APPENDIX 4-6

SURFACE WATER MANAGEMENT PLAN

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1. INTRODUCTION

This Surface Water Management Plan (SWMP) is intended, as an accompanying document to the Construction and Environmental Management Plan (CEMP), to compile the proposed surface water drainage control and treatment measures, set out in the Chapter 4 and Chapter 9 of the Environmental Impact Assessment Report (EIAR), and the proposed surface water monitoring programme, in a single document. This SWMP will require updating by the selected contractor in order to identify, assess and satisfy the contract performance criteria as set out by the various stakeholders. The SWMP due to its structure and nature will also require constant updating and revision throughout the construction period as set out below. Therefore, this is a working document and will be developed further prior to and during the construction phase of the Proposed Project.

This SWMP draws and expands on information already provided in Chapter 4 and Chapter 9 of the EIAR and Section 3.2 of the CEMP (Appendix 4-4 of the EIAR). This SWMP has been divided into three sections, as listed below:

- Surface Water Drainage Design;
- Surface Water Drainage Management;
- Surface Water Monitoring Programme.

As detailed in Section 1.1.1 in Chapter 1 Introduction, for the purposes of this EIAR, the various project components are described and assessed using the following references: 'Proposed Project', 'Proposed Enhancement Areas', 'Proposed Construction Haul Routes', 'Proposed Turbine Delivery Route', 'Project Site', 'Proposed Wind Farm', 'Proposed Turbines', 'Proposed Grid Connection', 'Proposed Onsite Substation' and 'Proposed Offsite Substation'.

Where the 'Proposed Wind Farm site' is referred to, this represents the area encompassing the Proposed Wind Farm, the Proposed Onsite Substation, 0.5km of the Proposed Grid Connection underground electrical cabling route, and the Proposed Enhancement Areas; this area spans a large suite of bogs, comprising of a total of 14 no, individual bog basins, which form part of the Allen Bog Group.

1.1 Statement of Authority

This document was prepared by Joye Atkinson and reviewed by Catherine Johnson and Ellen Costello, all of MKO.

Joye is an Environmental Scientist with over 1 years' experience and holds a BSc (Hons) in Social Science from University College Dublin. Prior to joining MKO, Joye completed a one-year internship with RMLA Planning, where she contributed to a range of projects across both the public and private sectors. Joye's core strengths include drafting Environmental Impact Assessment Report (EIAR) chapters, as well as strong report writing skills, with the ability to present complex environmental data clearly, concisely, and in line with regulatory requirements. Joye holds a membership from the Institute of Sustainability and Environmental Professionals (ISEP).

Catherine is a Project Environmental Scientist at MKO with over 4 years of consultancy experience in sustainability and renewable energy. Prior to joining MKO, Catherine worked as an Environmental Social Governance (ESG) analyst for Acasta in Edinburgh. Catherine has expertise in international climate law and policy, renewable energy, earth science, and sustainability/ESG processes. Catherine has a BSc in Earth and Ocean Science and an LLM in Global Environment and Climate Change Law.

Ellen is a Senior Environmental Scientist with over 6 years of consultancy experience with MKO and has been involved in a number of wind energy EIAR applications involving the compilation of

numerous chapters. Ellen holds a BSc. in Earth Science and a MSc. in Climate Change: Integrated Environmental and Social Science Aspects.

This document has also benefited from input by Michael Gill and Conor McGettigan, both of Hydro-Environmental Services (HES). Michael and Conor are the authors of Chapter 9: Water of this EIAR. Michael and Conor also designed the proposed drainage plan for the Proposed Project that was submitted as part of the planning application.

Michael Gill (BA, BAI, Dip Geol., MSc, MIEI) is an Environmental Engineer and Hydrogeologist with over 22 years' environmental consultancy experience in Ireland. Michael has completed numerous geological, hydrological and hydrogeological impact assessments of wind farms and renewable projects on peatlands in Ireland. He has substantial experience in surface water drainage design and SUDs design, flood modelling, and surface water/groundwater interactions. For example, Michael has worked on the EIS for Carrownagowan WF, Oweninny WF, Cloncreen WF, and Yellow River WF, and over 100 other wind farm-related projects.

Conor McGettigan (BSc, MSc) is an Environmental Scientist with over 3 years' experience in environmental consultancy in Ireland. Conor holds an M.Sc. in Applied Environmental Science (2020) and a B.Sc. in Geology (2016) from University College Dublin. Conor has prepared the Land, Soils and Geology and Hydrology and Hydrogeology Chapters for numerous wind farm EIAR projects. Conor routinely completes Flood Risk Assessments for a wide variety of projects including wind farms, quarries and proposed residential developments.

2. SURFACE WATER DRAINAGE DESIGN

The drainage design for the Proposed Project has been prepared by Conor McGettigan of HES and by the firm's principal, Michael Gill. HES are the authors of the Water chapter of the EIAR (EIAR Chapter 9) and have designed the drainage plan for the Proposed Project based on experience of HES on other wind farm sites on BnM bogs and peatland habitats, and a number of best practice guidance documents referred to in the References section of EIAR Chapter 9: Water.

The protection of the groundwater and surface water within and surrounding the Project Site, and downstream catchments is a critical aspect of establishing the most appropriate drainage proposals for the Proposed Project. The existing drainage system and surface water discharges from the Project Site are regulated by the EPA (Licence Ref. P0503-01). The drainage design for the Proposed Project has been designed to ensure no negative effects on the water quality of the Project Site and its associated watercourses, and consequently no impact on downstream catchments and ecological ecosystems. A copy of the drainage design drawings for the Proposed Project site, is included in Appendix A of this document.

2.1 Existing Drainage Features

The Proposed Wind Farm site is located within a former peat extraction site. An extensive network of drainage channels is present throughout the peatland which is managed under IPC licence P0503-01 for the Allen Bog Group. As outlined in Section 9.2.3 of Chapter 9, HES completed site inspections, walkover surveys, drainage mapping, and baseline monitoring/sampling at within the Proposed Wind Farm site as part of this EIAR and to inform the planning application for the Proposed Project. These site investigations comprised of peat probing, geological mapping and drainage mapping completed by HES on 6th, 15th and 22nd October 2020, 5th, 10th, 12th and 18th November 2020, 1st April 2021, 11th December 2025 and 15th May 2026. 3 no. rounds of surface water sampling, field hydrochemistry and flow monitoring was completed on 1st April 2021, 11th December 2025 and 15th May.

The surface of the cutover bog is drained by a network of parallel field drains that are typically spaced every 15 - 20m. The field drains are approximately 0.5 - 1.5m deep and in most areas, they intercept the mineral subsoil underlying the peat. These field drains mostly feed into larger main drains which drain the bogs towards the outfall locations. There are a number of shorter cross drains (sometimes piped below ground in lower lying areas) which intersect the small field drains. There are various outfalls on the bog boundaries.

Due to the historic peat extraction activities at the Proposed Wind Farm site, arterial drainage works were installed to achieve the levels of drainage required to allow the extraction of peat to the bog floor, pumping of whole bog areas or certain portions of bog areas arose where gravity drainage did not provide the required environment for peat extraction.

- Lullymore Bog has a network of parallel north-south orientated field drains. There is 1 no. silt pond located in the southeast of the bog. Lullymore Bog is a gravity drained bog.
- Glashabaun North Bog has a network of parallel southwest-northeast orientated field drains. There are 3 no. silt ponds on the west of the bog. Glashabaun North has 2 no. pumps on site, one submersible pump and one screw pump.
- Glashabaun South Bog has a network of parallel southwest-northeast orientated field drains. There are 11 no. silt ponds located in the west and east of the bog. Glashabaun South is a gravity drained bog.
- Ballydermot North Bog primarily has a network of parallel west-east orientated field drains. It is a gravity drained bog with no silt ponds located on site.

- Ballydermot South Bog has a network of parallel north-south orientated field drains. There are 2 no. silt ponds and 2 no. submersible pumps located in the northwest of the bog.
- Blackriver Bog primarily has a network of parallel north-south orientated field drains. There are 4 no. silt ponds and 2 no. submersible pumps located on the west of the bog.
- Lodge Bog has a network of parallel southwest-northeast orientated field drains. There are 4 no. silt ponds located on the east of the bog.
- Killina Bog has a network of parallel northwest-southeast orientated field drains in the eastern side and west-east orientated field drains in the western side of the bog. There are 2 no. silt ponds in the northeast of the bog. Killina is a gravity drained bog.
- Barnaran Bog has a network of parallel east-west orientated field drains. There are 3 no. silt ponds on the west of the bog and no pumps. Barnaran is a gravity drained bog.
- Lullybeg Bog has a network of parallel east-west orientated field drains. There are 2 no. silt ponds on the north-east of the bog and no pumps. Lullybeg is a gravity drained bog.
- Derrybrennan Bog has a network of parallel southwest-northeast orientated field drains. There are 2 no. silt ponds in the northwest of the bog. Derrybrennan is a gravity drained bog.
- Codd 1 primarily has a network of parallel east-west orientated field drains. There are 5 no. silt ponds located in the northwest, northeast and east of the bog and 1 no. submersible pumps are also located on the bog.
- Codd 2 has a network of parallel north-south and northwest-southeast orientated field drains. There are 11 no. silt ponds located on the boundary of the bog. Codd North is a gravity drained bog.
- Ticknevin has a network of parallel north-south orientated field drains. There are 6 no. silt ponds located in the south of the bog and 2 no. submersible pumps.

The Proposed Wind Farm has pumped drainage in place. Surface water draining from the Project Site is routed via settlement ponds (in accordance with the IPC licence requirements) prior to discharge into off-site drainage channels, streams and rivers.

The drainage proposed within the Proposed Wind Farm site will not significantly alter the existing drainage regime within the Allen Bog Group. Moreover, the proposed drainage system will be fully integrated into the existing bog drainage systems. Existing field drains and main drains will be routed under/around access tracks using culverts as required.

Runoff from access tracks, turbine bases, and developed areas (temporary construction compounds, Proposed Onsite Substation, 2 no. met mast) will be collected and treated in local (proposed) silt traps and settlement ponds and then discharged to existing peat field drains. From there, this water will flow towards the relevant bog boundaries into existing field drains and main drains and then be treated further in the existing main (bog) settlement ponds prior to discharge from Proposed Wind Farm site.

One of the proposed ecological aspects of the drainage design is to re-wet the Proposed Wind Farm site in small areas, where possible, to create wet areas as such wetland features which are good for overall biodiversity. Ponding would occur in these areas to a very shallow depth, and only intermittently following heavy rainfall. No large open bodies of water are proposed, and where intermittent ponding occurs this will be broken up into small areas using peat berms.

2.1.1 Drainage Design Principles

The drainage layout for the construction phase of the Proposed Project has been designed to collect surface water run-off from hardstanding areas within the Proposed Wind Farm site and discharge to temporary construction settlement ponds prior to entering existing IPC licensed drainage system.

Therefore, any surface water from the proposed works that finds its way into the existing drainage system will then be captured in the existing system of IPC silt / settlement ponds, before final discharge to the receiving watercourse. The existing IPC silt / settlement ponds are upstream and downstream of the external pumping stations to allow sediment to settle out of the water before it is discharged to the external streams.

The key principles of drainage design that will be implemented and adhered to as part of the Proposed Project are as follows:

- Keep clean water clean by intercepting it where possible, upgradient of works areas, and divert it around the works areas for discharge/recharge to ground.
- Collect potentially silt-laden runoff from works areas via downgradient collector drains and manage via series of avoidance, source, in-line treatment and discharge to ground via infiltration drains and infiltration areas.
- No untreated runoff will discharge directly to a natural watercourse from proposed construction areas to natural watercourses or drains connecting to downstream watercourses.
- Maintain the existing hydrology/hydrogeology of the Project Site.
- Re-routing existing local drainage pathways as required.
- Weekly inspection and recording of surface water management system by on-site Environmental Clerk of Works (EnvCoW) and immediate remedial measures to be carried out as required and works temporarily ceased if a retained stormwater/sediment load is identified to have the potential to migrate from the Project Site.

Drainage water from any works areas of the Project Site will not be directed to any natural watercourses. Two distinct methods will be employed to manage drainage water within the Proposed Wind Farm site. The first method involves keeping clean water clean by avoiding disturbance to natural drainage features, minimising any works in or around artificial drainage features, and diverting clean surface water flow around excavations and construction areas. The second method involves collecting any drainage waters from works areas within the Proposed Wind Farm site that might carry silt or sediment, to allow attenuation and settlement within the Proposed Wind Farm site drainage system prior to controlled diffuse release via recharge into the existing IPC drainage system.

The drainage design is intended to maximise erosion control, which is a more effective system than having to control sediment during high rainfall. Such a system also requires less maintenance. The area of exposed ground will be minimised. The drainage measures will prevent runoff from entering the works areas of the Project Site from adjacent ground, to minimise the volume of sediment-laden water that must be managed. Discoloured run-off from any construction area will be isolated from natural clean run-off.

A schematic line drawing of the proposed drainage design is presented in Figure 2-1 below.

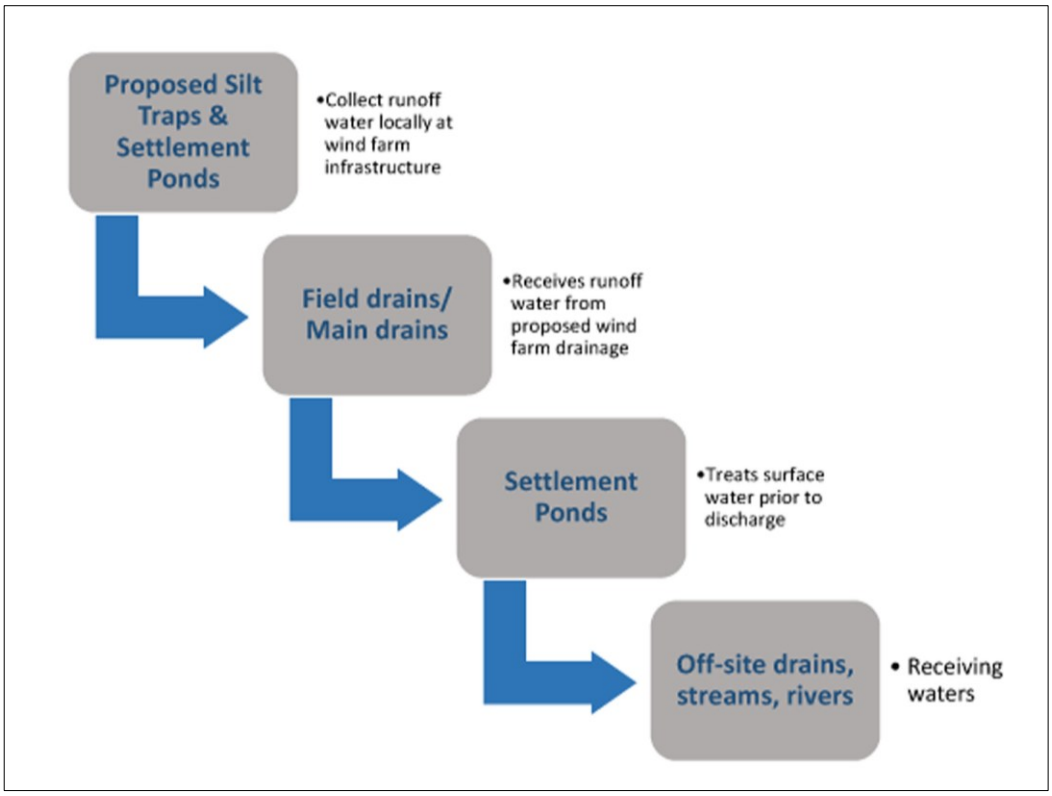


Figure 2-1 Proposed Project Drainage Process Flow

During the construction phase, all runoff from works areas (i.e., dirty water) will be attenuated and treated prior to being released within the Proposed Wind Farm site. All drainage outfall from the Proposed Wind Farm site is routed through existing IPC settlement ponds that remain in situ from the previous site use.

Comprehensive surface water mitigation and controls are outlined below to ensure protection of all downstream receiving waters. Mitigation measures will ensure that surface runoff from the developed areas of the site will be of a high quality and will therefore not impact on the quality of downstream surface water bodies.

2.2 Best Practice Guidance

The drainage design presented in the EIAR and planning application documents has been prepared based on experience of the project team of other renewable energy sites in similar environments, and a number of best practice guidance documents.

There is no one guidance document that deals with drainage management and water quality controls for wind farms and other renewable energy developments. However, a selection of good practice approaches has been adopted in preparation of this drainage design, and these are taken from the various best practice guidance documents listed below. These relate to infrastructure and operational works on sites, road design, water quality controls for linear projects, road drainage and management of geotechnical risks. To achieve best practice in terms of water protection through construction management, the detailed drainage design and all drainage management proposals shall be prepared in accordance with guidance contained in the following:

- Circular Letter PL 1/2017: Implementation of Directive 2014/52/EU on the effects of certain public and private projects on the environment (EIA Directive);
- Environmental Protection Agency (2022): Guidelines on the information to be contained in Environmental Impact Assessment Reports;

- Institute of Geologists Ireland (2013) Guidelines for Preparation of Soils, Geology & Hydrogeology Chapters in Environmental Impact Statements (hereafter referred to as 'IGI Guidance');
- DoE/NIEA (2015): Wind farms and groundwater impacts - A guide to EIA and Planning considerations";
- OPW (2009): The Planning System and Flood Risk Management;
- National Roads Authority (2008) Guidelines on Procedures for Assessment and Treatment of Geology, Hydrology and Hydrogeology for National Road Schemes;
- Wind Energy Development Guidelines for Planning Authorities, 2006 (the WEDG 2006) and the Draft Revised Wind Energy Development Guidelines (Draft WEDG 2019);
- Inland Fisheries Ireland (2016): Guidelines on Protection of Fisheries during Construction Works in and Adjacent to Watercourses;
- Good Practice During Wind Farm Construction (Scottish Natural Heritage, 2010);
- PPG1 - General Guide to Prevention of Pollution (UK Guidance Note);
- PPG5 – Works or Maintenance in or Near Water Courses (UK Guidance Note);
- CIRIA (Construction Industry Research and Information Association) Guidance on 'Control of Water Pollution from Linear Construction Projects' (CIRIA Report No. C648, 2006);
- Wind Farms and Groundwater Impacts: A guide to EIA and Planning considerations (DoE/NIEA, April 2015);
- Control of Water Pollution from Construction Sites - Guidance for Consultants and Contractors. CIRIA C532. London, 2001;
- Land Types for Afforestation (Forest Service, 2016b):
- Forest Protection Guidelines (Forest Service, 2002);
- Forest Operations and Water Protection Guidelines (Coillte, 2013);
- Forestry and Water Quality Guidelines (Forest Service, 2000b); and,
- Forests and Water, Achieving Objectives under Ireland's River Basin Management Plant 2018-2021 (DAFM, 2018).

