 04 entry for other separately collected metals.
Glass bottles and containers	15 01 07	Segregate glass packaging for authorised recycling.
Mixed packaging	15 01 06	Separate into recyclable fractions where practicable; transfer remaining mixed packaging for authorised sorting and recovery.
Paper, other than packaging	20 01 01	Keep clean and dry; segregate for authorised recycling.
Plastic packaging	15 01 02	Segregate clean plastic packaging for authorised recycling.
Plastic bottles and containers	15 01 02	Segregate non-contaminated plastic packaging for authorised recycling. Manage containers with hazardous residues separately.
Polystyrene packaging	15 01 02	Segregate clean material for authorised recycling or recovery where accepted by the receiving facility.
Wood/timber packaging, including crates	15 01 03	Prioritise return or reuse where suitable; segregate waste packaging for authorised wood recovery.
Clean metal drums and containers	15 01 04	Segregate empty, non-contaminated metal packaging for authorised recycling.
Food waste, residual waste and foul waste		
Food waste	20 01 08	Collect separately in suitable closed containers and transfer to an authorised biological-treatment or recovery facility.
Residual general waste	20 03 01	Collect separately from recyclable and hazardous streams. Transfer for authorised treatment, with recovery prioritised and disposal used for unsuitable residual fractions.
Foul waste from welfare facilities	20 03 04 (as applicable)	Collect in sealed welfare-system tanks. Arrange specialist collection and transfer to an authorised receiving facility. Confirm the code against the actual portable-toilet or sewage/sludge stream before removal.
Hazardous and specialist waste streams		
Aerosol cans	16 05 04*; 16 05 05 for non-hazardous contents	Segregate in suitable secure containers; do not puncture or compact. Arrange specialist authorised collection and treatment according to contents and pressure hazards.
Waste diesel / fuel oil	13 07 01*	Store in sealed compatible containers with suitable secondary containment. Arrange specialist authorised collection for recovery or other appropriate treatment.

Waste / Material Item	EWG / LoW*	Proposed Management Route
Waste hydrocarbon grease	13 08 99* (as applicable)	Segregate in sealed, labelled compatible containers and arrange specialist authorised collection and treatment. Confirm the applicable code for the actual grease stream.
Oily water from oil/water separators	13 05 07*	Collect separately in compatible contained storage; arrange specialist authorised collection and treatment. Classify other bund/sump liquids according to their actual source and composition.
PCB-contaminated insulating oil, only if encountered	13 03 01*	Isolate in sealed, labelled containers with suitable secondary containment and arrange specialist authorised hazardous-waste treatment. This is a contingency stream, not an anticipated product for the new development.
Synthetic engine, gear and lubricating oils	13 02 06*	Store separately in sealed compatible tanks or drums within suitable secondary containment; arrange specialist authorised oil recovery or treatment.
Synthetic hydraulic oils	13 01 11*	Store in sealed compatible tanks or drums within suitable secondary containment; arrange specialist authorised oil recovery or treatment.
Synthetic insulating / heat-transmission oils	13 03 08*	Store separately in sealed compatible tanks or drums within suitable secondary containment; arrange specialist authorised recovery or treatment.
Other engine, gear and lubricating oils	13 02 08*	Store in sealed compatible tanks or drums within suitable secondary containment; arrange specialist authorised oil recovery or treatment. Classify other oil functions under their corresponding LoW entries.
Packaging contaminated with hazardous residues, including oil drums	15 01 10*	Store separately from clean packaging in a secure designated area and arrange specialist authorised recovery or treatment.
Oil-contaminated absorbents, spill-kit materials and rags	15 02 02*	Store in sealed, labelled compatible containers with suitable secondary containment and arrange specialist authorised recovery or treatment.

* **Classification and status.** LoW codes apply only to materials classified as waste. Codes shown are conditional on the actual source, composition and hazardous properties; an asterisk (*) identifies a hazardous entry. The inventory will be updated before construction to reflect the confirmed waste streams and receiving-facility acceptance requirements.

Excavated natural material. Uncontaminated excavated natural material will be treated as non-waste under the same-site exclusion only where its use for construction in its natural state on the site of excavation is certain and the applicable statutory conditions are met. Permanent deposition does not automatically establish non-waste status or waste recovery. Any proposed by-product classification will be assessed separately; peat will not be assumed to qualify under the EPA soil-and-stone by-product criteria.

Collection and destinations. Off-site waste movements will use appropriately permitted collectors and facilities authorised for the relevant waste codes and management operations. Applicable hazardous-waste transfer and dangerous-goods documentation will accompany each movement.

4.2 MANAGEMENT OF WASTE

All waste will be segregated and securely stored at the temporary construction compound, in skips and receptacles, which will be covered to protect the contents from the weather. A licensed operator will collect and transfer the skips/receptacles of both recyclable and non-recyclable wastes as they are filled. No waste will be transferred to a contractor's yard or other intermediate location unless its receipt and storage, and the associated transport arrangements, are lawfully authorised for the relevant waste.

The appointed waste collectors and receiving facilities will be identified in the register below before waste is removed from site. The Contractor will verify that each

collector's collection permit covers the relevant waste types and that each receiving facility is authorised to accept those wastes and undertake the proposed management operation. Copies of the relevant authorisations will be retained in the site environmental records.

A separate record will be completed for each collector and receiving-facility combination.

Register Field	Details
Waste collector's name	
Waste collection permit number	
Relevant LoW codes covered by the collection permit	
Receiving facility's name	
Receiving facility's address	
Facility authorisation type and number — EPA licence, waste facility permit or certificate of registration, as applicable	
Relevant LoW codes accepted under the facility authorisation	
Proposed management operation — recycling, other recovery or disposal; include the applicable R/D code	



GALETECH
ENERGY SERVICES



ANNEX 3 – PEAT & SPOIL MANAGEMENT PLAN





Cush Wind Farm
Phase II

Planning-Stage Construction Environmental Management Plan

Annex 3: Peat & Spoil Management Plan

Cush Wind Limited

Contents

1.0	Introduction.....	1
1.1	Purpose of this Report	1
1.2	Aims of this PSMP	1
1.3	Reference Documents.....	2
1.4	Peat Instability Definition	2
2.0	Description of the Project.....	2
3.0	Description of Baseline Environment.....	3
3.1	Site Location	3
3.2	Topography.....	4
3.3	Geological Environment	4
3.4	Hydrological Environment.....	4
4.0	General Peat & Spoil Management Proposals	4
5.0	Estimated Excavation Quantities.....	6
5.1	Wind Farm Site	6
5.2	Switch Room & Underground Electricity Line	7
6.0	Use of Excavated Material.....	7
6.1	Reinstatement of Infrastructure	7
6.2	Landscaping & Permanent Storage	7
6.3	Permanent Storage of Peat.....	8
6.4	Disposal Off-Site	9
7.0	General Recommendations for Good Construction Practice	9
8.0	Contingency Measures.....	9
8.1	Excessive Movement/Monitoring Response.....	9
8.2	Onset of Peat Slide	10
8.3	Check Barrages	10
9.0	Conclusion	11

DOCUMENT CONTROL

Stage	Date	Name
Content	19/10/2026	Declan Owens
Approval	19/10/2026	Gavin Daly

RECORD OF CHANGES

Revision	Issue Date	Summary of Changes	Approved
00	19/10/2026	Content	Declan Owens
01			
02			

DISTRIBUTION LIST

#	Purpose	Company	Name (Optional)
1	Review	Cush Wind Limited	James Carville
2			
3			
Notes:			

© Copyright Galetech Energy Services Ltd. This report has been prepared by Galetech Energy Services Ltd. ("Galetech") for the sole use and benefit of the named recipient (the "Client"). Unless expressly agreed otherwise in writing by Galetech, no other person or entity is entitled to use the contents of this report. Galetech expressly disclaims all liability to any third party who may access or rely on this report, whether in whole or in part, and whether such access or reliance is authorised or unauthorised. No liability is accepted by Galetech for any use of this report other than for the specific purpose for which it was prepared. This report has been prepared by Galetech in accordance with the specific instructions, requirements, scope and limitations set forth in our agreement with the Client, as well as the project's timeframes, budgetary constraints, and in line with customary industry standards. The approach, methodology, assumptions, limitations and sources of information used by Galetech are outlined in this report (as appropriate). The scope of Galetech's services is strictly limited to the conditions described herein. Where conclusions and recommendations are based on information provided by third parties, including the Client or its agents, Galetech accepts no responsibility for the accuracy, validity, or completeness of such information. It is assumed that all relevant data and documentation requested have been provided in full, are accurate, and reflect the current situation. No independent verification of this information has been undertaken by Galetech unless explicitly stated otherwise. The conclusions presented in this report represent Galetech's professional judgement based on observations made during any site visit (if applicable), and the information available at the time of preparation. While Galetech has exercised reasonable skill, care, and diligence in preparing this report, no express or implied warranty, guarantee, or representation is made regarding its completeness, accuracy, or fitness for a particular purpose. Galetech is under no obligation to update this report or any of its findings or recommendations should additional information become available, or circumstances change after the report's date. All intellectual property rights, including copyright, in the content of this report are and shall remain the exclusive property of Galetech unless otherwise agreed in writing. The Client is granted a limited, non-transferable license to use this report solely for its intended purpose under the terms of the engagement with Galetech.

1.0 INTRODUCTION

Galetech Energy Services (GES), on behalf of Cush Wind Limited, has prepared this Peat & Spoil Management Plan (PSMP) to detail the appropriate management of excavated material arising from the construction of the proposed Cush Wind Farm Phase II.

1.1 PURPOSE OF THIS REPORT

This PSMP provides the framework for the management of peat and spoil at the site of the Cush Wind Farm Phase II for contractors and incorporates the measures set out in the various environmental assessment documents associated with the proposed development/project. The purpose of this report is to ensure that peat and spoil is managed safely and re-used without resulting in any adverse environmental effects, and to ensure that all spoil handling/management activities are carried out in accordance with best practice methods.

This is a live document and will be updated by the appointed contractor prior to the commencement of development. Prior to the commencement of construction, the updated PSMP will be reviewed by the Environmental Manager (EM) to confirm the appropriateness of the measures set out therein.

1.2 AIMS OF THIS PSMP

The overall objective of this PSMP is to provide for the appropriate management of excavated material arising from the construction of Cush Wind Farm Phase II. In doing so, the re-use of excavated material, locally to its excavation, will be maximised through reinstatement and landscaping proposals.

The reinstatement of excavated materials will occur as close to the site of excavation as possible. Excavated material horizons (topsoil, peat, subsoil, etc.) will be stored separately to ensure appropriate re-use; and will be replaced in sequence and to depths similar to those recorded prior to excavation.

Excavated material may also be used in the landscaping of the site; for example, the creation of berms around crane hardstandings or along access tracks to reduce the visual effects of the infrastructure. Again, material will be placed close to its source and will be placed in a fashion which allows for vegetative re-growth thus allowing for spoil to be assimilated into the local environment.

Notwithstanding the fact that the project site area is generally flat, with little in the way of discernible variation in elevation throughout, this PSMP also includes a series of control measures specifically related to peat, including monitoring measures, which will be implemented during the construction phase of the wind farm and a contingency plan should peat instability/failure occur at the site. As work is carried out on site the contents of the PSMP and its peat stability monitoring programme will be updated, as appropriate.

A detailed engineering construction design must be carried out by the appointed construction stage designer prior to any construction work commencing on site. This must take account of the consented project details and any conditions imposed by that consent. This must include a detailed peat stability assessment to account for any changes in the environment which may have occurred in the time leading up to the commencement of construction and a peat and spoil management plan to allow for the most appropriate geotechnical and environmental led solutions to be developed for the management of peat and spoil.

1.3 REFERENCE DOCUMENTS

The production of this PSMP has been supported by best practice manuals and will be accounted for in the further development of the appointed contractor's detailed CEMP.

Other documents have been used to develop this PSMP; including a Planning-Stage CEMP, Surface Water Management Plan, Environmental & Emergency Response Plan, and a Geotechnical Peat Stability Report.

1.4 PEAT INSTABILITY DEFINITION

Peat instability in this PSMP is defined as a mass movement of a body of peat that would have a significant adverse impact on the surrounding environment. Peat instability excludes localised movement of peat that would occur below a floating access track, creep movement or localised erosion type events. Adherence to the control measures included in this PSMP should reasonably minimise the potential for all such peat movements.

2.0 DESCRIPTION OF THE PROJECT

Cush Wind Limited intends to construct Cush Wind Farm Phase II, comprising a 3 no. wind turbine extension to the permitted Cush Wind Farm Phase I. The proposed project, as defined and assessed in the EIAR, will consist of:-

- 3 no. wind turbines with overall tip heights within the range of 199.1 m to 200 m, rotor diameters within the range of 158 m to 175 m and hub heights within the range of 111.6 m to 120.9 m;
- all associated turbine foundations and crane hardstanding areas;
- construction of approximately 1.7km of new internal site access tracks and upgrading of existing and permitted access tracks and access arrangements;
- use of the construction compounds permitted as part of Cush Wind Farm Phase I;
- 1 no. electrical switch room building and associated compound, including a new site entrance from the L300321 local road;
- underground electrical and communications cabling within the wind farm site;
- storage of excavated peat and spoil within designated peat and spoil deposition areas;
- site drainage, surface water management and environmental protection measures;
- reinstatement, environmental stabilisation and drainage management works, having regard to the wider rehabilitation objectives for Galros Bog;
- a c.5 km underground electricity line extending from the proposed electrical switch room to facilitate connection of the proposed wind farm to the national electricity network;
- temporary and permanent accommodation works along the turbine component haul route to facilitate the delivery of turbine components; and
- all associated and ancillary site development, excavation, construction, landscaping, reinstatement and environmental mitigation works.

The wind farm site is located in rural County Offaly, approximately 4 km north of Birr and c.28 km south-west of Tullamore. It extends across the townlands of Galros East, Whigsborough, Ballycollin, and Eglis, County Offaly.

The c.5 km underground electricity line will extend from the proposed electrical switch room, located on the southern side of the wind farm site, to the connection point at the proposed Mullanafawnia 110 kV substation. The Mullanafawnia 110 kV substation is third-party infrastructure that is subject to a separate consenting process and does not form part of the project.

The turbine component haul route and associated accommodation works extend through Counties Galway, Roscommon, Westmeath and Offaly. Turbine components will be transported from the Port of Galway through Counties Galway, Roscommon and Westmeath to the wind farm site in County Offaly.

Various environmental reports have been prepared in respect of the project and have been utilised in the preparation of this PSMP, including:-

- Environmental Impact Assessment Report (Galetech Energy Services);
- Biodiversity Chapter (SLR Consulting);
- Land & Soil Chapter (Hydro Environmental Services);
- Water Chapter (Hydro Environmental Services); and
- Natura Impact Statement (SLR Consulting).

3.0 DESCRIPTION OF BASELINE ENVIRONMENT

3.1 SITE LOCATION

The project site is located in rural County Offaly, approximately 4km north of Birr and c.28km south-west of Tullamore. The surrounding landscape is generally flat to gently undulating and is typical of the Midlands region.

Corine (2018) mapping identifies peat bogs and agricultural pastures as the principal land-cover categories across the project site. The three proposed turbines are located within Galros Bog, which comprises predominantly cutaway bog. The proposed electrical switch room is located within agricultural grassland, while the majority of the c.5km underground electricity line ('UGL') route passes through private lands comprising mainly grassland.

The Rapemills River flows in a westerly direction approximately 0.6km south of the wind farm site. The UGL route runs adjacent to the river for approximately 2.5km. The river channel is typically approximately 2m deep, with steep banks, and up to 5m wide.

The West Galros Stream, a tributary of the Rapemills River, flows along the southwestern boundary of Galros Bog and emerges from forestry southwest of the wind farm site. It crosses the N62 before joining the Rapemills River approximately 1km downstream of the wind farm site.

The UGL will cross beneath the N52 national road, the L7006 local road at Clonbeale Beg Glebe, and the Rapemills River at two locations using horizontal directional drilling ('HDD'). Four HDD crossings are therefore proposed. The remainder of the UGL route will be situated within private lands, outside the public road corridor.

3.2 TOPOGRAPHY

The proposed development site and surrounding topography are typical of the Midlands Region and comprise a generally flat landscape with occasional gentle undulations.

Ground elevations range from between approximately 45m and 65m OD (Ordnance Datum) across the project site. The most elevated section of the project site is found at its most eastern point where agricultural grassland rises up to 65m OD (at the point where the proposed underground electricity line connects to the national electricity network).

3.3 GEOLOGICAL ENVIRONMENT

Based on the GSI/Teagasc soils mapping (www.gsi.ie) the proposed wind farm is mapped largely as cutaway peat, with basic shallow well-drained mineral soil (BminSW) mapped on the south of the wind farm where there are some agricultural lands.

Soils along the western half of the underground electricity line route are mapped mainly as BminSW along with Alluvium where the proposed route intercepts the Rapemills River.

Soils mapped along the eastern half of the underground electricity line are more variable and comprise cut peat, shallow peaty poorly drained mineral soils (BminSPPT) and peaty poorly drained mineral soil (BminPDPT). The lands along the underground electricity line have been improved and drained for agriculture.

GSI subsoils mapping (www.gsi.ie) show that the proposed wind farm is underlain predominantly by cutover raised peat (Cut) along with Gravels derived from Limestones (GLs) mapped on the southeast of the proposed wind farm where agricultural lands are present.

Subsoils along the western half of the underground electricity line route are mapped mainly as Gravels derived from Limestones along with two gravel Esker ridges mapped along the proposed route.

Subsoils mapped along the eastern half of the underground electricity line are more variable and comprise cutover raised peat, Gravels and Limestone Tills (glacial tills). Alluvium is also mapped along sections of the Rapemills River. However, due to land improvements, any peat present is limited to shallow peat topsoil.

3.4 HYDROLOGICAL ENVIRONMENT

Galros Bog is drained by an extensive network of artificial drains. The West Galros Stream, a tributary of the Rapemills River, flows along the southwestern boundary of the bog. The underground electricity line runs adjacent to the Rapemills River for approximately 2.5km and crosses beneath it at two locations using horizontal directional drilling. Peat and spoil handling, storage and placement will implement the water-protection measures specified in **Chapter 7** of the EIAR and the Surface Water Management Plan (**Annex 4**), having regard to the Draft Galros Bog Rehabilitation Plan at **Annex 6.2** of the EIAR.

4.0 GENERAL PEAT & SPOIL MANAGEMENT PROPOSALS

The following are a suite of general measures which will be adhered to in the management of excavated material: -

- All excavated peat and spoil will be either temporarily stockpiled locally at turbine hardstands, or transported immediately on excavation to the spoil deposition area(s);
- Excavated material will be re-used on-site for reinstatement and landscaping insofar as possible (Some of the peat, in particular the acrotelm, i.e. the upper layer of the peat, excavated during construction will be used for landscaping purposes);
- Excavated rock, should any arise, shall be utilised in the construction of access tracks and crane hardstandings;
- Excavated sub-soil shall be prioritised for the reinstatement of infrastructure (e.g. turbine foundations);
- Excavated topsoil shall be prioritised for final landscaping measures (e.g. ground profiling/grading, etc.);
- Material requiring off-site management will be classified and transferred by appropriately permitted waste collectors to facilities authorised for the relevant material and proposed management operation. Suitable recovery routes will be prioritised over disposal in accordance with the Waste Management Plan at CEMP **Annex 2**;
- Where excavated material is to be re-used (for reinstatement or landscaping), it shall be side-cast and stored temporarily in an appropriate manner. Where excess material arises which will not be re-used at the excavation location, it shall be transported to the spoil deposition areas for permanent storage;
- Temporary storage locations shall be appropriately sited to avoid any smothering of important habitats or risk of sediment discharge to watercourses;
- Temporary storage locations will be carefully selected to avoid any ground instability risks;
- The temporary storage locations will be regularly inspected by the EM;
- Water pumped or drained from excavations will be conveyed through the sediment-control and treatment measures specified in the Surface Water Management Plan before discharge at an approved location. Untreated sediment-laden water will not be discharged directly to drains or watercourses;
- No excavations (e.g. drainage, peat cuttings) shall be carried out within 5m distance of a completed floating access track edge, or at a distance determined following inspection. The presence of excavations can destabilise the access track. Temporary excavations shall be excavated in short lengths and backfilled as soon as practicable;
- No stockpiling of materials shall take place on or adjacent to floating access tracks so as to avoid bearing failure of the underlying peat;
- End-tipping of stone onto proposed access tracks during the construction/upgrading of the track shall be carefully monitored to ensure that excessive impact loading, which may adversely affect the underlying peat, is limited;
- Due to the nature of floating access track construction it will be necessary to monitor the settlement/movement of the access track. Survey points will be

located along the track at 10m intervals in areas of deep peat (greater than 2m). See further measures included at Section 8.0 below;

- Excavated peat not required for backfill, reinstatement or landscaping will be transported immediately on excavation to the designated spoil deposition areas. Material will be placed in controlled shallow layers to maintain stability, with placement depths and finished profiles determined by the Project Geotechnical Engineer in accordance with the approved design, ground conditions and peat-stability requirements; and
- Reinstatement/landscaping works will commence as soon as practicable following the completion of individual work streams thus allowing for the timely management of material and early commencement of re-vegetation thus reducing the likelihood of soil erosion or release of silt/sediment.

5.0 ESTIMATED EXCAVATION QUANTITIES

On the basis of site investigations undertaken at the project site and the completion of the preliminary project (civil/electrical) design process; estimated volumes of material likely to be excavated during construction have been identified. The project will, should planning permission be granted, be subject to a further detailed design process where the volume of material to be excavated will be further refined. Accordingly, it is important to highlight that the volumes set out below are estimates based on the design process completed to date, the findings of the site investigations, and past experience of similar wind energy developments.

5.1 WIND FARM SITE

Infrastructure ID	Total Excavated Material (m ³)	Peat for Spoil Deposition Areas (m ³)	Peat for use in Reinstatement/Landscaping (m ³)	Topsoil & Subsoil for Spoil Deposition Areas (m ³)	Topsoil & Subsoil for Reinstatement/Landscaping (m ³)	Tar (m ³)
T9 Access Track, Hardstand, & Foundation	18,525	15,050	3,475	0	0	0
T10 Access Track, Hardstand, & Foundation	14,675	11,200	3,475	0	0	0
T11 Access Track, Hardstand, & Foundation	19,225	15,750	3,475	0	0	0
Wind Farm Access Track	4,360	0	0	3,052	1,308	0
Drainage Infill Areas	2,215	2,093	0	0	123	0
Ducting-back to switch room	3,509	0	2,924	0	585	0
Haul Route	10	0	0	0	0	10

Table 1: Estimated Spoil Volumes at Wind Farm Site

5.2 SWITCH ROOM & UNDERGROUND ELECTRICITY LINE

Infrastructure ID	Total Excavated Material (m³)	Peat for Spoil Deposition Areas (m³)	Peat for use in Reinstatement/Landscaping (m³)	Topsoil & Subsoil for Spoil Deposition Areas (m³)	Topsoil & Subsoil for Reinstatement/Landscaping (m³)	Tar (m³)
Switch Room	60	0	0	0	60	0
Underground Electricity Line	5,946	0	0	0	5,946	0

Table 2: Estimated Spoil Volumes at Switch Room & Underground Electricity Line

6.0 USE OF EXCAVATED MATERIAL

As outlined above, there are a number of possible uses for excavated material which has no further purpose in the construction process. In accordance with the aims of this PSMP, all usable excavated material will be utilised, in the first instance, for site reinstatement and landscaping purposes.

6.1 REINSTATEMENT OF INFRASTRUCTURE

Excavated subsoil and topsoil will, in the first instance, be utilised for the reinstatement of infrastructure including access track edges, crane hardstanding edges, and to provide turbine foundation ballast. Excavated peat from turbine foundation excavations will also be utilised for backfill at turbine foundation locations, where possible. Once again, this will ensure that material is, insofar as is practicable, reinstated at or close to its source location. For site reinstatement works and following the placement of subsoil, a layer of topsoil will be spread across the affected area, graded to match the surrounding ground profile, and re-seeded.

6.2 LANDSCAPING & PERMANENT STORAGE

Where material is not to be used for reinstatement at its source location, a number of permanent storage options are available, as follows: -

- The creation of track-side and hardstanding-side berms. Berms, constructed predominately of subsoil and topped with topsoil, with an approximate height of 1m could be constructed to permanently store material at appropriate access track and hardstand locations (noting, in line with the general measures included at **Section 4.0**, above, no stockpiling of materials shall take place on or adjacent to floating access tracks). The creation of berms, at appropriate locations, aids in the visual assimilation of infrastructure into the landscape and can assist in screening access tracks and hardstandings from view; and
- Permanent storage of material in the spoil deposition areas. While it is estimated that the above reinstatement and landscaping processes will account for substantial volumes of surplus excavated materials; 1 no. dedicated spoil deposition area, along with other smaller areas around turbines bases and hardstands, will be developed where excess material which cannot be utilised for reinstatement or is unsuitable for landscaping purposes. The estimated volume of peat and spoil requiring permanent deposition is 47,145m³¹, as identified in **Tables 1** and **2**. The designated

¹ The reference to approximately 48,000 m³ in **Chapter 6** of the EIAR represents the same estimated volume of 47,145 m³, rounded up.

deposition areas have been identified and sized by the project engineers alongside the assessment of excavation volumes, imported construction materials and the reuse of suitable excavated material for backfilling, reinstatement and landscaping. These estimates reflect the planning-stage civil design. Material allocated to permanent deposition will be placed within the designated areas in controlled shallow layers. Placement depths and finished profiles will be determined by the Project Geotechnical Engineer having regard to the approved design, encountered ground conditions and peat-stability requirements.

The location of the deposition area has been chosen as it comprises localised flat/level ground, and exhibits a general absence of any particular environmental constraints. Deposition areas include one main deposition area and smaller deposition areas located at the base of proposed turbines T9, T10 and T11. Spoil and Peat will be transported to these locations where it will be placed in a thin layer in accordance with best-practice methods. Appropriate drainage management measures will be implemented to prevent uncontrolled ponding, erosion, instability or sediment release from the deposited material. Following completion, the deposition areas will be graded to match the surrounding ground profile. Works at the deposition areas will be monitored, on a weekly basis during the construction phase and monthly for a six-month period thereafter, by an appropriately qualified geotechnical engineer.

6.3 PERMANENT STORAGE OF PEAT

As set out above, the project site includes designated spoil deposition areas. The following recommendations/best practice guidelines for the placement of peat within the deposition areas will be considered and taken into account during construction.

- The placement of excavated peat and spoil is to be avoided without first establishing the adequacy of the ground to support the load;
- Peat placement within the main deposition area southeast of T11 will not exceed 1.0 m in height, in accordance with Section 9.3 of the Peat Stability Assessment (Fehily Timoney, 2026). Placement depths and finished profiles will be determined by the Project Geotechnical Engineer within this assessed maximum.
- The height of any surrounding buttress(es) constructed will be greater than the height of the stored peat and spoil to prevent any surface run-off or saturated peat to flow out;
- An interceptor drain will also be installed upslope of the deposition areas. The drain will divert any surface water away from the deposition area and hence prevent water from ponding in the area;
- Where practical, it should be ensured that the surface of the placed peat and spoil is shaped to allow efficient run-off of surface water. Where possible, shaping of the surface of the peat and spoil should be carried out as placement of peat and spoil within the placement area progresses. This will reduce the likelihood of debris run-off and ensure stability of the placed peat and spoil;
- Where possible, the acrotelm shall be placed with the vegetation part of the

sod facing the right way up to encourage growth of vegetation at the surface of the placed peat and spoil within the deposition areas;

- Movement monitoring instrumentation may be required adjacent to the access track where peat has been placed. The locations where monitoring is required will be identified by the designer on site;
- Supervision by a geotechnical engineer or appropriately competent person is recommended for the works; and,
- All the above mentioned general guidelines and requirements should be confirmed by the designer prior to construction.