2.3 Drainage Design

The early establishment of the drainage system outlined in Section 2.4 below will manage the risk of impacts on watercourses on and adjacent to the site during construction. In addition, construction operations will adopt best working practices, and the development of the Proposed Wind Farm site will be phased accordingly.

The construction of the drainage will start from the downstream sections and progress upstream, connecting conveyance systems with other drainage features as each development phase progresses. They have therefore been designed with sufficient capacity to respond to an early phase incoming flow during the construction phase.

The implementation of a Scheduling of Works Operating Record (SOWOR) prior to commencement will provide a series of pre-commencement triggers which set out specific conditions which will be met before the commencement of works in particularly sensitive areas. These pre-commencement triggers will apply to the installation of any drainage infrastructure. An example of a SOWOR that will be developed by the EnvCoW and is included in Appendix B.

The detailed drainage measures proposed to address surface water management based upon the design criteria and philosophy will be implemented. The drainage system will be excavated and constructed in conjunction with the road and hard standing construction. Drains will be excavated, and settlement ponds constructed to reduce suspended solids and prevent the discharge of sediment-laden water within surface water running off the Proposed Wind Farm site.

2.4 Surface Water Drainage Measures

2.4.1.1 Interceptor Drains

Interceptor drains will be installed upgradient of any works areas to collect surface flow runoff and prevent it reaching excavations and construction areas of the Project Site where it might otherwise have come into contact with exposed surfaces and collected silt and sediment. The drains will be used to divert upslope runoff around the works area to a location where it can be redistributed over the ground surface as sheet flow. This will minimise the volume of potentially silty runoff to be managed within the construction area.

The interceptor drains will be installed in advance of any main construction works commencing. The material excavated to create the drain will be compacted on the downslope edge of the drain to form a diversion dike.

On completion of the construction phase works, it is envisaged that the majority of the interceptor drains will be removed. At that stage, there will be no open excavations or large areas of exposed ground that are likely to give rise to large volumes of potentially silt-laden run off. Any areas in which works were carried out to construct roads, turbine bases or hardstands, will have been built up with large-grade hardcore, which even when compacted in place, will retain sufficient void space to allow water to infiltrate the subsurface of these constructed areas. It is not anticipated that roadways or other installed site infrastructure will intercept ground-conveyed surface water runoff to any significant extent that would result in scouring or over-topping or spill over. Where the drains are to be removed, they will be backfilled with the material from the diversion dike. Interceptor drains shall be retained in certain locations, for example where roadways are to be installed on slopes, to prevent the roadways acting of conduits for water that might infiltrate the roadway sub-base. In these cases, interceptor drains would be maintained in localised areas along the roadway with culverts under the roadway, which would allow the intercepted water to be discharged to vegetation filters downgradient of the roadway. Similarly, in localised hollows where water is likely to be funnelled at greater concentrations than on broader slopes, interceptor drains and culverts shall be left in situ following construction. Figure 2-2 below shows an illustrative drawing of an interceptor drain.

The velocity of flow in the interceptor will be controlled by check dams (see Section 2.4.1.4 below), which will be installed at regular intervals along the drains to ensure flow in the channel is non-erosive. On steeper sections where erosion risks are greater, a geotextile membrane will be added to the channel.

Interceptor drains will be installed horizontally across slopes to run in parallel with the natural contour line of the slope. Intercepted water will travel along the interceptor drains to areas downgradient of works areas, where the drain will terminate at a construction settlement pond/field drain. Across the entire length of the interceptor drains, the design elevation of the water surface along the route of the drains will not be lower than the design elevation of the water surface in the outlet at the level spreader.

2.4.1.2 Collector Drains

Collector drains (or swales) are shallow drains that will be used to intercept and collect runoff from the main construction areas of the Project Site during the construction phase (i.e., from turbine base/hardstand areas, construction compounds, and the substation). Drainage swales (i.e., collector drains) will remain in place to collect runoff from roads and hardstanding areas of the Proposed Project during the operational phase. A collector drain is an excavated drainage channel located along the downgradient perimeter of construction areas, used to collect and carry any sediment-laden runoff to a sediment-trapping facility and stabilised outlet. Collector drains are proven to be most effective when a dike is installed on the downhill side. They are similar in design to the interceptor drains described above.

Collector drains will be installed downgradient of the main works areas to collect surface flow runoff where it might have come into contact with exposed surfaces and collected silt and sediment. Swales will intercept the potentially silt-laden water from the excavations and construction areas of the Project Site and prevent it reaching natural watercourses. Collected water will travel along the collector drains to areas downgradient of the main works areas, where the drain will terminate at a settlement pond and outfall to a field drain (see Section 2.4.1.9).

Collector drains will be installed in advance of any main construction works commencing. The material excavated to make the swale will be compacted on the downslope edge of the drain to form a diversion dike.

Figure 2-2 below shows an illustrative drawing of collector drains.

2.4.1.3 Over-The-Edge Drainage

Within the Project Site layout there are sections of proposed floating road between turbine infrastructure. In these sections, and depending on intermediate topography, a collector drain (dirty water system as described above) may be used during construction phase, otherwise over-the-edge (OTE) drainage will occur. OTE drainage allows runoff from access tracks to flow into local field drains and be managed via the existing site drainage system. OTE drainage will only occur where topography allows, in areas of low risk and remote from outfall locations (at least 150m from bog outfall locations). Silt traps and check dams will be installed in field drains downstream of OTE drainage areas, and these measures will provide attenuation and treatment of any arising dirty water. In addition, all drainage water from the bogs will travel along field drains, and main drains, and then into existing IPC settlement ponds prior to outfall from the Project Site into surrounding receiving waters.

Figure 2-2 below shows an illustrative drawing of OTE drainage.

2.4.1.4 Check Dams

Drainage gradients within the site are generally low, and as such the use of and spacing between check dams is less frequent than on hillside sites.

The velocity of flow in the interceptor drains and collector drains will be controlled by check dams, which will be installed at regular intervals along the drains to ensure flow in the drain is non-erosive. Check dams will also be installed in some existing artificial drainage channels present on the site under the IPC drainage network that will receive waters from works areas of the Project Site.

Check dams will restrict flow velocity, minimise channel erosion and promote sedimentation behind the dam. The check dams will be installed as the interceptor drains are being excavated. Check dams will also be installed in some of the existing IPC field drains on the Project Site, downstream of where drainage swales connect in. Installation will be confirmed during the finalisation of detailed drainage design following a pre-construction survey.

Check dams will be made up of straw bales or stone, or a combination of both depending on the size of the drainage swale it is being installed in. Where straw bales are to be used, they will be secured to the bottom of the drainage swale with stakes. Clean, 4- to 6-inch stone layers will be built up on either side and over the straw bale to a maximum height of 600mm over the bottom of the interceptor drain. In smaller channels, a stone check dam will be installed and pressed down into place in the bottom of the drainage swale with the bucket of an excavator.

The check dams will be installed at regular intervals along the interceptor drains to ensure the bottom elevation of the upper check dam is at the same level as the top elevation of the next down-gradient check dam in the drain. The centre of the check dam will be approximately 150mm lower than the edges to allow excess water to overtop the dam in flood conditions rather than cause upstream flooding

or scouring around the dams. Check dams will not be used in any natural watercourses, only artificial drainage channels (field drains) and interceptor/collector drains.

Check dams are designed to reduce velocity and control erosion and are not specifically designed or intended to trap sediment, although sediment is likely to build up. If necessary, any excess sediment build up behind the dams will be removed. For this reason, check dams will be inspected and maintained regularly to insure adequate performance during construction

The check dams will be left in place at the end of the construction phase to limit erosive linear flow in the drainage swales during extreme rainfall events. Maintenance checks will also ensure the centre elevation of the dam remains lower than the sides of the dam.

Figure 2-2 below shows an illustrative drawing of check dams.

2.4.1.5 Silt Bags

Dewatering silt bags allow the flow of water through them while trapping any silt or sediment suspended in the water. The silt bags provide a passive non-mechanical method of removing any remaining silt contained in the potentially silt-laden water collected from works areas within the Project Site.

Dewatering silt bags are also used where water is pumped temporarily from excavations (e.g., turbine bases). Water is pumped into the silt bags, and then arising discharge is filtered through the silt bag fabric and flows into local collector drains.

Dewatering silt bags can also be used as an additional filtration measure downgradient of settlement ponds, wherever it is deemed appropriate, throughout the Project Site. The water will flow, via a pipe, from the stilling ponds into the silt bag. The silt bag will allow the water to flow through the geotextile fabric and will trap any of the finer silt and sediment remaining in the water after it has gone through the previous drainage measures. The dewatering silt bags will ensure that there will be no loss of peaty silt into any field drain/main drain (see Figure 4-55 above).

The dewatering silt bag that will be used will be approximately 3m in width by 4.5m (see Plate 2-1 and Plate 2-2 below) in length and will be capable of trapping approximately 4 tonnes of silt. The dewatering silt bag, when full, will be removed from the Project Site by a waste contractor with the necessary waste collection permit/license, who will then transport the silt bag to an appropriately licensed waste facility.



Plate 2-1 Silt Bay with water being pumped through



Plate 2-2 Silt Bay under inspection

2.4.1.6 Culverts

All new proposed culverts will be suitably sized for the expected peak flows in the watercourse.

Some culverts may be installed to manage drainage waters from works areas of the Proposed Project, particularly where the waters must be taken from one side of an existing roadway to the other for discharge. Installation will be confirmed during the finalisation of detailed drainage design following a pre-construction survey.

The size of culverts will be influenced by the depth of the track or road sub-bas and the size of the drain. For example, 2 no. or more smaller diameter culverts may be used where depth is limited, though this will be avoided as they will have a higher associated risk of blockage than a single, larger pipe. In all cases, culverts will be oversized to allow mammals to pass through the culvert.

Culverts will be installed with a minimum internal gradient of 1% (1 in 100). Smaller culverts will have a smooth internal surface. Larger culverts may have corrugated surfaces which will trap silt and contribute to the stream ecosystem. Depending on the management of water on the downstream side of the culvert, large stones may be used to interrupt the flow of water. This will help dissipate its energy and help prevent problems of erosion. Smaller water crossings will simply consist of an appropriately sized pipe buried beneath the road/track or in the sub-base of the road at the necessary invert level to ensure ponding or pooling does not occur above or below the culvert and water can continue to flow as necessary.

All culverts will be inspected regularly to ensure they are not blocked by debris, vegetation or any other material that may impede conveyance.

2.4.1.7 Silt Fences

Silt fences will be installed as an additional water protection measure around existing watercourses in certain locations, particularly where works are proposed within the 50m buffer zone of a stream and 10m buffer zone of main drains. Installation locations will be confirmed during the finalisation of detailed drainage design following a pre-construction survey.

Silt fences will be installed as single, double or a series of triple-silt fences, depending on the space available and the anticipated sediment loading. The silt fence designs follow the technical guidance document *'Control of Water Pollution from Linear Construction Projects'* published by CIRIA (No. C648, 1996).

Silt fence material will comprise Terrastop™ Premium material, and silt fences will be installed per the manufacturer's guidelines. Silt fences will be inspected on a regular basis to ensure that they are operating effectively.

2.4.1.8 Peat Ditch Silt Traps

Silt traps where required will be installed in field drains downstream of drainage outfalls from works areas. The purpose of the silt traps is to capture silt by means of slowing water flow within the field drains. The existing field drains have a low gradient already, and with the installation of local silt traps drainage water from the wind farm works will be filtered and treated on its onward journey towards the existing settlement ponds.

The peat ditch silt traps will be constructed using stacked timber logs, or marine plywood. These can also be covered in geotextile to enhance filtration.

2.4.1.9 Temporary Construction Settlement Ponds

Temporary construction settlement ponds will be used to attenuate runoff from main works areas (i.e., from turbine base/hardstand areas, construction compounds, and the substation) of the Project Site during the construction phase. The purpose of the temporary settlement ponds is to intercept runoff potentially laden with sediment and to reduce the amount of sediment leaving the disturbed area by

reducing runoff velocity. Reducing runoff velocity will allow larger particles to settle out in the stilling ponds, before the run-off water is discharged to existing IPC field drains/main drain within the Project Site.

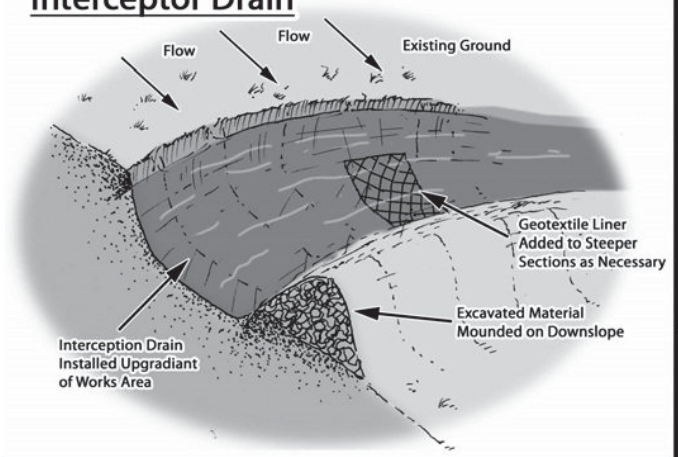
Settlement ponds will be located towards the end of collector drains, close to where the treated water will be discharged to existing IPC field drains/main drains.

During the construction phase, a water level indicator such as a staff gauge will be installed in each stilling pond with marks to identify when sediment is at 10% of the stilling pond capacity. Sediment will be cleaned out of the still pond if it exceeds 10% of pond capacity. Stilling ponds will be inspected weekly and following rainfall events. Inlet and outlets will be checked for sediment accumulation and other issues that might interfere with flows.

Temporary settlement ponds (at main works areas) will be removed at the end of the construction phase. They will not be needed beyond that point, as there is an existing IPC drainage system and boundary settlement ponds already located within each bog.

Drainage Design Measures

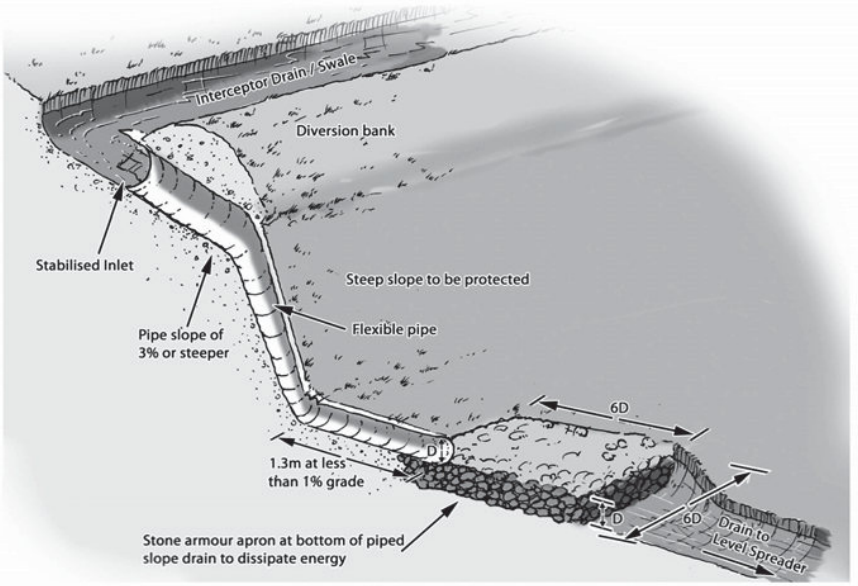
Interceptor Drain



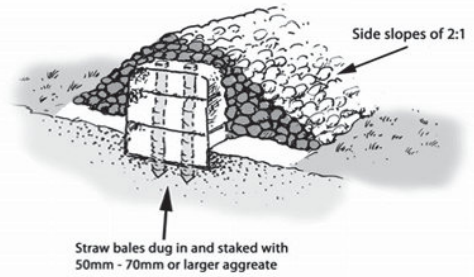
Check Dam (Stone Dam in Drain)



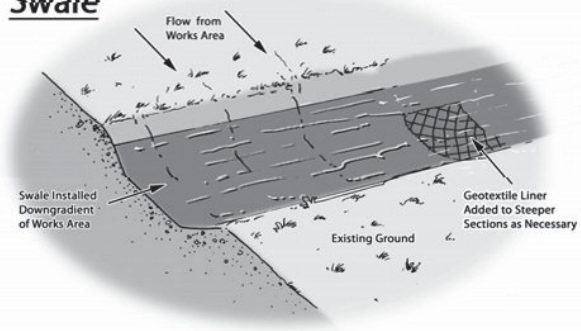
Slope Pipe Drain



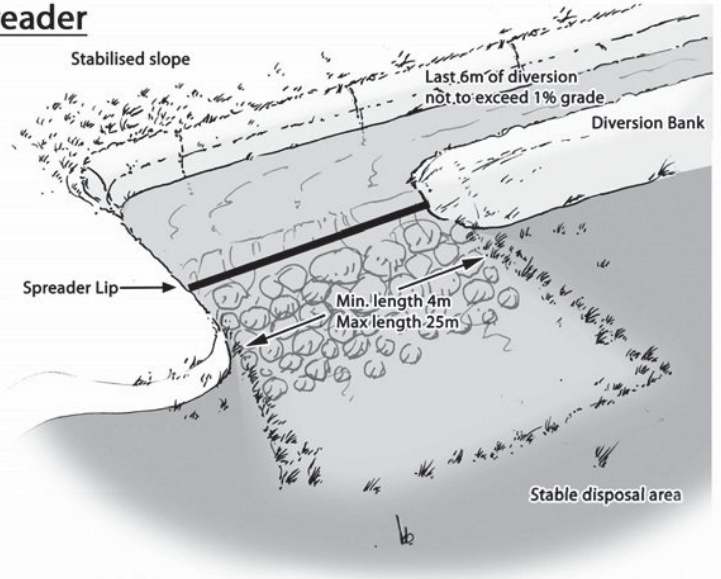
Check Dam
(Straw Bale & Stone Dam - Cross Section)



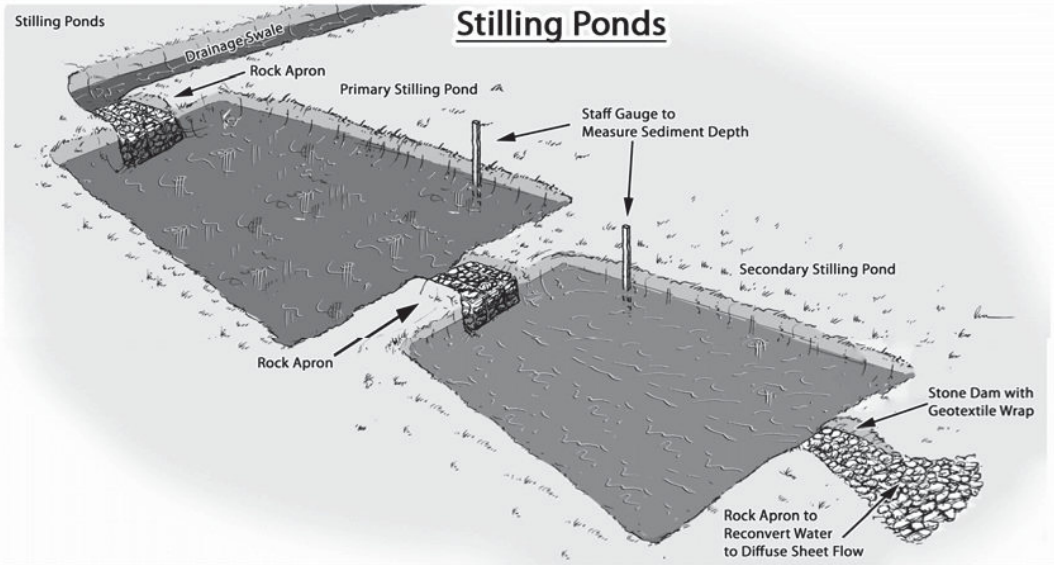
Swale



Level Spreader



Stilling Ponds



Drawing Title: Drainage Design Illustrations	Drawing No.: Figure 2-2	Scale: NTS
Project Title: Ballydermot Wind Farm, Co.Offaly & Co. Kildare		Date: 12.10.2026
Drawn By: LPM	Checked By: EC	Project No.: 250708

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2.4.2 Cable Trench Drainage

Cable trenches are proposed to be constructed in short, controlled sections, thereby minimising the amount of ground disturbed at any one time and minimising the potential for drainage runoff to pick up silt or suspended solids. Each short section of trench is excavated, ducting installed and bedded, and backfilled with the appropriate materials, before work on the next section commences. This operation normally occurs over a period of 2-4 hours.

To efficiently control drainage runoff from cable trench works areas, excavated material is stored on the up-gradient side of the trench and is temporarily sealed/smoothed over, using the back of the excavator bucket. Should any rainfall cause runoff from the excavated material, the material is therefore collected and contained in the downgradient cable trench. Excess subsoil is removed from the cable trench works area immediately upon excavation, and in the case of the Proposed Project, would be backfilled into the existing trench.

On steeper slopes, silt fences, as detailed in Section 2.4.1.7, above, will be installed temporarily downgradient of the cable trench works area, or on the downhill slope below where excavated material is being temporarily stored to control run-off.

3. SURFACE WATER DRAINAGE MANAGEMENT

The following sections set out the drainage management arrangements in terms of pre-construction, construction, operational and decommissioning phases of the Proposed Project.

3.1.1 Good Environmental Management During Construction

Timing of works can strongly influence the potential for damaging the freshwater environment. Operations during wetter periods of the year pose a significantly greater risk of causing erosion and siltation, which can be particularly severe following major rainfall or snowmelt events. Traditionally, wind farm construction undertaken during the drier summer months would result in significantly less erosion and siltation. Construction activities in the hydrological buffer zones shall be avoided during or after prolonged rainfall or an intense rainfall event and work will cease entirely near watercourses when it is evident that water quality is being impacted.

3.2 Drainage Measure Implementation and Management

3.2.1 Existing Drainage Management

Due to the historic peat extraction activities within the Allen Bog Group, within which the Proposed Wind Farm site is located, the Allen Bog Group bogs have been artificially drained in order to lower the peat water table. The timing of the initial site preparation works (vegetation clearance and drainage insertion) varied across the Proposed Wind Farm site. Currently surface water (or runoff water) is drained from the Proposed Wind Farm via a network of field drains typically spaced at 15 to 20m intervals, piped drains, main drains, headland drains, and silt ponds. Much of the Proposed Wind Farm site is drained by gravity however there are 10 no. existing pumping stations located around the bogs. These include pumping stations in each of the following bogs; Ticknevin Bog, (P37-010), Glashabaun North Bog (P37-008), Codd 1 Bog (P37-012), Ballydermot South (P37-011) and Blackriver Bog (P37-007) (refer to Table 9-14 in Chapter 9 Water). Several of these locations contain more than 1 no. pump. Pumping stations have also been decommissioned at Lodge (P37-013) and Codd 1 (P37-014). Following peat extraction activities, drainage by gravity in these areas was no longer feasible as the water level in the surrounding streams were higher than the water level within the Proposed Wind Farm site. The field drains discharge to main drains which flow via gravity, or are pumped, towards the perimeter of the site where they discharge to larger headland drains. These headland drains eventually discharge to large silt (settlement) ponds. The silt ponds are used to trap sediment and prevent elevated levels of suspended sediment arising in effluent from the drained peatland. Treated surface water is then discharged at outfall points where the effluent flows into off-site drainage channels which in turn discharge into the local stream and river network.

There are a total of 26 no. surface water discharge locations from the Proposed Wind Farm site. These discharge locations are situated downstream of settlement ponds, with the treated and attenuated water from the bog drainage system being discharged to outfall drains which in turn discharge to local watercourses. All bogs comprising the Proposed Wind Farm site discharge into the Figile River or its tributaries. A section of Lodge Bog also discharges to a tributary of the Slate River. Downstream of the Proposed Wind Farm site, the Slate River discharges into the Figile River. Therefore, all surface waters from the Proposed Wind Farm site eventually end up in the Figile River, and the River Barrow further downstream.

3.2.2 Proposed Drainage Management

Runoff control and drainage management are key elements in terms of mitigation measures to reduce potential effects on downstream surface water bodies. Drainage management within the Project Site will be risk based, and will employ various methods, building on the existing drainage systems within the Proposed Wind Farm site where available and appropriate. The main tenet of the proposed drainage plan is ensuring to 'keep clean water clean' by avoiding unnecessary or significant disturbance to existing drainage features, minimising any works in or around artificial drainage features, and diverting clean surface water flow around excavations, construction areas and temporary storage areas through the construction of interceptor drains. Where possible (depending on orientation), existing field drains can be used as interceptors drains, otherwise, new interceptors drains will be excavated and they will outfall to field drains downstream of the works areas.

The second method involves collecting any construction area drainage waters (from turbine base/hardstand areas, temporary construction compounds, and the substation) and routing that water through new proposed temporary construction settlement ponds (or stilling ponds) prior to controlled release into the existing field drain network. There will be no discharges to the existing field drains without prior treatment.

Within the Proposed Wind Farm site, the majority of the roads will be constructed using a floated technique. In these sections, and depending on intermediate topography, a collector drain (dirty water system as described above) will be used during construction phase, or OTE drainage will occur. OTE drainage allows runoff from access tracks to flow into local field drains and be managed via the existing site drainage system. OTE drainage will only occur where topography allows, and it is only proposed in areas of low risk and remote from outfall locations (at least 150m from bog outfall locations). Silt traps and check dams will be installed in field drains downstream of OTE drainage areas, and these will provide attenuation and treatment of dirty water.

During the construction phase, all runoff from works areas (i.e., dirty water) will be attenuated and treated prior to being released within the Project Site. All drainage outfall from the bogs associated with the Proposed Wind Farm and the Proposed Onsite Substation is routed through existing IPC settlement ponds that remain in-situ. Drainage systems will also be put in place at the Proposed Offsite Substation to ensure that there is no discharge of untreated or unattenuated water.

3.2.3 Pre-Construction Drainage

The Project Hydrologist will complete a detailed drainage design and maintenance plan before construction commences and will attend the site to set out and assist with micro-siting of proposed drainage controls as outlined in Section 4.7 in Chapter 4 of the EIAR.

Prior to commencement of construction works in sub-catchments across the Project Site, main drain inspections will be completed to ensure ditches and streams are free from debris and blockages that may impede drainage. It is proposed to complete these inspections on a catchment-by-catchment basis as the construction works develop across the Project Site, as works in all areas will not commence simultaneously.

The routes of any natural drainage features will not be altered as part of the Proposed Project. Turbine locations have been selected to avoid natural watercourses where possible. Within the Proposed Wind Farm site, there are a total of 15 no. watercourse crossing locations over natural watercourses (rivers and streams). There are 2 no. crossing locations over the Figile River that will have existing infrastructure removed and will be upgraded with a clear span bridge.

There will be no direct discharges to any natural watercourses, with all drainage waters being dispersed as overland flow using in-situ drainage and settlement ponds. All discharges from the proposed works areas will be made over vegetation filters at an appropriate distance from natural watercourses, i.e.,

50m. Buffer zones of 50m around the existing natural watercourses and 10m buffer around main drains have been used to inform the layout of the Proposed Project.

The drainage proposed within the Proposed Wind Farm site will not significantly alter the existing drainage regime within the Allen Bog Group. Moreover, the proposed drainage system will be fully integrated into the existing bog drainage systems. Existing field drains and main drains will be routed under/around access tracks using culverts as required.

3.2.4 Construction Phase Drainage Management

The key principles of drainage design that will be implemented and adhered to as part of the Proposed Project are detailed in Section 2.2 above with the proposed drainage infrastructure within the Proposed Wind Farm being detailed in Section 2 above. A preliminary drainage design for the Proposed Project, incorporating all principles and measures outlined in this drainage design description, has been prepared, and is included in the drainage figures included in Appendix A.

It should be noted that within the Allen Bog Group, a network of existing bog drains already exist, and these will be integrated and enhanced as required and used within the Proposed Project drainage system as appropriate (note, this is not inclusive of the areas encompassing Proposed Project infrastructure not located within the Proposed Wind Farm site). The integration of the existing drainage network and the Proposed Project drainage network is simple. The key elements being the upgrading and improvements to existing water treatment elements, such as in line controls and treatment systems, including silt traps, settlement ponds and buffered outfalls. A schematic line drawing of the proposed drainage design is presented in Figure 2-1 above.

Setbacks from sensitive hydrological features means that adequate room is maintained for the proposed drainage mitigation measures to be properly installed and operate effectively. The proposed buffer zone will:

- Avoid physical damage (river/stream banks and river/stream beds) to watercourses and associated release of sediment;
- Avoid excavations within close proximity to surface watercourses;
- Avoid the entry of suspended sediment from earthworks into watercourses; and,
- Avoid 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.

All of the Proposed Project works will be supervised by the EnvCoW supported by the Project Hydrologist.

The implementation of a SOWOR will continue through the construction phase of the project. The SOWOR provides number of abandonment triggers which will ensure that site management are well informed as to the level of incident that will require the abandonment of works. The various triggers both pre-commencement and abandonment ensure best practice in terms of water quality management is maintained prior to commencement and during the various felling and construction phases.

The Appointed Contractor, with input from the Project Hydrologist, will complete a site drainage and maintenance plan before construction commences and will attend the site to set out and assist with micro-siting of proposed drainage controls as outlined in Chapter 4, Section 4.7 of the EIAR and Section 3.2.4 of the CEMP (Appendix 4-4 of the EIAR). The drainage system will be excavated and constructed in conjunction with the road and hard standing construction.

Best practice and practical experience on other similar projects suggest that in addition to the drainage plans that are included in the EIAR, there are additional site-based decisions and plans that can only be made in the field through interaction between the Appointed Contractor, the Project Hydrologist and

the Project Geotechnical Engineers. The mechanisms for interaction between these roles are outlined within Section 4.1 of the CEMP.

In relation to decisions that are made on site it is important to stress that these will be implemented in line with the associated drainage controls and mitigation measures outlined in Section 2.4 above and to ensure protection of all watercourses.

3.2.5 Operational Phase Drainage

The Project Hydrologist will inspect and review the drainage system after construction has been completed to provide guidance on the requirements of an operational phase drainage system. This operational phase drainage system will have been installed during the construction phase in conjunction with the road and hardstanding construction work as described above and in Section 4.9.1.2 in Chapter 4 of the EIAR.

Within the Proposed Wind Farm site, there are numerous manmade drains that are in place from the previous land use of industrial peat extraction. The current drainage pattern is via a network of field drains typically spaced at 15 to 20m intervals, piped drains, main drains, headland drains, and silt ponds. The drainage within the Allen Bog Group is controlled under IPC License (P0503-01) and will be subject to '*Condition 10 Cutaway Bog Rehabilitation'* of the IPC Licence that following the decommissioning of use of all or part of their bogs, BnM, prepares (to the satisfaction of the EPA) and implements a Cutaway Bog Rehabilitation Plan. BnM has produced a Draft Rehabilitation Plan for the 14 no. bogs forming the Proposed Wind Farm site (Appendix 2-4), and it is the intention of BnM to rehabilitate the bog in a phased approach under IPC Licence following completion of the construction phase of the Proposed Project. The Draft Rehabilitation Plan is included as Appendix 2-4 to the EIAR. Irrespective of the consenting or construction of the Proposed Project, the measures outlined in the Draft Rehabilitation Plan will be implemented by BnM in agreement with the EPA, per BnM's IPC Licence Obligations.

The drainage system will be monitored in the operational phase until such a time that all areas that have been reinstated become re-vegetated and the natural drainage regime has been restored.

3.2.6 Preparative Site Drainage Management

All materials and equipment necessary to implement the drainage measures detailed above, will be brought onsite in phases as they are required during the construction phase. A sufficient number of straw bales, clean drainage stone, terram, stakes, etc., will be kept on site at all times to implement the drainage design measures as necessary. The drainage measures detailed in the above will be installed prior to, or at the same time as the works they are intended to drain.

3.2.6.1 Pre-emptive Site Drainage Management

The works programme for the groundworks part of the construction phase of the Proposed Project will also take account of weather forecasts, and predicted rainfall in particular, working under a SOWOR system as proposed in the planning application. Large excavations, large movements of overburden or large-scale overburden or soil stripping will be suspended or scaled back if heavy 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/weekly basis, as required, to allow site staff to direct proposed and planned construction activities:

- General Forecasts: Available on a national, regional and county level from the Met Éireann 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;
- MeteoAlarm: 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 Éireann 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 Éireann provide a 24-hour telephone consultancy service. The forecaster will provide an interpretation of weather data and give the best available forecast for the area of interest.

Using the safe threshold rainfall values will allow planned works to be safely executed (from a water quality perspective) in the event of forecasting 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 shall be completed:

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

3.2.6.2 Reactive Site Drainage Management

The final drainage design prepared for the Proposed Project prior to commencement of construction will provide for reactive management of drainage measures; the detailed drainage plan is provided as Appendix A. The effectiveness of drainage measures designed to minimise runoff entering works areas and capture and treat silt-laden water from the works areas, will be monitored continuously by the Ecological Clerk of Works (ECoW) on-site.

The ECoW or Project Hydrologist will respond to changing weather, ground or drainage conditions on the ground as the Proposed Project proceeds, to ensure the effectiveness of the drainage design is maintained in so far as is possible. This may require the installation of additional check dams; interceptor drains or swales as deemed necessary on-site. The drainage design may have to be modified on the ground as necessary, and the modifications will draw on the various features outlined above in whatever combinations are deemed to be most appropriate to situation on the ground as a particular time.

In the event that works are giving rise to siltation of watercourses, the ECoW will stop all works in the immediate area around where the siltation is evident. The source of the siltation will be identified and additional drainage measures such as those outlined above will be installed in advance of works recommencing.

3.2.7 Decommissioning Phase Drainage Management

The Decommissioning Plan (Appendix 4-7) will outline preferred drainage management methods in advance to the decommissioning phase. As the Decommissioning Plan is a working document, the specific drainage measures proposed during the decommissioning of the Proposed Project are included in Section 3.1 of Appendix 4-7 (Decommissioning Plan). When the final Decommissioning Plan is prepared prior to decommissioning and presented as a standalone document, all drainage management measures, which will include maintenance of the operational drainage regimes, will be included in that document.

The drainage proposals will be developed further prior to the commencement of decommissioning if deemed necessary. However, it should be noted that decommissioning drainage management will take cognisance of the IPC 10 rehabilitation in and around the Proposed Wind Farm infrastructure as implemented under the IPC License as part of the Final Cutaway Bog Decommissioning and Rehabilitation Plans which will be agreed by the EPA following completion of the construction phase.

At the time decommissioning is undertaken after the planned 35-year lifespan of the Proposed Wind Farm, areas within the Proposed Wind Farm site will have revegetated in line with the measures proved in the Draft Rehabilitation Plans (Appendix 2-4). It is not anticipated that the decommissioning phase will disrupt the restored drainage regime. As a minimum measure, areas where peat is placed as part of turbine foundation reinstatement will be surrounded by silt fencing if deemed necessary until the area has naturally revegetated.

3.3 Activity Specific Drainage Control and Mitigation Measures

3.3.1 Refuelling, Fuel and Hazardous Materials Storage

Wherever possible, vehicles will be refuelled off-site. This will be the case for regular, road-going vehicles. However, for construction machinery that will be based on-site continuously, a limited amount of fuel will have to be stored on site in appropriately bunded containers.

On-site refuelling of machinery will be carried out at dedicated refuelling locations using a mobile double-skinned fuel bowser. The fuel bowser, a double-axle, custom-built refuelling trailer, will be re-filled off site and will be towed around the Project Site by a 4x4 jeep to where machinery is located. It is not practical for all vehicles to travel back to a single refuelling point, given the size of the cranes, excavators, etc. that will be used during the construction of the Proposed Project. The 4x4 jeep will also carry 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.

Only designated trained and competent operatives will be authorised to refuel plant on site. Mobile measures such as drip trays, spill kits and fuel absorbent mats will be used during all onsite refuelling operations.

3.3.2 Concrete Deliveries

Only ready-mixed concrete will be used during the construction phase, with all concrete being delivered from local batching plants in sealed concrete delivery trucks. The use of ready-mixed concrete deliveries will eliminate any potential environmental risks of on-site batching. When concrete is delivered to site, only the chute of the delivery truck will be cleaned (in dedicated concrete washout areas only, as described below), using the smallest volume of water necessary, before leaving the Project Site. Concrete trucks will be washed out fully at the batching plant, where facilities are already in place.