6.4 DISPOSAL OFF-SITE

Material requiring off-site management will be classified and transferred by appropriately permitted waste collectors to facilities authorised for the relevant material and proposed management operation. Suitable recovery routes will be prioritised over disposal in accordance with the Waste Management Plan at CEMP **Annex 2**.

7.0 GENERAL RECOMMENDATIONS FOR GOOD CONSTRUCTION PRACTICE

To minimise the risk of construction activity causing potential peat instability it is recommended that the Construction Method Statements (CMS) for the project will also take into account, but not be limited, to the general recommendations below together with the specific recommendations above:-

- Avoidance of uncontrolled concentrated water discharge onto peat slopes identified as being unsuitable for such discharge. All water discharged from excavations during work shall be piped over areas specifically assessed as being unsuitable and hence directly into suitable drainage lines;
- Avoidance of unstable excavations. All excavations shall be suitably supported to prevent collapse and development of tension cracks;
- Installation and regular monitoring of geotechnical instrumentation, as appropriate, during construction in areas of possible poor ground, such as deeper peat deposits;
- Site reporting procedures to ensure that working practices are suitable for the encountered ground conditions. Ground conditions to be assessed by suitably experienced geotechnical engineer;
- Regular briefing of all site staff (e.g. toolbox talks) to provide feedback on construction and ground performance and to promote reporting of any observed change in ground conditions; and,
- Routine inspection of wind farm site by Contractor to include an assessment of ground stability conditions (e.g. cracking, excessive floating access track settlement, disrupted surface, closed-up drains) and drainage conditions (e.g. blocked drains, absence of water in previously flowing drains, springs, etc).

8.0 CONTINGENCY MEASURES

8.1 EXCESSIVE MOVEMENT/MONITORING RESPONSE

Where there is excessive movement or continuing peat movement recorded at a monitoring location or identified at any location within the site but no apparent signs

of distress to the peat (e.g. cracking, surface rippling) then the following shall be carried out:-

- All activities (if any) shall cease within the affected area;
- Increased monitoring at the location shall be carried out. The area will be monitored, as appropriate, until such time as movements have ceased; and,
- Works will recommence only following assessment by the Project Geotechnical Engineer, implementation of any required stabilisation measures, and written authorisation from the Project Manager in consultation with the Environmental Manager. The assessment and authorisation will be recorded.

8.2 ONSET OF PEAT SLIDE

In the unlikely event where there is the onset or actual detachment of peat (e.g. cracking, surface rippling) then the following shall be carried out:-

- On alert of a peat slide incident, all activities (if any) in the area should cease and all available resources will be diverted to assist in the required mitigation procedures;
- Action will be taken to prevent a peat slide reaching any watercourse. This will take the form of the construction of check barrages on land. Due to the terrain and the inability to predict locations it may not be possible to implement any on-land prevention measures, in this case a watercourse check barrage will be implemented;
- The Environmental & Emergency Response Plan at CEMP **Annex 1** will be activated immediately. Internal escalation and external notifications will follow the responsibilities, notification sequence and contact arrangements specified in that plan; and,
- For localised peat slides that do not represent a risk to a watercourse and have essentially come to rest the area will be stabilised initially by rock infill, if required. The failed area and surrounding area will then be assessed by the engineering staff and stabilisation procedures implemented. The area will be monitored, as appropriate, until such time as movements have ceased.

8.3 CHECK BARRAGES

Whilst it is not anticipated from the analysis undertaken that a peat slide will occur on site, as a contingency a check barrage procedure is included below.

The check barrage procedure deals with preventing a peat slide from moving downstream within a watercourse. The most effective method of preventing excessive peat slide debris from travelling downstream in a watercourse is the use of a check barrage. A check barrage comprises the placement of rock fill across a watercourse. The check barrage is a highly permeable construction that will allow the passage of water but will prevent peat debris from passing through. Rock fill should comprise well-graded coarse rock pieces from about 300mm up to typically 1000mm.

The size of the barrage will vary depending on the scale of the peat debris to be contained and the geometry of the watercourse at the barrage location. In general, due to the low speed of a peat slide there is generally little impact force and most of the lateral load is due to fluid pressure on the upslope face of the barrage. Typically, the check barrage should fill the entire channel width of the watercourse up to a height of 3 to 4m with a crest width of typically 2m and side slopes of about 45 degrees

depending on the geometry of the barrage location.

The check barrage procedure is as follows:-

- Access to the check barrage location shall be along the existing access tracks on the wind farm site and/or along public roads, where possible. When it is necessary to form the barrage then rock fill will be placed across the watercourse to effectively block the passage of peat debris;
- Operatives employed to carry out the construction of the check barrage would need to be inducted by means of a briefing by on-site supervisors as to the proposed location of the check barrage;
- The check barrage provides containment for peat debris in the highly unlikely event of a major peat slide. Further remedial measures, should they be required, will be assessed by the Contractor and the Project Geotechnical Engineer and carried out as soon as physically possible when the location and extent of the failure is established; and,
- Where a barrage was constructed as a precaution and no peat debris reached the watercourse then the barrage should be removed as soon as any measures to prevent further peat sliding is agreed with all parties.

Any in-channel check barrage would be implemented only where necessary as an emergency response to prevent peat debris entering or travelling downstream within a watercourse. Relevant statutory authorities shall be notified as soon as practicable, and any subsequent removal, retention or remedial works shall be agreed with the relevant authorities where required.

The location, dimensions, materials and construction method for any emergency containment measure will be determined by the Project Geotechnical Engineer, with hydrological and ecological input as required, having regard to the actual ground conditions, debris volume, watercourse geometry, flow conditions and safe access.

9.0 CONCLUSION

This PSMP sets out the proposed management of material excavated during construction of Cush Wind Farm Phase II. Suitable excavated material will be used for reinstatement and landscaping, with surplus material placed within the designated peat and spoil deposition areas. The excavation and destination quantities in Tables 1 and 2 will be reconciled with a capacity schedule identifying the usable area, placement depth and available capacity of each deposition area. Materials unsuitable for the identified on-site arrangements, including asphalt arising from haul-route works, will be managed off-site in accordance with the Waste Management Plan at CEMP **Annex 2**.

The range of good practice construction measures, including measures relative to working with peat, will be implemented in full. The peat management measures contained within this PSMP include some drainage guidelines for construction works and for management of peat on site. It should be noted that the control of water quality and drainage measures for site is outlined in detail in the relevant chapter of Environmental Impact Assessment Report (EIAR).

This is a live document and will be updated by the appointed contractor prior to the commencement of development. Prior to the commencement of construction, the updated PSMP will be reviewed by the EM to confirm the appropriateness of the measures set out therein.



GALETECH
ENERGY SERVICES



ANNEX 4 – SURFACE WATER MANAGEMENT PLAN





Cush Wind Farm
Phase II

Planning-Stage Construction Environmental Management Plan

Annex 4: Surface Water Management Plan

Cush Wind Limited

DOCUMENT CONTROL

Stage	Date	Name
Content	19/10/2026	Declan Owens
Approval	19/10/2026	Gavin Daly

RECORD OF CHANGES

Revision	Issue Date	Summary of Changes	Approved
00	19/10/2026	Content	Declan Owens
01			
02			

DISTRIBUTION LIST

#	Purpose	Company	Name (Optional)
1			
2			
3			
Notes:			

© Copyright Galetech Energy Services Ltd. This report has been prepared by Galetech Energy Services Ltd. ("Galetech") for the sole use and benefit of the named recipient (the "Client"). Unless expressly agreed otherwise in writing by Galetech, no other person or entity is entitled to use the contents of this report. Galetech expressly disclaims all liability to any third party who may access or rely on this report, whether in whole or in part, and whether such access or reliance is authorised or unauthorised. No liability is accepted by Galetech for any use of this report other than for the specific purpose for which it was prepared. This report has been prepared by Galetech in accordance with the specific instructions, requirements, scope and limitations set forth in our agreement with the Client, as well as the project's timeframes, budgetary constraints, and in line with customary industry standards. The approach, methodology, assumptions, limitations and sources of information used by Galetech are outlined in this report (as appropriate). The scope of Galetech's services is strictly limited to the conditions described herein. Where conclusions and recommendations are based on information provided by third parties, including the Client or its agents, Galetech accepts no responsibility for the accuracy, validity, or completeness of such information. It is assumed that all relevant data and documentation requested have been provided in full, are accurate, and reflect the current situation. No independent verification of this information has been undertaken by Galetech unless explicitly stated otherwise. The conclusions presented in this report represent Galetech's professional judgement based on observations made during any site visit (if applicable), and the information available at the time of preparation. While Galetech has exercised reasonable skill, care, and diligence in preparing this report, no express or implied warranty, guarantee, or representation is made regarding its completeness, accuracy, or fitness for a particular purpose. Galetech is under no obligation to update this report or any of its findings or recommendations should additional information become available, or circumstances change after the report's date. All intellectual property rights, including copyright, in the content of this report are and shall remain the exclusive property of Galetech unless otherwise agreed in writing. The Client is granted a limited, non-transferable license to use this report solely for its intended purpose under the terms of the engagement with Galetech.

Contents

1.0	Introduction.....	1
1.1	Purpose of this Report	1
1.2	Reference Documents.....	1
2.0	Description of the Project.....	2
3.0	Description of Baseline Environment.....	3
3.1	Site Location	3
3.2	Topography	4
3.3	Hydrological Environment.....	4
3.4	Geological Environment	5
3.5	Flood Risk Assessment.....	5
3.6	Nature Conservation Sites.....	6
4.0	Drainage System.....	7
4.1	Sustainable Drainage System	8
4.2	Design Measures.....	10
5.0	Construction Phase Measures	12
5.1	Earthworks (Removal of Vegetation Cover, Excavations and Stock Piling) Resulting in Suspended Solids Entrainment in Surface Water	12
5.2	Excavation Dewatering and Effects on Surface Water Quality	18
5.3	Release of Hydrocarbons during Construction and Storage	18
5.4	Release of Cement-Based Products.....	19
6.0	Operation Phase Measures.....	20
6.1	Replacement of Natural Surfaces.....	21
6.2	Hydrocarbons Spillages/Leakages	21
7.0	Decommissioning Phase Measures	22
8.0	Conclusion	22

1.0 INTRODUCTION

Galetech Energy Services (GES), on behalf of Cush Wind Limited, has prepared this Surface Water Management Plan (SWMP) for the construction and operational phases of the Cush Wind Farm – Phase II.

1.1 PURPOSE OF THIS REPORT

This SWMP provides the framework for water management at the project site for contractors and incorporates the measures set out in the various environmental assessment documents associated with the development. The purpose of this report is to detail the practical implementation of these measures such that the construction and operational phases do not have an adverse effect on water quality.

This is a live document and will be updated by the appointed contractor prior to the commencement of development. Prior to the commencement of construction, the updated SWMP will be reviewed by the Environmental Manager (EM) and Ecological Clerk of Works (ECoW), as necessary, to confirm the appropriateness of the measures set out therein.

This SWMP aims to:-

- Describe environmental sensitivities of the site and any applicable buffer zones;
- Describe how the system will operate to minimise modification and disruption to the existing site hydrology;
- Outline the proposed maintenance regime; and,
- Outline the proposed drainage management post-construction.

1.2 REFERENCE DOCUMENTS

The production of this SWMP has been supported by best practice manuals and will be accounted for in the further development of the appointed contractor's detailed CEMP.

Other documents have been used to develop this SWMP; including a Planning-Stage Construction Environmental Management Plan, Peat & Spoil Management Plan, and Environmental & Emergency Response Plan.

1.2.1 Legislative Background

This plan has been prepared in accordance with the following legislation:-

- *Dangerous Substances Act 1972 (No. 10 of 1972), as amended;*
- *S.I. No. 293 of 1988 Quality of Salmon Water Regulations;*
- *S.I. No. 249 of 1989 Quality of Surface Water Intended for Abstraction (Drinking Water);*
- *European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477 of 2011), as amended;*
- *Water Framework Directive (2000/60/EC);*
- *S.I. No. 600 of 2001 Planning and Development Regulations 2001, as amended;*

- S.I. No. 722 of 2003 European Communities (Water Policy) Regulations;
- S.I. 547 of 2008 European Communities (Environmental Liability) Regulations;
- S.I. No. 272 of 2009 European Communities Environmental Objectives (Surface Waters) Regulations;
- S.I. No. 9 of 2010 European Communities Environmental Objectives (Groundwater) Regulations 2010, as amended; and,
- S.I. No. 350 of 2014 European Union (Water Policy) Regulations 2014.

1.2.2 Construction Industry Research & Information Association (CIRIA) Manuals

- CIRIA (Construction Industry Research & Information Association) Report C502 Environmental Good Practice on Site;
- CIRIA 521 - Sustainable Urban Drainage Systems; Design Manual for Scotland and Northern Ireland;
- CIRIA Report C532 Control of Water Pollution from Construction Sites;
- CIRIA Report C648 Control of Pollution from Linear Construction Project Technical Guidance;
- CIRIA Handbook C650 Environmental good practice on site;
- CIRIA Handbook C651 Environmental good practice on site checklist;
- CIRIA Report C609 - SuDS - hydraulic, structural & water quality advice;
- CIRIA C753 — The SuDS Manual (2015); and,
- Guidelines on Protection of Fisheries during Construction Work in and Adjacent to Water (Inland Fisheries Ireland, January 2016).

2.0 DESCRIPTION OF THE PROJECT

Cush Wind Limited proposes to construct Cush Wind Farm Phase II, comprising a three-turbine extension to the permitted Cush Wind Farm Phase I. The project comprises:

- 3 no. wind turbines with overall tip heights within the range of 199.1 m to 200 m, rotor diameters within the range of 158 m to 175 m and hub heights within the range of 111.6 m to 120.9 m;
- all associated turbine foundations and crane hardstanding areas;
- construction of approximately 1.7km of new internal site access tracks and upgrading of existing and permitted access tracks and access arrangements;
- use of the construction compounds permitted as part of Cush Wind Farm Phase I;
- 1 no. electrical switch room building and associated compound, including a new site entrance from the L300321 local road;
- underground electrical and communications cabling within the wind farm site;
- storage of excavated peat and spoil within designated peat and spoil deposition areas;
- site drainage, surface water management and environmental protection measures;

- reinstatement, environmental stabilisation and drainage management works, having regard to the wider rehabilitation objectives for Galros Bog;
- a c.5 km underground electricity line extending from the proposed electrical switch room to facilitate connection of the proposed wind farm to the national electricity network;
- temporary and permanent accommodation works along the turbine component haul route to facilitate the delivery of turbine components; and
- all associated and ancillary site development, excavation, construction, landscaping, reinstatement and environmental mitigation works.

The wind farm site is located in rural County Offaly, approximately 4 km north of Birr and c.28 km south-west of Tullamore. It extends across the townlands of Galros East, Whigsborough, Ballycollin, and Eglish, County Offaly.

The c.5 km underground electricity line will extend from the proposed electrical switch room, located on the southern side of the wind farm site, to the connection point at the proposed Mullanafawnia 110 kV substation. The Mullanafawnia 110 kV substation is third-party infrastructure that is subject to a separate consenting process and does not form part of the project.

The turbine component haul route and associated accommodation works extend through Counties Galway, Roscommon, Westmeath and Offaly. Turbine components will be transported from the Port of Galway through Counties Galway, Roscommon and Westmeath to the wind farm site in County Offaly.

As well as the reference documents listed in **Section 1.2**, various environmental reports have been prepared for the project including:-

- Environmental Impact Assessment Report (Galetech Energy Services);
- Biodiversity chapter (SLR Consulting Ireland);
- Land & Soil chapter (Hydro Environmental Services); and,
- Water chapter (Hydro Environmental Services), and,
- Natura Impact Statement (SLR Consulting Ireland).

3.0 DESCRIPTION OF BASELINE ENVIRONMENT

3.1 SITE LOCATION

The project site is located in rural County Offaly, approximately 4km north of Birr and c.28km south-west of Tullamore. The surrounding landscape is generally flat to gently undulating and is typical of the Midlands region.

Corine (2018) mapping identifies peat bogs and agricultural pastures as the principal land-cover categories across the project site. The three proposed turbines are located within Galros Bog, which comprises predominantly cutaway bog. The proposed electrical switch room is located within agricultural grassland, while the majority of the c.5km underground electricity line ('UGL') route passes through private lands comprising mainly grassland.

The Rapemills River flows in a westerly direction approximately 0.6km south of the wind farm site. The UGL route runs adjacent to the river for approximately 2.5km. The river channel is typically approximately 2m deep, with steep banks, and up to 5m wide.

The West Galros Stream, a tributary of the Rapemills River, flows along the southwestern boundary of Galros Bog and emerges from forestry southwest of the wind farm site. It crosses the N62 before joining the Rapemills River approximately 1km downstream of the wind farm site.

The UGL will cross beneath the N52 national road, the L7006 local road at Clonbeale Beg Glebe, and the Rapemills River at two locations using horizontal directional drilling ('HDD'). Four HDD crossings are therefore proposed. The remainder of the UGL route will be situated within private lands, outside the public road corridor.

3.2 TOPOGRAPHY

The project site and surrounding topography are typical of the Midlands Region and comprise a generally flat landscape with occasional gentle undulations.

Ground elevations range from between approximately 45m and 65m OD (Ordnance Datum) across the project site. The most elevated section of the project site is found at its most eastern point where agricultural grassland rises up to 65m OD (at the point where the proposed underground electricity line connects to the national electricity network).

3.3 HYDROLOGICAL ENVIRONMENT

On a regional scale, the proposed wind farm site, electrical switch room and underground electricity line are located within the Lower Shannon Catchment (Hydrometric Area 25) and within the Shannon[lower]_SC_040 sub-catchment.

On a more local hydrological scale, the wind farm site and underground electricity line are situated within the Rapemills River catchment. The Rapemills River, identified by the EPA as the Rapemills_010 river waterbody, rises approximately 8km east of the wind farm site and flows in a westerly direction approximately 0.6km south of the proposed turbines. The river discharges to the River Shannon approximately 12km downstream of the project site.

The majority of the wind farm site, including Galros Bog and the three proposed turbine locations T9, T10 and T11, drains initially to the West Galros Stream, a tributary of the Rapemills River. The West Galros Stream emerges from forestry southwest of the wind farm site and flows along the southwestern boundary of Galros Bog. It crosses the N62 before joining the Rapemills River approximately 1km downstream of the wind farm site. The stream has a modified, heavily vegetated channel, up to approximately 3m wide and 1m deep, with water levels close to the surrounding ground surface.

The southeastern portion of the wind farm site is drained by the Eglish 25 Stream, as named by the EPA. This stream flows southwards along the edge of a separate bog south of Galros Bog before discharging to the Rapemills River approximately 0.6km south of the wind farm site. The agricultural grassland accommodating the proposed electrical switch room also drains to the Eglish 25 Stream.

Galros Bog is extensively drained by a network of generally north–south orientated, parallel open drains associated with former peat production. Water from these drains is collected by an underground pipe network and conveyed to two existing settlement ponds located southwest of the bog, before discharge to the adjacent West Galros Stream. The drainage network serving the three proposed turbine locations and the designated peat and spoil deposition areas discharges through these settlement ponds.

The c.5km underground electricity line is located predominantly within private agricultural lands. Its route runs adjacent to the Rapemills River for approximately 2.5km and crosses beneath the river at two locations using horizontal directional drilling (HDD). The Rapemills River channel is typically approximately 2m deep, with steep banks, and up to 5m wide. Minor field drains are also crossed along the underground electricity line route, generally at field boundaries, and discharge towards the Rapemills River.

The underground electricity line will also cross beneath the N52 national road and the L7006 local road at Clonbeale Beg Glebe using HDD. Four HDD crossings are therefore proposed in total, comprising the two river crossings and two public-road crossings.

At the N62/N52 junction, the turbine haul-route accommodation works intersect a small watercourse which drains westwards into a wetland area immediately northwest of the junction.

The proposed surface water drainage arrangements will integrate with existing drainage pathways where appropriate and will have regard to the wider rehabilitation and environmental stabilisation objectives of the Draft Galros Bog Rehabilitation Plan (2026), included at EIAR **Annex 6.2**. The existing settlement ponds will supplement the project-specific drainage and treatment measures; the project will not rely on these ponds alone for the treatment of runoff.

3.4 GEOLOGICAL ENVIRONMENT

The wind farm site comprises predominantly cutaway raised bog, with agricultural grassland in its southeastern portion. The three proposed turbines, T9, T10 and T11, are located within Galros Bog, where historical peat extraction has removed much of the original raised bog surface. The proposed electrical switch room is located within agricultural grassland, while the underground electricity line passes predominantly through private agricultural lands.

GSI subsoil mapping identifies cutover raised peat as the predominant superficial deposit beneath the wind farm site, with gravels derived from limestone mapped in the southeastern portion where agricultural lands are present. Site investigations indicate that the ground profile typically comprises peat overlying shell marl and lacustrine clay deposits. Residual peat thickness varies across the wind farm site.

Along the western half of the underground electricity line route, mapped subsoils comprise mainly gravels derived from limestone, including two gravel esker ridges. Alluvial deposits are mapped where the route encounters the Rapemills River corridor.

Mapped subsoils along the eastern half of the underground electricity line route are more variable and include cutover raised peat, limestone-derived gravels and glacial tills, together with alluvium along sections of the Rapemills River. The lands along the route have been improved and drained for agriculture, with peat generally limited to shallow peat or peaty topsoil.

3.5 FLOOD RISK ASSESSMENT

A Stage 2 Site-Specific Flood Risk Assessment (FRA) has been prepared for Cush Wind Farm Phase II. The assessment considers published flood mapping, historical records, site characteristics and the previous Stage 3 hydraulic modelling undertaken for Cush Wind Farm Phase I.

No past flood incidents within the project site were identified in the OPW Past Flood Event Mapping reviewed for the assessment. The closest mapped recurring flood event is located at Fivealley (Flood ID 2904), approximately 2.5km east of the wind farm site. The project site does not drain towards this location. The closest mapped downstream flood event is on the Lower Shannon, approximately 12km downstream of the project site.

The historical 6-inch and 25-inch mapping reviewed for the assessment does not identify lands within the project site or along the underground electricity line as liable to flooding.

OPW CFRAM flood extent mapping was not available for the Rapemills River at the project location when the FRA was prepared. National Indicative Fluvial Mapping (NIFM) was therefore reviewed to identify the estimated 100-year and 1,000-year fluvial flood extents.

The NIFM indicates that the proposed wind farm site and its above-ground infrastructure are outside the mapped 100-year and 1,000-year fluvial flood extents and are located in Flood Zone C, where the probability of fluvial flooding is low.

The Stage 3 hydraulic modelling completed for Cush Wind Farm Phase I in December 2023 provides additional information for the overlapping wind farm site and the same receiving watercourses and flood mechanisms. This modelling considered the Rapemills River, West Galros Stream and associated floodplains, with a 20% increase in flows allowed for climate change. The modelled flood extents are consistent with the wind farm site being outside the 100-year and 1,000-year fluvial flood zones.

Sections of the underground electricity line route intersect mapped Flood Zone A along the Rapemills River corridor. The completed underground line is identified in the FRA as water-compatible infrastructure, with no loss of floodplain storage or permanent alteration of surface levels anticipated following reinstatement. Construction-stage flood risks along the route, including those associated with open trenches and temporary works, will be managed through the measures specified in **Chapter 7** of the project EIAR and this SWMP.

GSI Winter 2015/2016 Surface Water Flood Mapping records localised ponding in the northeastern and southwestern portions of Galros Bog. The FRA identifies that these mapped areas do not significantly interact with the proposed wind farm infrastructure. Localised groundwater flooding is also mapped south of Galros Bog; however, the assessment considers that ponding in this area is more likely to reflect surface water runoff over the low-permeability underlying deposits than groundwater upwelling.

The FRA identifies the turbine haul-route alterations as relatively minor works along established public transport routes which will not alter the hydrological regime or increase flood risk. These works were therefore scoped out of detailed flood-risk assessment.

Surface water management will maintain existing drainage pathways where appropriate, keep clean runoff separate from construction runoff, and collect, treat and attenuate potentially sediment-laden water before controlled discharge. Runoff rates will be controlled to pre-development greenfield rates to avoid increasing downstream flood risk.

3.6 NATURE CONSERVATION SITES

Nature conservation sites in Ireland include Special Areas of Conservation (SACs),

Special Protection Areas (SPAs), Natural Heritage Areas (NHAs) and proposed Natural Heritage Areas (pNHAs). The proposed wind farm site and underground electricity line are not located within any designated nature conservation site.

The wind farm site and underground electricity line drain to the Rapemills River, either directly or through tributaries including the West Galros Stream and Eglish 25 Stream. The Rapemills River subsequently discharges to the River Shannon, providing a downstream surface water connection to River Shannon Callows SAC (Site Code: 000216) and Middle Shannon Callows SPA (Site Code: 004096).

Further downstream, the River Shannon flows into Lough Derg, providing a surface water connection to Lough Derg, North-east Shore SAC (Site Code: 002241) and Lough Derg (Shannon) SPA (Site Code: 004058). The AA Screening Report and NIS identify these hydrological pathways as relevant to the assessment of potential effects from sediment-laden runoff or accidental releases of pollutants.

The Rapemills River also passes the vicinity of All Saints Bog and Esker SAC and pNHA (Site Code: 000566) and All Saints Bog SPA (Site Code: 004103), west of the wind farm site. All Saints Bog drains towards the Rapemills River rather than receiving surface water from it. The river's downstream passage beside the designated bog therefore does not establish a direct surface water pathway from the project into the bog. The Water chapter of the project EIAR identifies low-permeability marl and lacustrine clay deposits separating the peat from deeper groundwater-bearing deposits, while the AA Screening Report considers the potential hydrological and hydrogeological pathways to these European sites.

Lough Coura pNHA (Site Code: 000909) is located north of the wind farm site. The wind farm site does not drain towards this pNHA.

River Shannon Callows pNHA (Site Code: 000216) and Lough Derg pNHA (Site Code: 000011) are also associated with the downstream receiving environment. Their interests overlap with the SAC and SPA designations considered in the ecological assessments.

The surface water protection measures specified in this SWMP will be implemented alongside the mitigation measures in the project EIAR and the NIS to protect receiving watercourses and hydrologically connected nature conservation sites. Wider ecological connections, including those associated with bird movements, are addressed in the Biodiversity chapter of the project EIAR and AA Screening Report/NIS.

4.0 DRAINAGE SYSTEM

This section describes the permanent drainage arrangements for the Cush Wind Farm Phase II wind farm site, based on the drainage design prepared by Jennings O'Donovan & Partners, together with the temporary surface water controls required during construction of the underground electricity line and turbine haul route accommodation works. It will be read in conjunction with **Chapter 7** of the project EIAR, the Natura Impact Statement (NIS), the CEMP and the drainage drawings included at **Annex 1** to this SWMP.

The drainage arrangements will retain existing drainage pathways where appropriate, separate clean runoff from construction runoff, and provide treatment and attenuation before controlled release. Within Galros Bog, the design will have regard to the existing bog drainage network and the draft Galros Bog Rehabilitation Plan included at EIAR **Annex 6.2**.

4.1 SUSTAINABLE DRAINAGE SYSTEM

Surface water is a valuable resource and this should be reflected in the way it is managed. The appropriate management of surface water should be considered at the early stages of the project design process. It is important, particularly on large developments such as wind farms, that surface water is managed in a fashion which prevents significant alterations to the existing hydrological regime whilst ensuring the appropriate drainage of the site.

The project has been designed to implement a Sustainable Drainage System (SuDS) which seeks to:-

- Minimise changes to surface water and groundwater conditions and maintain existing drainage pathways where practicable;
- Protect sensitive watercourses and apply the hydrological buffers and specific crossing measures identified in the project EIAR;
- Keep clean runoff separate from runoff arising within disturbed ground and construction areas;
- Control sediment at source and provide a sequence of collection, settlement and filtration measures;
- Control runoff to pre-development greenfield rates and provide attenuation in accordance with the design criteria in the project EIAR (**Chapter 7**); and
- Reduce flow velocities, prevent scour and erosion, and support the progressive stabilisation and revegetation of disturbed surfaces.

These measures will minimise the volume of water requiring treatment and prevent sediment-laden runoff or other polluting material from entering watercourses. The existing Galros Bog settlement ponds will provide additional downstream treatment; the project will not rely on those ponds as a substitute for its own drainage controls.

4.1.1 SuDS Design

The drainage system will comprise clean-water interception drains, collector drains and swales, check dams, silt traps, stilling/settlement ponds and buffered outfalls. The following criteria will apply:

- Drainage controls serving each works area will be installed and made operational before the associated ground disturbance begins. Their installation will be phased to avoid exposing untreated areas of ground;
- Clean-water interception drains will be positioned upslope of works areas, where required, to prevent clean runoff entering excavations, disturbed ground and material storage or deposition areas. Clean flows will be conveyed around or beneath the works and returned to their existing drainage pathway without mixing with construction runoff;
- Runoff from turbine foundations, hardstandings, access tracks and other disturbed areas will be collected in downslope swales or collector drains and directed through the appropriate sediment treatment and attenuation measures;
- Track crossfalls, cross-drains and culverts will maintain drainage continuity and avoid creating concentrated flows or impounding water against infrastructure. Existing artificial drains crossed by access tracks will be

maintained through appropriately sized crossings;

- Swales and check dams will reduce runoff velocity and encourage settlement close to the source. Check dams will use clean, durable, non-friable stone or an equivalent specified material, consistent with the project EIAR and the detailed drainage design;
- Stilling/settlement ponds will provide sediment treatment and runoff attenuation. The design will implement the greenfield runoff and 1-in-100-year rainfall criteria set out in **Chapter 7** of the project EIAR. The detailed calculations will document the climate-change allowance, required storage, effective storage provided, treatment performance and inlet and outlet controls;
- Treated runoff will be released through buffered outfalls or level spreaders over suitable vegetated ground, avoiding scour and direct discharge of construction runoff to watercourses. Dilution will not be used as a substitute for treatment;
- Excavation dewatering will be collected in controlled sumps and pumped through suitable settlement and filtration measures, including silt bags used with vegetation filters or sedimats where appropriate. Pumping rates will remain within the capacity of the receiving treatment system;
- Runoff from temporary stockpiles and permanent deposition areas will be intercepted and treated. Silt fencing, including double silt fencing where specified, and temporary erosion protection will be maintained until the surfaces have stabilised. These arrangements will be coordinated with CEMP: Peat & Spoil Management Plan;
- New aggregate access tracks and hardstandings will use durable material resistant to erosion and the generation of fines. Their drainage will follow the existing local drainage pattern as far as practicable;
- Fuels, oils, chemicals, concrete washout and foul wastewater will be contained separately from the surface water system. Potentially contaminated water will not be routed through sediment ponds as if it were ordinary sediment-laden runoff. Hydrocarbon interception will be provided at the switch room as shown on the drainage drawings;
- Drain and pond geometry, side slopes, access and protection measures will address ground conditions, maintenance requirements and the safety of personnel and plant;
- Drainage features will be inspected regularly during construction and following heavy rainfall. Sediment, blockages, erosion and damaged controls will be addressed promptly. If treatment is inadequate, affected works will be suspended and the treatment measures supplemented before discharge or works resume. Permanent drainage features will be retained and maintained throughout the operation phase; and
- A proprietary treatment system, such as a Siltbuster or equivalent, will be used where the standard treatment measures do not achieve the required discharge quality.

4.1.2 SuDS Design Philosophy

The SuDS design principles are as follows:-

Minimise → Intercept → Treat → Disperse

Minimise

The area of disturbed ground and the duration for which it remains exposed will be minimised through phased construction and progressive reinstatement. Clean-water interception will reduce the volume requiring treatment, while local source controls will limit sediment mobilisation from excavations, stockpiles and deposition areas.

Intercept

The key silt/sediment control measure is the separation of construction runoff from the clean water runoff that arises in the undisturbed areas of the project site and surrounding lands. This significantly reduces the volume, and velocity, of dirty water that the control measures are required to manage. To achieve separation, clean water infiltration interception drains are positioned on the upslope and dirty water swales/drains positioned along the verge, with site surfaces sloped towards dirty water swales/drains. The remainder of this clean water will be regularly piped under both the access tracks and dirty water swales/drains to prevent contamination. This process allow for the mimicking the paths which clean water would have taken in the absence of the project.

Treat & Disperse

Construction runoff will pass through a sequence of sediment controls appropriate to the contributing area and water quality, including check dams, silt traps, filtration measures and stilling/settlement ponds. Following adequate treatment and attenuation, runoff will be dispersed through buffered outfalls over vegetated ground. The system will provide sufficient treatment capacity and retention time; complete settlement of all suspended particles will not be assumed solely from the presence of a pond.

4.2 DESIGN MEASURES

4.2.1 Planning-Stage Design of Surface Water Management System

Jennings O'Donovan & Partners ('JOD') has prepared a coordinated planning-stage drainage design encompassing the permitted Cush Wind Farm Phase I and proposed Phase II extension. The inclusion of both phases allows the drainage arrangements to be understood across the overall wind farm site, including the contributing catchments, flow paths, access corridors, connections and outfalls. This is particularly relevant where Phase II infrastructure interfaces with the permitted Phase I layout and the existing Galros Bog drainage network.

The drainage arrangements relevant to Phase II are shown on drawings 6921-JOD-XX-DR-C-0308, 6921-JOD-XX-DR-C-0309, 6921-JOD-XX-DR-C-0310 and 6921-JOD-XX-DR-C-0311, revision P01.5 dated 10 August 2026, read in conjunction with the overall drainage keyplan, drawing 6921-JOD-XX-DR-C-0300. These drawings are included at **Annex 1** of this SWMP.

Table 1 identifies SP64 and SP69–SP85 at the Phase II turbine areas and connecting

corridors. The original pond references are retained to facilitate comparison with the drawings. The detailed construction-stage SWMP will identify the drainage features to be constructed for Phase II and any permitted Phase I features to be used or shared, together with the connections, modifications and construction sequencing required. Where a feature serves both phases, its contributing catchment and capacity will account for the combined drainage load. The drainage controls serving each Phase II works area will be operational before the associated ground disturbance begins.

Pond ref.	Contributing development area (m ²)	Length (m)	Width (m)	Depth (m)	Overall Volume of Silt Pond (m ³)
SP64	400	4	2.8	0.75	8.4
SP69	1,000	10	2.8	0.75	21.0
SP70	500	6	2.8	0.75	12.6
SP71	900	8	2.8	0.75	16.8
SP72	1,350	10	3.6	0.75	27.0
SP73	400	4	2.8	0.75	8.4
SP74	750	8	2.8	0.75	16.8
SP75	750	8	2.8	0.75	16.8
SP76	800	8	2.8	0.75	16.8
SP77	2,400	12	5.2	0.75	46.8
SP78	2,400	12	5.2	0.75	46.8
SP79	1,200	10	2.8	0.75	21.0
SP80	3,100	14	5.6	0.75	58.8
SP81	2,400	12	5.2	0.75	46.8
SP82	750	8	2.8	0.75	16.8
SP83	1,350	10	3.6	0.75	27.0
SP84	2,300	12	4.5	0.75	40.5
SP85	2,300	12	4.5	0.75	40.5

Note: Pond volumes are calculated from the scheduled length, width and depth and are rounded to one decimal place.

Table 1: Silt/Settlement Pond Specifications

Temporary surface water controls will be implemented during construction of the underground electricity line and turbine haul route accommodation works in accordance with the project EIAR and the NIS. These will include clean-water diversion, sediment interception, double silt fencing where specified, controlled dewatering and prompt reinstatement. HDD drilling fluids and arisings will be contained separately, and the drilling contractor will implement the required frac-out prevention and contingency arrangements.

Following installation of the underground electricity line, disturbed surfaces will be reinstated and existing land drains and surface water flow paths will be maintained or restored. The reinstatement will prevent the cable trench from obstructing existing drainage or creating a preferential flow path. On this basis, no permanent alteration to the surface water drainage regime along the underground electricity line route is

anticipated during the operation phase.

Prior to the commencement of development, the appointed Contractor; in conjunction with the project design team, EM, and ECoW; shall prepare a detailed SWMP which shall detail the precise specifications and locations of all surface water management infrastructure to be installed.

5.0 CONSTRUCTION PHASE MEASURES

In the first instance, the project seeks to avoid adverse effects on surface water through avoidance. In particular, the project has sought to avoid direct interactions with watercourses; through minimising the number of watercourse crossings and the implementation of a 50m buffer zone around natural watercourses. The design of the project has, where possible, sought to avoid this buffer area.

Best practice measures are also proposed to minimise impacts to water quality, as follows:-

- All site personnel will be made aware of their environmental responsibilities at the site;
- Contractors will be required to include contingency plans to deal with spillages, should they occur;
- Land disturbance will be kept to minimum and disturbed areas will be stabilised as soon as possible;
- In principle, soil excavation should be undertaken during dry periods, whenever possible;
- Site visits by a Design Engineer will be undertaken at various stages of the construction process to ensure that the SuDS scheme is being constructed and implemented appropriately; and,
- In order to verify the efficacy of pollution prevention works during construction, water quality monitoring will be undertaken by a suitably qualified EM, prior to, during and post completion of construction works. This will include all watercourses within the catchment of the construction area. The monitoring will comprise visual and hydrochemistry monitoring, as described in detail in the Water Quality Monitoring Plan.

Finally, all mitigation measures proposed in the Water chapter of the EIAR will be implemented in full, as set out in the following sections.

5.1 EARTHWORKS (REMOVAL OF VEGETATION COVER, EXCAVATIONS AND STOCK PILING) RESULTING IN SUSPENDED SOLIDS ENTRAINMENT IN SURFACE WATER

The key mitigation measure during the construction phase is the avoidance of sensitive aquatic areas by using a 50m buffer. From the constraints map (**Annex 7.4** of the EIAR) it is evident that only the underground electricity line is within a 50m buffer zone.

The following section details the measures which will be put in place during the construction phase to ensure that surface water features are protected from the release of silt or sediment and to ensure that all surface water runoff is fully treated and attenuated to avoid the discharge of dirty water.

- Source controls to limit the likelihood for 'dirty water' to occur:

- Interceptor drains, vee-drains, diversion drains, flume pipes, erosion and velocity control measures such as use of sand bags, oyster bags filled with clean washed gravel, filter fabrics, and other similar/equivalent or appropriate systems;
- Small working areas, covering stockpiles, weathering off stockpiles, cessation of works in certain areas or other similar/equivalent or appropriate measures.
- In-Line controls to ensure appropriate management of silt laden water:
 - Interceptor drains, vee-drains, oversized swales, erosion and velocity control measures such as check dams, sand bags, oyster bags, straw bales, flow limiters, weirs, baffles, silt bags, silt fences, sedimats, filter fabrics, and collection sumps, temporary sumps/attenuation lagoons, sediment traps, pumping systems, settlement ponds, temporary pumping chambers, or other similar/equivalent or appropriate systems.
- Treatment systems to fully attenuate silt laden waters prior to discharge:
 - Temporary sumps and attenuation ponds, temporary storage lagoons, sediment traps, and settlement ponds, and proprietary settlement systems such as Siltbuster, and/or other similar/equivalent or appropriate systems; and
 - The existing settlement ponds lagoons on the BnM lands.

It should be noted for this site that an extensive network of bog drains already exists, and these will be integrated and enhanced as required and used within the wind farm drainage system. The wind farm drainage will coexist with the BnM bog rehabilitation plan. The integration of the existing land drainage network and the proposed wind farm network is common practice in wind energy developments and will also result in benefits to surrounding lands.

The main elements of interaction with existing drains will be as follows:

- Apart from interceptor drains, which will convey clean runoff water to the downstream drainage system, there will be no direct discharge (without treatment for sediment reduction and attenuation for flow management) of runoff from the wind farm drainage into the existing site drainage network. This will reduce the likelihood of any increased risk of downstream flooding or sediment transport/erosion;
- Silt traps will be placed in the existing drains upstream of any streams where construction works is taking place, and these will be diverted into proposed interceptor drains, or culverted under/across the works area; and
- Buffered outfalls, which will be numerous over the site, will promote percolation of drainage waters across vegetation and close to the point at which the additional runoff is generated, rather than direct discharge to the existing drains of the site.

Water Treatment Train

While the silt/sediment ponds and lagoons are assessed as providing a sufficient level of protection to avoid any deterioration in downstream water quality; a final line of defence can be provided by a water treatment train such as a 'Siltbuster', if required. If the discharge water from construction areas fails to be of a high quality, then a

filtration treatment system (such as a 'Siltbuster' or similar equivalent treatment train [sequence of water treatment processes]) will be used to filter and treat all surface discharge water collected in the dirty water drainage system. This water treatment train will apply for the entirety of the construction phase.

Silt Fences

Silt fences will be emplaced within drains down-gradient of all construction areas. Silt fences are effective at removing heavy settleable solids. This will act to prevent entry to watercourses of sand and gravel sized sediment, released from excavation of mineral sub-soils of glacial and glacio-fluvial origin, and entrained in surface water runoff. Inspection and maintenance of these structures during construction phase is critical to their functioning to stated purpose. They will remain in place throughout the entire construction phase. Double silt fences will be emplaced within drains down-gradient of all construction areas inside the hydrological buffer zones to provide an additional layer of protection in these areas.

Silt Bags

Silt bags will be used where small to medium volumes of water need to be pumped from excavations. As water is pumped through the bag, most of the sediment is retained by the geotextile fabric allowing filtered water to pass through. Silt bags will be used with natural vegetation filters or sedimats (sediment entrapment mats, consisting of coir or jute matting) placed at the silt bag location to provide further treatment of the water outfall from the silt bag. Sedimats will be secured to the ground surface using stakes/pegs. The sedimat will extend to the full width of the outfall to ensure all water passes through this additional treatment measure.

Existing BnM/Galros Bog Settlement Ponds/lagoons

The project infrastructure on the BnM lands (i.e. turbines T9 – T11 and spoil deposition areas) have the added benefit of the existing settlement ponds/lagoon providing additional attenuation and any future measures introduced as part of the rehabilitation plan.

Management of Runoff from Peat/Spoil Deposition Areas

It is proposed that excavated overburden/spoil will be utilised for reinstatement of excavated areas etc. and for landscaping purposes. Excess material, or material which is unsuitable for this purpose, will be stored, permanently, at 1 no. dedicated spoil deposition area located southeast of proposed turbine T11 as well as smaller deposition areas at each of the 3 no. turbine locations.

All proposed spoil deposition areas are located outside the 50m stream buffer zone (refer to **Annex 7.4** of the EIAR).

During the initial placement of spoil in the deposition areas, silt fences, straw bales and biodegradable matting will be used to control surface water runoff. Double silt fencing will be placed along the edge of each bog drain that intercepts the deposition areas.

Drainage from overburden deposition areas will ultimately be into to the existing bog drain network where it is proposed that check dams will be installed every 20m or so to create a series of settlement ponds, before being discharged.

The spoil deposition area drainage on the BnM lands have the added benefit of the existing settlement ponds/lagoons.

Spoil deposition areas will be sealed with a digger bucket and vegetated as soon possible to reduce sediment entrainment in runoff. Once re-vegetated and stabilised, spoil deposition areas will no longer be a likely source of silt laden runoff. Surface water protection infrastructure will be left in place until the areas have stabilised.

Underground Electricity Line Installation Works

Mitigation measures which are outlined below will be implemented to ensure that silt laden or contaminated surface water runoff from the trenching work does not discharge directly to the Rapemills River:

- All existing dry drains that intercept the works area will be temporarily blocked down-gradient of the works using temporary check dams/silt traps (e.g. straw bales);
- Clean water diversion drains will be installed upgradient of the works areas, as required;
- Check dams/silt fence arrangements (silt traps or straw bales) will be placed in all existing drains that have surface water flows and also along existing roadside drains;
- A double silt fence perimeter will be placed down-slope of works areas that are located inside the watercourse 50m buffer zones;
- At drain crossing locations, where open trenching is required, damming and over pumping method will be used to manage flows in the drain.

Specific mitigation measures relating to the directional drilling at the crossing location are detailed below.

Horizontal Directional Drilling (HDD)

The following mitigation will be carried out during directional drilling works:

- Firstly, the crossing works area will be clearly marked out with fencing or flagging tape to avoid unnecessary disturbance of vegetation;
- A minimum 10m vegetated buffer will be maintained between the HDD working areas, including launch and receiving pits, and the riverbank. Plant entry into this buffer will be avoided. Where limited access within the buffer is demonstrably unavoidable, ground-protection mats will be used and the duration and extent of access will be minimised;
- Double silt fencing will be placed upslope of the buffer zone on each side of the watercourse.
- Mats will be used underneath the excavator, inside the 10 metre vegetative buffer zone, to prevent soil erosion/rutting and potential surface water quality impacts from localised surface water runoff;
- Temporary storage of excavated material will be undertaken outside of the 10m buffer on flat ground or within a local hollow area. A containment berm will be placed downslope of the excavated material which in turn will be surrounded by secondary silt fence protection to prevent saturated soil from flowing back into the watercourse;
- Operation of machinery and use of equipment within the 10m buffer will be kept to a minimum to avoid any unnecessary disturbance;
- There will be no refuelling allowed within 50m of the watercourse crossing;

- All plant will be checked for purpose of use prior to mobilisation at the watercourse crossing; and,
- Works shall not take place during periods of heavy rainfall and will be scaled back or suspended if heavy rain is forecasted.

Mitigation Measures relating to the use of a mixture of a natural, inert and fully biodegradable drilling fluid such as Clear Bore™ and water for directional drilling include:

- The area around the Clear Bore™ batching, pumping and recycling plants will be bunded using terram and sandbags in order to contain any spillages;
- One or more lines of silt fences will be placed between the works area and adjacent rivers and streams on both banks;
- Accidental spillage of fluids will be cleaned up immediately and transported off site for disposal at a licensed facility; and,
- Adequately sized skips will be used for temporary storage of drilling arisings during directional drilling works. This will ensure containment of drilling arisings and drilling flush.

A Fracture Blow-out (Frac-out) Prevention and Contingency Plan will be prepared by the drilling contractor prior to construction and will include the following measures:

- The drilling fluid/bentonite will be non-toxic and naturally biodegradable (i.e., Clear Bore Drilling Fluid or similar will be used);
- The area around the drilling fluid batching, pumping and recycling plants will be bunded using terram and/or sandbags to contain any potential spillage;
- A double row of silt fencing will be placed between the works area and the adjacent river;
- Spills of drilling fluid will be cleaned up immediately and transported off-site for disposal at a licensed facility;
- Adequately sized skips will be used where temporary storage of arisings are required;
- The drilling process/pressure will be constantly monitored to detect any possible leaks or breakouts into the surrounding geology or local watercourse;
- This will be gauged by observation and by monitoring the pumping rates and pressures. If any signs of breakout occur then drilling will be immediately stopped;
- Any frac-out material will be contained and removed off-site;
- The drilling location will be reviewed, before re-commencing with a higher viscosity drilling fluid mix; and,
- If the risk of a further inadvertent return remains high, the drilling methodology and alignment will be reviewed within the assessed works corridor before drilling recommences.

Pre-emptive Site Drainage Management

The works programme for the initial construction stage of the development will also take account of weather forecasts, and predicted rainfall in particular. Large excavations and movements of soil/subsoil or vegetation stripping will be suspended

or scaled back if prolonged or intense rain is forecast. The extent to which works will be scaled back or suspended will relate directly to the amount of rainfall forecast.

The following forecasting systems are available and will be used on a daily basis at the site to direct proposed construction activities:

- General Forecasts: Available on a national, regional and county level from the Met Eireann website (www.met.ie/forecasts). These provide general information on weather patterns including rainfall, wind speed and direction but do not provide any quantitative rainfall estimates;
- Meteo Alarm: Alerts to the possible occurrence of severe weather for the next 2 days. Less useful than general forecasts as only available on a provincial scale;
- 3 hour Rainfall Maps: Forecast quantitative rainfall amounts for the next 3 hours but does not account for possible heavy localised events;
- Rainfall Radar Images: Images covering the entire country are freely available from the Met Eireann website (www.met.ie/latest/rainfall_radar.asp). The images are a composite of radar data from Shannon and Dublin airports and give a picture of current rainfall extent and intensity. Images show a quantitative measure of recent rainfall. A 3 hour record is given and is updated every 15 minutes. Radar images are not predictive; and,
- Consultancy Service: Met Eireann provide a 24 hour telephone consultancy service. The forecaster will provide interpretation of weather data and give the best available forecast for the area of interest.

Using the safe threshold rainfall values will allow work to be safely controlled (from a water quality perspective) in the event of an impending high rainfall intensity event.

Works will be suspended if forecasting suggests any of the following is likely to occur:

- >10 mm/hr (i.e. high intensity local rainfall events);
- >25 mm in a 24-hour period (heavy frontal rainfall lasting most of the day); or,
- >half monthly average rainfall in any 7 days.

Prior to works being suspended the following control measures will be completed:

- Secure all open excavations;
- Provide temporary or emergency drainage to prevent back-up of surface runoff; and,
- Avoid working during heavy rainfall and for up to 24-hours after heavy events to ensure drainage systems are not overloaded.

Timing of Site Construction Works

The construction of the site drainage system will be carried out, at the respective locations, prior to other activities being commenced. The construction of the drainage system will only be carried out during periods of, where possible, no rainfall, therefore avoiding runoff. This will avoid the risk of entrainment of suspended sediment in surface water runoff, and transport via this pathway to surface watercourses. Construction of the drainage system during this period will also ensure that attenuation features associated with the drainage system will be in place and functional for all subsequent construction works.

Monitoring

A detailed Water Quality Monitoring Plan will form part of the construction-stage CEMP. Monitoring will include baseline, construction and post-construction monitoring, with field testing and laboratory analysis of the agreed parameters. The surface water sampling locations SW1–SW4 will be used during construction, supplemented by additional locations where required to monitor individual working areas.

The civil works contractor and EM will regularly inspect the drainage system, particularly following heavy rainfall, to identify blockages, unintended standing water, erosion and sediment accumulation. Accumulated sediment that reduces the effectiveness of a drainage feature will be removed and managed appropriately. The monitoring plan will identify sampling frequencies, assessment criteria, reporting responsibilities and the corrective actions required where deterioration or ineffective treatment is identified.

5.2 EXCAVATION DEWATERING AND EFFECTS ON SURFACE WATER QUALITY

The management of excavation dewatering (pumping), particularly in relation to any accumulation of water in foundations or underground electricity line trenches, and subsequent treatment prior to discharge into the drainage network will be undertaken as follows:

- Appropriate interceptor drainage, to prevent upslope surface runoff from entering excavations, will be put in place;
- The interceptor drainage will be discharged to the site constructed drainage system or onto natural vegetated surfaces and not directly to surface waters to ensure that Greenfield runoff rates are mimicked;
- If required, pumping of excavation inflows will prevent build-up of water in the excavation;
- The pumped water volumes will be discharged via volume and silt/sediment ponds and settlement lagoons adjacent to excavation areas, or via specialist treatment systems such as a Siltbuster unit;
- There will be no direct discharge to surface watercourses, and therefore no risk of hydraulic loading or contamination will occur;
- Daily monitoring of wind farm excavations by the Environmental Manager will occur during the construction phase. If high levels of seepage inflow occur, excavation work at this location will cease immediately and a geotechnical assessment undertaken; and,
- A mobile ‘Siltbuster’ or similar equivalent specialist treatment system will be available on-site for emergencies. Siltbusters are mobile silt traps that can remove fine particles from water using a proven technology and hydraulic design in a rugged unit. The mobile units are specifically designed for use on construction-sites. They will be used as final line of defence if needed.

5.3 RELEASE OF HYDROCARBONS DURING CONSTRUCTION AND STORAGE

Measures proposed to avoid release of hydrocarbons at the site are as follows:

- The volume of fuels or oils stored on site will be minimised. All fuel and oil will be stored in an appropriately bunded area within the temporary construction

compound. Only an appropriate volume of fuel will be stored at any given time. The bunded area will be roofed to avoid the ingress of rainfall and will be fitted with a storm drainage system and an appropriate oil interceptor;

- All bunded areas will have 110% capacity of the volume to be stored;
- On site refuelling of machinery will be carried out using a mobile double skinned fuel bowser. The fuel bowser, a double-axel custom-built refuelling trailer will be re-filled at the temporary compound and will be towed around the site by a 4x4 jeep to where plant and machinery is located. No refuelling will be permitted at works locations within the 50m hydrological buffer. The 4x4 jeep will also be fully stocked with fuel absorbent material and pads in the event of any accidental spillages. The fuel bowser will be parked on a level area in the construction compound when not in use and only designated trained and competent operatives will be authorised to refuel plant on site. Mobile measures such as drip trays and fuel absorbent mats will be used during all refuelling operations to avoid any accidental leakages;
- All plant and machinery used during construction will be regularly inspected for leaks and fitness for purpose;
- Spill kits will be readily available to deal with and accidental spillages;
- All waste tar material arising from road cuttings (from trenching or other works in public roads) will be removed off-site and taken to a licensed waste facility. Due to the potential for contamination of soils and subsoils, it is not proposed to utilise this material for any reinstatement works; and
- An outline emergency plan for the construction phase to deal with accidental spillages is contained within the Planning-Stage CEMP. This emergency plan will be further developed prior to the commencement of development, and will be agreed with the Planning Authority as part of the detailed CEMP.

5.4 RELEASE OF CEMENT-BASED PRODUCTS

The following mitigation measures are proposed to ensure that the release of cement-based products is avoided:

- No batching of wet-cement products will occur on site. Ready-mixed concrete will be brought to site as required and, where possible, emplacement of pre-cast products, will take utilised;
- All drain crossings will utilise pre-cast products and the use of wet-cement products within the hydrological buffer will be avoided;
- Where concrete is delivered on site, only the chute will be cleaned, using the smallest volume of water practicable. Chute cleaning will be undertaken at lined cement washout ponds with waters being stored in the temporary construction compound, removed off site and disposed of at an approved licensed facility. No discharge of cement contaminated waters to the construction phase drainage system or directly to any artificial drain or watercourse will be allowed;
- Weather forecasting will be used to ensure that prolonged or intense rainfall is not predicted during concrete pouring activities; and,

The concrete pour site will be kept free of standing water and plastic covers will be ready in case of sudden rainfall event.

5.5 RATH GROUP WATER SCHEME

The Rath groundwater source serves Eglish, Rath & Drumcullen GWS Ltd, the scheme referred to within the project EIAR. The designation 'Rath Group Water Scheme' is retained in this SWMP for consistency with the project EIAR and the GSI/Offaly County Council report, Rath Group Water Scheme Groundwater Source Protection Zones (July 2009), which informs the assessment.

The underground electricity line passes through the mapped Rath Group Water Scheme source protection area. The following measures will be implemented:

- No refuelling or handling of fuels, oils, lubricants or chemicals will be permitted within 100m of the mapped source protection area boundary.
- Where concrete is to be poured, a geotextile liner will be placed around the founding layer of lean-mix concrete.
- Clear signage will be installed within the source protection area to identify the drinking water protection area and the restrictions on the use of fuels, oils, lubricants and chemicals.

5.6 CONSTRUCTION-STAGE FLOOD RISK – UNDERGROUND ELECTRICITY LINE

The EM or ECoW will monitor weather forecasts and rainfall warnings and implement a forecast-based trigger-response procedure for works within the fluvial floodplain. Preparations will begin when forecasts indicate a potential high-intensity rainfall event. Sustained rainfall forecast to last more than four hours, any Met Éireann Status Yellow or higher rainfall warning affecting the works area, and the rainfall thresholds (specified in **Section 5.1** of the project EIAR) will trigger the relevant precautionary response.