The small volume of water that will be generated from washing of the concrete truck's chute will be directed into a temporary, lined, impermeable containment area. Where temporary lined impermeable containment areas are used, such containment areas will be built using straw bales and lined with an impermeable membrane. Two examples are shown in Plate 3-1 and Plate 3-2 below.

The areas will be covered when not in use to prevent rainwater collecting. In periods of dry weather, the areas will be uncovered to allow much of the water to be lost to evaporation. At the end of the concrete pours, any of the remaining liquid contents will be tankered off-site. Any solid contents that will have been cleaned down from the chute will have solidified and can be broken up and disposed of along with other construction waste.



Plate 3-1 Concrete washout area



Plate 3-2 Concrete washout area

Alternatively, a Siltbuster-type concrete wash unit or equivalent[1] may be used. This type of Siltbuster unit catches the solid concrete and filters and holds wash liquid for pH adjustment and further solids separation. The residual liquids and solids will be disposed of off-site at an appropriate waste facility.

The risks of pollution arising from concrete deliveries will be further reduced by the following:

- Full concrete-truck washout is prohibited onsite. Only chute cleaning may occur within designated lined containment areas or an approved Siltbuster-type unit.
- Internal site access roads will be constructed to the required standard to allow transport of the turbine components around the Project Site, and hence, concrete delivery trucks will be able to access all areas where the concrete will be needed. No concrete will be transported around the Project Site in open trailers or dumpers to avoid spillage while in transport. All concrete used in the construction of turbine bases will be poured directly into the shuttered formwork from the delivery truck. If this is not practical, the concrete will be pumped from the delivery truck into a

[1] https://www.siltbuster.co.uk/sb_prod/siltbuster-roadside-concrete-washout-rcw/

hydraulic concrete poured or into the bucket of an excavator, which will transfer the concrete to the location where it is needed.
- The arrangements for concrete deliveries to the Project Site will be agreed with suppliers before work starts, agreeing routes, prohibiting on-site washout and to agree emergency procedures.
- Clearly visible signage will be placed in prominent locations close to concrete pour areas specifically stating that the washout of concrete trucks is not permitted on the Project Site.

3.3.3 Concrete Pouring

Due to the volume of concrete required for each turbine foundation, and the requirement for the concrete pours to be continuous, deliveries may be required outside normal working hours to limit the traffic impact on other road users, particularly peak period school and work commuter traffic. Such activities are limited to the day of turbine foundation concrete pours, which are normally completed in a single day per turbine.

Given the scale of the turbine base concrete pours which form part of the Proposed Wind Farm, the pours will be planned approximately 1 week in advance. Special procedures will be adopted in advance of and during all concrete pours to minimise the risk of pollution. These will include:

- Using weather forecasting to assist in planning large concrete pours and avoiding large pours where prolonged periods of heavy rain is forecast.
- Restricting concrete pumps and machine buckets from slewing over watercourses (including drains and ditches) while placing concrete.
- Ensuring that excavations are sufficiently dewatered before concreting begins and that dewatering continues while concrete sets.
- Ensuring that covers are available, and used, when necessary, for freshly placed concrete to avoid the surface washing away in heavy rain.
- The small volume of water that will be generated from washing of the concrete truck's chute will be directed into a temporary, lined, impermeable containment area, or a Siltbuster-type concrete wash unit or equivalent.
- Surplus concrete after completion of a pour will be taken off-site and disposed of at an appropriately authorised facility.

3.3.4 Clear-Felled Forestry and Vegetation Removal Drainage Measures

Clear-felled tree felling will be required within and around the Proposed Project footprint to allow for the construction of the turbine bases, access roads, underground cabling, and other ancillary infrastructure and Proposed Enhancement Areas.

A total of 60.7ha of forestry (comprising conifer plantation (WD4)) will be permanently clear-felled within and around the Proposed Wind Farm site to accommodate the Proposed Enhancement Areas.

The felling activities required as part of the Proposed Project will be the subject of a Limited Felling Licence (LFL) application to the Forest Service in accordance with the Forestry Act 2014 and the Forestry Regulations 2017 (SI 191/2017) and as per the Forest Service's policy on granting felling licenses for wind farm developments. The Forest Service policy requires that planning permission for the Proposed Project is available prior to determination of the associated felling licence application. Where replacement afforestation is required by the Forest Service as part of the felling licence process, the replacement afforestation lands will also be subject to the applicable statutory forestry consent process

As part of the Proposed Project, bog woodland (WN7) and scrub (WS1) will be required to be removed (hereafter referred to as vegetation removal) within and around the footprint of the Proposed Wind Farm and Proposed Onsite Substation and other ancillary infrastructure and Proposed Enhancement Areas.

The estimated 176ha of vegetation to be removed within and around the Proposed Project, along with existing treeline boundaries is not subject to a Felling Licence from the Forestry Service and will be replanted within the Proposed Wind Farm site as part of the Proposed Enhancement Areas. Please see Chapter 6 Biodiversity and Appendix 6-5 for details.

During clear-felling and vegetation removal there is a potential to generate silts and sediments in surface water runoff due to tracking of machinery and disturbance of the ground surface etc. Mitigation is provided in Section 9.5.2.12 of Chapter 9 Water with regard surface water quality protection for this activity and is summarised below.

Prior to the commencement of subsequent road construction, the following key temporary drainage measures will be installed:

- Interceptor drains will convey clean runoff water around works areas to the existing downstream drainage system (field drains and main drains).
- Silt traps and check dams will be installed in field drains downstream of OTE drainage areas, and these will provide attenuation and treatment of dirty water.
- Silt fences will be emplaced within drains down-gradient of all construction areas.

Before the commencement of any clear-felling or vegetation removal works, an EnvCoW shall be appointed to oversee the works. The EnvCoW shall be experienced and competent, and shall have the following functions as proposed in the planning application:

- Attend the site for the setup period when drainage protection works are being installed and be present on site during the remainder of the works;
- Prior to the commencement of works, review and agree the positioning by the Operator of the required Aquatic Buffer Zones (ABZs), silt traps, silt fencing (see below), water crossings and onsite storage facilities for fuel, oil and chemicals (see further below);
- Be responsible for preparing and delivering the Environmental Toolbox Talk (TBT) to all relevant parties involved in site operations, prior to the commencement of the works.
- Conduct daily and weekly inspections of all water protection measures and visually assess their integrity and effectiveness in accordance with the proposals outlined in Section 4 below;
- Take representative photographs showing the progress of operation onsite, and the integrity and effectiveness of the water protection measures;
    - Collect water samples for analysis by a 3rd party accredited laboratory, adhering to the following requirements:
    - Sampling shall be taken from the stream/riverbank, with no in-stream access permitted;
    - The following minimum analytical suite shall be used: potential of Hydrogen (pH), Emulsifiable Concentrate (EC), Total Suspended Solids (TSS), Biochemical Oxygen Demand (BOD), Total Phosphorus (Total P), Orthophosphate (Ortho-P), Total Nitrogen (Total N), and Ammonia;
    - Review of operator's records for plant inspections, evidence of contamination and leaks, and drainage checks made after extreme weather conditions;
    - Prepare and maintain a contingency plan;

- Suspend work where potential risk to water from siltation and pollution is identified, or where operational methods and mitigation measures are not specified or agreed; and
- Prepare and maintain a Water Protection Measure Register. This document is to be updated weekly by the EnvCoW.

Clear-felling operations will conform to current best practice Forest Service regulations, policies and strategic guidance documents as well as Coillte and DAFM guidance documents, including the specific guidelines listed below, to ensure that felling, planting and other forestry operations result in minimal potential negative effects to the receiving environment.

- Forestry Standards Manual (Forest Service, 2015)
- Forest Protection Guidelines (Forest Service, 2002)
- Forest Operations and Water Protection Guidelines (Coillte, 2013)
- Forestry and Water Quality Guidelines (Forest Service, 2000b)
- Forestry and the Landscape Guidelines (Forest Service, 2000c)
- Forests and Water, Achieving Objectives under Ireland's River Basin Management Plan 2018-2021 (DAFM, 2018)
- Coillte Planting Guideline SOP
- Code of Best Forest Practice (Forest Service, 2000)

The setback distance from sensitive hydrological features means that adequate room is maintained for the proposed mitigation measures (discussed below) to be properly installed and operate effectively. The buffer/setback zone will:

- Avoid physical damage (river/stream banks and river/stream beds) to watercourses and the associated release of sediment;
- Avoid soil disturbance and compaction within close proximity to surface watercourses;
- Avoid the entry of suspended sediment from works into watercourses; and,
- Avoid the entry of suspended sediment from the 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.

Table 3-1: *Minimum Buffer Zone Widths (Forest Service, 2000) (Table 9-23 in Chapter 9 of the EIAR)*

Average slope leading to the aquatic zone		Buffer zone width on either side of the aquatic zone	Buffer zone width for highly erodible soils
Moderate	(0 – 15%)	10 m	15 m
Steep	(15 – 30%)	15 m	20 m
Very steep	(>30%)	20 m	25 m

In addition to the application of buffer/setback zones, the following supplementary mitigation measures will be employed during felling works:

Mitigation measures which will reduce the risk of entrainment of suspended solids and nutrient release into surface watercourses comprise best practice methods which are set out as follows:

- Machine combinations (i.e. handheld or mechanical) will be chosen which are most suitable for ground conditions and which will minimise soils disturbance;
- All machinery will be operated by suitably qualified personnel;
- Checking and maintenance of roads and culverts will be on-going through any felling operation. No tracking of vehicle through watercourses will occur, as vehicles will use road infrastructure and existing watercourse crossing points. Where possible, existing drains will not be disturbed during felling works;

- Machines will traverse the Proposed Site along specified off-road routes (referred to as racks);
- The location of racks will be chosen to avoid wet and potentially sensitive areas;
- Brash mats will be placed on the racks to support the vehicles on soft ground, reducing mineral soil disturbance and erosion and avoiding the formation of rutted areas, in which surface water ponding can occur. Brash mat renewal should take place when mats become heavily used and worn. Provision should 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;
- Silt fences will be installed at the outfalls of existing drains downstream of felling areas. No direct discharge of such drains to watercourses will occur. Sediment traps and silt fences will be installed in advance of any felling works and will provide surface water settlement for runoff from work areas and will prevent sediment from entering downstream watercourses. Accumulated sediment will be carefully disposed of at pre-selected peat and spoil areas. Where possible, all new silt traps will be constructed on even ground and not on sloping ground;
- In areas particularly sensitive to erosion it will be necessary to install double or triple sediment traps and increase buffer zone width. These measures will be reviewed on Site during construction;
- Double silt fencing will also be put down slope of felling areas which are located in close proximity to streams and/or relevant watercourses;
- 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;
- Timber will be stacked in dry areas, and outside watercourse buffer zones. Check dams and silt traps 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 runoff;
- Refuelling or maintenance of machinery will not occur within 50m of an aquatic zone or within 20m of any other hydrological feature. Mobile bowser, drip kits, qualified personnel will be used where refuelling is required; and,
- 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.

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.

Felling will only be carried out during periods of no or low rainfall, and therefore minimum runoff rates. This will minimise the risk of entrainment of suspended sediment in surface water runoff, and transport via this pathway to surface watercourses.

The following items will be carried out during pre-felling inspections and after:

- Communication with tree felling operatives in advance to determine whether any areas have been reported where there is unusual water logging 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. Ideally 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.

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).

Criteria for the selection of water sampling points include the following:

- Avoid man-made ditches and drains, or watercourses that do not have year round flows, i.e. avoid ephemeral ditches, drains or watercourses;
- Select sampling points upstream and downstream of the forestry activities;
- It is advantageous if the upstream location is outside/above the forest in order to evaluate the impact of land-uses other than forestry;
- Downstream locations will be selected: one immediately below the forestry activity, the second at exit from the forest, and the third some distance from the second (this allows demonstration of no impact through dilution effect or contamination by other land-uses where impact increases at third downstream location relative to second downstream location); and,
- The above sampling strategy will be undertaken for all on-site sub-catchments streams where tree felling is proposed.

Also, daily surface water monitoring forms (for visual inspections and field chemistry measurements) will be utilised at every works site near a watercourse. These will be kept on site for record and inspection.

Peat and Spoil Areas

It is proposed to manage any excess overburden generated through construction activities within the Proposed Wind Farm site, the material will be managed in designated areas/corridors beside hardstands and roads through landscaping, in accordance with the Peat and Spoil Management Plan (PSMP) (Appendix 4-3 to the Chapter 4 of the EIAR).

During the initial placement of peat and spoil, silt fences, straw bales and biodegradable geogrids will be used to control surface water runoff from the storage areas as required. Interceptor and collector drains will be used at storage areas. 'Siltbuster' treatment trains will be employed if previous treatment is not to a high quality.

4. SURFACE WATER QUALITY MONITORING

This section of the SWMP sets out the programme for water quality monitoring during the pre-construction, construction, commissioning and operational phases of the Proposed Project.

The surface water quality monitoring programme combines the use of laboratory analysis, water quality monitoring instrumentation and visual inspection to develop a comprehensive schedule of monitoring of all watercourses that exist both at the site and the surrounding area. The information collected by this schedule of water monitoring, particularly the continuous turbidity monitoring will inform the pre-commencement triggers in the SOWOR before works commence in an area. The turbidity monitors both upstream and downstream of the site will provide instant data on the quality of water in which they are deployed and will be equipped with an alarm system to alert site management if a peak in turbidity occurs as set out in the SOWOR. The SOWOR is provided as Appendix B to this SWMP.

The water monitoring programme was prepared in accordance with the following legislation:

- Planning and Development Acts 2000 (as amended);
- Planning and Development Regulations, 2001 (as amended);
- S.I. No. 477 of 2011: European Communities (Birds and Natural Habitats) Regulations 2011, resulting from EU Directives 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (the Habitats Directive) and 79/409/EEC on the conservation of wild birds (the Birds Directive);
- S.I. No. 293 of 1988: Quality of Salmon Water Regulations, resulting from EU Directive 78/659/EEC on the Quality of Fresh Waters Needing Protection or Improvement in order to Support Fish Life;
- S.I. No. 272 of 2009: European Communities Environmental Objectives (Surface Waters) Regulations 2009 (as amended) and S.I. No. 722 of 2003 European Communities (Water Policy) Regulations which implement EU Water Framework Directive (2000/60/EC) and provide for implementation of 'daughter' Groundwater Directive (2006/118/EC). Since 2000 water management in the EU has been directed by the Water Framework Directive (WFD).
    - The key objectives of the WFD are that all water bodies in member states achieve (or retain) at least 'good' status by 2015. Water bodies comprise both surface and groundwater bodies, and the achievement of 'Good' status for these depends also on the achievement of 'good' status by dependent ecosystems. Phases of characterisation, risk assessment, monitoring and the design of programmes of measures to achieve the objectives of the WFD have either been completed or are ongoing. In 2015 it replaced a number of existing water related directives, which were successively being repealed, while implementation of other Directives (such as the Habitats Directive 92/43/EEC) form part of the achievement of implementation of the objectives of the WFD;
- S.I. No. 51 of 2025: European Union Environmental Objectives (Groundwater) (Amendment) Regulations 2025, resulting from EU Directive 2006/118/EC on the protection of groundwater against pollution caused by certain dangerous substances (the Groundwater Directive);
- S.I. No. 673 of 2025: European Union (Drinking Water) Regulations 2025, which give effect to the requirements off the EU Drinking Water Directive; and
- S.I. No. 355 of 2018: European Union Environmental Objectives (Freshwater Pearl Mussel) (Amendment) Regulations 2018.

This water monitoring programme will be the subject of independent review by the Project Hydrologist who will provide the necessary guidance on the monitoring requirements. The water monitoring programme is outlined in the following sections.

4.1.1 Pre-Construction Baseline Monitoring

Water quality field testing and laboratory analysis will be undertaken prior to commencement of clear-felled forestry, vegetation removal and construction at the Project Site. The monitoring programme will be subject to agreement with Offaly and Kildare County Council but will be based on the planning stage programme already outlined in the EIAR and CEMP and presented in this document.

Analysis will be for a range of parameters with relevant regulatory limits along with Environmental Quality Standards (EQSs) and sampling will be undertaken at designated locations as outlined in Figure 4-1 below.

Baseline sampling will be completed on at least two occasions, and these should ideally coincide with low-flow and high-flow stream conditions. The high-flow sampling event will be undertaken after a period of sustained rainfall, and the low flow event will be undertaken after a dry spell.

A network of existing bog drains already exist, and these will be integrated and enhanced as required and used within the Proposed Project drainage system. These existing drains will continue to function as it is during the pre-construction phase.

However, prior to commencement of works in sub-catchments across the Proposed Wind Farm site, drain inspections will be competed to ensure ditches and streams are free from debris and blockages that may impede drainage. These inspections will be done on a catchment-by-catchment basis as the construction works develop across the Proposed Wind Farm site, as works in all areas will not commence simultaneously.

4.2 Construction Phase Monitoring

4.2.1 Daily Visual Inspections

An inspection and maintenance plan for the on-site drainage system will be prepared in advance of commencement of any works. Daily visual inspections of drains and outfalls will also be performed during the construction period to ensure suspended solids are not entering streams and rivers on site, to identify any obstructions to channels and to allow appropriate maintenance of the drainage regime. Should the suspended solids levels measured during construction be higher than the existing levels, the source will be identified, and additional mitigation measures implemented. Any excess build-up of silt levels at dams, the settlement pond, or any other drainage features that may decrease the effectiveness of the drainage feature, will be removed.

During the construction phase field testing and laboratory analysis of a range of parameters with relevant regulatory limits and EQSs should be undertaken for each primary watercourse interaction with the Proposed Project, and specifically following heavy rainfall events (i.e. weekly, monthly and event based).

Inspection sheets and photographic records will be kept on site. Inspection points will include the in-situ field monitoring point locations and the laboratory analysis sampling points. Inspection points will depend on works being completed within the catchment upstream of the identified monitoring locations. Visual inspections will also be completed after major rainfall events, i.e. after events of >25mm rainfall in any 24-hour period and data including photographs will be collected by visual inspections and independently assessed by the Project Hydrologist who will monitor and advise on the records being received.