A managed retreat from the floodplain will be implemented before anticipated inundation. Exposed soil and subsoil surfaces will be secured, open trenches will be backfilled and compacted, and plant, machinery and equipment will be removed from the flood zones. Temporary sediment controls liable to be washed away will be removed as part of the managed retreat, following the securing of exposed working areas. Exposed stockpiles will be covered during heavy rainfall and periods when works have ceased.

Works will be postponed during flooding or high river flows and will remain suspended until the storm and associated runoff have passed. Before works recommence, the working areas and drainage controls will be inspected, necessary corrective measures completed, and temporary sediment controls reinstated.

6.0 OPERATION PHASE MEASURES

Following completion of construction and stabilisation of disturbed surfaces, the potential for sediment-laden runoff will reduce. Runoff from access tracks, hardstandings and the switch room compound will continue to be managed through the retained drainage system, including swales, check dams, settlement ponds and buffered outfalls. The drainage arrangements will control runoff rates and provide treatment before release, having regard to the low-permeability ground conditions at the wind farm site.

Infiltration interceptor drains will be retained for the duration of the project to ensure that up-slope ('clean') runoff is directed away from site infrastructure and managed

in an appropriate manner.

Swales, check dams and settlement/silt ponds (i.e. for the management of 'dirty' water) shall be retained for the duration of the project. The swales, having become vegetated, and check dams will act as a filtration feature for the low volume of surface water runoff arising and provide primary treatment and attenuation for runoff.

The following measures will also be implemented.

6.1 REPLACEMENT OF NATURAL SURFACES

The operational phase drainage system of the project is described below:-

- Interceptor drains will be installed up-gradient of all infrastructure to collect clean surface runoff, in order to minimise the amount of runoff reaching areas where suspended sediment could become entrained. It will then be directed to areas where it can be re-distributed over the ground by means of a level spreader;
- Swales/track side drains will be used to collect runoff from access tracks, crane hardstanding areas and electrical switch room compound areas which may contain entrained suspended sediment, and channel it to settlement ponds for sediment settling;
- Transverse drains ('grips') will be constructed, where appropriate, in the surface layer of access tracks to divert any runoff into swales/track side drains;
- Check dams will be used along sections of access tracks drains to intercept silts at source. Check dams will be constructed from a 40mm non-friable crushed rock or similar;
- Swales and check dams will buffer volumes of runoff discharging from the drainage system during periods of high rainfall, by retaining water until the storm hydrograph has receded, thus reducing the hydraulic loading to watercourses; and,
- Settlement ponds will be designed in accordance the greenfield runoff rate requirements; and,
- Imported rock for construction purposes and road surfacing will be strong, well-graded limestone which will be resistant to erosion and have a low likelihood to generate fines in hardstand runoff.

The operation of the underground electricity line will not result in any likely hydrological or water quality effects and therefore do not require mitigation measures.

6.2 HYDROCARBONS SPILLAGES/LEAKAGES

Measures relating to oils and fuels are as follows:-

- All storage containers will be labelled appropriately, including hazardous markings;
- Fuel storage during the operation phase will be minimised. Any fuel stored on site will be held in appropriately bunded storage;
- Any oil storage tanks will be located within an impermeable bund capable of holding 110% of the stored oil volume;
- Bunds will be to standard specified in CIRIA Report 163 'Construction of bunds for oil storage tanks' and CIRIA Report C535 'Above-ground proprietary

prefabricated oil storage tank systems;

- Barrels and bunded containers will be stored upright and internally where appropriate and always on drip trays or sump pallets;
- Appropriate spill kits will be available at all storage locations;
- Turbine transformers will be located within the turbines, and any leaks will be fully contained within the turbine thus eliminating any pathway for leakages to affect land and soil.
- Maintenance vehicles will be regularly inspected for leaks and fitness for purpose;
- All fuel/chemical storage facilities will be subject to weekly inspection; and,
- An emergency plan for the operational phase to deal with accidental spillages will be contained within Environmental Management Plan. Spill kits will be available to deal with accidental spillages.

7.0 DECOMMISSIONING PHASE MEASURES

Prior to decommissioning works, a detailed Decommissioning Plan will be developed to detail the methods and measures to be adopted during that phase of works. The Decommissioning Plan will avail of, and implement, prevailing best practice measures including surface water protection methods.

It is likely that the methods adopted will be similar to those presented above in respect of the construction phase but of a reduced scale. Regardless of the specific practices and methods to be adopted; the overall objective will be the prevention of any silt, sediment or deleterious matter being discharged from the site such that could cause a deterioration in downstream water quality.

The drainage system will remain operational throughout decommissioning. Temporary runoff controls will be installed before ground disturbance, and disturbed areas will be revegetated as soon as practicable and monitored until vegetation is established.

8.0 CONCLUSION

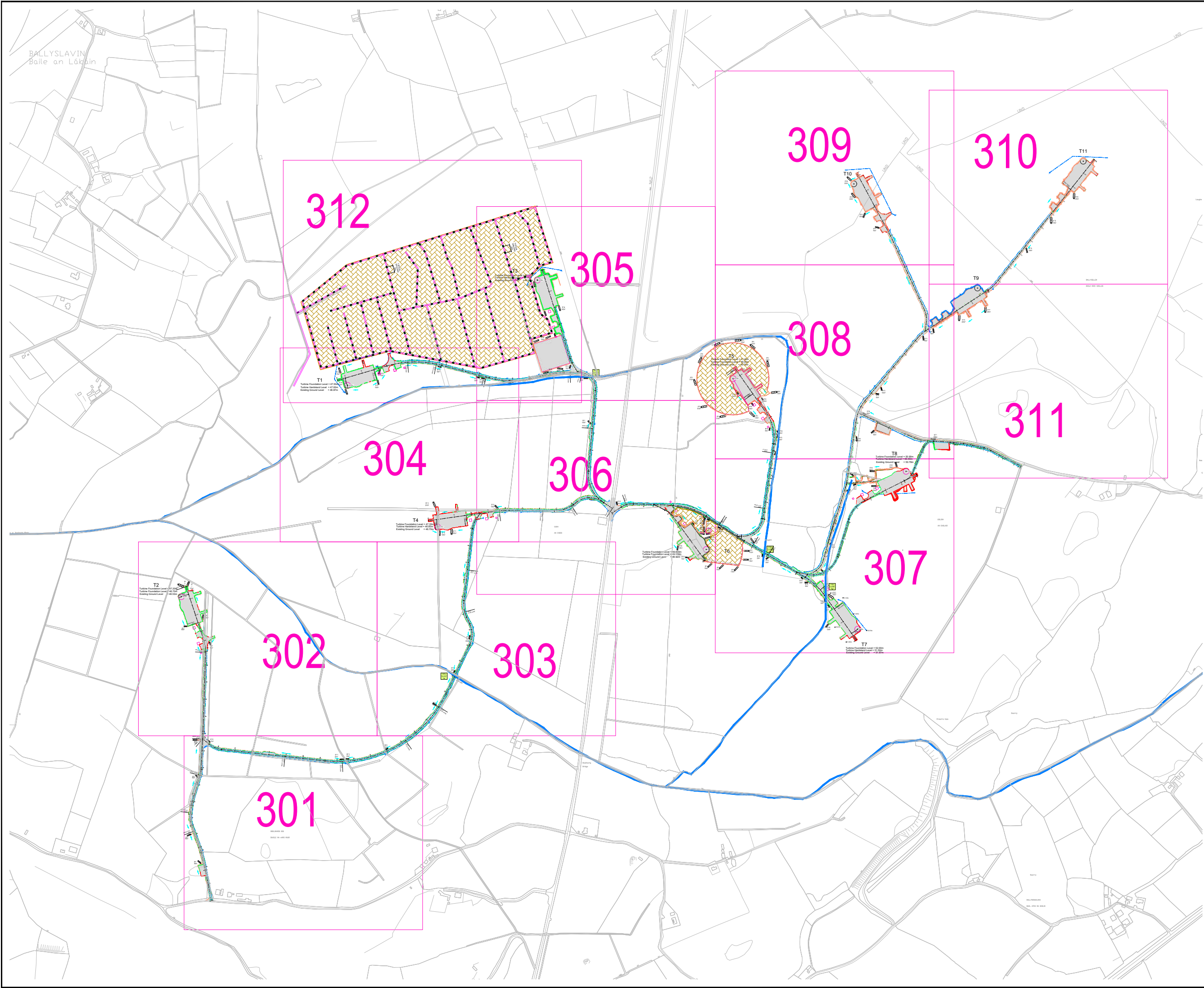
This SWMP has been prepared to detail the practical implementation of surface water management infrastructure to address the requirements of measures set out in the EIAR. This is a live document and will be updated by the appointed Contractor prior to the commencement of development. Prior to the commencement of construction, the updated SWMP will be reviewed by the Environmental Manager (EM) and Ecological Clerk of Works (ECOW), as necessary, to confirm the appropriateness of the measures set out therein.

The SWMP incorporates the principles of SuDS; with the overall objective of ensuring that no silt, sediment or other material is discharged from the site to surrounding drainage features; to ensure that the project does not adversely affect the drainage regime within the project site and in its vicinity.

The proposed SuDS comprises drainage infrastructure to intercept and direct 'clean' incidental runoff away from works locations; and a separate surface water management train to effectively control manage and treat 'dirty' water runoff from the works areas.

The efficacy of the measures set out in this SWMP will be regularly monitored and will be supported by water quality monitoring as set out in the Water Quality Monitoring Plan.

ANNEX 1 - PLANNING-STAGE DRAINAGE/SURFACE WATER MANAGEMENT SYSTEM



- NOTES:
- 1 FIGURED DIMENSIONS ONLY TO BE TAKEN FROM THIS DRAWING.
 - 2 ALL DRAWINGS TO BE CHECKED BY THE CONTRACTOR ON SITE.
 - 3 ENGINEER TO BE INFORMED OF ANY DISCREPANCIES BEFORE ANY WORK COMMENCES.
 - 4 THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DRAWINGS AND SPECIFICATIONS.

Legend

- Proposed Access Road in Cut
- Proposed Access Road in Fill
- Proposed Hardstand
- Proposed Clean Water Drainage
- Proposed Dirty Water Drainage
- SP 12 550m²
- Stilling Pond Number, Catchment Area & Flow Direction
- Proposed Culvert to Existing Open Drain
- Spoil Deposition Area

			Ordnance Survey Ireland Licence: No. CYAL50313915 © Ordnance Survey Ireland / Government of Ireland OS Sheets: 3643, 3644, 3701 & 3702		
P01.3	Silt Ponds added to Spoil Deposition Areas, Drainage Table Updated	AMcC	23.11.23		
P01.2	Spoil Deposition Areas Updated	AMcC	13.11.23		
P01.1	Issued For Comment	AMcC	13.04.23		
rev.	modifications		by	date	

Client

Project Cush Wind Farm, Co Offlay.

Stage Planning

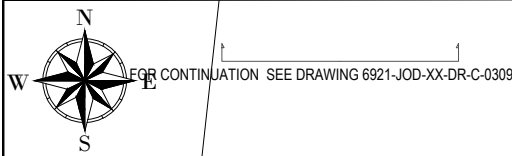
Title Drainage Layout Keyplan

Scales 1:10,000 (A3)

Surveyed	Prepared By AMcC	Checked JMcE	Date 16.04.2023
----------	------------------	--------------	-----------------

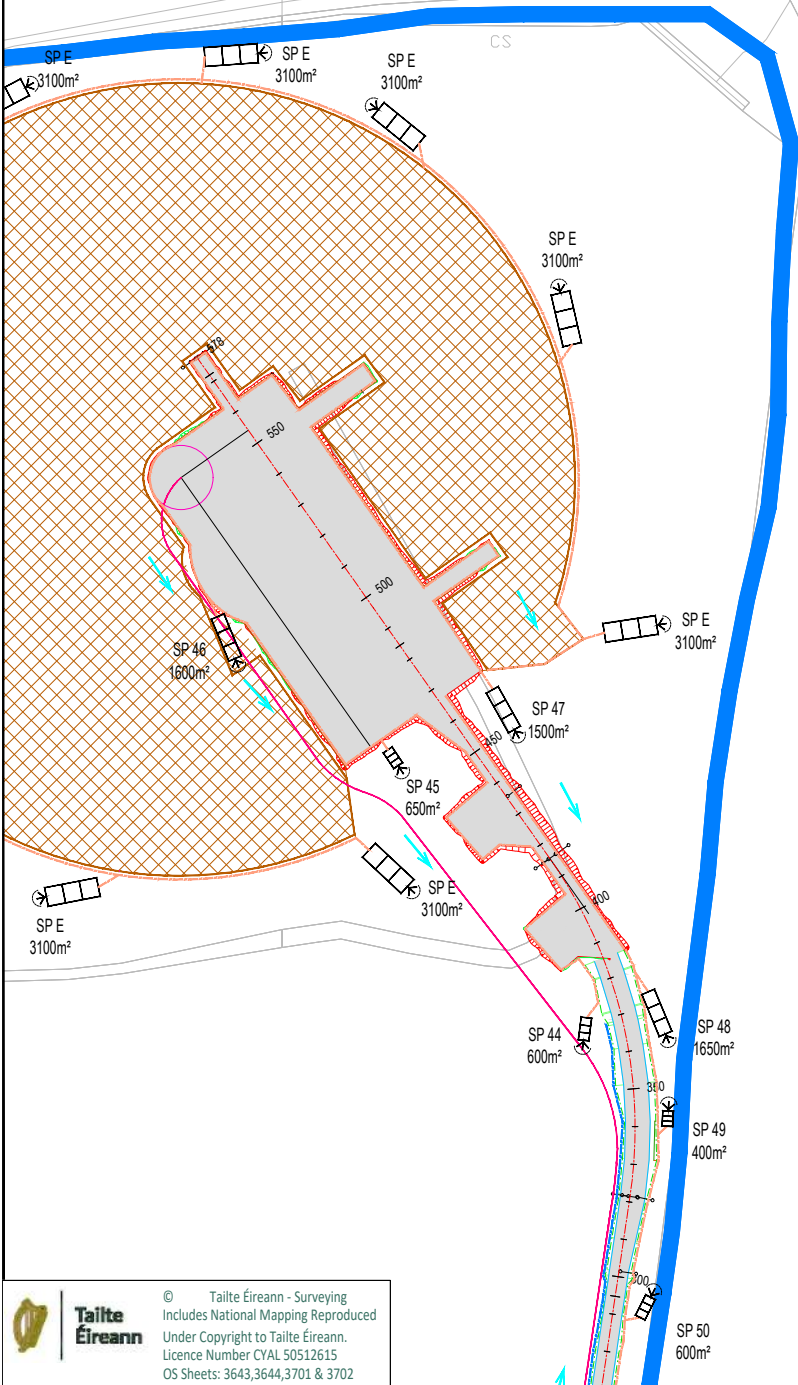
© COPYRIGHT OF JENNINGS O'DONOVAN & PARTNERS CONSULTING ENGINEERS, FINISKLIN, SLIGO, IRELAND.
TEL: (0035371) 9161416.
FAX: (0035371) 9161080.
Email: info@jodireland.com
Web: www.jodireland.com

Job No. 6921	Drawing no. 6921-JOD-XX-DR-C-0300	Revision P01.3
--------------	-----------------------------------	----------------



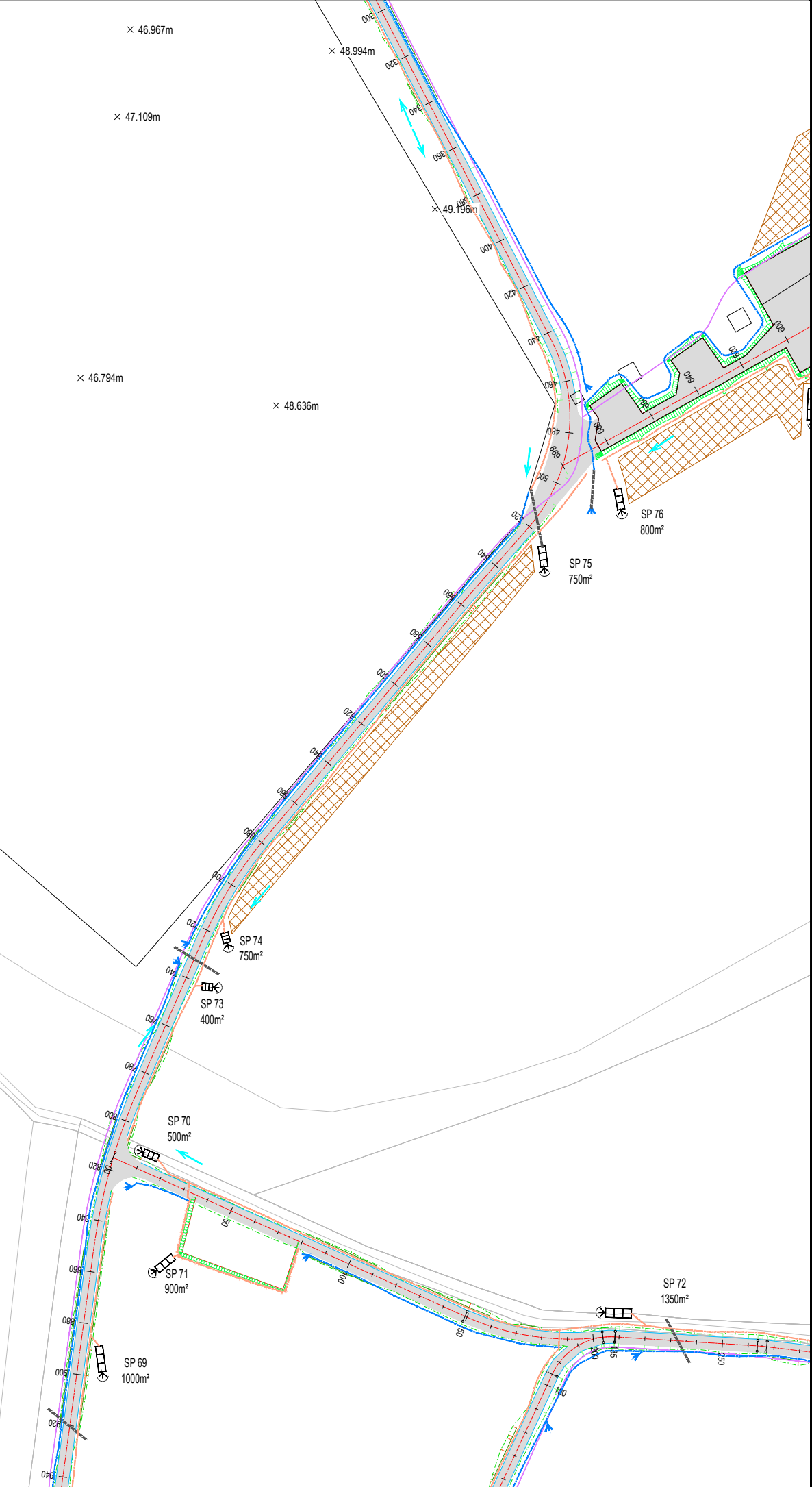
T5

Turbine Foundation Level = 47.40m
Turbine Foundation Level = 46.90m
Existing Ground Level = 46.75m



Pond Ref. SP	Development Area (m ²)	Dim. length (m)	Dim. Width (m)	Dim. Depth (m)
1	950	8	2.8	0.75
2	800	8	2.8	0.75
3	450	4	2.8	0.75
4	1750	9	4.5	0.75
5	650	6	2.8	0.75
6	3100	14	5.2	0.75
7	1700	9	4.5	0.75
8	1700	9	4.5	0.75
9	500	6	2.8	0.75
10	1150	8	3.6	0.75
11	825	8	2.8	0.75
12	550	6	2.8	0.75
13	330	4	2.8	0.75
14	1125	8	3.6	0.75
15	425	4	2.8	0.75
16	1050	8	3.6	0.75
17	2500	12	5.2	0.75
18	1500	10	3.6	0.75
19	2000	12	4.5	0.75
20	1500	10	3.6	0.75
21	1100	8	3.6	0.75
22	925	8	2.8	0.75
23	650	6	2.8	0.75
24	550	6	2.8	0.75
25	550	6	2.8	0.75
26	1500	10	3.6	0.75
27	1500	10	3.6	0.75
28	1750	12	3.6	0.75
29	1750	12	3.6	0.75
30	700	6	2.8	0.75
31	700	6	2.8	0.75
32	1500	10	3.6	0.75
33	1600	12	3.6	0.75
34	1600	12	3.6	0.75
35	500	6	2.8	0.75
36	1200	10	2.8	0.75
37	720	6	2.8	0.75
38	1600	12	3.6	0.75
39	1450	10	3.6	0.75
40	650	6	2.8	0.75
41	500	6	2.8	0.75
42	200	4	2.8	0.75
43	500	6	2.8	0.75
44	600	6	2.8	0.75
45	650	5	2.8	0.75
46	1600	12	3.6	0.75
47	1500	10	3.6	0.75
48	1650	12	3.6	0.75
49	400	4	2.8	0.75
50	600	6	2.8	0.75
51	1100	10	2.8	0.75
52	500	6	2.8	0.75
53	250	4	2.8	0.75
54	350	4	2.8	0.75
55	350	4	2.8	0.75
56	500	6	2.8	0.75
57	500	6	2.8	0.75
58	500	6	2.8	0.75
59	1250	8	3.6	0.75
60	3300	14	5.6	0.75
61	550	6	2.8	0.75
62	500	6	2.8	0.75
63	500	6	2.8	0.75
64	400	4	2.8	0.75
65	1550	10	3.6	0.75
66	1500	10	3.6	0.75
67	1500	10	3.6	0.75
68	750	8	2.8	0.75
69	1000	10	2.8	0.75
70	500	6	2.8	0.75
71	900	8	2.8	0.75
72	1350	10	3.6	0.75
73	400	4	2.8	0.75
74	750	8	2.8	0.75
75	750	8	2.8	0.75
76	800	8	2.8	0.75
77	2400	12	5.2	0.75
78	2400	12	5.2	0.75
79	1200	10	2.8	0.75
80	3100	14	5.6	0.75
81	2400	12	5.2	0.75
82	750	8	2.8	0.75
83	1350	10	3.6	0.75
84	2300	12	4.5	0.75
85	2300	12	4.5	0.75
86	1800	12	3.6	0.75
87	1800	12	3.6	0.75
88	1800	12	3.6	0.75
89	1800	12	3.6	0.75
E	3100	14	5	0.75
F	1750	12	3.6	0.75
G	1100	8	3.6	0.75
H	1750	12	3.6	0.75

FOR CONTINUATION SEE DRAWING 6921-JOD-XX-DR-C-0311



NOTES:

- 1 FIGURED DIMENSIONS ONLY TO BE TAKEN FROM THIS DRAWING.
- 2 ALL DRAWINGS TO BE CHECKED BY THE CONTRACTOR ON SITE.
- 3 ENGINEER TO BE INFORMED OF ANY DISCREPANCIES BEFORE ANY WORK COMMENCES.
- 4 THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DRAWINGS AND SPECIFICATIONS.

Legend

- Proposed Access Road in Cut
- Proposed Access Road in Fill
- Proposed Handstand
- Proposed Clean Water Drainage
- Proposed Dirty Water Drainage
- SP 12 550m² Stilling Pond Number, Catchment Area & Flow Direction
- Proposed Culvert to Existing Open Drain
- Spoil Deposition Area
- Existing Streams
- Double Silt Fence
- Cable Route Phase 2
- Cable Routes

KEYPLAN

P01.5	Updated Control Room, Cabling & Settlement Pond Numbering	A.G	10.08.26
P01.4	Updated T8,T9,T10,T11 & Drainage Layout	A.G	11.06.26
P01.3	Silt Ponds added to Spoil Deposition Areas, Drainage Table Updated	AMcC	23.11.23
P01.2	Spoil Deposition Areas Updated	AMcC	13.11.23
P01.1	Issued For Comment	AMcC	13.04.23
rev.	modifications	by	date

Client

Cush Wind Farm

Project

Cush Wind Farm, Co Offlay.

Stage

Planning

Title

Drainage Layout Plan
Sheet 8 of 12

Scales

1:2000 (A3)

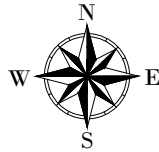
Surveyed	Prepared	Checked	Approved	Date
	A.G	JMcE	JMcE	June 2026

JENNINGS O'DONOVAN
an RSK company

© COPYRIGHT OF
JENNINGS O'DONOVAN AND PARTNERS LIMITED
FINISKLIN Tel (+353) 719 161 416
SLIGO Email. info@jodireland.com
IRELAND www.jodireland.com

@JOD_Sligo Jennings O'Donovan & Partners Jennings O'Donovan

Job Ref.	Drawing No.	Revision
6921	6921-JOD-XX-DR-C-0308	P01.5



Pond Ref. SP	Development Area (m ²)	Dim. Length (m)	Dim. Width (m)	Dim. Depth (m)
1	950	8	2.8	0.75
2	800	8	2.8	0.75
3	450	4	2.8	0.75
4	1750	9	4.5	0.75
5	650	6	2.8	0.75
6	3100	14	5.2	0.75
7	1700	9	4.5	0.75
8	1700	9	4.5	0.75
9	500	6	2.8	0.75
10	1150	8	3.6	0.75
11	825	8	2.8	0.75
12	550	6	2.8	0.75
13	330	4	2.8	0.75
14	1125	8	3.6	0.75
15	425	4	2.8	0.75
16	1050	8	3.6	0.75
17	2500	12	5.2	0.75
18	1500	10	3.6	0.75
19	2000	12	4.5	0.75
20	1500	10	3.6	0.75
21	1100	8	3.6	0.75
22	925	8	2.8	0.75
23	650	6	2.8	0.75
24	550	6	2.8	0.75
25	550	6	2.8	0.75
26	1500	10	3.6	0.75
27	1500	10	3.6	0.75
28	1750	12	3.6	0.75
29	1750	12	3.6	0.75
30	700	6	2.8	0.75
31	700	6	2.8	0.75
32	1500	10	3.6	0.75
33	1600	12	3.6	0.75
34	1600	12	3.6	0.75
35	500	6	2.8	0.75
36	1200	10	2.8	0.75
37	720	6	2.8	0.75
38	1600	12	3.6	0.75
39	1450	10	3.6	0.75
40	650	6	2.8	0.75
41	500	6	2.8	0.75
42	200	4	2.8	0.75
43	500	6	2.8	0.75
44	600	6	2.8	0.75
45	650	5	2.8	0.75
46	1600	12	3.6	0.75
47	1500	10	3.6	0.75
48	1650	12	3.6	0.75
49	400	4	2.8	0.75
50	600	6	2.8	0.75
51	1100	10	2.8	0.75
52	500	6	2.8	0.75
53	250	4	2.8	0.75
54	350	4	2.8	0.75
55	350	4	2.8	0.75
56	500	6	2.8	0.75
57	500	6	2.8	0.75
58	500	6	2.8	0.75
59	1250	8	3.6	0.75
60	3300	14	5.6	0.75
61	550	6	2.8	0.75
62	500	6	2.8	0.75
63	500	6	2.8	0.75
64	400	4	2.8	0.75
65	1550	10	3.6	0.75
66	1500	10	3.6	0.75
67	1500	10	3.6	0.75
68	750	8	2.8	0.75
69	1000	10	2.8	0.75
70	500	6	2.8	0.75
71	900	8	2.8	0.75
72	1350	10	3.6	0.75
73	400	4	2.8	0.75
74	750	8	2.8	0.75
75	750	8	2.8	0.75
76	800	8	2.8	0.75
77	2400	12	5.2	0.75
78	2400	12	5.2	0.75
79	1200	10	2.8	0.75
80	3100	14	5.6	0.75
81	2400	12	5.2	0.75
82	750	8	2.8	0.75
83	1350	10	3.6	0.75
84	2300	12	4.5	0.75
85	2300	12	4.5	0.75
86	1800	12	3.6	0.75
87	1800	12	3.6	0.75
88	1800	12	3.6	0.75
89	1800	12	3.6	0.75
E	3100	14	5	0.75
F	1750	12	3.6	0.75
G	1100	8	3.6	0.75
H	1750	12	3.6	0.75

FOR CONTINUATION SEE DRAWING 6921-JOD-XX-DR-C-03-10

T10
Turbine Foundation Level = 49.800m
Turbine Hardstand Level = 49.300m
Existing Ground Level = 48.19m

NOTES:
1 FIGURED DIMENSIONS ONLY TO BE TAKEN FROM THIS DRAWING.
2 ALL DRAWINGS TO BE CHECKED BY THE CONTRACTOR ON SITE.
3 ENGINEER TO BE INFORMED OF ANY DISCREPANCIES BEFORE ANY WORK COMMENCES.
4 THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DRAWINGS AND SPECIFICATIONS.

Legend
 Proposed Access Road in Cut
 Proposed Access Road in Fill
 Proposed Hardstand
 Proposed Clean Water Drainage
 Proposed Dirty Water Drainage
 SP 12 550m²
 Proposed Culvert to Existing Open Drain
 Spoil Deposition Area
 Existing Streams
 Double Silt Fence
 Cable Route Phase 2
 Cable Routes

KEYPLAN

P01.5	Updated Control Room, Cabling & Settlement Pond Numbering	A.G	10.08.26
P01.4	Updated T8,T9,T10,T11 & Drainage Layout	A.G	11.06.26
P01.3	Silt Ponds added to Spoil Deposition Areas, Drainage Table Updated	AMcC	23.11.23
P01.2	Spoil Deposition Areas Updated	AMcC	13.11.23
P01.1	Issued For Comment	AMcC	13.04.23
rev.	modifications	by	date

Client

Project
Cush Wind Farm, Co Offlay.

Stage
Planning

Title
Drainage Layout Plan
Sheet 9 of 12

Scales
1:2000 (A3)

Surveyed	Prepared	Checked	Approved	Date
	A.G	JMcE	JMcE	June 2026

JENNINGS O'DONOVAN
an RSK company

© COPYRIGHT OF
JENNINGS O'DONOVAN AND PARTNERS LIMITED
FINISKLIN Tel (+353) 719 161 416
SLIGO Email. info@jodireland.com
IRELAND www.jodireland.com

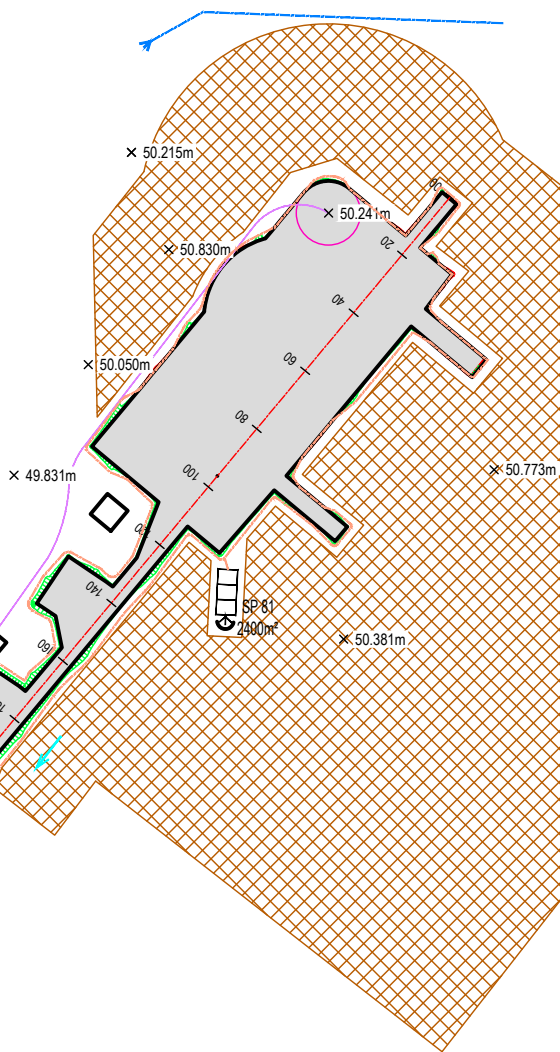
Job Ref.	Drawing No.	Revision
6921	6921-JOD-XX-DR-C-0309	P01.5



UND

T11

Turbine Foundation Level = 50.80m
Turbine Hardstand Level = 50.30m
Existing Ground Level = 50.24m



Pond Ref. SP	Development Area (m ²)	Dim. length (m)	Dim. Width (m)	Dim. Depth (m)
1	950	8	2.8	0.75
2	800	8	2.8	0.75
3	450	4	2.8	0.75
4	1750	9	4.5	0.75
5	650	6	2.8	0.75
6	3100	14	5.2	0.75
7	1700	9	4.5	0.75
8	1700	9	4.5	0.75
9	500	6	2.8	0.75
10	1150	8	3.6	0.75
11	825	8	2.8	0.75
12	550	6	2.8	0.75
13	330	4	2.8	0.75
14	1125	8	3.6	0.75
15	425	4	2.8	0.75
16	1050	8	3.6	0.75
17	2500	12	5.2	0.75
18	1500	10	3.6	0.75
19	2000	12	4.5	0.75
20	1500	10	3.6	0.75
21	1100	8	3.6	0.75
22	925	8	2.8	0.75
23	650	6	2.8	0.75
24	550	6	2.8	0.75
25	550	6	2.8	0.75
26	1500	10	3.6	0.75
27	1500	10	3.6	0.75
28	1750	12	3.6	0.75
29	1750	12	3.6	0.75
30	700	6	2.8	0.75
31	700	6	2.8	0.75
32	1500	10	3.6	0.75
33	1600	12	3.6	0.75
34	1600	12	3.6	0.75
35	500	6	2.8	0.75
36	1200	10	2.8	0.75
37	720	6	2.8	0.75
38	1600	12	3.6	0.75
39	1450	10	3.6	0.75
40	650	6	2.8	0.75
41	500	6	2.8	0.75
42	200	4	2.8	0.75
43	500	6	2.8	0.75
44	600	6	2.8	0.75
45	650	5	2.8	0.75
46	1600	12	3.6	0.75
47	1500	10	3.6	0.75
48	1650	12	3.6	0.75
49	400	4	2.8	0.75
50	600	6	2.8	0.75
51	1100	10	2.8	0.75
52	500	6	2.8	0.75
53	250	4	2.8	0.75
54	350	4	2.8	0.75
55	350	4	2.8	0.75
56	500	6	2.8	0.75
57	500	6	2.8	0.75
58	500	6	2.8	0.75
59	1250	8	3.6	0.75
60	3300	14	5.6	0.75
61	550	6	2.8	0.75
62	500	6	2.8	0.75
63	500	6	2.8	0.75
64	400	4	2.8	0.75
65	1550	10	3.6	0.75
66	1500	10	3.6	0.75
67	1500	10	3.6	0.75
68	750	8	2.8	0.75
69	1000	10	2.8	0.75
70	500	6	2.8	0.75
71	900	8	2.8	0.75
72	1350	10	3.6	0.75
73	400	4	2.8	0.75
74	750	8	2.8	0.75
75	750	8	2.8	0.75
76	800	8	2.8	0.75
77	2400	12	5.2	0.75
78	2400	12	5.2	0.75
79	1200	10	2.8	0.75
80	3100	14	5.6	0.75
81	2400	12	5.2	0.75
82	750	8	2.8	0.75
83	1350	10	3.6	0.75
84	2300	12	4.5	0.75
85	2300	12	4.5	0.75
86	1800	12	3.6	0.75
87	1800	12	3.6	0.75
88	1800	12	3.6	0.75
89	1800	12	3.6	0.75
E	3100	14	5	0.75
F	1750	12	3.6	0.75
G	1100	8	3.6	0.75
H	1750	12	3.6	0.75

NOTES:

- FIGURED DIMENSIONS ONLY TO BE TAKEN FROM THIS DRAWING.
- ALL DRAWINGS TO BE CHECKED BY THE CONTRACTOR ON SITE.
- ENGINEER TO BE INFORMED OF ANY DISCREPANCIES BEFORE ANY WORK COMMENCES.
- THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DRAWINGS AND SPECIFICATIONS.

Legend

- Proposed Access Road in Cut
- Proposed Access Road in Fill
- Proposed Hardstand
- Proposed Clean Water Drainage
- Proposed Dirty Water Drainage
- SP 12 550m² Stilling Pond Number, Catchment Area & Flow Direction
- Proposed Culvert to Existing Open Drain
- Spoil Deposition Area
- Existing Streams
- Double Silt Fence
- Cable Route Phase 2
- Cable Routes

KEYPLAN

P015	Updated Control Room, Cabling & Settlement Pond Numbering	A.G	10.08.26
P014	Updated T8,T9,T10,T11 & Drainage Layout	A.G	11.06.26
P013	Silt Ponds added to Spoil Deposition Areas, Drainage Table Updated	AMcC	23.11.23
P012	Spoil Deposition Areas Updated	AMcC	23.11.23
P011	Issued For Comment	AMcC	13.04.23
rev.	modifications	by	date

Client

Project

Cush Wind Farm, Co Offlay.

Stage

Planning

Title

Drainage Layout Plan
Sheet 10 of 12

Scales

1:2000 (A3)

Surveyed	Prepared	Checked	Approved	Date
	A.G	JMcE	JMcE	June 2026

JENNINGS O'DONOVAN
an RSK company

© COPYRIGHT OF
JENNINGS O'DONOVAN AND PARTNERS LIMITED
FINISKLIN Tel (+353) 719 161 416
SLIGO Email. info@jodireland.com
IRELAND www.jodireland.com

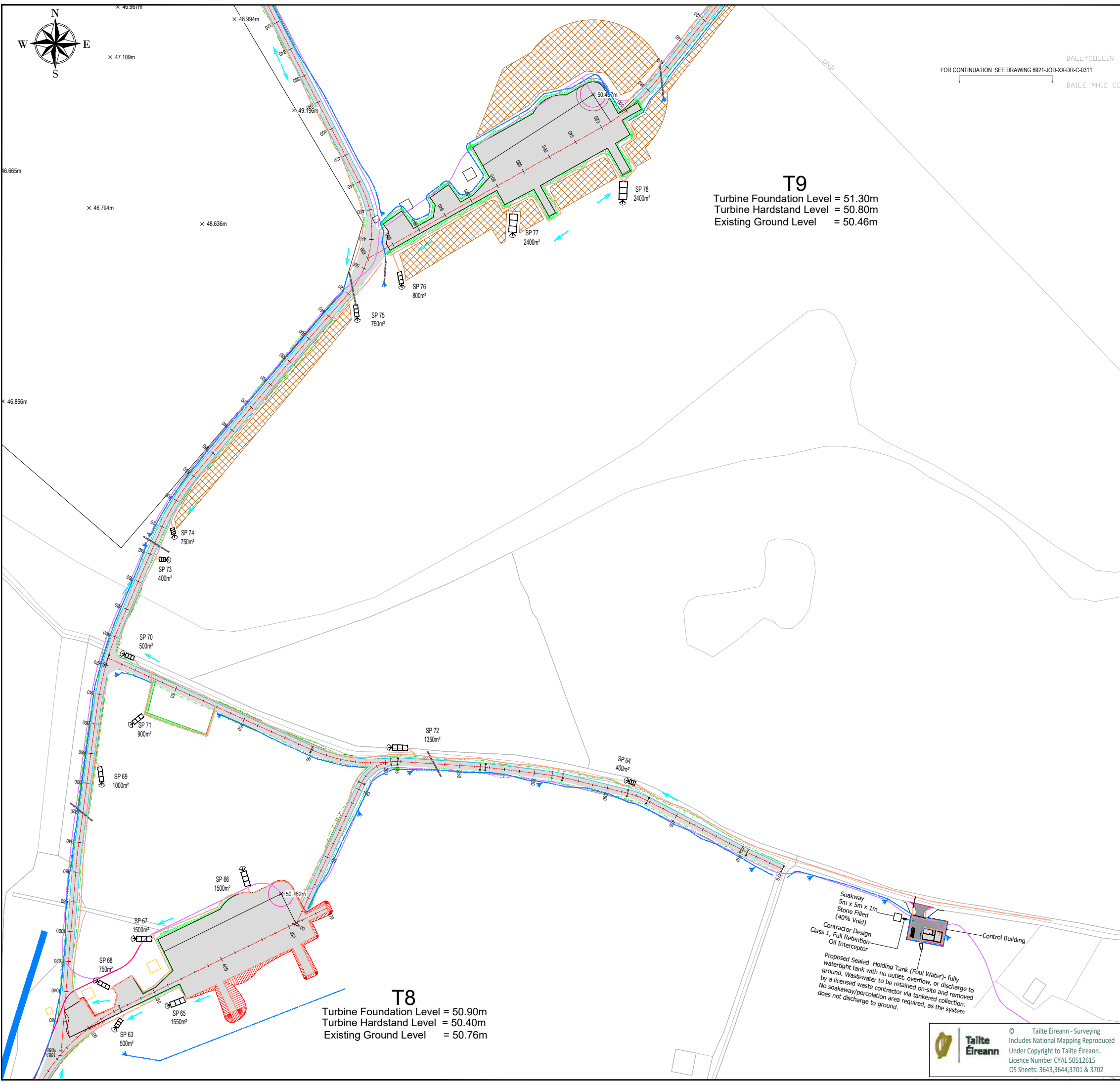
@JOD_Sligo Jennings O'Donovan & Partners Jennings O'Donovan

Job Ref.	Drawing No.	Revision
6921	6921-JOD-XX-DR-C-0310	P01.5

BALLYCOLLIN

FOR CONTINUATION SEE DRAWING 6921-JOD-XX-DR-C-0311

© Tailte Éireann - Surveying
Includes National Mapping Reproduced
Under Copyright to Tailte Éireann.
Licence Number CYAL 50512615
OS Sheets: 3643,3644,3701 & 3702



T9
Turbine Foundation Level = 51.30m
Turbine Hardstand Level = 50.80m
Existing Ground Level = 50.46m

T8
Turbine Foundation Level = 50.90m
Turbine Hardstand Level = 50.40m
Existing Ground Level = 50.76m

Soakway
5m x 5m x 1m
Stone Filled
(40% Void)
Contractor Design
Class 1, Full Retention
Oil Interceptor
Proposed Sealed Holding Tank (Foul Water)- fully
watertight tank with no outlet, overflow, or discharge to
ground. Wastewater to be retained on-site and removed
by a licensed waste contractor via tanker collection.
No soakaway/percolation area required, as the system
does not discharge to ground.

© Taitte Éireann - Surveying
Includes National Mapping Reproduced
Under Copyright to Taitte Éireann.
Licence Number CYAL 50512615
OS Sheets: 3643,3644,3701 & 3702

Pond Ref. SP	Development Area (m ²)	Dim. length (m)	Dim. Width (m)	Dim. Depth (m)
1	950	8	2.8	0.75
2	800	8	2.8	0.75
3	450	4	2.8	0.75
4	1750	9	4.5	0.75
5	650	6	2.8	0.75
6	3100	14	5.2	0.75
7	1700	9	4.5	0.75
8	1700	9	4.5	0.75
9	500	6	2.8	0.75
10	1150	8	3.6	0.75
11	825	8	2.8	0.75
12	550	6	2.8	0.75
13	330	4	2.8	0.75
14	1125	8	3.6	0.75
15	425	4	2.8	0.75
16	1050	8	3.6	0.75
17	2500	12	5.2	0.75
18	1500	10	3.6	0.75
19	2000	12	4.5	0.75
20	1500	10	3.6	0.75
21	1100	8	3.6	0.75
22	925	8	2.8	0.75
23	650	6	2.8	0.75
24	550	6	2.8	0.75
25	550	6	2.8	0.75
26	1500	10	3.6	0.75
27	1500	10	3.6	0.75
28	1750	12	3.6	0.75
29	1750	12	3.6	0.75
30	700	6	2.8	0.75
31	700	6	2.8	0.75
32	1500	10	3.6	0.75
33	1600	12	3.6	0.75
34	1600	12	3.6	0.75
35	500	6	2.8	0.75
36	1200	10	2.8	0.75
37	720	6	2.8	0.75
38	1600	12	3.6	0.75
39	1450	10	3.6	0.75
40	650	6	2.8	0.75
41	500	6	2.8	0.75
42	300	4	2.8	0.75
43	500	6	2.8	0.75
44	600	6	2.8	0.75
45	650	5	2.8	0.75
46	1600	12	3.6	0.75
47	1500	10	3.6	0.75
48	1650	12	3.6	0.75
49	400	4	2.8	0.75
50	600	6	2.8	0.75
51	1100	10	2.8	0.75
52	500	6	2.8	0.75
53	250	4	2.8	0.75
54	350	4	2.8	0.75
55	350	4	2.8	0.75
56	500	6	2.8	0.75
57	500	6	2.8	0.75
58	500	6	2.8	0.75
59	1250	8	3.6	0.75
60	3300	14	5.6	0.75
61	550	6	2.8	0.75
62	500	6	2.8	0.75
63	500	6	2.8	0.75
64	400	4	2.8	0.75
65	1550	10	3.6	0.75
66	1500	10	3.6	0.75
67	1500	10	3.6	0.75
68	750	8	2.8	0.75
69	1000	10	2.8	0.75
70	500	6	2.8	0.75
71	900	8	2.8	0.75
72	1350	10	3.6	0.75
73	400	4	2.8	0.75
74	750	8	2.8	0.75
75	750	8	2.8	0.75
76	800	8	2.8	0.75
77	2400	12	5.2	0.75
78	2400	12	5.2	0.75
79	1200	10	2.8	0.75
80	3100	14	5.6	0.75
81	2400	12	5.2	0.75
82	750	8	2.8	0.75
83	1350	10	3.6	0.75
84	2300	12	4.5	0.75
85	2300	12	4.5	0.75
86	1800	12	3.6	0.75
87	1800	12	3.6	0.75
88	1800	12	3.6	0.75
89	1800	12	3.6	0.75
E	3100	14	5	0.75
F	1750	12	3.6	0.75
G	1100	8	3.6	0.75
H	1750	12	3.6	0.75

NOTES:

- 1 FIGURED DIMENSIONS ONLY TO BE TAKEN FROM THIS DRAWING.
- 2 ALL DRAWINGS TO BE CHECKED BY THE CONTRACTOR ON SITE.
- 3 ENGINEER TO BE INFORMED OF ANY DISCREPANCIES BEFORE ANY WORK COMMENCES.
- 4 THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DRAWINGS AND SPECIFICATIONS.

Legend

- Proposed Access Road in Cut
- Proposed Access Road in Fill
- Proposed Hardstand
- Proposed Clean Water Drainage
- Proposed Dirty Water Drainage
- Stilling Pond Number, Catchment Area & Flow Direction
- Proposed Culvert to Existing Open Drain
- Spoil Deposition Area
- Existing Streams
- Double Silt Fence
- Cable Route Phase 2
- Cable Routes

KEYPLAN

P01.5	Updated Control Room, Cabling & Settlement Pond Numbering	A.G	10.08.26
P01.4	Updated T8,T9,T10,T11 & Drainage Layout	A.G	11.06.26
P01.3	Silt Ponds added to Spoil Deposition Areas, Drainage Table Updated	AMcC	23.11.23
P01.2	Spoil Deposition Areas Updated	AMcC	13.11.23
P01.1	Issued For Comment	AMcC	13.04.23
rev.	modifications	by	date

Client

Project

Cush Wind Farm, Co Offlay.

Stage

Planning

Title

Drainage Layout Plan
Sheet 11 of 12

Scales

1:2500 (A3)

Surveyed	Prepared	Checked	Approved	Date
	A.G	JMcE	JMcE	June 2026

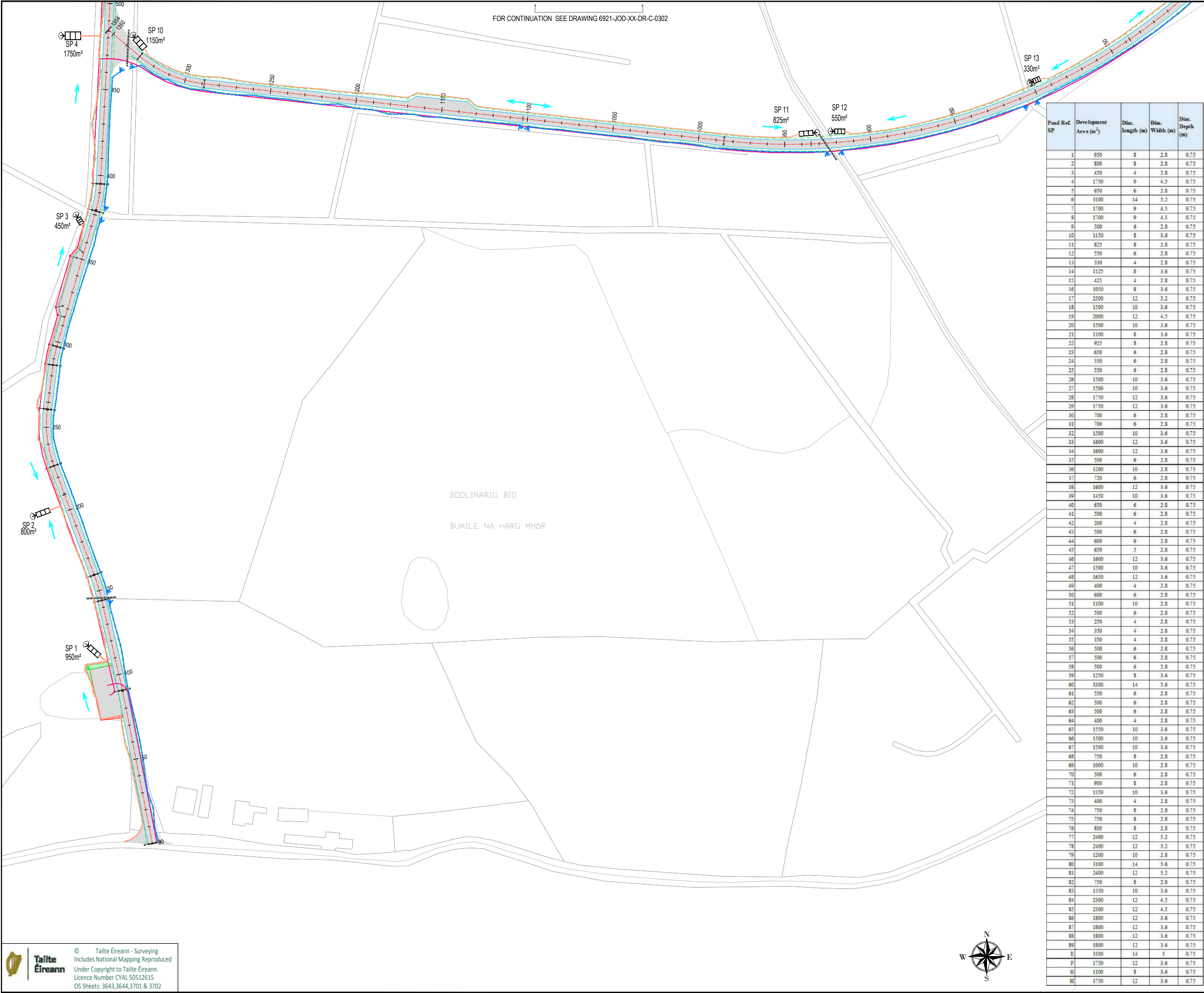
JENNINGS O'DONOVAN
an RSK company

© COPYRIGHT OF
JENNINGS O'DONOVAN AND PARTNERS LIMITED

FINISKLIN Tel (+353) 719 161 416
SLIGO Email. info@jodireland.com
IRELAND www.jodireland.com

@JOD_Sligo Jennings O'Donovan & Partners Jennings O'Donovan

Job Ref.	Drawing No.	Revision
6921	6921-JOD-XX-DR-C-0311	P01.5



NOTES:

- 1 FIGURED DIMENSIONS ONLY TO BE TAKEN FROM THIS DRAWING.
- 2 ALL DRAWINGS TO BE CHECKED BY THE CONTRACTOR ON SITE.
- 3 ENGINEER TO BE INFORMED OF ANY DISCREPANCIES BEFORE ANY WORK COMMENCES.
- 4 THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DRAWINGS AND SPECIFICATIONS.

Legend

- Proposed Access Road in Cut
- Proposed Access Road in Fill
- Proposed Handstand
- Proposed Clean Water Drainage
- Proposed Dirty Water Drainage
- SP 12 550m² Stilling Pond Number, Catchment Area & Flow Direction
- Proposed Culvert to Existing Open Drain
- Spoil Deposition Area
- Existing Streams
- Double Silt Fence
- Cable Route Phase 2
- Cable Routes

KEYPLAN

Revisions

rev.	modifications	by	date
P01.5	Updated Control Room, Cabling & Settlement Pond Numbering	AG	10.08.26
P01.4	Updated T8,T9,T10,T11 & Drainage Layout	AG	11.06.26
P01.3	Silt Ponds added to Spoil Deposition Areas, Drainage Table Updated	AMcC	23.11.23
P01.2	Spoil Deposition Areas Updated	AMcC	13.11.23
P01.1	Issued For Comment	AMcC	13.04.23

Client

Project

Cush Wind Farm, Co Offlay.