Daily Visual Inspection locations are shown in Figure 4-1of this SWMP and will be confirmed by the Project Hydrologist and EnvCoW, prior to the commencement of the construction phase, and a Daily Visual Check Sheet Template is included in Appendix C. Daily Visual Inspections are subject to change upon commencement of construction activity and works in progress within the catchment areas.

The following periodic inspection regime will be implemented:

- Daily general visual inspections of site operations and inspections of all drainage infrastructure within the site and in the surrounding area by the EnvCoW or a suitably qualified and competent person as delegated by the EnvCoW;
- Inspections to include all elements of drainage infrastructure to ensure the system is operating correctly and to identify and maintenance that is required. Any changes, such as discolouration, odour, oily sheen or litter will be noted and corrective action will be implemented. High risk locations such as settlement ponds will be inspected daily. Daily inspections checks will be completed on plant and equipment, and whether materials such as straw bales or oil absorbent materials need replacement;
- Event based inspections by the EnvCoW as follows:
  - >10 mm/hr (i.e. high intensity localised rainfall event);
  - >25 mm in a 24-hour period (heavy frontal rainfall lasting most of the day); or,
  - Rainfall depth greater than half the monthly average in 7 days (prolonged heavy rainfall over a week).
- Monthly site inspections by the Project Hydrologist/ EnvCoW during construction phase;
- Quarterly site inspections by the Project Hydrologist/ EnvCoW after construction for a period of one year following the construction phase; and,
- A written record will be maintained or available on-site within the CEMP which will be maintained on-site during the construction phase.

4.2.2 Monthly Laboratory Analysis

Baseline laboratory analysis of a range of parameters with relevant regulatory limits and EQSs will be undertaken as per water monitoring programme for the Proposed Project. This will not be restricted to just these locations around the Proposed Project site with further sampling points added as deemed necessary by the EnvCoW in consultation with the Project Hydrologist and Site Manager.

4.2.3 Field Monitoring

Field chemistry measurements of unstable parameters (pH, conductivity, temperature) will be taken at the surface water monitoring locations, as per water monitoring programme for the Proposed Project. These analyses will be carried out by either the EnvCoW or the Project Hydrologist. In-situ field monitoring will also be completed after major rainfall events, i.e. after events of >25mm rainfall in any 24-hour period. The Project Hydrologist will monitor and advise on the readings collected by in-situ field monitoring.

4.2.4 Monitoring Parameters

The analytical determinants of the monitoring programme (including limits of detection and frequency of analysis) will be as per S.I. No. 272 of 2009 European Communities Environmental Objectives (Surface Waters) Regulations and European Union Environmental Objectives (Freshwater Pearl Mussel) (Amendment) Regulations 2018. The likely suite of determinants will include:

- pH (field measured);
- Electrical Conductivity (field measured);
- Temperature (field measured);
- Dissolved Oxygen (field measured);
- Alkalinity (pH measured);
- Total Phosphorus;
- Chloride;
- Nitrate;
- Nitrite;
- Total Nitrogen;
- Orthophosphate;
- Total Ammonia as N;
- Biochemical Oxygen Demand;
- Total Suspended Solids;
- True colour; and
- Dissolved Organic Carbon.
- Turbidity (NTU)

4.3 Construction Phase Drainage Inspections and Maintenance

The developer will appoint a Project Contractor who will be responsible for the construction of the Proposed Project in accordance with this SWMP which will be updated by the contractor as required during the construction phase of the Proposed Project. Drainage performance will form part of the civil works contract requirements. During the construction phase, the Project Contractor will be responsible for the effectiveness of drainage measures. This responsibility extends to drainage maintenance, to ensure that the installed drainage measures continue to perform as intended by the detailed drainage design. Silt fences, check dams, level spreaders and other drainage measures likely to form part of the detailed drainage design, require regular maintenance to ensure they continue to function effectively, and the Project Contractor is entirely responsible for this maintenance.

Regular inspections of all existing and installed drainage measures should be undertaken by the Project Contractor, especially after heavy rainfall, to check for blockages, and ensure there is no build-up of standing water within the system. The contractor will devise a system of recording the findings of these inspections. Any excess build-up of silt levels at check dams, the settlement ponds, or any other drainage features that may decrease the effectiveness of the drainage feature, will be removed. For this reason, the drainage measures installed on-site should be inspected at least weekly by the contractor and maintained as required during the construction phase of the Proposed Project to ensure good performance.

The EnvCoW will monitor the effectiveness of the on-site drainage during changing weather, ground or drainage conditions encountered on site, through their regular visual inspections of on-site watercourses and water monitoring programme. Where it appears that additional drainage measures will be required to ensure the drainage system remains effective, the EnvCoW will notify the contractor, the developer and project design team including the Project Hydrologist. The EnvCoW's role in this regard does not replace the need for the weekly (at least) inspections of the drainage system's measures by the Project Contractor.

4.3.1 Surface Water Monitoring Reporting

Visual inspection and laboratory analysis results of water quality monitoring shall assist in determining requirements for any necessary improvements in drainage controls and pollution prevention measures implemented on site.

It will be the responsibility of the EnvCoW to present the ongoing results of water quality and weather monitoring at or in advance of regular site meetings.

Reports on water quality will consider all field monitoring and visual inspections, and results of laboratory analysis completed for that period. Reports will describe how the results compare with baseline data as well as previous reports on water quality. The reports will also describe whether any deterioration or improvement in water quality has been observed whether any effects are attributable to construction activities and what remedial measures, or corrective actions have been implemented. Any proposed alteration to sampling frequency will be agreed with the relevant Planning Authority in advance.

4.3.2 Post Construction Monitoring

4.3.2.1 Monthly Laboratory Analysis Sampling

Monthly sampling for laboratory analysis for the range of parameters adopted during pre-commencement and construction phases will be undertaken monthly for the first six months following construction and this will continue to be undertaken quarterly after construction is complete. The Project Hydrologist will monitor and advise on the readings received from the testing laboratory and monitoring will only cease once the hydrologist is satisfied that the chemical and biological monitoring results show that there is no adverse impact on the quality of surface water within the natural watercourses draining the Proposed Wind Farm site. Surface water sampling and visual inspection inspection locations are presented in Figure 4-1 below.

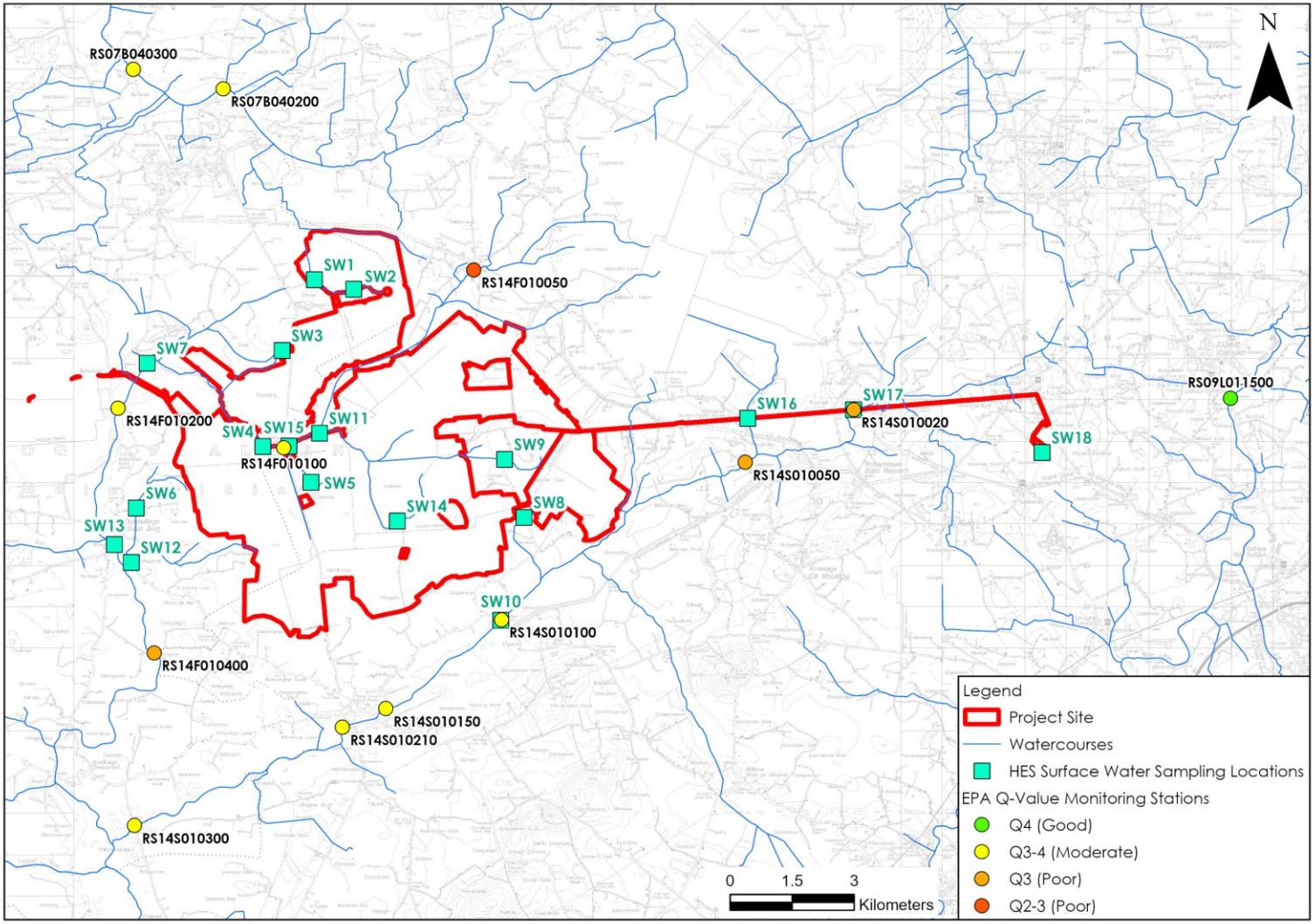


Figure 4-1 Surface Water Sampling and Visual Inspection Locations

5. COMPLIANCE AND REVIEW

5.1 Site Inspections and Auditing

Routine inspections of construction activities will be carried out on a daily and weekly basis by the EnvCoW and the Site Supervisor/Construction Manager to ensure all controls to prevent environmental impact, relevant to the construction activities taking place at the time, are in place. The Project Hydrologist will also assist in compliance of testing and monitoring as required.

The SWMP will be reviewed in line with the CEMP and updated as required prior to commencement of construction to address any relevant planning conditions and mitigation measures, and also every six months thereafter during the construction phase of the Proposed Project.

References

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PPG1 - Understanding your environmental responsibilities – good environmental practices (UK Guidance Note) (2021)

PPG5 – Works or Maintenance in or Near Water Courses (UK Guidance Note)

Scottish Natural Heritage, 2010: Good Practice During Wind Farm Construction

Wind Energy Development Guidelines for Planning Authorities, 2006 (the DoEHLG 2006 Guidelines)

APPENDIX A

DRAINAGE DESIGN DRAWINGS

POLLUTION PREVENTION NOTES:

1. SITE MANAGEMENT AND DRAINAGE PROPOSALS ARE INTENDED TO ENSURE PROTECTION OF SURFACE WATER AND GROUNDWATER AND TO MINIMISE THE RISK OF POLLUTION, SILTATION AND EROSION.
2. APPROPRIATE DRAINAGE AND POLLUTION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO, OR IN CONJUNCTION WITH, CONSTRUCTION WORKS AND SHALL BE MAINTAINED FOR THE DURATION OF THE WORKS.
3. SILTY WATER MAY ARISE FROM EXCAVATION DEWATERING, EROSION OF EXPOSED OR DISTURBED GROUND, TEMPORARY STOCKPILES, PLANT AND WHEEL WASHING, PROPOSED INTERNAL ACCESS ROADS AND DISTURBANCE OF EXISTING FIELD DRAINS AND DITCHES.

DISCHARGES

4. WATER CONTAINING ELEVATED SUSPENDED SEDIMENT SHALL NOT BE PUMPED OR DISCHARGED DIRECTLY TO ANY NATURAL WATERCOURSE. CONSTRUCTION RUNOFF AND EXCAVATION DEWATERING SHALL BE APPROPRIATELY TREATED PRIOR TO DISCHARGE TO THE EXISTING BOG DRAINAGE NETWORK.
5. NO EXCAVATED MATERIAL OR TEMPORARY STOCKPILES SHALL BE STORED WITHIN THE PRESCRIBED SURFACE WATER BUFFER ZONES.
6. RUNOFF FROM CONSTRUCTION AREAS SHALL BE COLLECTED IN COLLECTOR DRAINS AND DIRECTED TO APPROPRIATE TREATMENT MEASURES, INCLUDING SILT TRAPS, CHECK DAMS, SETTLEMENT PONDS, VEGETATED BUFFER AREAS AND/OR OTHER SUITABLE TREATMENT SYSTEMS, PRIOR TO DISCHARGE TO EXISTING FIELD DRAINS OR MAIN DRAINS.
7. CLEAN SURFACE WATER RUNOFF SHALL, WHERE PRACTICABLE, BE INTERCEPTED UP-GRADIENT OF CONSTRUCTION AREAS USING INTERCEPTOR DRAINS AND DIRECTED AROUND THE WORKS BEFORE BEING REDISTRIBUTED TO DOWNSTREAM FIELD DRAINS. EXISTING FIELD DRAINS MAY BE UTILISED FOR THIS PURPOSE WHERE APPROPRIATE.
8. PUMPING OF CLEAN WATER FROM EXCAVATIONS, OR OVER-PUMPING OF DRAINS, DITCHES OR WATERCOURSES, SHALL BE UNDERTAKEN IN A MANNER WHICH DOES NOT CAUSE SCOUR OR EROSION AT THE POINT OF DISCHARGE. FLOW VELOCITIES SHALL BE CONTROLLED USING APPROPRIATE MEASURES SUCH AS SPLASH PLATES OR OTHER SUITABLE DISCHARGE CONTROLS.
9. EXISTING DRAINS AND DITCHES SHALL BE RETAINED AND PROTECTED WHERE PRACTICABLE. VEGETATION SHALL NOT BE REMOVED FROM EXISTING DRAINS UNLESS REQUIRED TO FACILITATE THE WORKS.
10. ALL SURFACE WATER RUNOFF FROM THE PROPOSED PROJECT SHALL ULTIMATELY PASS THROUGH THE EXISTING IPC LICENCE SETTLEMENT PONDS AT THE BOG OUTFALL LOCATIONS PRIOR TO DISCHARGE TO THE RECEIVING STREAM AND RIVER NETWORK.

EXCAVATIONS

11. WHERE EXCAVATIONS ARE PROPOSED, INTERCEPTOR/CUT-OFF DRAINS SHALL BE INSTALLED WHERE REQUIRED TO MINIMISE THE VOLUME OF CLEAN SURFACE WATER ENTERING THE EXCAVATION. THIS SHALL INCLUDE TURBINE BASE EXCAVATIONS WHERE APPROPRIATE.
12. WHERE TEMPORARY DEWATERING OF EXCAVATIONS IS REQUIRED, PUMPED WATER SHALL BE TREATED USING APPROPRIATE MEASURES SUCH AS DEWATERING SILT BAGS, SETTLEMENT PONDS OR SPECIALIST TREATMENT SYSTEMS PRIOR TO DISCHARGE TO THE EXISTING DRAINAGE NETWORK.

EXPOSED GROUND & STOCKPILES

13. THE EXTENT OF EXPOSED GROUND AND THE VOLUME AND DURATION OF TEMPORARY STOCKPILES SHALL BE MINIMISED AS FAR AS PRACTICABLE.
14. CONSTRUCTION ACTIVITIES INVOLVING SIGNIFICANT AREAS OF EXPOSED PEAT OR SOIL SHALL BE SCALED BACK OR SUSPENDED DURING PERIODS OF HEAVY RAINFALL OR WHERE HEAVY RAINFALL IS FORECAST.

PROPOSED INTERNAL ACCESS ROADS

15. COLLECTOR DRAINS SHALL BE PROVIDED ALONGSIDE PROPOSED INTERNAL ACCESS ROADS WHERE REQUIRED TO COLLECT CONSTRUCTION RUNOFF AND CONVEY IT TO APPROPRIATE TREATMENT MEASURES.
16. ON STEEPER SECTIONS OF PROPOSED INTERNAL ACCESS ROAD, TRANSVERSE DRAINS OR GRIPS SHALL BE INSTALLED WHERE APPROPRIATE TO INTERCEPT ROAD RUNOFF AND DIVERT IT TO ADJACENT ROADSIDE COLLECTOR DRAINS.
17. CHECK DAMS SHALL BE INSTALLED WITHIN COLLECTOR DRAINS WHERE APPROPRIATE TO REDUCE FLOW VELOCITIES AND PROMOTE SETTLEMENT OF SUSPENDED SEDIMENT. CHECK DAMS SHALL COMPRISE 4/40 MM NON-FRIABLE CRUSHED ROCK AND SHALL GENERALLY BE INSTALLED AT 25 M OR 50 M INTERVALS DEPENDING ON LOCAL GRADIENT.
18. SILT TRAPS, CHECK DAMS, SETTLEMENT PONDS AND OTHER DRAINAGE TREATMENT MEASURES SHALL BE REGULARLY INSPECTED AND MAINTAINED, PARTICULARLY DURING AND FOLLOWING PERIODS OF HEAVY RAINFALL.

REFUELLING

19. REFUELLING AND MAINTENANCE OF MOBILE PLANT SHALL, WHERE PRACTICABLE, BE UNDERTAKEN OFF-SITE. WHERE REQUIRED ON-SITE, REFUELLING SHALL ONLY BE UNDERTAKEN WITHIN DESIGNATED AREAS AND IN ACCORDANCE WITH THE CEMP AND APPROPRIATE POLLUTION PREVENTION PROCEDURES.
20. REFUELLING AREAS SHALL BE LOCATED AWAY FROM NATURAL WATERCOURSES AND DRAINAGE FEATURES. SPILL KITS AND DRIP TRAYS SHALL BE READILY AVAILABLE FOR USE AS REQUIRED.
21. FUEL AND OTHER POTENTIALLY POLLUTING SUBSTANCES SHALL BE STORED IN APPROPRIATELY BUNDED AREAS IN ACCORDANCE WITH THE CEMP.