Stage

Planning

Title

Drainage Layout Plan
Sheet 1 of 12

Scales

1:2000 (A3)

Surveyed	Prepared	Checked	Approved	Date
	AMcC	JMcE	JMcE	June 2026

an RSK company

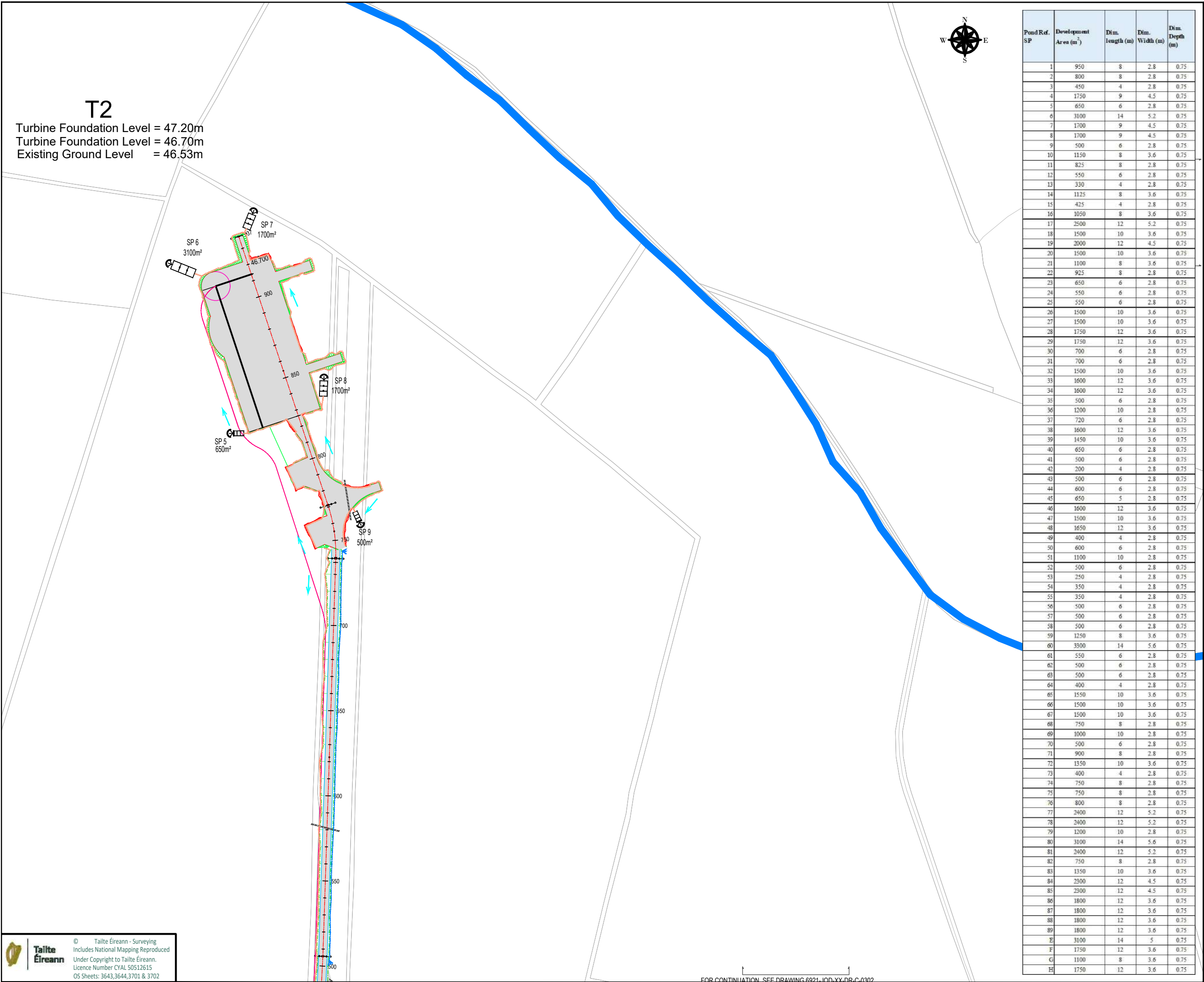
© COPYRIGHT OF
JENNINGS O'DONOVAN AND PARTNERS LIMITED

FINISKLIN
SLIGO
IRELAND

Tel (+353) 719 161 416
Email. info@jodireland.com
www.jodireland.com

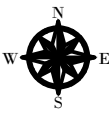
@JOD_Sligo Jennings O'Donovan & Partners Jennings O'Donovan

Job Ref.	Drawing No.	Revision
6921	6921-JOD-XX-DR-C-0301	P01.5



T2

Turbine Foundation Level = 47.20m
Turbine Foundation Level = 46.70m
Existing Ground Level = 46.53m



Pond Ref. SP	Development Area (m ²)	Dim. length (m)	Dim. Width (m)	Dim. Depth (m)
1	950	8	2.8	0.75
2	800	8	2.8	0.75
3	450	4	2.8	0.75
4	1750	9	4.5	0.75
5	650	6	2.8	0.75
6	3100	14	5.2	0.75
7	1700	9	4.5	0.75
8	1700	9	4.5	0.75
9	500	6	2.8	0.75
10	1150	8	3.6	0.75
11	825	8	2.8	0.75
12	550	6	2.8	0.75
13	330	4	2.8	0.75
14	1125	8	3.6	0.75
15	425	4	2.8	0.75
16	1050	8	3.6	0.75
17	2500	12	5.2	0.75
18	1500	10	3.6	0.75
19	2000	12	4.5	0.75
20	1500	10	3.6	0.75
21	1100	8	3.6	0.75
22	925	8	2.8	0.75
23	650	6	2.8	0.75
24	550	6	2.8	0.75
25	550	6	2.8	0.75
26	1500	10	3.6	0.75
27	1500	10	3.6	0.75
28	1750	12	3.6	0.75
29	1750	12	3.6	0.75
30	700	6	2.8	0.75
31	700	6	2.8	0.75
32	1500	10	3.6	0.75
33	1600	12	3.6	0.75
34	1600	12	3.6	0.75
35	500	6	2.8	0.75
36	1200	10	2.8	0.75
37	720	6	2.8	0.75
38	1600	12	3.6	0.75
39	1450	10	3.6	0.75
40	650	6	2.8	0.75
41	500	6	2.8	0.75
42	200	4	2.8	0.75
43	500	6	2.8	0.75
44	600	6	2.8	0.75
45	650	5	2.8	0.75
46	1600	12	3.6	0.75
47	1500	10	3.6	0.75
48	1650	12	3.6	0.75
49	400	4	2.8	0.75
50	600	6	2.8	0.75
51	1100	10	2.8	0.75
52	500	6	2.8	0.75
53	250	4	2.8	0.75
54	350	4	2.8	0.75
55	350	4	2.8	0.75
56	500	6	2.8	0.75
57	500	6	2.8	0.75
58	500	6	2.8	0.75
59	1250	8	3.6	0.75
60	3300	14	5.6	0.75
61	550	6	2.8	0.75
62	500	6	2.8	0.75
63	500	6	2.8	0.75
64	400	4	2.8	0.75
65	1550	10	3.6	0.75
66	1500	10	3.6	0.75
67	1500	10	3.6	0.75
68	750	8	2.8	0.75
69	1000	10	2.8	0.75
70	500	6	2.8	0.75
71	900	8	2.8	0.75
72	1350	10	3.6	0.75
73	400	4	2.8	0.75
74	750	8	2.8	0.75
75	750	8	2.8	0.75
76	800	8	2.8	0.75
77	2400	12	5.2	0.75
78	2400	12	5.2	0.75
79	1200	10	2.8	0.75
80	3100	14	5.6	0.75
81	2400	12	5.2	0.75
82	750	8	2.8	0.75
83	1350	10	3.6	0.75
84	2300	12	4.5	0.75
85	2300	12	4.5	0.75
86	1800	12	3.6	0.75
87	1800	12	3.6	0.75
88	1800	12	3.6	0.75
89	1800	12	3.6	0.75
E	3100	14	5	0.75
F	1750	12	3.6	0.75
G	1100	8	3.6	0.75
H	1750	12	3.6	0.75

NOTES:

- 1 FIGURED DIMENSIONS ONLY TO BE TAKEN FROM THIS DRAWING.
- 2 ALL DRAWINGS TO BE CHECKED BY THE CONTRACTOR ON SITE.
- 3 ENGINEER TO BE INFORMED OF ANY DISCREPANCIES BEFORE ANY WORK COMMENCES.
- 4 THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DRAWINGS AND SPECIFICATIONS.

Legend

- Proposed Access Road in Cut
- Proposed Access Road in Fill
- Proposed Handstand
- Proposed Clean Water Drainage
- Proposed Dirty Water Drainage
- SP 12 550m² Stilling Pond Number, Catchment Area & Flow Direction
- Proposed Culvert to Existing Open Drain
- Spoil Deposition Area
- Existing Streams
- Double Silt Fence
- Cable Route Phase 2
- Cable Routes

KEYPLAN

P01.5	Updated Control Room, Cabling & Settlement Pond Numbering	A.G	10.08.26
P01.4	Updated T8,T9,T10,T11 & Drainage Layout	A.G	11.06.26
P01.3	Silt Ponds added to Spoil Deposition Areas, Drainage Table Updated	AMcC	23.11.23
P01.2	Spoil Deposition Areas Updated	AMcC	13.11.23
P01.1	Issued For Comment	AMcC	13.04.23
rev.	modifications	by	date

Client

Project

Cush Wind Farm, Co Offlay.

Stage

Planning

Title

Drainage Layout Plan
Sheet 2 of 12

Scales

1:2000 (A3)

Surveyed	Prepared	Checked	Approved	Date
	AMcC	JMcE	JMcE	June 2026

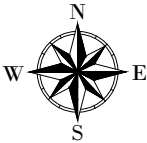
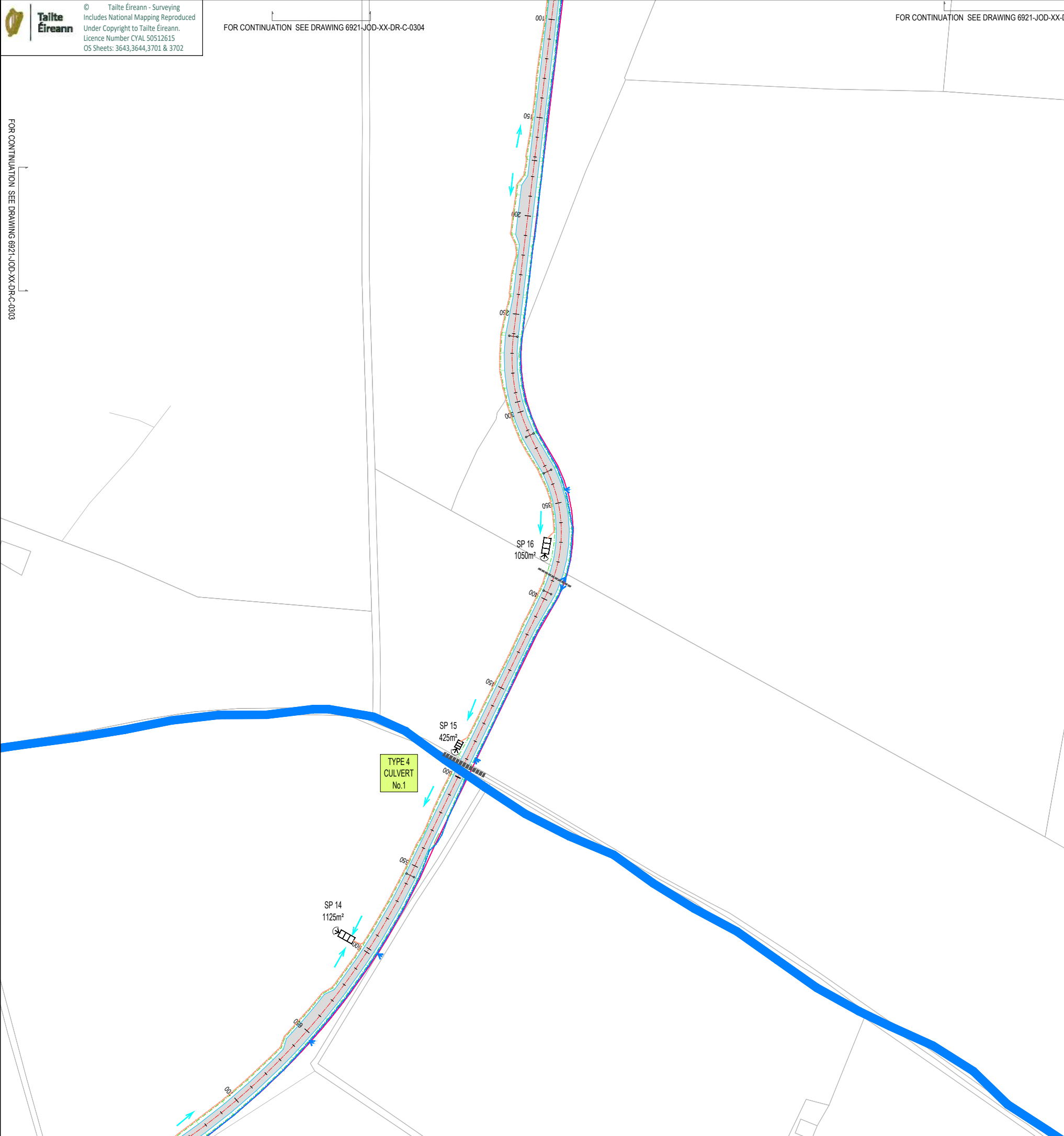
JENNINGS O'DONOVAN
an RSK company

© COPYRIGHT OF
JENNINGS O'DONOVAN AND PARTNERS LIMITED

FINISKLIN Tel (+353) 719 161 416
SLIGO Email. info@jodireland.com
IRELAND www.jodireland.com

@JOD_Sligo Jennings O'Donovan & Partners Jennings O'Donovan

Job Ref.	Drawing No.	Revision
6921	6921-JOD-XX-DR-C-0302	P01.5

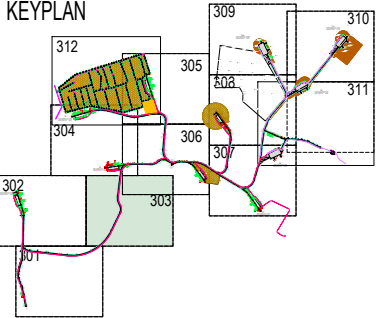


Pond Ref. SP	Development Area (m ²)	Dim. length (m)	Dim. Width (m)	Dim. Depth (m)
1	950	8	2.8	0.75
2	800	8	2.8	0.75
3	450	4	2.8	0.75
4	1750	9	4.5	0.75
5	650	6	2.8	0.75
6	3100	14	5.2	0.75
7	1700	9	4.5	0.75
8	1700	9	4.5	0.75
9	500	6	2.8	0.75
10	1150	8	3.6	0.75
11	825	8	2.8	0.75
12	550	6	2.8	0.75
13	330	4	2.8	0.75
14	1125	8	3.6	0.75
15	425	4	2.8	0.75
16	1050	8	3.6	0.75
17	2500	12	5.2	0.75
18	1500	10	3.6	0.75
19	2000	12	4.5	0.75
20	1500	10	3.6	0.75
21	1100	8	3.6	0.75
22	925	8	2.8	0.75
23	650	6	2.8	0.75
24	550	6	2.8	0.75
25	550	6	2.8	0.75
26	1500	10	3.6	0.75
27	1500	10	3.6	0.75
28	1750	12	3.6	0.75
29	1750	12	3.6	0.75
30	700	6	2.8	0.75
31	700	6	2.8	0.75
32	1500	10	3.6	0.75
33	1600	12	3.6	0.75
34	1600	12	3.6	0.75
35	500	6	2.8	0.75
36	1200	10	2.8	0.75
37	720	6	2.8	0.75
38	1600	12	3.6	0.75
39	1450	10	3.6	0.75
40	650	6	2.8	0.75
41	500	6	2.8	0.75
42	200	4	2.8	0.75
43	500	6	2.8	0.75
44	600	6	2.8	0.75
45	650	5	2.8	0.75
46	1600	12	3.6	0.75
47	1500	10	3.6	0.75
48	1650	12	3.6	0.75
49	400	4	2.8	0.75
50	600	6	2.8	0.75
51	1100	10	2.8	0.75
52	500	6	2.8	0.75
53	250	4	2.8	0.75
54	350	4	2.8	0.75
55	350	4	2.8	0.75
56	500	6	2.8	0.75
57	500	6	2.8	0.75
58	500	6	2.8	0.75
59	1250	8	3.6	0.75
60	3300	14	5.6	0.75
61	550	6	2.8	0.75
62	500	6	2.8	0.75
63	500	6	2.8	0.75
64	400	4	2.8	0.75
65	1550	10	3.6	0.75
66	1500	10	3.6	0.75
67	1500	10	3.6	0.75
68	750	8	2.8	0.75
69	1000	10	2.8	0.75
70	500	6	2.8	0.75
71	900	8	2.8	0.75
72	1350	10	3.6	0.75
73	400	4	2.8	0.75
74	750	8	2.8	0.75
75	750	8	2.8	0.75
76	800	8	2.8	0.75
77	2400	12	5.2	0.75
78	2400	12	5.2	0.75
79	1200	10	2.8	0.75
80	3100	14	5.6	0.75
81	2400	12	5.2	0.75
82	750	8	2.8	0.75
83	1350	10	3.6	0.75
84	2300	12	4.5	0.75
85	2300	12	4.5	0.75
86	1800	12	3.6	0.75
87	1800	12	3.6	0.75
88	1800	12	3.6	0.75
89	1800	12	3.6	0.75
E	3100	14	5	0.75
F	1750	12	3.6	0.75
G	1100	8	3.6	0.75
H	1750	12	3.6	0.75

- NOTES:
- 1 FIGURED DIMENSIONS ONLY TO BE TAKEN FROM THIS DRAWING.
 - 2 ALL DRAWINGS TO BE CHECKED BY THE CONTRACTOR ON SITE.
 - 3 ENGINEER TO BE INFORMED OF ANY DISCREPANCIES BEFORE ANY WORK COMMENCES.
 - 4 THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DRAWINGS AND SPECIFICATIONS.

Legend

- Proposed Access Road in Cut
- Proposed Access Road in Fill
- Proposed Hardstand
- Proposed Clean Water Drainage
- Proposed Dirty Water Drainage
- SP 12 550m² Stilling Pond Number, Catchment Area & Flow Direction
- Proposed Culvert to Existing Open Drain
- Spoil Deposition Area
- Existing Streams
- Double Silt Fence
- Cable Route Phase 2
- Cable Routes



P01.5	Updated Control Room, Cabling & Settlement Pond Numbering	A.G	10.08.26
P01.4	Updated T8,T9,T10,T11 & Drainage Layout	A.G	11.06.26
P01.3	Silt Ponds added to Spoil Deposition Areas, Drainage Table Updated	AMcC	23.11.23
P01.2	Spoil Deposition Areas Updated	AMcC	13.11.23
P01.1	Issued For Comment	AMcC	13.04.23
rev.	modifications	by	date

Client

Project

Cush Wind Farm, Co Offlay.

Stage

Planning

Title

Drainage Layout Plan
Sheet 3 of 12

Scales

1:2000 (A3)

Surveyed	Prepared	Checked	Approved	Date
	AMcC	JMcE	JMcE	June 2026

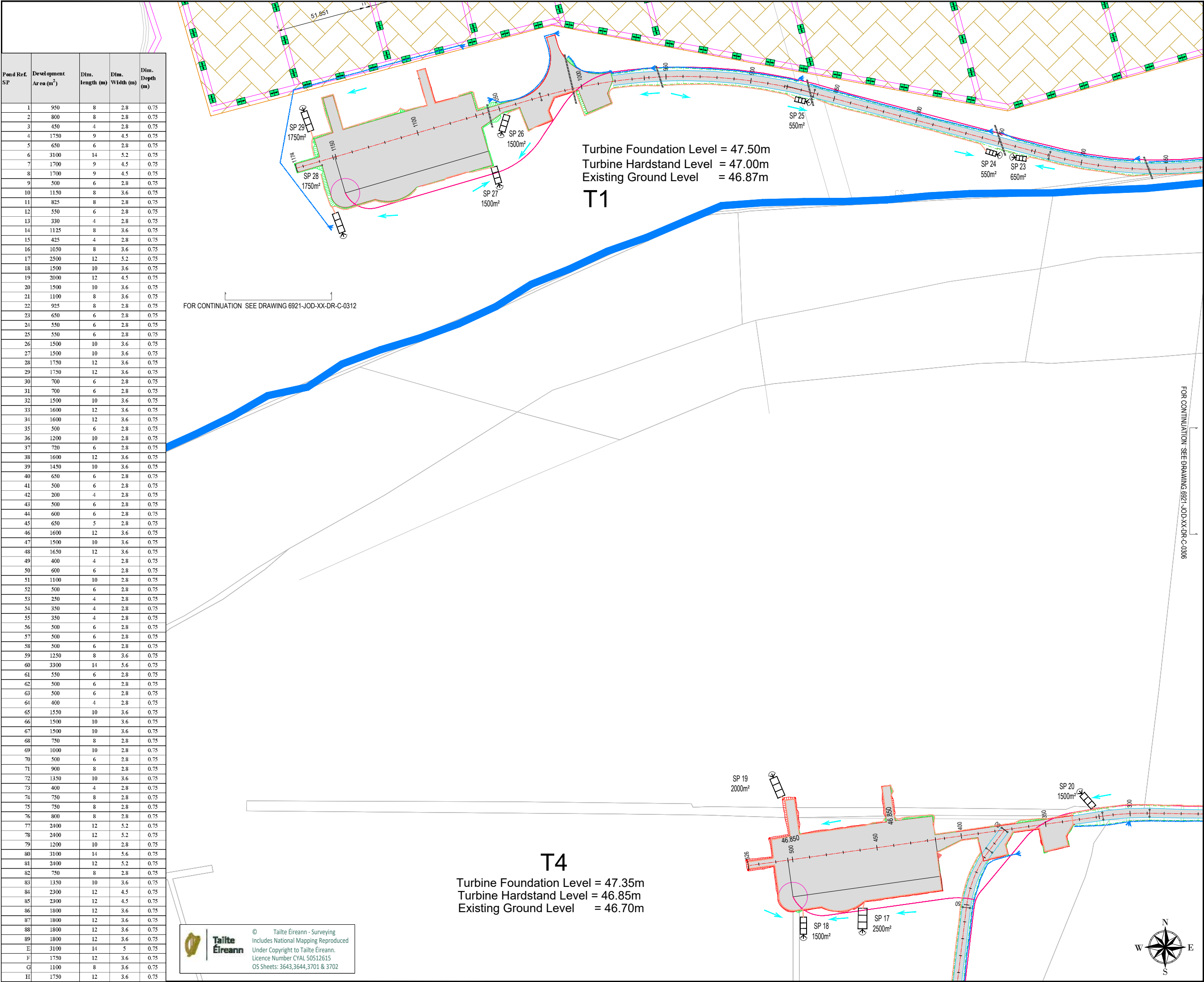
an RSK company

© COPYRIGHT OF
JENNINGS O'DONOVAN AND PARTNERS LIMITED

FINISKLIN Tel (+353) 719 161 416
SLIGO Email. info@jodireland.com
IRELAND www.jodireland.com

@JOD_Sligo Jennings O'Donovan & Partners Jennings O'Donovan

Job Ref.	Drawing No.	Revision
6921	6921-JOD-XX-DR-C-0303	P01.5



NOTES:

- 1 FIGURED DIMENSIONS ONLY TO BE TAKEN FROM THIS DRAWING.
- 2 ALL DRAWINGS TO BE CHECKED BY THE CONTRACTOR ON SITE.
- 3 ENGINEER TO BE INFORMED OF ANY DISCREPANCIES BEFORE ANY WORK COMMENCES.
- 4 THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DRAWINGS AND SPECIFICATIONS.

Legend

- Proposed Access Road in Cut
- Proposed Access Road in Fill
- Proposed Handstand
- Proposed Clean Water Drainage
- Proposed Dirty Water Drainage
- SP 12 550m² Stilling Pond Number, Catchment Area & Flow Direction
- Proposed Culvert to Existing Open Drain
- Spoil Deposition Area
- Existing Streams
- Double Silt Fence
- Cable Route Phase 2
- Cable Routes

KEYPLAN

P01.5	Updated Control Room, Cabling & Settlement Pond Numbering	A.G	10.08.26
P01.4	Updated T8,T9,T10,T11 & Drainage Layout	A.G	11.06.26
P01.3	Silt Ponds added to Spoil Deposition Areas, Drainage Table Updated	AMcC	23.11.23
P01.2	Spoil Deposition Areas Updated	AMcC	13.11.23
P01.1	Issued For Comment	AMcC	13.04.23
rev.	modifications	by	date

Client

Cush Wind Farm

Project

Cush Wind Farm, Co Offlay.

Stage

Planning

Title

Drainage Layout Plan
Sheet 4 of 12

Scales

1:2000 (A3)

Surveyed	Prepared	Checked	Approved	Date
	AMcC	JMcE	JMcE	June 2026

JENNINGS O'DONOVAN
an RSK company

© COPYRIGHT OF
JENNINGS O'DONOVAN AND PARTNERS LIMITED
FINISKLIN
SLIGO
IRELAND

Tel (+353) 719 161 416
Email. info@jodireland.com
www.jodireland.com

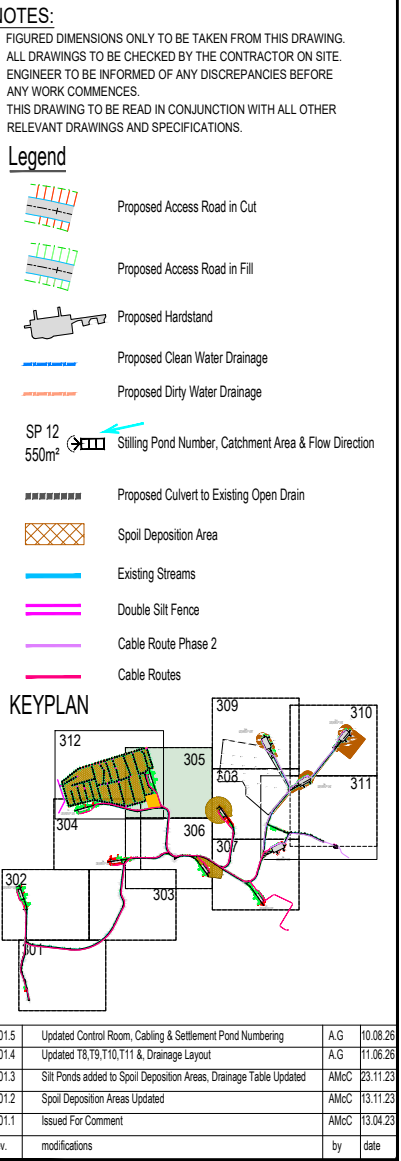
Job Ref. 6921
Drawing No. 6921-JOD-XX-DR-C-0304
Revision P01.5

Turbine Foundation Level = 48.95m
Turbine Hardstand Level = 48.45m
Existing Ground Level = 48.28m

FOR CONTINUATION SEE DRAWING 6921-JOD-XX-DR-C-0305

Pond Ref. SP	Development Area (m ²)	Dim. length (m)	Dim. Width (m)	Dim. Depth (m)
1	950	8	2.8	0.75
2	800	8	2.8	0.75
3	450	4	2.8	0.75
4	1750	9	4.5	0.75
5	650	6	2.8	0.75
6	3100	14	5.2	0.75
7	1700	9	4.5	0.75
8	1700	9	4.5	0.75
9	500	6	2.8	0.75
10	1150	8	3.6	0.75
11	825	8	2.8	0.75
12	550	6	2.8	0.75
13	330	4	2.8	0.75
14	1125	8	3.6	0.75
15	425	4	2.8	0.75
16	1050	8	3.6	0.75
17	2500	12	5.2	0.75
18	1500	10	3.6	0.75
19	2000	12	4.5	0.75
20	1500	10	3.6	0.75
21	1100	8	3.6	0.75
22	925	8	2.8	0.75
23	650	6	2.8	0.75
24	550	6	2.8	0.75
25	550	6	2.8	0.75
26	1500	10	3.6	0.75
27	1500	10	3.6	0.75
28	1750	12	3.6	0.75
29	1750	12	3.6	0.75
30	700	6	2.8	0.75
31	700	6	2.8	0.75
32	1500	10	3.6	0.75
33	1600	12	3.6	0.75
34	1600	12	3.6	0.75
35	500	6	2.8	0.75
36	1200	10	2.8	0.75
37	720	6	2.8	0.75
38	1600	12	3.6	0.75
39	1450	10	3.6	0.75
40	650	6	2.8	0.75
41	500	6	2.8	0.75
42	200	4	2.8	0.75
43	500	6	2.8	0.75
44	600	6	2.8	0.75
45	650	5	2.8	0.75
46	1600	12	3.6	0.75
47	1500	10	3.6	0.75
48	1650	12	3.6	0.75
49	400	4	2.8	0.75
50	600	6	2.8	0.75
51	1100	10	2.8	0.75
52	500	6	2.8	0.75
53	250	4	2.8	0.75
54	350	4	2.8	0.75
55	350	4	2.8	0.75
56	500	6	2.8	0.75
57	500	6	2.8	0.75
58	500	6	2.8	0.75
59	1250	8	3.6	0.75
60	3300	14	5.6	0.75
61	550	6	2.8	0.75
62	500	6	2.8	0.75
63	500	6	2.8	0.75
64	400	4	2.8	0.75
65	1550	10	3.6	0.75
66	1500	10	3.6	0.75
67	1500	10	3.6	0.75
68	750	8	2.8	0.75
69	1000	10	2.8	0.75
70	500	6	2.8	0.75
71	900	8	2.8	0.75
72	1350	10	3.6	0.75
73	400	4	2.8	0.75
74	750	8	2.8	0.75
75	750	8	2.8	0.75
76	800	8	2.8	0.75
77	2400	12	5.2	0.75
78	2400	12	5.2	0.75
79	1200	10	2.8	0.75
80	3100	14	5.6	0.75
81	2400	12	5.2	0.75
82	750	8	2.8	0.75
83	1350	10	3.6	0.75
84	2900	12	4.5	0.75
85	2300	12	4.5	0.75
86	1800	12	3.6	0.75
87	1800	12	3.6	0.75
88	1800	12	3.6	0.75
89	1800	12	3.6	0.75
E	3100	14	5	0.75
F	1750	12	3.6	0.75
G	1100	8	3.6	0.75
H	1750	12	3.6	0.75

FOR CONTINUATION SEE DRAWING 6921-JOD-XX-DR-C-0306



Client



project

Cush Wind Farm, Co Offlay.

tage

Planning

itle

Drainage Layout Plan
Sheet 5 of 12

cales

1:2000 (A3)

Surveyed	Prepared AMcC	Checked JMcE	Approved JMcE	Date June 2026
----------	------------------	-----------------	------------------	-------------------

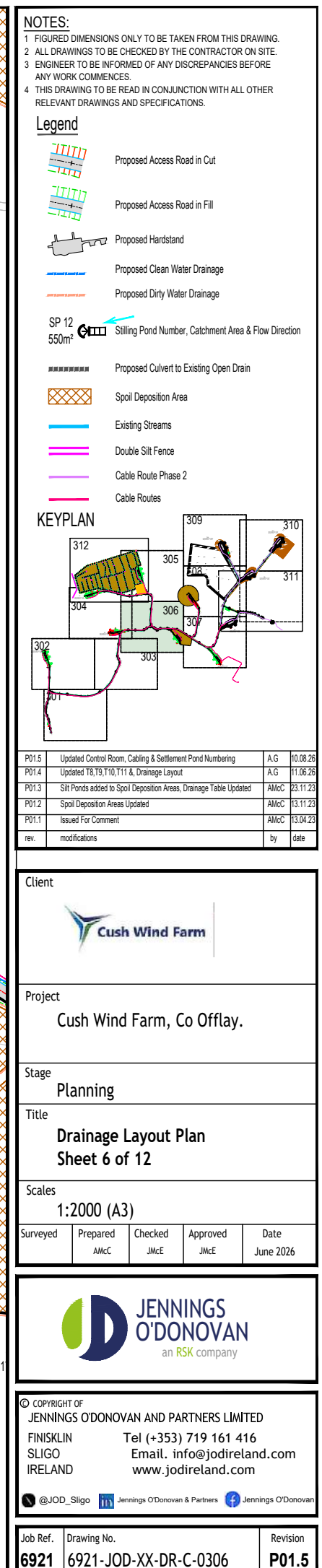


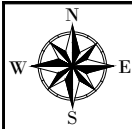
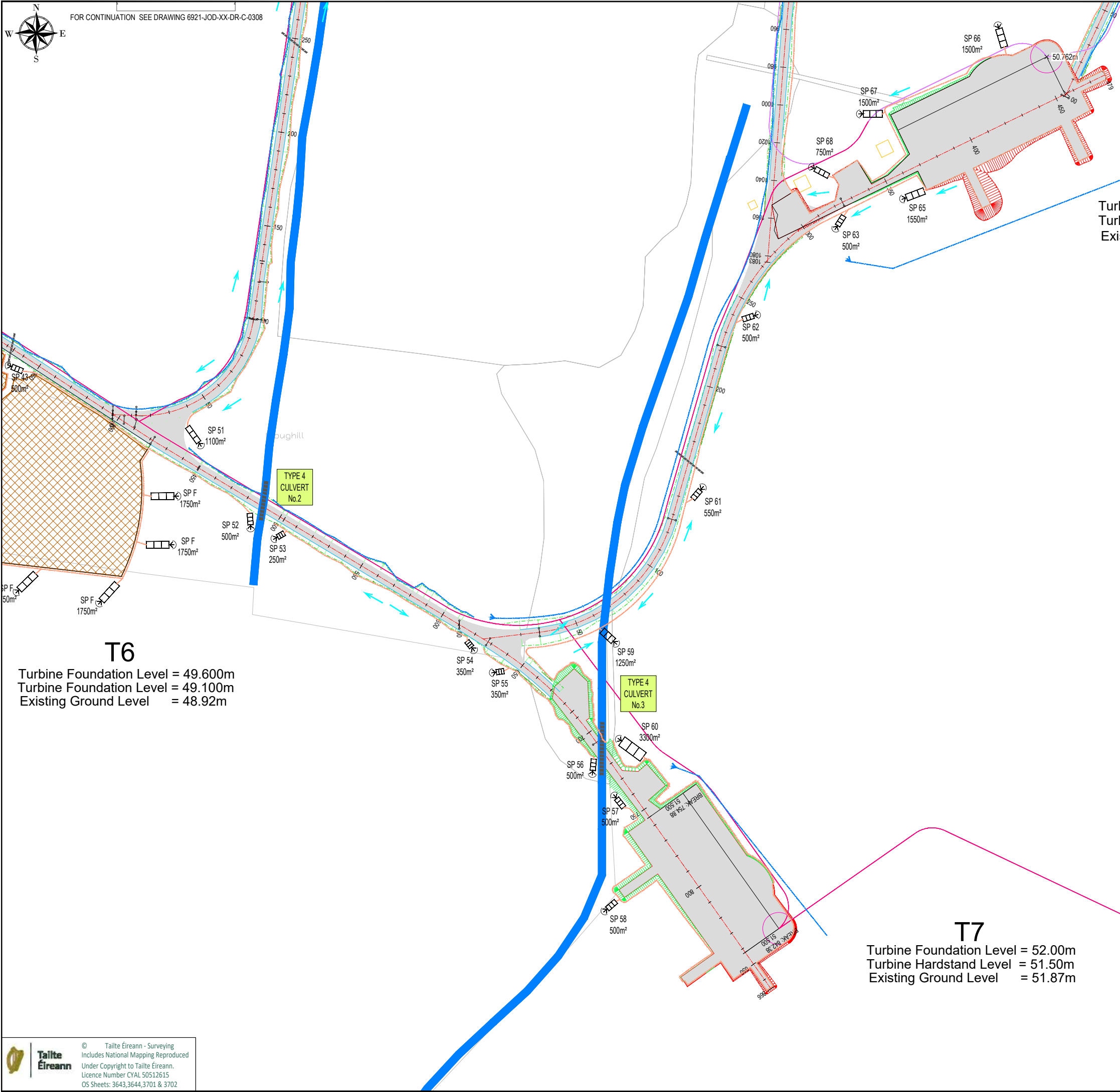
© COPYRIGHT OF
JENNINGS O'DONOVAN AND PARTNERS LIMITED

FINISKLIN Tel (+353) 719 161 416
SLIGO Email. info@jodireland.com
IRELAND www.jodireland.com

 @JOD_Sligo Jennings O'Donovan & Partners Jennings O'Donovan

Job Ref.	Drawing No.	Revision
6921	6921-JOD-XX-DR-C-0305	P01.5





T8
Turbine Foundation Level = 50.90m
Turbine Hardstand Level = 50.40m
Existing Ground Level = 50.76m

Pond Ref. SP	Development Area (m ²)	Dim. length (m)	Dim. Width (m)	Dim. Depth (m)
1	930	8	2.8	0.75
2	800	8	2.8	0.75
3	430	4	2.8	0.75
4	1750	9	4.5	0.75
5	650	6	2.8	0.75
6	3100	14	5.2	0.75
7	1700	9	4.5	0.75
8	1700	9	4.5	0.75
9	500	6	2.8	0.75
10	1150	8	3.6	0.75
11	825	8	2.8	0.75
12	550	6	2.8	0.75
13	330	4	2.8	0.75
14	1125	8	3.6	0.75
15	425	4	2.8	0.75
16	1050	8	3.6	0.75
17	2500	12	5.2	0.75
18	1500	10	3.6	0.75
19	2000	12	4.5	0.75
20	1500	10	3.6	0.75
21	1100	8	3.6	0.75
22	925	8	2.8	0.75
23	650	6	2.8	0.75
24	550	6	2.8	0.75
25	550	6	2.8	0.75
26	1500	10	3.6	0.75
27	1500	10	3.6	0.75
28	1750	12	3.6	0.75
29	1750	12	3.6	0.75
30	700	6	2.8	0.75
31	700	6	2.8	0.75
32	1500	10	3.6	0.75
33	1600	12	3.6	0.75
34	1600	12	3.6	0.75
35	500	6	2.8	0.75
36	1200	10	2.8	0.75
37	720	6	2.8	0.75
38	1600	12	3.6	0.75
39	1450	10	3.6	0.75
40	650	6	2.8	0.75
41	500	6	2.8	0.75
42	200	4	2.8	0.75
43	500	6	2.8	0.75
44	600	6	2.8	0.75
45	650	5	2.8	0.75
46	1600	12	3.6	0.75
47	1500	10	3.6	0.75
48	1650	12	3.6	0.75
49	400	4	2.8	0.75
50	600	6	2.8	0.75
51	1100	10	2.8	0.75
52	500	6	2.8	0.75
53	250	4	2.8	0.75
54	350	4	2.8	0.75
55	350	4	2.8	0.75
56	500	6	2.8	0.75
57	500	6	2.8	0.75
58	500	6	2.8	0.75
59	1250	8	3.6	0.75
60	3300	14	5.6	0.75
61	550	6	2.8	0.75
62	500	6	2.8	0.75
63	500	6	2.8	0.75
64	400	4	2.8	0.75
65	1550	10	3.6	0.75
66	1500	10	3.6	0.75
67	1500	10	3.6	0.75
68	750	8	2.8	0.75
69	1000	10	2.8	0.75
70	500	6	2.8	0.75
71	900	8	2.8	0.75
72	1350	10	3.6	0.75
73	400	4	2.8	0.75
74	750	8	2.8	0.75
75	750	8	2.8	0.75
76	800	8	2.8	0.75
77	2400	12	5.2	0.75
78	2400	12	5.2	0.75
79	1200	10	2.8	0.75
80	3100	14	5.6	0.75
81	2400	12	5.2	0.75
82	750	8	2.8	0.75
83	1350	10	3.6	0.75
84	2500	12	4.5	0.75
85	2300	12	4.5	0.75
86	1800	12	3.6	0.75
87	1800	12	3.6	0.75
88	1800	12	3.6	0.75
89	1800	12	3.6	0.75
E	3100	14	5	0.75
F	1750	12	3.6	0.75
G	1100	8	3.6	0.75
H	1750	12	3.6	0.75

- NOTES:
- 1 FIGURED DIMENSIONS ONLY TO BE TAKEN FROM THIS DRAWING.
 - 2 ALL DRAWINGS TO BE CHECKED BY THE CONTRACTOR ON SITE.
 - 3 ENGINEER TO BE INFORMED OF ANY DISCREPANCIES BEFORE ANY WORK COMMENCES.
 - 4 THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DRAWINGS AND SPECIFICATIONS.

Legend

- Proposed Access Road in Cut
- Proposed Access Road in Fill
- Proposed Hardstand
- Proposed Clean Water Drainage
- Proposed Dirty Water Drainage
- SP 12 550m² Stilling Pond Number, Catchment Area & Flow Direction
- Proposed Culvert to Existing Open Drain
- Spoil Deposition Area
- Existing Streams
- Double Silt Fence
- Cable Route Phase 2
- Cable Routes

KEYPLAN

P01.5	Updated Control Room, Cabling & Settlement Pond Numbering	A.G	10.08.26
P01.4	Updated T8,T9,T10,T11 & Drainage Layout	A.G	11.06.26
P01.3	Silt Ponds added to Spoil Deposition Areas, Drainage Table Updated	AMcC	23.11.23
P01.2	Spoil Deposition Areas Updated	AMcC	13.11.23
P01.1	Issued For Comment	AMcC	13.04.23
rev.	modifications	by	date

Client

Project

Cush Wind Farm, Co Offlay.

Stage

Planning

Title

Drainage Layout Plan
Sheet 7 of 12

Scales

1:2000 (A3)

Surveyed	Prepared	Checked	Approved	Date
	A.G	JMcE	JMcE	June 2026

JENNINGS O'DONOVAN
an RSK company

© COPYRIGHT OF
JENNINGS O'DONOVAN AND PARTNERS LIMITED

FINISKLIN Tel (+353) 719 161 416
SLIGO Email. info@jodireland.com
IRELAND www.jodireland.com

@JOD_Sligo Jennings O'Donovan & Partners Jennings O'Donovan

Job Ref.	Drawing No.	Revision
6921	6921-JOD-XX-DR-C-0307	P01.5



- NOTES:
- 1 FIGURED DIMENSIONS ONLY TO BE TAKEN FROM THIS DRAWING.
 - 2 ALL DRAWINGS TO BE CHECKED BY THE CONTRACTOR ON SITE.
 - 3 ENGINEER TO BE INFORMED OF ANY DISCREPANCIES BEFORE ANY WORK COMMENCES.
 - 4 THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DRAWINGS AND SPECIFICATIONS.

Legend

- Proposed Access Road in Cut
- Proposed Access Road in Fill
- Proposed Hardstand
- Proposed Clean Water Drainage
- Proposed Dirty Water Drainage
- SP 12 550m² Stilling Pond Number, Catchment Area & Flow Direction
- Proposed Culvert to Existing Open Drain
- Proposed Double Silt Fence As Detail Drawing 6921-JOD-XX-DR-C-0324
- Proposed Drainage Check Weir (20m Intervals) As Detail Drawing 6921-JOD-XX-DR-C-0321
- Proposed Spoil Deposition Area

KEYPLAN

312

OS National Mapping Agency

Ordnance Survey Ireland Licence No.CYAL50313915
© Ordnance Survey Ireland / Government of Ireland
OS Sheets: 3643,3644,3701 & 3702

P01.3	Spoil Deposition Area Updated	AMcC 13.11.23
P01.2	Issued For Comment. Site layout revised and drainage revised accordingly	AMcC 04.09.23
P01.1	Issued For Comment	AMcC 13.04.23
P01.1	Issued For Comment	AMcC 13.04.23
rev.	modifications	by date

Client

Cush Wind Farm

Project

Cush Wind Farm, Co Offlay.

Stage

Planning

Title

Soil Deposition Area
Silt Fencing Layout Plan

Scales

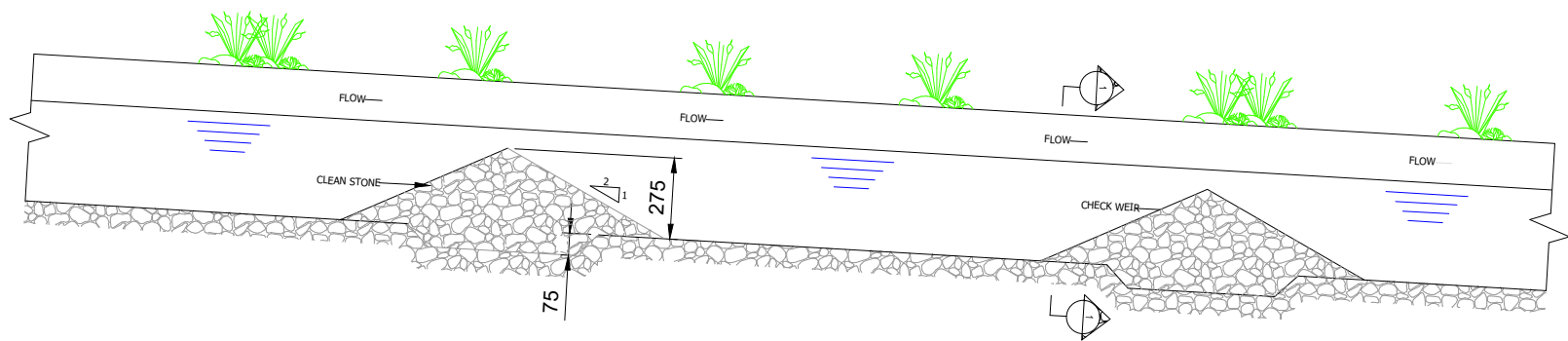
1:2500 (A3)

Surveyed	Prepared By	Checked	Date
	AMcC	JMcE	24.04.2023

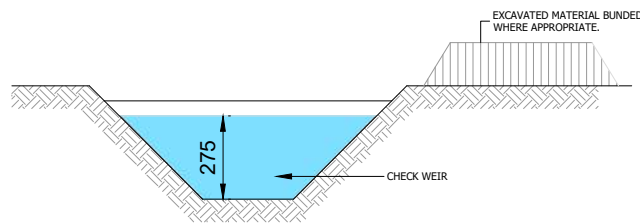
© COPYRIGHT OF
JENNINGS O'DONOVAN & PARTNERS
CONSULTING ENGINEERS,
FINISKLIN,
SLIGO,
IRELAND.

TEL: (0035371) 9161416.
FAX: (0035371) 9161080.
Email: info@jodireland.com
Web: www.jodireland.com

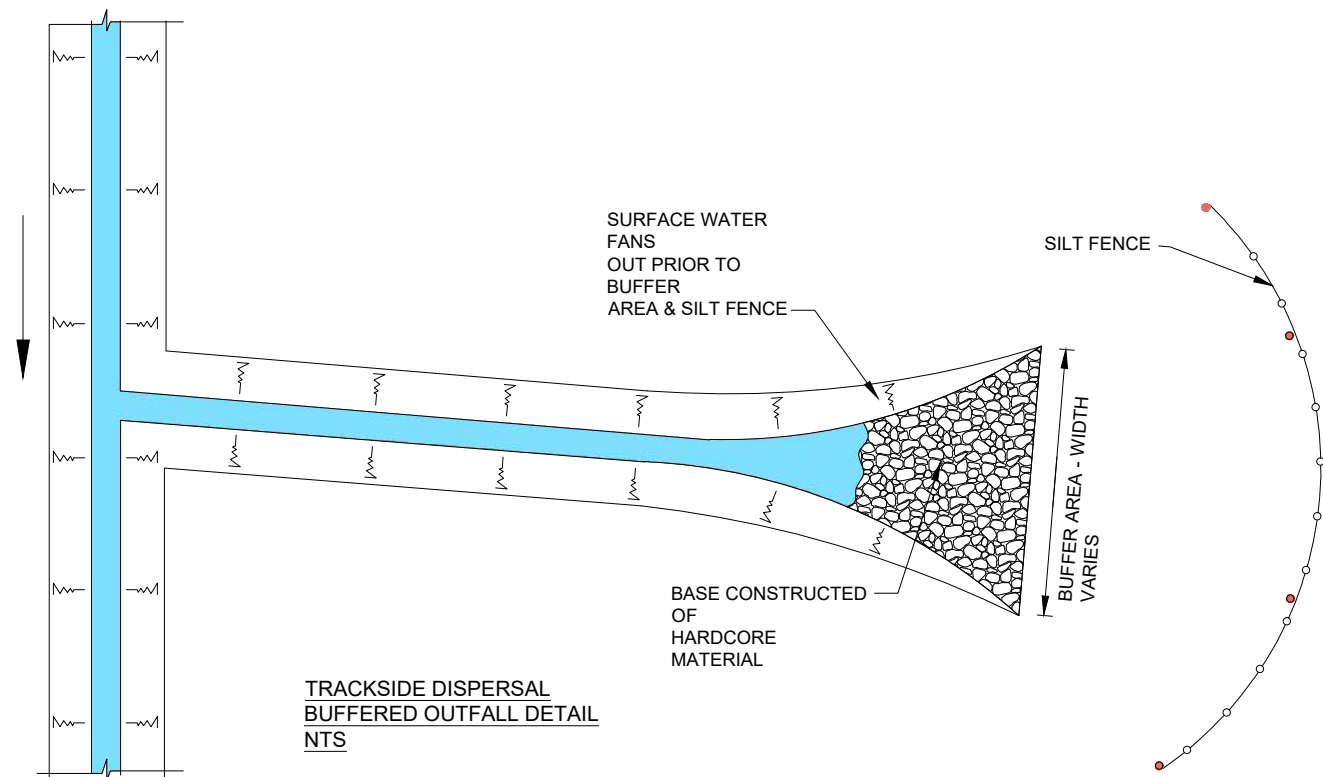
Job No.	Drawing no.	Revision
6921	6921-JOD-XX-DR-C-0312	P01.3



LONGITUDINAL SECTION THROUGH DRAINAGE WITH CHECK WEIRS
SCALE 1:25



SECTION 1-1
SCALE 1:25



TRACKSIDE DISPERSAL
BUFFERED OUTFALL DETAIL
NTS

DRAINAGE NOTES

1. GENERAL:
DRAINAGE BUFFER ZONE WIDTHS SHALL BE A MINIMUM OF 50m.
2. CONSTRUCTION AND MAINTENANCE:
ROADSIDE DRAIN SHOULD NOT INTERCEPT LARGE VOLUMES OF WATER FROM THE GROUND ABOVE.
ROADSIDE DRAINS LIKELY TO CARRY HIGH SEDIMENT LOADS AND MUST DISCHARGE INTO A BUFFER OF ADEQUATE WIDTH.
DRAINS ON THE UPPER SIDE OF THE ROAD MAY NEED CULVERTS TO THE LOWER SIDE.
PROPER MAINTENANCE PROVISIONS MUST BE PUT IN PLACE SO AS TO ENSURE THE PROPER FUNCTIONING OF THE DRAINAGE SYSTEM INCLUDING REGULAR INSPECTIONS, CLEANING AND REPAIRS WHERE NECESSARY.
3. DRAINS:
DRAINS SHALL BE DESIGNED AND CONSTRUCTED TO MITIGATE CHANNEL EROSION, E.G. BY INSTALLATION OF PERFORATED PIPE WITH DRAINAGE STONE SURROUND.
DIVERTED RUNOFF FROM A DISTURBED AREA SHALL BE CONVEYED TO A SYSTEM OF STILLING PONDS AND BUFFERED OUTFALLS.
DIVERTED RUNOFF FROM AN UNDISTURBED AREA SHALL BE CONVEYED THROUGH A BUFFERED OUTFALL WITHIN AN UNDISTURBED STABILISED AREA AT NON-EROSIVE VELOCITIES.
ALL OBSTRUCTIONS WITHIN A DRAINAGE CHANNEL SHALL BE REMOVED AND DISPOSED OF, SO AS NOT TO INTERFERE WITH THE PROPER FUNCTION OF THE DRAINAGE SYSTEM.
CHECK DAMS SHALL BE CONSTRUCTED USING WELL GRADED 150mm DOWN ANGULAR GRAVEL PLACED OVER A GEO-TEXTILE LAYER. SEE DETAIL 1.
THE SPACING OF CHECK DAMS SHALL BE SUCH THAT THE PEAK OF THE DOWNSTREAM DAM IS NO LOWER THAN THE FOOT OF THE UPSTREAM DAM.
THE USE OF STRAW BALES WITHIN THE DRAINAGE SYSTEM SHOULD BE CONSIDERED ON A TEMPORARY BASIS DURING CONSTRUCTION AND MAINTENANCE WORK.
STRAW BALES SHOULD, HOWEVER, ONLY BE USED TO INTERCEPT SEDIMENT-LADEN RUNOFF FROM ALL DRAINAGE AREAS OF DISTURBED SOIL.
BALES SHOULD BE ANCHORED IN PLACE BY THE USE OF TIMBER STAKES OR RE-BARS DRIVEN THROUGH THE BALE, WHERE BALES ARE TO BE PLACED IN POSITION ADJACENT TO OTHER BALES (EG WITHIN A STILLING POND), THE FIRST STAKE IN EACH BALE SHOULD BE DRIVEN TOWARDS THE PREVIOUSLY LAID BALE AT AN ANGLE. THIS HAS THE EFFECT OF FORCING THE TWO BALES TOGETHER.
BALES SHALL BE REPLACED AS REQUIRED.
BALES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFULNESS.
4. OUTFALLS:
ALL DRAINAGE CHANNELS SHALL FAN/TAPER OUT BEFORE ENTERING THE BUFFER ZONE. PRIOR TO ENTERING THE TAPERED ZONE, THE BASE OF THE DRAINAGE CHANNELS TO BE CONSTRUCTED OF A HARDCORE MATERIAL TO AID THE SETTLEMENT OF SUSPENDED SOLIDS.
NON-DEVELOPMENT RUN-OFF SHALL BE RETURNED TO A SURFACE FLOW CONDITION E.G. BY USE OF LEVEL SPREADERS.
5. STILLING PONDS:
ANY SEDIMENT TRAPS/STILLING PONDS SHALL BE LOCATED OUTSIDE OF BUFFER ZONES AND HAVE NO DIRECT OUTFLOW INTO WATERCOURSES.
STILLING PONDS SHOULD BE SIZED TO ACCOMMODATE PEAK FLOWS CORRESPONDING TO A 1 IN 100 YEAR STORM EVENT FOR THEIR RESPECTIVE CATCHMENT AREAS.
MAINTENANCE WORKS INCLUDING THE REMOVAL OF SETTLED MATERIALS SHOULD ONLY BE CARRIED OUT IN DRY CONDITIONS.
CARE SHOULD BE TAKEN WHEN REMOVING SETTLED MATERIALS SUCH THAT THE PONDS ARE NOT OVER DEEPEMED.
IN THE DESIGN OF STILLING PONDS, CONSIDERATION SHOULD BE GIVEN TO IMPLEMENTING MEASURES SUCH THAT THERE IS NO POSSIBILITY TO DIRECT FLOW THROUGH THE POND E.G. OFFSET INLETS AND OUTLETS FROM THE CENTRE AXIS ETC.

NOTES:

- 1 FIGURED DIMENSIONS ONLY TO BE TAKEN FROM THIS DRAWING.
- 2 ALL DRAWINGS TO BE CHECKED BY THE CONTRACTOR ON SITE.
- 3 ENGINEER TO BE INFORMED OF ANY DISCREPANCIES BEFORE ANY WORK COMMENCES.
- 4 THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DRAWINGS AND SPECIFICATIONS.