CONCRETE

22. CONCRETE WORKS SHALL BE MANAGED TO PREVENT THE DISCHARGE OF CEMENTITIOUS MATERIAL OR CONCRETE-CONTAMINATED WATER TO THE SURFACE WATER DRAINAGE SYSTEM, GROUNDWATER OR NATURAL WATERCOURSES.
23. CONCRETE WASH WATER AND WASTE CONCRETE SHALL BE CONTAINED AND MANAGED IN ACCORDANCE WITH THE CEMP AND SHALL NOT BE DISCHARGED TO THE SITE DRAINAGE SYSTEM OR NATURAL WATERCOURSES.

IF WATER POLLUTION IS IDENTIFIED THE FOLLOWING ACTIONS WILL BE TAKEN:

STOP - WORKS IN THE IMMEDIATE AREA WILL BE STOPPED AND THE SOURCE OF THE POLLUTION WILL BE IDENTIFIED.

CONTAIN - THE SOURCE OF THE POLLUTION WILL BE CONTAINED USING APPROPRIATE MEASURES TO PREVENT FURTHER RELEASE. WHERE NECESSARY, DRAINAGE PATHWAYS SHALL BE TEMPORARILY ISOLATED OR DIVERTED TO PREVENT CONTAMINATED WATER REACHING DOWNSTREAM RECEPTORS.

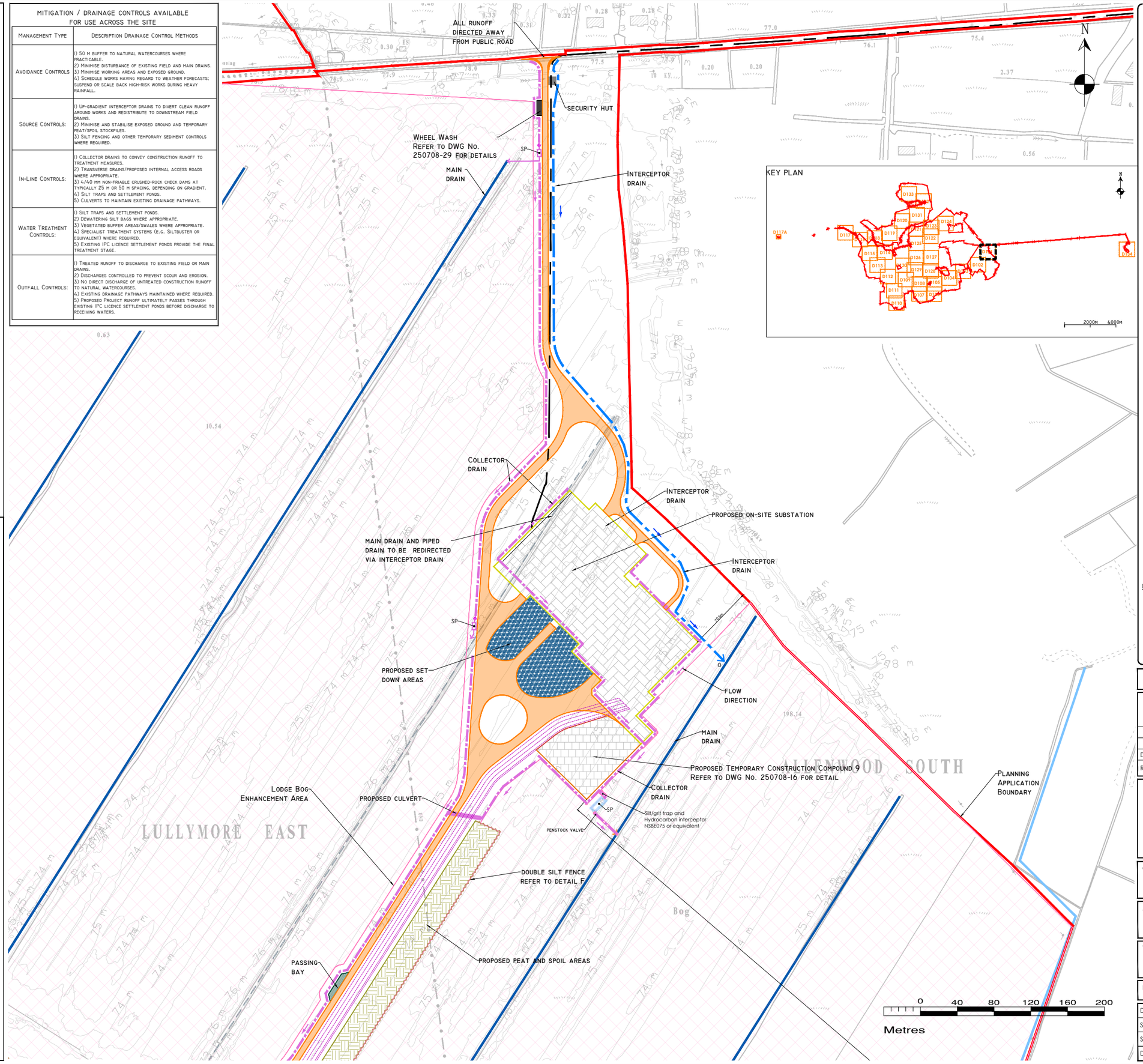
NOTIFY - THE SITE MANAGER AND ENVIRONMENTAL CLERK OF WORKS SHALL BE NOTIFIED IMMEDIATELY. RELEVANT STATUTORY AUTHORITIES AND OTHER BODIES SHALL BE NOTIFIED WHERE REQUIRED IN ACCORDANCE WITH THE CEMP AND THE PROJECT EMERGENCY RESPONSE PROCEDURE.

DRAINAGE NOTES:

1. ROADWAY SURFACING DESIGN AND CONSTRUCTION SHALL BE TO THE ENGINEER'S SPECIFICATION.
2. SPARE SILT FENCING, STRAW BALES OR SIMILAR APPROVED POLLUTION CONTROL MATERIALS SHALL BE STORED ON SITE. SUSPENDED SEDIMENT IN RUNOFF SHALL BE VISUALLY MONITORED DURING CONSTRUCTION. WHERE ELEVATED SILT LEVELS ARE OBSERVED, ADDITIONAL TEMPORARY CONTROLS SUCH AS SILT FENCES, STRAW BALES, SILT TRAPS OR CHECK DAMS SHALL BE INSTALLED AS REQUIRED. A MOBILE WATER TREATMENT SYSTEM (E.G. SILTBUSTER OR EQUIVALENT) SHALL BE AVAILABLE ON SITE FOR USE WHERE REQUIRED.
3. THE PROPOSED DRAINAGE SYSTEM SHALL BE CONSTRUCTED PRIOR TO, OR IN CONJUNCTION WITH, THE ASSOCIATED PROPOSED INTERNAL ACCESS ROADS AND OTHER INFRASTRUCTURE. TEMPORARY DRAINAGE AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED WHERE REQUIRED DURING CONSTRUCTION TO PREVENT ELEVATED SUSPENDED SEDIMENT CONCENTRATIONS IN RUNOFF.
4. APPROPRIATE DRAINAGE AND POLLUTION PREVENTION MEASURES SHALL BE MAINTAINED AT ALL TIMES TO PREVENT THE CONVEYANCE OF SIGNIFICANT VOLUMES OF SEDIMENT TO RECEIVING WATERCOURSES. REFER ALSO TO POLLUTION PREVENTION NOTES.
5. INTERCEPTOR DRAINS SHALL BE INSTALLED UP-GRADIENT OF PROPOSED INFRASTRUCTURE, WHERE REQUIRED, TO INTERCEPT CLEAN SURFACE WATER RUNOFF AND MINIMISE THE VOLUME OF RUNOFF ENTERING CONSTRUCTION AREAS. INTERCEPTED CLEAN WATER SHALL BE DIRECTED AROUND THE WORKS AND REDISTRIBUTED TO DOWNSTREAM FIELD DRAINS. EXISTING FIELD DRAINS SHALL BE UTILISED FOR THIS PURPOSE WHERE PRACTICABLE.
6. COLLECTOR DRAINS SHALL BE INSTALLED DOWNSTREAM OF PROPOSED INTERNAL ACCESS ROADS AND OTHER CONSTRUCTION AREAS, WHERE REQUIRED, TO COLLECT RUNOFF WHERE SUSPENDED SEDIMENT MAY BECOME ENTRAINED. RUNOFF SHALL BE CONVEYED TO APPROPRIATE TREATMENT MEASURES, INCLUDING SILT TRAPS, CHECK DAMS, VEGETATED AREAS AND SETTLEMENT PONDS, PRIOR TO DISCHARGE TO THE EXISTING FIELD DRAIN OR MAIN DRAIN NETWORK.
7. TRANSVERSE DRAINS ('GRIPS') SHALL BE INSTALLED ON SECTIONS OF PROPOSED INTERNAL ACCESS ROADS, WHERE APPROPRIATE, TO INTERCEPT PROPOSED INTERNAL ACCESS ROAD RUNOFF AND DIVERT IT TO ADJACENT ROADSIDE COLLECTOR DRAINS. THE LOCATIONS OF TRANSVERSE DRAINS SHALL BE DETERMINED HAVING REGARD TO LOCAL GRADIENT AND DRAINAGE CONDITIONS.
8. DIRECT DISCHARGE OF UNTREATED CONSTRUCTION RUNOFF TO NATURAL WATERCOURSES SHALL NOT BE PERMITTED. TREATED RUNOFF SHALL BE DISCHARGED TO THE EXISTING BOG DRAINAGE NETWORK IN ACCORDANCE WITH THE DRAINAGE DESIGN.
9. BATTERS OF PROPOSED DRAINS SHALL GENERALLY HAVE SIDE SLOPES APPROPRIATE TO THEIR DEPTH AND LOCAL GROUND CONDITIONS AND SHALL BE LEFT TO NATURALLY RE-VEGETATE OR SHALL BE STABILISED USING SUITABLE LOCALLY SOURCED VEGETATION WHERE REQUIRED.
10. COLLECTOR DRAINS SHALL BE SHALLOW AND CONSTRUCTED WITH MODERATE GRADIENTS WHERE PRACTICABLE TO MINIMISE SCOUR. CHECK DAMS SHALL BE INSTALLED WHERE APPROPRIATE TO REDUCE FLOW VELOCITIES AND PROMOTE SETTLEMENT OF SUSPENDED SEDIMENT.
11. SETTLEMENT PONDS SHALL BE PROVIDED DOWNSTREAM OF PROPOSED INTERNAL ACCESS ROADS SECTIONS AND AT PROPOSED TURBINE/HARDSTAND LOCATIONS WHERE REQUIRED. SETTLEMENT PONDS SHALL PROVIDE TREATMENT AND TEMPORARY ATTENUATION OF RUNOFF PRIOR TO DISCHARGE TO THE EXISTING BOG DRAINAGE NETWORK. POND SIZING SHALL BE APPROPRIATE TO THE CONTRIBUTING CATCHMENT AREA. TYPICAL POND DETAILS ARE SHOWN ON DRAWING D501.
12. SILT FENCING OR OTHER APPROPRIATE SEDIMENT CONTROL MEASURES SHALL BE INSTALLED AROUND TEMPORARY PEAT/SPOIL STOCKPILES WHERE REQUIRED TO PREVENT SEDIMENT-LADEN RUNOFF ENTERING THE DRAINAGE NETWORK. TEMPORARY CONTROLS MAY BE REMOVED ONCE THE DISTURBED AREA HAS BEEN ADEQUATELY STABILISED.
13. TEMPORARY SILT FENCING SHALL BE INSTALLED WHERE REQUIRED BETWEEN CONSTRUCTION WORKS AND EXISTING DRAINAGE FEATURES OR NATURAL WATERCOURSES, PARTICULARLY WHERE WORKS OCCUR WITHIN THE PRESCRIBED SURFACE WATER BUFFER ZONES.
14. DRAIN SLOPES AND OTHER EXPOSED SURFACES SHALL BE PROTECTED FROM EROSION UNTIL ADEQUATELY STABILISED. SUITABLE STRIPPED VEGETATIVE MATERIAL, INCLUDING PEAT SOD/SCRAW WHERE AVAILABLE, MAY BE REUSED LOCALLY TO ASSIST STABILISATION AND RE-VEGETATION.
15. THE EXTENT AND DURATION OF EXPOSED GROUND SHALL BE MINIMISED AS FAR AS PRACTICABLE.
16. CHECK DAMS SHALL COMPRISE 4/40 MM NON-FRIABLE CRUSHED ROCK AND SHALL BE INSTALLED WITHIN COLLECTOR DRAINS WHERE APPROPRIATE. CHECK DAMS SHALL GENERALLY BE INSTALLED AT 25 M OR 50 M INTERVALS, DEPENDING ON THE LOCAL LONGITUDINAL GRADIENT AND SITE CONDITIONS.
17. CHECK DAMS, SILT TRAPS AND SETTLEMENT PONDS SHALL BE VISUALLY INSPECTED AND MAINTAINED AS PART OF THE CONSTRUCTION-PHASE DRAINAGE MAINTENANCE PROGRAMME, PARTICULARLY DURING AND FOLLOWING PERIODS OF HEAVY RAINFALL. ACCUMULATED SEDIMENT SHALL BE REMOVED AND DISPOSED OF APPROPRIATELY.
18. WHERE CHECK DAMS BECOME CLOGGED WITH SEDIMENT OR VEGETATION, THEY SHALL BE CLEANED OR REPLACED AS REQUIRED TO MAINTAIN THEIR HYDRAULIC AND SEDIMENT-CONTROL FUNCTION.
19. THE CONSTRUCTION-PHASE DRAINAGE INFRASTRUCTURE WILL GENERALLY FORM THE BASIS OF THE OPERATIONAL DRAINAGE SYSTEM. COLLECTOR DRAINS, SETTLEMENT PONDS AND OTHER TREATMENT/ATTENUATION FEATURES WILL BE RETAINED AND MAINTAINED WHERE REQUIRED. LOCAL SETTLEMENT PONDS MAY BE INFILLED OR DECOMMISSIONED FOLLOWING THE CONSTRUCTION PHASE, SUBJECT TO CONFIRMATION BY THE SITE ENGINEER.
20. WHERE TEMPORARY DEWATERING OF EXCAVATIONS IS REQUIRED, SILT BAGS AND/OR OTHER APPROPRIATE TREATMENT MEASURES SHALL BE USED AS NECESSARY. DISCHARGE FROM DEWATERING SILT BAGS SHALL BE DIRECTED TO SETTLEMENT PONDS OR OTHER SUITABLE TREATMENT MEASURES PRIOR TO DISCHARGE TO EXISTING FIELD DRAINS OR MAIN DRAINS.
21. FUEL AND OTHER POTENTIALLY POLLUTING SUBSTANCES SHALL BE STORED IN APPROPRIATELY BUNDED CONTAINMENT AREAS IN ACCORDANCE WITH THE CEMP AND POLLUTION PREVENTION NOTES.
22. CULVERTS SHALL BE PROVIDED WHERE PROPOSED INTERNAL ACCESS ROADS OR HARDSTANDS CROSS EXISTING MAIN BOG DRAINAGE PATHWAYS. CULVERTS SHALL BE APPROPRIATELY SIZED AND INSTALLED TO MAINTAIN EXISTING DRAINAGE CONNECTIVITY AND SHALL BE REGULARLY INSPECTED AND MAINTAINED.
23. ALL SURFACE WATER RUNOFF FROM THE PROPOSED PROJECT SHALL ULTIMATELY PASS THROUGH THE EXISTING IPC LICENCE SETTLEMENT PONDS AT THE BOG OUTFALL LOCATIONS PRIOR TO ONWARD DISCHARGE TO THE SURROUNDING STREAM AND RIVER NETWORK.

MITIGATION / DRAINAGE CONTROLS AVAILABLE FOR USE ACROSS THE SITE

MANAGEMENT TYPE	DESCRIPTION DRAINAGE CONTROL METHODS
AVOIDANCE CONTROLS	1) 50 M BUFFER TO NATURAL WATERCOURSES WHERE PRACTICABLE. 2) MINIMISE DISTURBANCE OF EXISTING FIELD AND MAIN DRAINS. 3) MINIMISE WORKING AREAS AND EXPOSED GROUND. 4) SCHEDULE WORKS HAVING REGARD TO WEATHER FORECASTS; SUSPEND OR SCALE BACK HIGH-RISK WORKS DURING HEAVY RAINFALL.
SOURCE CONTROLS:	1) UP-GRADIENT INTERCEPTOR DRAINS TO DIVERT CLEAN RUNOFF AROUND WORKS AND REDISTRIBUTE TO DOWNSTREAM FIELD DRAINS. 2) MINIMISE AND STABILISE EXPOSED GROUND AND TEMPORARY PEAT/SPOIL STOCKPILES. 3) SILT FENCING AND OTHER TEMPORARY SEDIMENT CONTROLS WHERE REQUIRED.
IN-LINE CONTROLS:	1) COLLECTOR DRAINS TO CONVEY CONSTRUCTION RUNOFF TO TREATMENT MEASURES. 2) TRANSVERSE DRAINS/PROPOSED INTERNAL ACCESS ROADS WHERE APPROPRIATE. 3) 4/40 MM NON-FRIABLE CRUSHED-ROCK CHECK DAMS AT TYPICALLY 25 M OR 50 M SPACING, DEPENDING ON GRADIENT. 4) SILT TRAPS AND SETTLEMENT PONDS. 5) CULVERTS TO MAINTAIN EXISTING DRAINAGE PATHWAYS.
WATER TREATMENT CONTROLS:	1) SILT TRAPS AND SETTLEMENT PONDS. 2) DEWATERING SILT BAGS WHERE APPROPRIATE. 3) VEGETATED BUFFER AREAS/SWALES WHERE APPROPRIATE. 4) SPECIALIST TREATMENT SYSTEMS (E.G. SILTBUSTER OR EQUIVALENT) WHERE REQUIRED. 5) EXISTING IPC LICENCE SETTLEMENT PONDS PROVIDE THE FINAL TREATMENT STAGE.
OUTFALL CONTROLS:	1) TREATED RUNOFF TO DISCHARGE TO EXISTING FIELD OR MAIN DRAINS. 2) DISCHARGES CONTROLLED TO PREVENT SCOUR AND EROSION. 3) NO DIRECT DISCHARGE OF UNTREATED CONSTRUCTION RUNOFF TO NATURAL WATERCOURSES. 4) EXISTING DRAINAGE PATHWAYS MAINTAINED WHERE REQUIRED. 5) PROPOSED PROJECT RUNOFF ULTIMATELY PASSES THROUGH EXISTING IPC LICENCE SETTLEMENT PONDS BEFORE DISCHARGE TO RECEIVING WATERS.