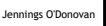
 Tailte Éireann
© Tailte Éireann - Surveying
Includes National Mapping Reproduced
Under Copyright to Tailte Éireann.
Licence Number CYAL 50512615

P0.01	18/08/26	Issued for Planning	A.G	JMcE	JMcE
rev.	date	modifications	D	C	A

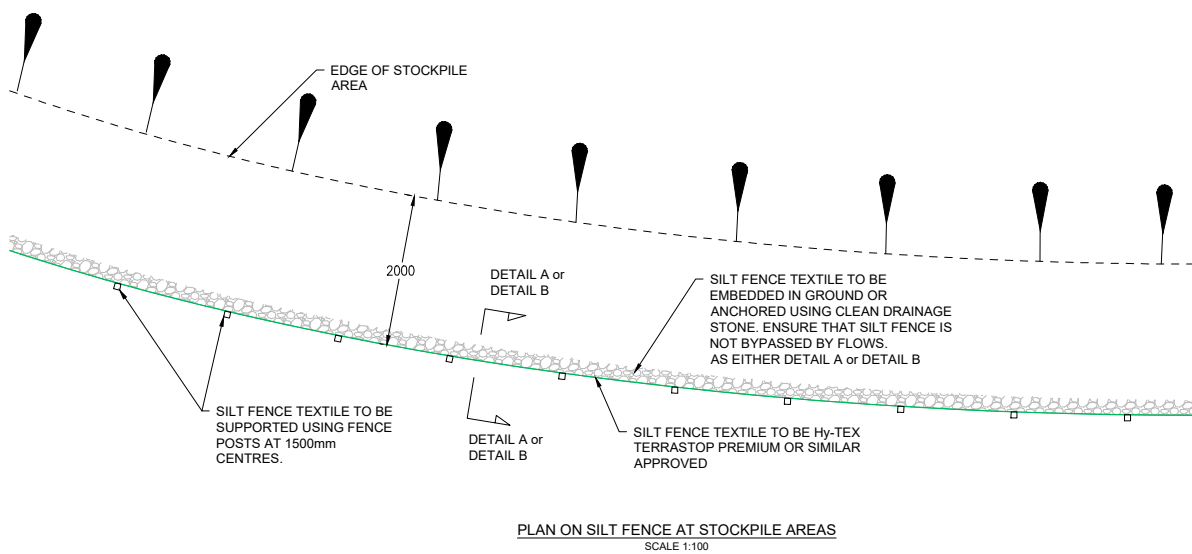
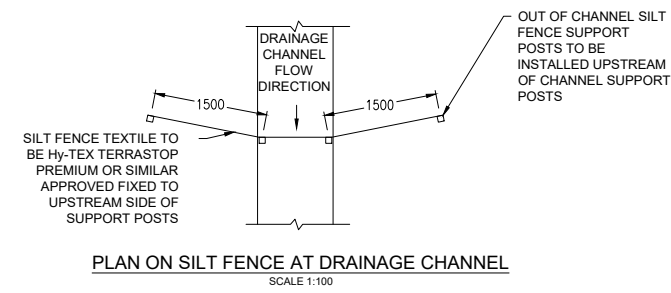
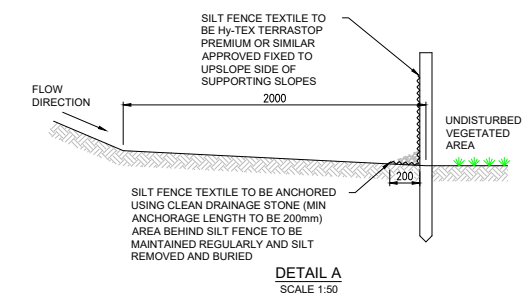
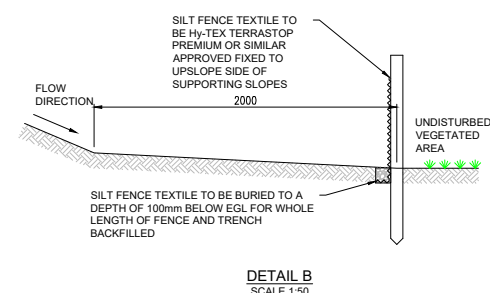
Client				
 Cush Wind Farm				
Project				
Cush Wind Farm, Co Offlay.				
Stage				
Planning				
Title				
Drainage Details Sheet 1 of 4				
Scales				
1:25 (A3)				
Surveyed	Prepared	Checked	Approved	Date
-	A.G	J.D	A.O.G	Aug 2026

 JENNINGS O'DONOVAN
an RSK company

© COPYRIGHT OF
JENNINGS O'DONOVAN AND PARTNERS LIMITED
FINISKLIN Tel (+353) 719 161 416
SLIGO Email. info@jodireland.com
IRELAND www.jodireland.com

 JOD_Sligo  Jennings O'Donovan & Partners  Jennings O'Donovan

Job Ref.	Drawing No.	Revision
6921	6921-JOD-XX-DR-C-0313	P01.1



 **Tailte Éireann** © Tailte Éireann - Surveying
Includes National Mapping Reproduced
Under Copyright to Tailte Éireann.
Licence Number CYAL 50512615

P0.01 rev.	18/08/26 date	Issued for Planning modifications	AG D	JMC C	JMC A	

Client				
				
Project				
Cush Wind Farm, Co Offlay.				
Stage				
Planning				
Title				
Drainage Details Sheet 2 of 4				
Scales				
As Noted @ (A3)				
Surveyed -	Prepared A.G	Checked J.D	Approved A.O.G	Date Aug 2026

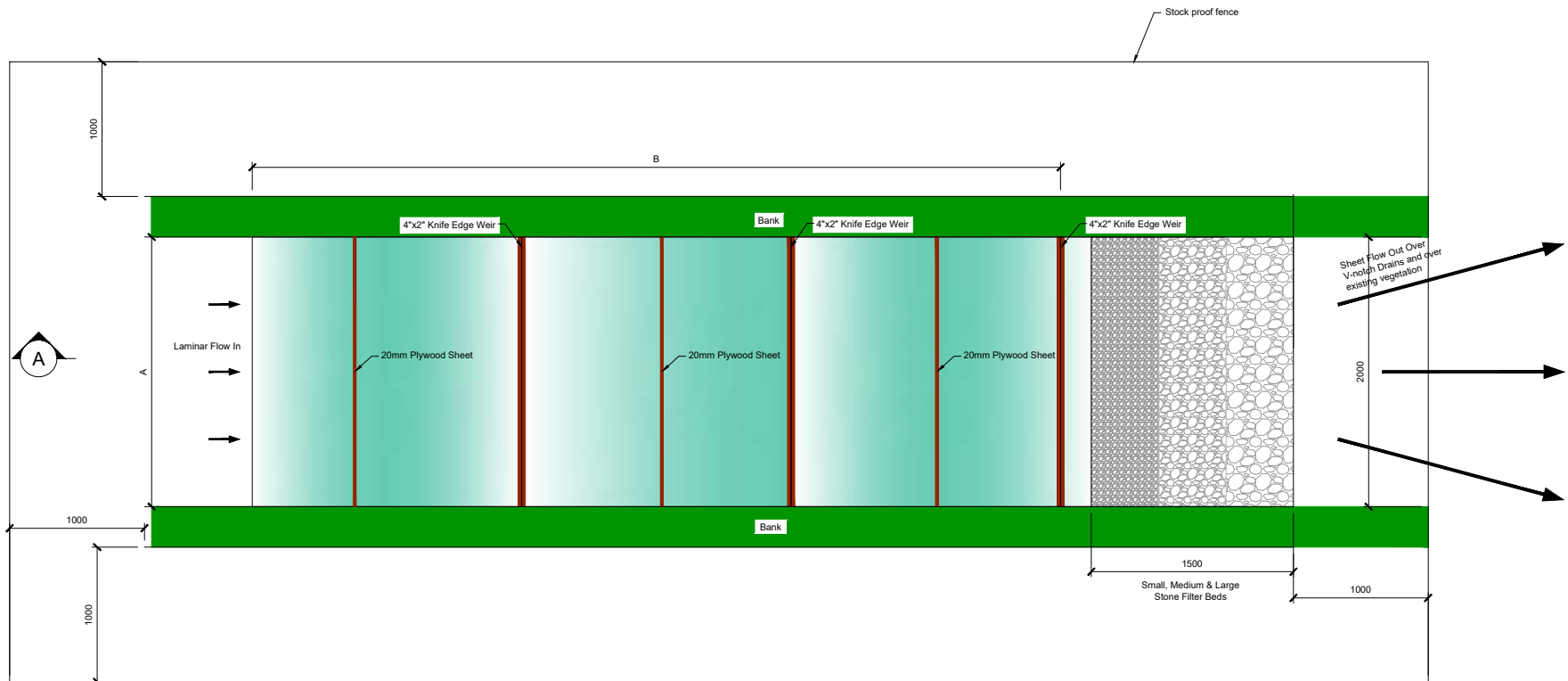


© COPYRIGHT OF
JENNINGS O'DONOVAN AND PARTNERS LIMITED

FINISKLIN Tel (+353) 719 161 416
SLIGO Email. info@jodireland.com
IRELAND www.jodireland.com

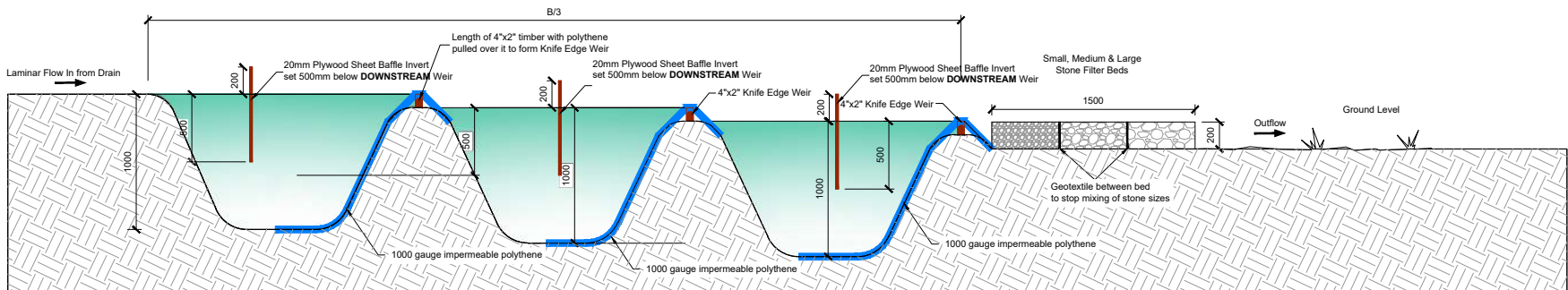
 @JOD_Sligo
  Jennings O'Donovan & Partners
  Jennings O'Donovan

Job Ref.	Drawing No.	Revision
6921	6921-JOD-XX-DR-C-0314	P01.1



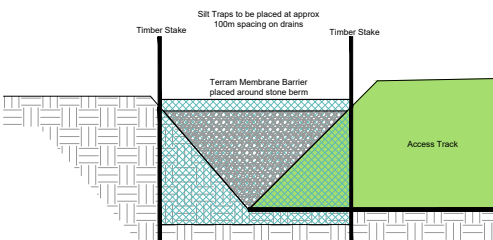
PLAN VIEW OF SETTLEMENT PONDS (WITH DISCHARGE TO DRAINS WHERE APPLICABLE)

SCALE: 1:50



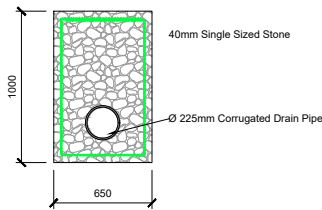
SECTION

SCALE: 1:50



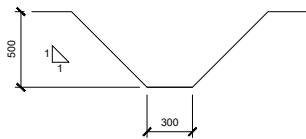
SEDIMENT FENCE DETAIL

SCALE: N.T.S



PERMANENT PERIPHERAL LAND DRAIN

SCALE: 1:50



TEMPORARY "V" DITCH DRAIN PROFILE

SCALE: 1:50



COMPLETED SETTLEMENT POND SYSTEM

SCALE: NTS

- NOTES:
- 1 FIGURED DIMENSIONS ONLY TO BE TAKEN FROM THIS DRAWING.
 - 2 ALL DRAWINGS TO BE CHECKED BY THE CONTRACTOR ON SITE.
 - 3 ENGINEER TO BE INFORMED OF ANY DISCREPANCIES BEFORE ANY WORK COMMENCES.
 - 4 THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DRAWINGS AND SPECIFICATIONS.

rev.	date	modifications	D	C	A
P0.01	18/08/26	Issued for Planning	A.G	JMcE	JMcE

Client



Project

Cush Wind Farm, Co Offlay.

Stage

Planning

Title

Typical Drainage Details
Sheet 3 of 4

Scales

1:50 (A3)

Surveyed	Prepared	Checked	Approved	Date
-	A.G	JMcE	JMcE	Aug 2026



© COPYRIGHT OF
JENNINGS O'DONOVAN AND PARTNERS LIMITED
FINISKILIN Tel (+353) 719 161 416
SLIGO Email. info@jodireland.com
IRELAND www.jodireland.com

@JOD_Sligo Jennings O'Donovan & Partners Jennings O'Donovan

Job Ref.	Drawing No.	Revision
6921	6921-JOD-XX-DR-C-0315	P01.1

ANNEX 5 – WATER QUALITY MONITORING PLAN





Cush Wind Farm
Phase II

Planning-Stage Construction Environmental Management Plan

Annex 5: Water Quality Monitoring Plan

Cush Wind Limited

DOCUMENT CONTROL

Stage	Date	Name
Content	23/10/2026	Declan Owens
Approval	23/10/2026	Gavin Daly

RECORD OF CHANGES

Revision	Issue Date	Summary of Changes	Approved
00	23/10/2026	Content	Declan Owens
01			
02			

DISTRIBUTION LIST

#	Purpose	Company	Name (Optional)
1	Review	Cush Wind Limited	James Carville
2			
3			
Notes:			

© Copyright Galetech Energy Services Ltd. This report has been prepared by Galetech Energy Services Ltd. ("Galetech") for the sole use and benefit of the named recipient (the "Client"). Unless expressly agreed otherwise in writing by Galetech, no other person or entity is entitled to use the contents of this report. Galetech expressly disclaims all liability to any third party who may access or rely on this report, whether in whole or in part, and whether such access or reliance is authorised or unauthorised. No liability is accepted by Galetech for any use of this report other than for the specific purpose for which it was prepared. This report has been prepared by Galetech in accordance with the specific instructions, requirements, scope and limitations set forth in our agreement with the Client, as well as the project's timeframes, budgetary constraints, and in line with customary industry standards. The approach, methodology, assumptions, limitations and sources of information used by Galetech are outlined in this report (as appropriate). The scope of Galetech's services is strictly limited to the conditions described herein. Where conclusions and recommendations are based on information provided by third parties, including the Client or its agents, Galetech accepts no responsibility for the accuracy, validity, or completeness of such information. It is assumed that all relevant data and documentation requested have been provided in full, are accurate, and reflect the current situation. No independent verification of this information has been undertaken by Galetech unless explicitly stated otherwise. The conclusions presented in this report represent Galetech's professional judgement based on observations made during any site visit (if applicable), and the information available at the time of preparation. While Galetech has exercised reasonable skill, care, and diligence in preparing this report, no express or implied warranty, guarantee, or representation is made regarding its completeness, accuracy, or fitness for a particular purpose. Galetech is under no obligation to update this report or any of its findings or recommendations should additional information become available, or circumstances change after the report's date. All intellectual property rights, including copyright, in the content of this report are and shall remain the exclusive property of Galetech unless otherwise agreed in writing. The Client is granted a limited, non-transferable license to use this report solely for its intended purpose under the terms of the engagement with Galetech.

Contents

1.0	Introduction.....	1
1.1	Purpose of this Report	1
1.2	Requirement for Water Quality Monitoring	1
1.3	Reference Documents.....	1
2.0	Description of the Project.....	2
3.0	Responsibilities.....	3
3.1	Contractor	3
3.2	Environmental Manager	3
4.0	Water Sampling Methodology.....	4
4.1	Hydrochemistry	5
5.0	Reporting	6
6.0	Emergency Response	6

1.0 INTRODUCTION

Galetech Energy Services (GES), on behalf of Cush Wind Limited, has prepared this Water Quality Monitoring Plan (WQMP) to outline the procedures to be followed during the monitoring of surface waters prior to, during and post-construction of the Cush Wind Farm – Phase II.

1.1 PURPOSE OF THIS REPORT

Many construction and industrial sites have the potential to cause a deterioration in downstream water quality through pollution events from hydrocarbons and siltation/sedimentation. The purpose of this report is to verify the efficacy of pollution prevention and mitigation measures implemented at the Cush Wind Farm (Phase II) during construction.

This is a live document and will be updated by the appointed Contractor prior to the commencement of development. Prior to the commencement of construction, the updated WQMP will be reviewed by the Environmental Manager (EM) and Ecological Clerk of Works (ECoW), as necessary, to confirm the appropriateness of the measures set out therein.

1.2 REQUIREMENT FOR WATER QUALITY MONITORING

As described above, construction activities associated with the development of a wind farm can give rise to a risk of pollution. A deterioration in downstream water quality could arise from:-

- Land Slide;
- Fire;
- Leaking plant or equipment;
- Containment Failure;
- Overfilling of containment vessels;
- Wind-blown waste, litter or dust;
- Flooding on site;
- Leaking Portaloo;
- Fuel drips or spills during re-fuelling;
- Leak from fuel or chemical containers;
- Sediment-laden runoff from earthworks and dewatering;
- Concrete-contaminated water;
- Inadvertent HDD drilling-fluid releases;
- Failure of drainage infrastructure; and,
- Failure of pumps and pipelines.

Any of these incidents could affect downstream surface waters which, in turn, could result in adverse effects on water quality, aquatic species and habitats.

1.3 REFERENCE DOCUMENTS

The production of this WQMP has been supported by best practice manuals and will be accounted for in the further development of the appointed contractor's detailed

CEMP.

Other project documents have been used to develop this WQMP; including a Planning-Stage Construction Environmental Management Plan, Peat & Spoil Management Plan, Surface Water Management Plan, and Environmental & Emergency Response Plan.

2.0 DESCRIPTION OF THE PROJECT

Cush Wind Limited proposes to construct Cush Wind Farm Phase II, comprising a three-turbine extension to the permitted Cush Wind Farm Phase I. The project comprises:

- 3 no. wind turbines with overall tip heights within the range of 199.1 m to 200 m, rotor diameters within the range of 158 m to 175 m and hub heights within the range of 111.6 m to 120.9 m;
- all associated turbine foundations and crane hardstanding areas;
- construction of approximately 1.7km of new internal site access tracks and upgrading of existing and permitted access tracks and access arrangements;
- use of the construction compounds permitted as part of Cush Wind Farm Phase I;
- 1 no. electrical switch room building and associated compound, including a new site entrance from the L300321 local road;
- underground electrical and communications cabling within the wind farm site;
- storage of excavated peat and spoil within designated peat and spoil deposition areas;
- site drainage, surface water management and environmental protection measures;
- reinstatement, environmental stabilisation and drainage management works, having regard to the wider rehabilitation objectives for Galros Bog;
- a c.5 km underground electricity line extending from the proposed electrical switch room to facilitate connection of the proposed wind farm to the national electricity network;
- temporary and permanent accommodation works along the turbine component haul route to facilitate the delivery of turbine components; and
- all associated and ancillary site development, excavation, construction, landscaping, reinstatement and environmental mitigation works.

The wind farm site is located in rural County Offaly, approximately 4 km north of Birr and c.28 km south-west of Tullamore. It extends across the townlands of Galros East, Whigsborough, Ballycollin, and Eglis, County Offaly.

The c.5 km underground electricity line will extend from the proposed electrical switch room, located on the southwestern side of the wind farm site, to the connection point at the proposed Mullanafawnia 110 kV substation. The Mullanafawnia 110 kV substation is third-party infrastructure that is subject to a separate consenting process and does not form part of the project.

The turbine component haul route and associated accommodation works extend through Counties Galway, Roscommon, Westmeath and Offaly. Turbine components

will be transported from the Port of Galway through Counties Galway, Roscommon and Westmeath to the wind farm site in County Offaly.

As well as the reference documents listed in **Section 1.3**, various environmental reports have been prepared for the project including:-

- Environmental Impact Assessment Report (Galetech Energy Services);
- Biodiversity Chapter (SLR Consulting Ireland);
- Land & Soils Chapter (Hydro Environmental Services);
- Water Chapter (Hydro Environmental Services); and,
- Natura Impact Statement (SLR Consulting Ireland).

3.0 RESPONSIBILITIES

3.1 CONTRACTOR

The appointed Contractor will be responsible for appointing an independent Environmental Manager to coordinate implementation of this WQMP and for providing the personnel, equipment, laboratory services and resources required. The Contractor will implement corrective actions identified through monitoring and will ensure that suitably trained site personnel complete the daily inspections specified in **Section 4.0**.

3.2 ENVIRONMENTAL MANAGER

An independent Environmental Manager (EM) will be appointed prior to construction and will be responsible for implementing and coordinating this WQMP, in liaison with the Project Manager, Contractor and Ecological Clerk of Works (ECoW). The EM's responsibilities will extend to the wind farm site, underground electricity line route and turbine haul route accommodation works.

Before construction commences, the Contractor will provide the EM with the construction programme. At the beginning of each working week thereafter, the Contractor will provide an updated schedule of works identifying the proposed activities and working locations. The EM will use this information, together with weather forecasts, site conditions and monitoring results, to determine the monitoring and attendance required.

The EM will prepare and deliver environmental site induction and relevant training to construction personnel, in liaison with the Project Manager and Contractor, including the protection of watercourses, drainage features and the Rath Group Water Scheme source protection area.

The EM will:-

- Coordinate baseline, construction and post-construction water quality monitoring, including field testing and laboratory analysis, in accordance with this WQMP;
- Undertake visual inspections at least weekly of active working areas and nearby drainage features and watercourses for evidence of erosion, sediment release, contamination or damage to existing drainage;
- Undertake visual inspections at least weekly of the installed surface water management system, including clean-water interception drains, dirty-water swales, silt traps, settlement ponds, check dams and buffered outfalls, to assess

their condition and effectiveness;

- Arrange additional inspections during higher-risk activities and following heavy rainfall, and coordinate the implementation of the rainfall-triggered precautions and floodplain managed-retreat measures specified in the SWMP;
- Coordinate the collection of water samples at the SW1–SW4 monitoring locations, supplemented by upstream and downstream locations where required to monitor individual working areas. The construction-stage monitoring arrangements will be agreed with the Local Authority prior to construction;
- Attend critical work phases, including watercourse crossing works, turbine foundation concrete pours and underground electricity line HDD works, and check that the required drainage and pollution-prevention measures are in place before those activities commence;
- Check the implementation of the specific water-protection measures applicable to works within and adjacent to the Rath Group Water Scheme source protection area;
- Record inspection findings and monitoring results, promptly notify the Project Manager and Contractor of pollution incidents, deteriorating water quality or ineffective drainage controls, and coordinate corrective action and follow-up monitoring;
- Undertake daily monitoring of wind farm excavations during the construction phase. If high levels of seepage inflow occur, excavation work at the affected location will cease immediately and a geotechnical assessment will be undertaken before excavation resumes; and,
- Maintain records of inspections, sampling, laboratory results, incidents and corrective actions, and prepare monitoring reports in accordance with this WQMP and the requirements of the planning permission.

4.0 WATER SAMPLING METHODOLOGY

Water quality monitoring will be undertaken before, during and following construction of Cush Wind Farm Phase II, including the wind farm site, underground electricity line and turbine haul route accommodation works. The programme will comprise visual inspections, field measurements and laboratory analysis. Its detailed scope, sampling frequencies, parameters and assessment criteria will be agreed with Offaly County Council prior to construction.

The surface water monitoring locations SW1–SW4 identified in **Chapter 7** of the project EIAR will form the core monitoring network. Additional upstream and downstream locations will be established where required to monitor individual working areas, including watercourse crossings, HDD works and other works with a potential pathway to receiving waters.

Monitoring locations will be selected with regard to the coordinated drainage arrangements for the permitted Phase I wind farm and proposed Phase II extension. Where drainage infrastructure or receiving waters serve both phases, the monitoring programme will identify the relevant contributing areas and, where practicable, include locations that assist in distinguishing the effects of Phase II works from other activities. Available Phase I monitoring results will inform interpretation where relevant but will not replace the Phase II baseline monitoring.

As a minimum, the general monitoring programme will include:-

- One round of baseline sampling before ground disturbance begins, with additional baseline sampling where required to establish representative conditions;
- Daily visual inspections by suitably trained personnel at active works near watercourses and drainage features, and in areas of intensive ground disturbance;
- Additional visual inspections during and following heavy rainfall, where safe to undertake;
- Weekly visual inspections by the EM, supplemented by daily EM monitoring of wind farm excavations and additional attendance during critical work phases;
- Monthly field measurements and laboratory sampling throughout construction;
- Additional targeted monitoring during higher-risk activities or where inspections or monitoring results indicate potential deterioration; and,
- At least one round of post-construction sampling following completion of construction and reinstatement. Further monitoring will be undertaken where results indicate unresolved deterioration or drainage controls have not stabilised.

Daily inspection records will identify the working location, activities underway, weather and flow conditions, water colour and clarity, and any visible sediment plume, oil sheen, unusual deposits or other evidence of contamination. The records will also identify any corrective action taken. Field measurements will supplement these inspections during higher-risk works and where potential contamination is suspected.

Each monitoring location will be recorded by grid reference, photographs and a monitoring-location drawing. Locations will be marked on the ground where practicable and safe. The same locations will be used consistently, with any changes or additional locations documented.

Sampling will follow documented procedures appropriate to the parameters being assessed. Field instruments will be calibrated and maintained, and samples will be collected, labelled, preserved, transported and submitted to a suitably accredited laboratory in accordance with its instructions. Records will include the sampling time, sampler, weather, recent rainfall, flow conditions and relevant construction activities.

4.1 HYDROCHEMISTRY

The monitoring programme will include field measurements of pH, temperature, electrical conductivity and dissolved oxygen, together with laboratory analysis of total suspended solids. The complete analytical suite will be agreed with Offaly County Council prior to construction, having regard to the **Chapter 7** of the EIAR baseline results, receiving-water sensitivities and construction activities.

Additional parameters for consideration are listed below:-

- Dissolved Organic Carbon (DOC);
- Total Oxidized Nitrogen (TON);
- Ammoniacal Nitrogen;
- Ammonia;

- Potassium;
- Phosphate;
- Biochemical Oxygen Demand (BOD);
- Chemical Oxygen Demand (COD); and,
- Total Petroleum Hydrocarbons (TPH).

Results will be assessed against baseline conditions, corresponding upstream results, previous monitoring results and the agreed assessment criteria. Particular attention will be given to changes associated with sediment release, concrete works, fuel handling and HDD activities. Monitoring will support the specific protection measures for the Rath Group Water Scheme source protection area set out in **Chapter 7** of the EIAR and the SWMP.

5.0 REPORTING

Each month, the EM will prepare a report on the results of the water quality monitoring. The results will assist in determining the requirements for improvements in drainage, surface water management, and pollution prevention measures. Pollution incidents and significant deterioration in water quality will be reported promptly through the CEMP emergency-response procedure and will not await the monthly reporting cycle.

The EM will also present the results to staff and construction personnel to ensure full awareness of any necessary improvements. This shall be carried out at monthly-meetings and reported within the overall Monthly Environmental Report to be prepared by the EM. The monthly reports on water quality will be provided to Cush Wind Limited and will be made available to the local authority, as may be necessary.

The monthly reports on water quality will consider all visual results, field monitoring results and results of laboratory analysis undertaken that month. Reports will describe how the results compare with baseline data as well as previous monthly reports on water quality. The reports will describe whether any deterioration or improvement in water quality has been observed and whether any effects are attributable to construction activities and what remedial measures or corrective actions have been, or are required to be, implemented.

Upon completion of all post-construction monitoring, the EM will prepare a final report on water quality. This will detail the overall performance against baseline data, details on any impacts attributed to construction works and recommendations for remedial works if required. The final report will be provided to the local authority.

6.0 EMERGENCY RESPONSE

Where a pollution incident threatens to enter, or has entered, a watercourse or drainage feature, the Contractor will immediately implement the emergency-response procedures contained in the CEMP and SWMP. Incidents will include sediment releases, fuel or chemical spills, concrete-contaminated water and inadvertent releases of HDD drilling fluid.

The activity causing or threatening pollution will be stopped immediately. The Project Manager, EM and ECoW will be notified, and, where safe, the source will be isolated and appropriate containment measures implemented to prevent further release.

The EM will arrange prompt upstream and downstream inspections and incident-specific sampling, where safe and practicable. Sampling locations, parameters and frequency will reflect the substance released, receiving environment and potential

pathways. The EM will consult with Offaly County Council and other relevant authorities, as appropriate, regarding further sampling, assessment, remedial measures and follow-up monitoring. Where the Rath Group Water Scheme source could be affected, the scheme operator will be notified promptly.

The incident and response will be documented, including its likely cause, affected drainage pathways, notifications, monitoring results and corrective actions. The affected activity will recommence only when the necessary corrective measures are in place and the Project Manager, in consultation with the EM and ECoW, has confirmed that the pollution risk has been controlled. Follow-up monitoring will continue until the incident has been satisfactorily resolved.

Where a pollution incident has occurred as a result of construction works, the EM will consult with the local authority (authorities) to determine sampling requirements and any additional survey requirements. Where it is demonstrated that the pollution occurred as a result of non-compliance with measures set out in project documentation (including the Environmental Impact Assessment Report, Natura Impact Statement, Construction Environmental Management Plan, and Surface Water Management Plan), the costs of any additional sampling or remedial measures shall be borne, in full, by the Contractor.



GALETECH
ENERGY SERVICES