DRAWING LEGEND:

- WATERCOURSES
- WATERCOURSES 50M BUFFER
- STREAM FLOW DIRECTION
- EXISTING MAIN DRAINS
- REDIRECTED MAIN DRAINS
- EXISTING PIPED DRAINS
- EXISTING DISCHARGE DRAINS
- EXISTING BOUNDARY DRAINS
- FIELD DRAIN
- EXISTING SETTLEMENT PONDS
- EXISTING WC CROSSING/CULVERT

EXISTING DRAINAGE

- UPSTREAM INTERCEPTOR DRAIN
- DOWNSTREAM COLLECTOR DRAIN (DSCD)
- DSCD OR OVER THE EDGE (OTE)
- DIRECTION OF FLOW
- SILT FENCES
- DOUBLE SILT FENCES
- WF SETTLEMENT POND
- LEVEL SPREADER
- PROPOSED WC CROSSING/CULVERT
- INTERCEPTOR DITCH CULVERT
- COLLECTOR DITCH CULVERT
- WATERCOURSE DRAIN PROTECTION BERM
- O OVERLAND FLOW DISCHARGE
- TW TREATED WATER DISCHARGE
- SP NEW SETTLEMENT POND

PROPOSED DRAINAGE

- PLANNING APPLICATION BOUNDARY
- EXISTING GROUND SURFACE MINOR CONTOUR (1 M INTERVAL)
- TURBINE 220, TURBINE FOUNDATION AND SWEPT AREA
- TURBINE 200, TURBINE FOUNDATION AND SWEPT AREA
- TURBINE FOUNDATION
- CRANE PLATFORM
- BLADE SETDOWN AREAS
- UPGRADES TO EXISTING TRACKS
- PROPOSED INTERNAL ACCESS ROADS AND TURNING BAY
- PROPOSED INTERNAL 33kV CABLING
- PROPOSED GRID CONNECTION UNDERGROUND 220KV ELECTRICAL CABLING
- PROPOSED ON-SITE SUBSTATION
- PROPOSED OFF-SITE GIS SUBSTATION
- PROPOSED MET MAST
- PROPOSED RELAY MAST
- TEMPORARY CONSTRUCTION COMPOUNDS
- PROPOSED CAR PARKING
- PROPOSED PEAT AND SPOIL AREAS
- PROPOSED PASSING BAYS
- PROPOSED DEDICATED AMENITY TRACK
- PROPOSED DEDICATED AMENITY BOARD WALK
- SCRUB MOSAIC CREATION AREA
- POLLINATOR FORAGING HABITAT ENHANCEMENT AREA
- PEATLAND ENHANCEMENT AREA
- NATIVE TREE (WOODLAND AND SCRUB) PLANTING AREA
- MARSH FRITILLARY ENHANCEMENT AREA
- LODGE BOG ENHANCEMENT AREA

BASEMAP NOTE: THESE DRAWINGS USE 1:5,000 SCALE ORDNANCE SURVEY IRELAND (OSI) BASEMAPS AS AN UNDERLAY. FOR CLARITY, THE BASEMAP FEATURES ARE NOT INCLUDED IN THE DRAWING LEGEND AND ARE DISPLAYED IN LIGHT GREY WITH PARTIAL TRANSPARENCY TO DISTINGUISH THEM FROM THE PROPOSED DEVELOPMENT FEATURES.

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Revisions

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Job: BALLYDERMOT WF, CO. OFFALY/CO. KILDARE

Title: PROPOSED CONSTRUCTION PHASE AND OPERATIONAL PHASE DRAINAGE LAYOUT

Figure No: D101

Drawing No: P1511-0-1026-A1-D101-00C	
Sheet Size: A1	Project No.: P1511-0
Scale: 1:2,000 (A1)	Drawn By: GA
Date: 21/10/2026	Checked By: MG

POLLUTION PREVENTION NOTES:

1. SITE MANAGEMENT AND DRAINAGE PROPOSALS ARE INTENDED TO ENSURE PROTECTION OF SURFACE WATER AND GROUNDWATER AND TO MINIMISE THE RISK OF POLLUTION, SILTATION AND EROSION.
2. APPROPRIATE DRAINAGE AND POLLUTION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO, OR IN CONJUNCTION WITH, CONSTRUCTION WORKS AND SHALL BE MAINTAINED FOR THE DURATION OF THE WORKS.
3. SILTY WATER MAY ARISE FROM EXCAVATION DEWATERING, EROSION OF EXPOSED OR DISTURBED GROUND, TEMPORARY STOCKPILES, PLANT AND WHEEL WASHING, PROPOSED INTERNAL ACCESS ROADS AND DISTURBANCE OF EXISTING FIELD DRAINS AND DITCHES.

DISCHARGES

4. WATER CONTAINING ELEVATED SUSPENDED SEDIMENT SHALL NOT BE PUMPED OR DISCHARGED DIRECTLY TO ANY NATURAL WATERCOURSE. CONSTRUCTION RUNOFF AND EXCAVATION DEWATERING SHALL BE APPROPRIATELY TREATED PRIOR TO DISCHARGE TO THE EXISTING BOG DRAINAGE NETWORK.
5. NO EXCAVATED MATERIAL OR TEMPORARY STOCKPILES SHALL BE STORED WITHIN THE PRESCRIBED SURFACE WATER BUFFER ZONES.
6. RUNOFF FROM CONSTRUCTION AREAS SHALL BE COLLECTED IN COLLECTOR DRAINS AND DIRECTED TO APPROPRIATE TREATMENT MEASURES, INCLUDING SILT TRAPS, CHECK DAMS, SETTLEMENT PONDS, VEGETATED BUFFER AREAS AND/OR OTHER SUITABLE TREATMENT SYSTEMS, PRIOR TO DISCHARGE TO EXISTING FIELD DRAINS OR MAIN DRAINS.
7. CLEAN SURFACE WATER RUNOFF SHALL, WHERE PRACTICABLE, BE INTERCEPTED UP-GRADIENT OF CONSTRUCTION AREAS USING INTERCEPTOR DRAINS AND DIRECTED AROUND THE WORKS BEFORE BEING REDISTRIBUTED TO DOWNSTREAM FIELD DRAINS. EXISTING FIELD DRAINS MAY BE UTILISED FOR THIS PURPOSE WHERE APPROPRIATE.
8. PUMPING OF CLEAN WATER FROM EXCAVATIONS, OR OVER-PUMPING OF DRAINS, DITCHES OR WATERCOURSES, SHALL BE UNDERTAKEN IN A MANNER WHICH DOES NOT CAUSE SCOUR OR EROSION AT THE POINT OF DISCHARGE. FLOW VELOCITIES SHALL BE CONTROLLED USING APPROPRIATE MEASURES SUCH AS SPLASH PLATES OR OTHER SUITABLE DISCHARGE CONTROLS.
9. EXISTING DRAINS AND DITCHES SHALL BE RETAINED AND PROTECTED WHERE PRACTICABLE. VEGETATION SHALL NOT BE REMOVED FROM EXISTING DRAINS UNLESS REQUIRED TO FACILITATE THE WORKS.
10. ALL SURFACE WATER RUNOFF FROM THE PROPOSED PROJECT SHALL ULTIMATELY PASS THROUGH THE EXISTING IPC LICENCE SETTLEMENT PONDS AT THE BOG OUTFALL LOCATIONS PRIOR TO DISCHARGE TO THE RECEIVING STREAM AND RIVER NETWORK.

EXCAVATIONS

11. WHERE EXCAVATIONS ARE PROPOSED, INTERCEPTOR/CUT-OFF DRAINS SHALL BE INSTALLED WHERE REQUIRED TO MINIMISE THE VOLUME OF CLEAN SURFACE WATER ENTERING THE EXCAVATION. THIS SHALL INCLUDE TURBINE BASE EXCAVATIONS WHERE APPROPRIATE.
12. WHERE TEMPORARY DEWATERING OF EXCAVATIONS IS REQUIRED, PUMPED WATER SHALL BE TREATED USING APPROPRIATE MEASURES SUCH AS DEWATERING SILT BAGS, SETTLEMENT PONDS OR SPECIALIST TREATMENT SYSTEMS PRIOR TO DISCHARGE TO THE EXISTING DRAINAGE NETWORK.

EXPOSED GROUND & STOCKPILES

13. THE EXTENT OF EXPOSED GROUND AND THE VOLUME AND DURATION OF TEMPORARY STOCKPILES SHALL BE MINIMISED AS FAR AS PRACTICABLE.
14. CONSTRUCTION ACTIVITIES INVOLVING SIGNIFICANT AREAS OF EXPOSED PEAT OR SOIL SHALL BE SCALED BACK OR SUSPENDED DURING PERIODS OF HEAVY RAINFALL OR WHERE HEAVY RAINFALL IS FORECAST.

PROPOSED INTERNAL ACCESS ROADS

15. COLLECTOR DRAINS SHALL BE PROVIDED ALONGSIDE PROPOSED INTERNAL ACCESS ROADS WHERE REQUIRED TO COLLECT CONSTRUCTION RUNOFF AND CONVEY IT TO APPROPRIATE TREATMENT MEASURES.
16. ON STEEPER SECTIONS OF PROPOSED INTERNAL ACCESS ROAD, TRANSVERSE DRAINS OR GRIPS SHALL BE INSTALLED WHERE APPROPRIATE TO INTERCEPT ROAD RUNOFF AND DIVERT IT TO ADJACENT ROADSIDE COLLECTOR DRAINS.
17. CHECK DAMS SHALL BE INSTALLED WITHIN COLLECTOR DRAINS WHERE APPROPRIATE TO REDUCE FLOW VELOCITIES AND PROMOTE SETTLEMENT OF SUSPENDED SEDIMENT. CHECK DAMS SHALL COMPRISE 4/40 MM NON-FRIABLE CRUSHED ROCK AND SHALL GENERALLY BE INSTALLED AT 25 M OR 50 M INTERVALS DEPENDING ON LOCAL GRADIENT.
18. SILT TRAPS, CHECK DAMS, SETTLEMENT PONDS AND OTHER DRAINAGE TREATMENT MEASURES SHALL BE REGULARLY INSPECTED AND MAINTAINED, PARTICULARLY DURING AND FOLLOWING PERIODS OF HEAVY RAINFALL.

REFUELLING

19. REFUELLING AND MAINTENANCE OF MOBILE PLANT SHALL, WHERE PRACTICABLE, BE UNDERTAKEN OFF-SITE. WHERE REQUIRED ON-SITE, REFUELLING SHALL ONLY BE UNDERTAKEN WITHIN DESIGNATED AREAS AND IN ACCORDANCE WITH THE CEMP AND APPROPRIATE POLLUTION PREVENTION PROCEDURES.
20. REFUELLING AREAS SHALL BE LOCATED AWAY FROM NATURAL WATERCOURSES AND DRAINAGE FEATURES. SPILL KITS AND DRIP TRAYS SHALL BE READILY AVAILABLE FOR USE AS REQUIRED.
21. FUEL AND OTHER POTENTIALLY POLLUTING SUBSTANCES SHALL BE STORED IN APPROPRIATELY BUNDED AREAS IN ACCORDANCE WITH THE CEMP.

CONCRETE

22. CONCRETE WORKS SHALL BE MANAGED TO PREVENT THE DISCHARGE OF CEMENTITIOUS MATERIAL OR CONCRETE-CONTAMINATED WATER TO THE SURFACE WATER DRAINAGE SYSTEM, GROUNDWATER OR NATURAL WATERCOURSES.
23. CONCRETE WASH WATER AND WASTE CONCRETE SHALL BE CONTAINED AND MANAGED IN ACCORDANCE WITH THE CEMP AND SHALL NOT BE DISCHARGED TO THE SITE DRAINAGE SYSTEM OR NATURAL WATERCOURSES.

IF WATER POLLUTION IS IDENTIFIED THE FOLLOWING ACTIONS WILL BE TAKEN:

STOP - WORKS IN THE IMMEDIATE AREA WILL BE STOPPED AND THE SOURCE OF THE POLLUTION WILL BE IDENTIFIED.

CONTAIN - THE SOURCE OF THE POLLUTION WILL BE CONTAINED USING APPROPRIATE MEASURES TO PREVENT FURTHER RELEASE. WHERE NECESSARY, DRAINAGE PATHWAYS SHALL BE TEMPORARILY ISOLATED OR DIVERTED TO PREVENT CONTAMINATED WATER REACHING DOWNSTREAM RECEPTORS.

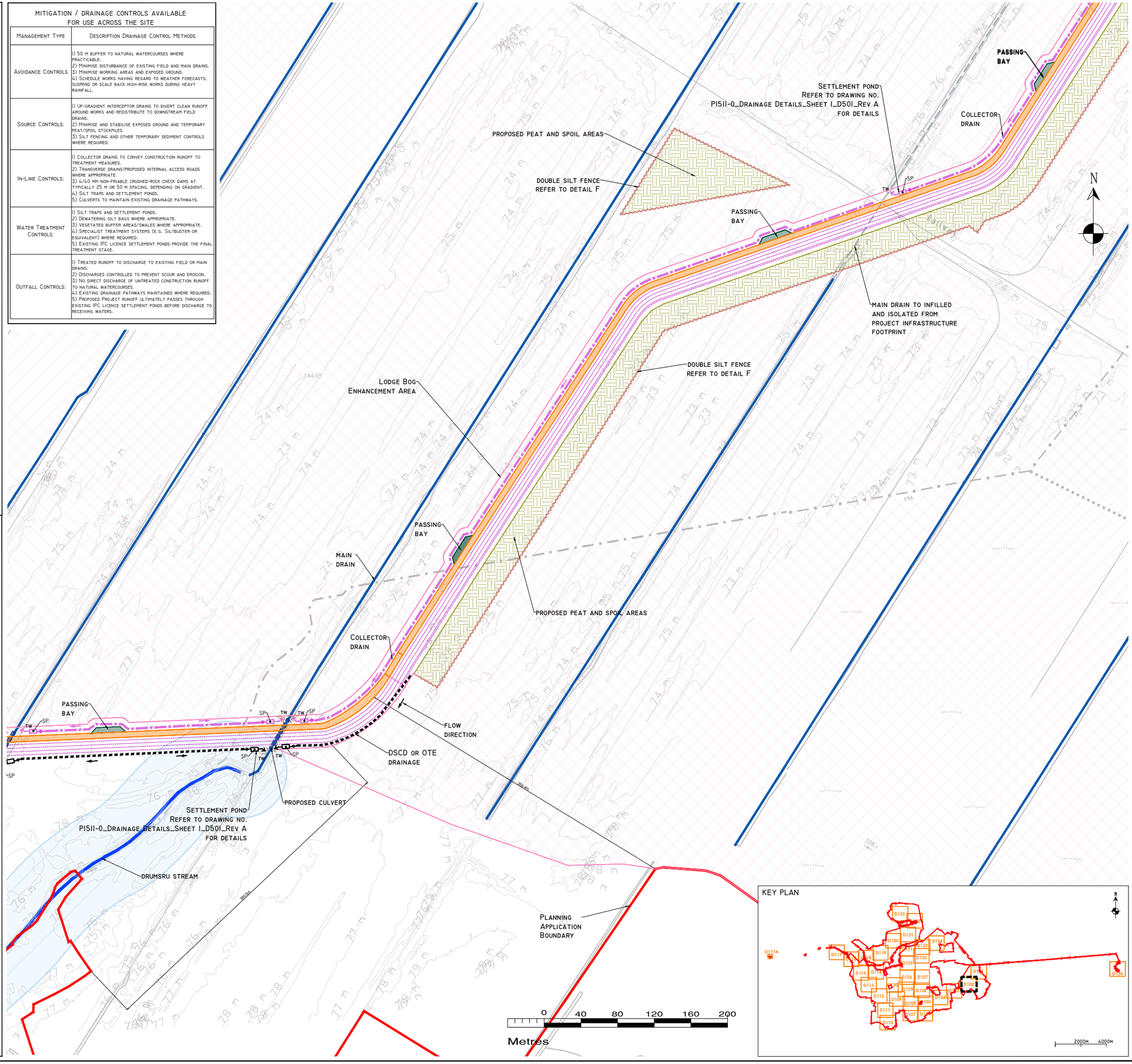
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DRAINAGE NOTES:

1. ROADWAY SURFACING DESIGN AND CONSTRUCTION SHALL BE TO THE ENGINEER'S SPECIFICATION.
2. SPARE SILT FENCING, STRAW BALES OR SIMILAR APPROVED POLLUTION CONTROL MATERIALS SHALL BE STORED ON SITE. SUSPENDED SEDIMENT IN RUNOFF SHALL BE VISUALLY MONITORED DURING CONSTRUCTION. WHERE ELEVATED SILT LEVELS ARE OBSERVED, ADDITIONAL TEMPORARY CONTROLS SUCH AS SILT FENCES, STRAW BALES, SILT TRAPS OR CHECK DAMS SHALL BE INSTALLED AS REQUIRED. A MOBILE WATER TREATMENT SYSTEM (E.G. SILTBUSTER OR EQUIVALENT) SHALL BE AVAILABLE ON SITE FOR USE WHERE REQUIRED.
3. THE PROPOSED DRAINAGE SYSTEM SHALL BE CONSTRUCTED PRIOR TO, OR IN CONJUNCTION WITH, THE ASSOCIATED PROPOSED INTERNAL ACCESS ROADS AND OTHER INFRASTRUCTURE. TEMPORARY DRAINAGE AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED WHERE REQUIRED DURING CONSTRUCTION TO PREVENT ELEVATED SUSPENDED SEDIMENT CONCENTRATIONS IN RUNOFF.
4. APPROPRIATE DRAINAGE AND POLLUTION PREVENTION MEASURES SHALL BE MAINTAINED AT ALL TIMES TO PREVENT THE CONVEYANCE OF SIGNIFICANT VOLUMES OF SEDIMENT TO RECEIVING WATERCOURSES. REFER ALSO TO POLLUTION PREVENTION NOTES.
5. INTERCEPTOR DRAINS SHALL BE INSTALLED UP-GRADIENT OF PROPOSED INFRASTRUCTURE, WHERE REQUIRED, TO INTERCEPT CLEAN SURFACE WATER RUNOFF AND MINIMISE THE VOLUME OF RUNOFF ENTERING CONSTRUCTION AREAS. INTERCEPTED CLEAN WATER SHALL BE DIRECTED AROUND THE WORKS AND REDISTRIBUTED TO DOWNSTREAM FIELD DRAINS. EXISTING FIELD DRAINS SHALL BE UTILISED FOR THIS PURPOSE WHERE PRACTICABLE.
6. COLLECTOR DRAINS SHALL BE INSTALLED DOWNSTREAM OF PROPOSED INTERNAL ACCESS ROADS AND OTHER CONSTRUCTION AREAS, WHERE REQUIRED, TO COLLECT RUNOFF WHERE SUSPENDED SEDIMENT MAY BECOME ENTRAINED. RUNOFF SHALL BE CONVEYED TO APPROPRIATE TREATMENT MEASURES, INCLUDING SILT TRAPS, CHECK DAMS, VEGETATED AREAS AND SETTLEMENT PONDS, PRIOR TO DISCHARGE TO THE EXISTING FIELD DRAIN OR MAIN DRAIN NETWORK.
7. TRANSVERSE DRAINS ('GRIPS') SHALL BE INSTALLED ON SECTIONS OF PROPOSED INTERNAL ACCESS ROADS, WHERE APPROPRIATE, TO INTERCEPT PROPOSED INTERNAL ACCESS ROAD RUNOFF AND DIVERT IT TO ADJACENT ROADSIDE COLLECTOR DRAINS. THE LOCATIONS OF TRANSVERSE DRAINS SHALL BE DETERMINED HAVING REGARD TO LOCAL GRADIENT AND DRAINAGE CONDITIONS.
8. DIRECT DISCHARGE OF UNTREATED CONSTRUCTION RUNOFF TO NATURAL WATERCOURSES SHALL NOT BE PERMITTED. TREATED RUNOFF SHALL BE DISCHARGED TO THE EXISTING BOG DRAINAGE NETWORK IN ACCORDANCE WITH THE DRAINAGE DESIGN.
9. BATTERS OF PROPOSED DRAINS SHALL GENERALLY HAVE SIDE SLOPES APPROPRIATE TO THEIR DEPTH AND LOCAL GROUND CONDITIONS AND SHALL BE LEFT TO NATURALLY RE-VEGETATE OR SHALL BE STABILISED USING SUITABLE LOCALLY SOURCED VEGETATION WHERE REQUIRED.
10. COLLECTOR DRAINS SHALL BE SHALLOW AND CONSTRUCTED WITH MODERATE GRADIENTS WHERE PRACTICABLE TO MINIMISE SCOUR. CHECK DAMS SHALL BE INSTALLED WHERE APPROPRIATE TO REDUCE FLOW VELOCITIES AND PROMOTE SETTLEMENT OF SUSPENDED SEDIMENT.
11. SETTLEMENT PONDS SHALL BE PROVIDED DOWNSTREAM OF PROPOSED INTERNAL ACCESS ROADS SECTIONS AND AT PROPOSED TURBINE/HARDSTAND LOCATIONS WHERE REQUIRED. SETTLEMENT PONDS SHALL PROVIDE TREATMENT AND TEMPORARY ATTENUATION OF RUNOFF PRIOR TO DISCHARGE TO THE EXISTING BOG DRAINAGE NETWORK. POND SIZING SHALL BE APPROPRIATE TO THE CONTRIBUTING CATCHMENT AREA. TYPICAL POND DETAILS ARE SHOWN ON DRAWING D501.
12. SILT FENCING OR OTHER APPROPRIATE SEDIMENT CONTROL MEASURES SHALL BE INSTALLED AROUND TEMPORARY PEAT/SPOIL STOCKPILES WHERE REQUIRED TO PREVENT SEDIMENT-LADEN RUNOFF ENTERING THE DRAINAGE NETWORK. TEMPORARY CONTROLS MAY BE REMOVED ONCE THE DISTURBED AREA HAS BEEN ADEQUATELY STABILISED.
13. TEMPORARY SILT FENCING SHALL BE INSTALLED WHERE REQUIRED BETWEEN CONSTRUCTION WORKS AND EXISTING DRAINAGE FEATURES OR NATURAL WATERCOURSES, PARTICULARLY WHERE WORKS OCCUR WITHIN THE PRESCRIBED SURFACE WATER BUFFER ZONES.
14. DRAIN SLOPES AND OTHER EXPOSED SURFACES SHALL BE PROTECTED FROM EROSION UNTIL ADEQUATELY STABILISED. SUITABLE STRIPPED VEGETATIVE MATERIAL, INCLUDING PEAT SOD/SCRAW WHERE AVAILABLE, MAY BE REUSED LOCALLY TO ASSIST STABILISATION AND RE-VEGETATION.
15. THE EXTENT AND DURATION OF EXPOSED GROUND SHALL BE MINIMISED AS FAR AS PRACTICABLE.
16. CHECK DAMS SHALL COMPRISE 4/40 MM NON-FRIABLE CRUSHED ROCK AND SHALL BE INSTALLED WITHIN COLLECTOR DRAINS WHERE APPROPRIATE. CHECK DAMS SHALL GENERALLY BE INSTALLED AT 25 M OR 50 M INTERVALS, DEPENDING ON THE LOCAL LONGITUDINAL GRADIENT AND SITE CONDITIONS.
17. CHECK DAMS, SILT TRAPS AND SETTLEMENT PONDS SHALL BE VISUALLY INSPECTED AND MAINTAINED AS PART OF THE CONSTRUCTION-PHASE DRAINAGE MAINTENANCE PROGRAMME, PARTICULARLY DURING AND FOLLOWING PERIODS OF HEAVY RAINFALL. ACCUMULATED SEDIMENT SHALL BE REMOVED AND DISPOSED OF APPROPRIATELY.
18. WHERE CHECK DAMS BECOME CLOGGED WITH SEDIMENT OR VEGETATION, THEY SHALL BE CLEANED OR REPLACED AS REQUIRED TO MAINTAIN THEIR HYDRAULIC AND SEDIMENT-CONTROL FUNCTION.
19. THE CONSTRUCTION-PHASE DRAINAGE INFRASTRUCTURE WILL GENERALLY FORM THE BASIS OF THE OPERATIONAL DRAINAGE SYSTEM. COLLECTOR DRAINS, SETTLEMENT PONDS AND OTHER TREATMENT/ATTENUATION FEATURES WILL BE RETAINED AND MAINTAINED WHERE REQUIRED. LOCAL SETTLEMENT PONDS MAY BE INFILLED OR DECOMMISSIONED FOLLOWING THE CONSTRUCTION PHASE, SUBJECT TO CONFIRMATION BY THE SITE ENGINEER.
20. WHERE TEMPORARY DEWATERING OF EXCAVATIONS IS REQUIRED, SILT BAGS AND/OR OTHER APPROPRIATE TREATMENT MEASURES SHALL BE USED AS NECESSARY. DISCHARGE FROM DEWATERING SILT BAGS SHALL BE DIRECTED TO SETTLEMENT PONDS OR OTHER SUITABLE TREATMENT MEASURES PRIOR TO DISCHARGE TO EXISTING FIELD DRAINS OR MAIN DRAINS.
21. FUEL AND OTHER POTENTIALLY POLLUTING SUBSTANCES SHALL BE STORED IN APPROPRIATELY BUNDED CONTAINMENT AREAS IN ACCORDANCE WITH THE CEMP AND POLLUTION PREVENTION NOTES.
22. CULVERTS SHALL BE PROVIDED WHERE PROPOSED INTERNAL ACCESS ROADS OR HARDSTANDS CROSS EXISTING MAIN BOG DRAINAGE PATHWAYS. CULVERTS SHALL BE APPROPRIATELY SIZED AND INSTALLED TO MAINTAIN EXISTING DRAINAGE CONNECTIVITY AND SHALL BE REGULARLY INSPECTED AND MAINTAINED.
23. ALL SURFACE WATER RUNOFF FROM THE PROPOSED PROJECT SHALL ULTIMATELY PASS THROUGH THE EXISTING IPC LICENCE SETTLEMENT PONDS AT THE BOG OUTFALL LOCATIONS PRIOR TO ONWARD DISCHARGE TO THE SURROUNDING STREAM AND RIVER NETWORK.

MITIGATION / DRAINAGE CONTROLS AVAILABLE FOR USE ACROSS THE SITE

MANAGEMENT TYPE	DESCRIPTION DRAINAGE CONTROL METHODS
AVOIDANCE CONTROLS	1) 50 M BUFFER TO NATURAL WATERCOURSES WHERE PRACTICABLE. 2) MINIMISE DISTURBANCE OF EXISTING FIELD AND MAIN DRAINS. 3) MINIMISE WORKING AREAS AND EXPOSED GROUND. 4) SCHEDULE WORKS HAVING REGARD TO WEATHER FORECASTS; SUSPEND OR SCALE BACK HIGH-RISK WORKS DURING HEAVY RAINFALL.
SOURCE CONTROLS:	1) UP-GRADIENT INTERCEPTOR DRAINS TO DIVERT CLEAN RUNOFF AROUND WORKS AND REDISTRIBUTE TO DOWNSTREAM FIELD DRAINS. 2) MINIMISE AND STABILISE EXPOSED GROUND AND TEMPORARY PEAT/SPOIL STOCKPILES. 3) SILT FENCING AND OTHER TEMPORARY SEDIMENT CONTROLS WHERE REQUIRED.
IN-LINE CONTROLS:	1) COLLECTOR DRAINS TO CONVEY CONSTRUCTION RUNOFF TO TREATMENT MEASURES. 2) TRANSVERSE DRAINS/PROPOSED INTERNAL ACCESS ROADS WHERE APPROPRIATE. 3) 4/40 MM NON-FRIABLE CRUSHED-ROCK CHECK DAMS AT TYPICALLY 25 M OR 50 M SPACING, DEPENDING ON GRADIENT. 4) SILT TRAPS AND SETTLEMENT PONDS. 5) CULVERTS TO MAINTAIN EXISTING DRAINAGE PATHWAYS.
WATER TREATMENT CONTROLS:	1) SILT TRAPS AND SETTLEMENT PONDS. 2) DEWATERING SILT BAGS WHERE APPROPRIATE. 3) VEGETATED BUFFER AREAS/SWALES WHERE APPROPRIATE. 4) SPECIALIST TREATMENT SYSTEMS (E.G. SILTBUSTER OR EQUIVALENT) WHERE REQUIRED. 5) EXISTING IPC LICENCE SETTLEMENT PONDS PROVIDE THE FINAL TREATMENT STAGE.
OUTFALL CONTROLS:	1) TREATED RUNOFF TO DISCHARGE TO EXISTING FIELD OR MAIN DRAINS. 2) DISCHARGES CONTROLLED TO PREVENT SCOUR AND EROSION. 3) NO DIRECT DISCHARGE OF UNTREATED CONSTRUCTION RUNOFF TO NATURAL WATERCOURSES. 4) EXISTING DRAINAGE PATHWAYS MAINTAINED WHERE REQUIRED. 5) PROPOSED PROJECT RUNOFF ULTIMATELY PASSES THROUGH EXISTING IPC LICENCE SETTLEMENT PONDS BEFORE DISCHARGE TO RECEIVING WATERS.



DRAWING LEGEND:

EXISTING DRAINAGE
- WATERCOURSES
- WATERCOURSES 50M BUFFER
- STREAM FLOW DIRECTION
- EXISTING MAIN DRAINS
- REDIRECTED MAIN DRAINS
- EXISTING PIPED DRAINS
- EXISTING DISCHARGE DRAINS
- EXISTING BOUNDARY DRAINS
- FIELD DRAIN
- EXISTING SETTLEMENT PONDS
- EXISTING WC CROSSING/CULVERT

PROPOSED DRAINAGE
- UPSTREAM INTERCEPTOR DRAIN
- DOWNSTREAM COLLECTOR DRAIN (DSCD)
- DSCD OR OVER THE EDGE (OTE)
- DIRECTION OF FLOW
- SILT FENCES
- DOUBLE SILT FENCES
- WF SETTLEMENT POND
- LEVEL SPREADER
- PROPOSED WC CROSSING/CULVERT
- INTERCEPTOR DITCH CULVERT
- COLLECTOR DITCH CULVERT
- WATERCOURSE DRAIN PROTECTION BERM
- O OVERLAND FLOW DISCHARGE
- TW TREATED WATER DISCHARGE
- SP NEW SETTLEMENT POND
- PLANNING APPLICATION BOUNDARY
- EXISTING GROUND SURFACE MINOR CONTOUR (1 M INTERVAL)
- TURBINE 220, TURBINE FOUNDATION AND SWEPT AREA
- TURBINE 200, TURBINE FOUNDATION AND SWEPT AREA
- TURBINE FOUNDATION
- CRANE PLATFORM
- BLADE SETDOWN AREAS
- UPGRADES TO EXISTING TRACKS
- PROPOSED INTERNAL ACCESS ROADS AND TURNING BAY
- PROPOSED INTERNAL 33KV CABLING
- PROPOSED GRID CONNECTION UNDERGROUND 220KV ELECTRICAL CABLING
- PROPOSED ON-SITE SUBSTATION
- PROPOSED OFF-SITE GIS SUBSTATION
- PROPOSED MET MAST
- PROPOSED RELAY MAST
- TEMPORARY CONSTRUCTION COMPOUNDS
- PROPOSED CAR PARKING
- PROPOSED PEAT AND SPOIL AREAS
- PROPOSED PASSING BAYS
- PROPOSED DEDICATED AMENITY TRACK
- PROPOSED DEDICATED AMENITY BOARD WALK
- SCRUB MOSAIC CREATION AREA
- POLLINATOR FORAGING HABITAT ENHANCEMENT AREA
- PEATLAND ENHANCEMENT AREA
- NATIVE TREE (WOODLAND AND SCRUB) PLANTING AREA
- MARSH FRITILLARY ENHANCEMENT AREA
- LODGE BOG ENHANCEMENT AREA

BASEMAP NOTE: THESE DRAWINGS USE 1:5,000 SCALE ORDNANCE SURVEY IRELAND (OSI) BASEMAPS AS AN UNDERLAY. FOR CLARITY, THE BASEMAP FEATURES ARE NOT INCLUDED IN THE DRAWING LEGEND AND ARE DISPLAYED IN LIGHT GREY WITH PARTIAL TRANSPARENCY TO DISTINGUISH THEM FROM THE PROPOSED DEVELOPMENT FEATURES.

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Date	Description	Chkd	Signed

Revisions

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Title:
PROPOSED CONSTRUCTION PHASE AND OPERATIONAL PHASE DRAINAGE LAYOUT

Figure No: D102

Drawing No: P1511-0-1026-A1-D102-00C	
Sheet Size: A1	Project No.: P1511-0
Scale: 1:2,000 (A1)	Drawn By: GA
Date: 21/10/2026	Checked By: MG

POLLUTION PREVENTION NOTES:

1. SITE MANAGEMENT AND DRAINAGE PROPOSALS ARE INTENDED TO ENSURE PROTECTION OF SURFACE WATER AND GROUNDWATER AND TO MINIMISE THE RISK OF POLLUTION, SILTATION AND EROSION.

2. APPROPRIATE DRAINAGE AND POLLUTION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO, OR IN CONJUNCTION WITH, CONSTRUCTION WORKS AND SHALL BE MAINTAINED FOR THE DURATION OF THE WORKS.

3. SILTY WATER MAY ARISE FROM EXCAVATION DEWATERING, EROSION OF EXPOSED OR DISTURBED GROUND, TEMPORARY STOCKPILES, PLANT AND WHEEL WASHING, PROPOSED INTERNAL ACCESS ROADS AND DISTURBANCE OF EXISTING FIELD DRAINS AND DITCHES.

DISCHARGES

4. WATER CONTAINING ELEVATED SUSPENDED SEDIMENT SHALL NOT BE PUMPED OR DISCHARGED DIRECTLY TO ANY NATURAL WATERCOURSE. CONSTRUCTION RUNOFF AND EXCAVATION DEWATERING SHALL BE APPROPRIATELY TREATED PRIOR TO DISCHARGE TO THE EXISTING BOG DRAINAGE NETWORK.
5. NO EXCAVATED MATERIAL OR TEMPORARY STOCKPILES SHALL BE STORED WITHIN THE PRESCRIBED SURFACE WATER BUFFER ZONES.
6. RUNOFF FROM CONSTRUCTION AREAS SHALL BE COLLECTED IN COLLECTOR DRAINS AND DIRECTED TO APPROPRIATE TREATMENT MEASURES, INCLUDING SILT TRAPS, CHECK DAMS, SETTLEMENT PONDS, VEGETATED BUFFER AREAS AND/OR OTHER SUITABLE TREATMENT SYSTEMS, PRIOR TO DISCHARGE TO EXISTING FIELD DRAINS OR MAIN DRAINS.
7. CLEAN SURFACE WATER RUNOFF SHALL, WHERE PRACTICABLE, BE INTERCEPTED UP-GRADIENT OF CONSTRUCTION AREAS USING INTERCEPTOR DRAINS AND DIRECTED AROUND THE WORKS BEFORE BEING REDISTRIBUTED TO DOWNSTREAM FIELD DRAINS. EXISTING FIELD DRAINS MAY BE UTILISED FOR THIS PURPOSE WHERE APPROPRIATE.
8. PUMPING OF CLEAN WATER FROM EXCAVATIONS, OR OVER-PUMPING OF DRAINS, DITCHES OR WATERCOURSES, SHALL BE UNDERTAKEN IN A MANNER WHICH DOES NOT CAUSE SCOUR OR EROSION AT THE POINT OF DISCHARGE. FLOW VELOCITIES SHALL BE CONTROLLED USING APPROPRIATE MEASURES SUCH AS SPLASH PLATES OR OTHER SUITABLE DISCHARGE CONTROLS.
9. EXISTING DRAINS AND DITCHES SHALL BE RETAINED AND PROTECTED WHERE PRACTICABLE. VEGETATION SHALL NOT BE REMOVED FROM EXISTING DRAINS UNLESS REQUIRED TO FACILITATE THE WORKS.
10. ALL SURFACE WATER RUNOFF FROM THE PROPOSED PROJECT SHALL ULTIMATELY PASS THROUGH THE EXISTING IPC LICENCE SETTLEMENT PONDS AT THE BOG OUTFALL LOCATIONS PRIOR TO DISCHARGE TO THE RECEIVING STREAM AND RIVER NETWORK.

EXCAVATIONS

11. WHERE EXCAVATIONS ARE PROPOSED, INTERCEPTOR/CUT-OFF DRAINS SHALL BE INSTALLED WHERE REQUIRED TO MINIMISE THE VOLUME OF CLEAN SURFACE WATER ENTERING THE EXCAVATION. THIS SHALL INCLUDE TURBINE BASE EXCAVATIONS WHERE APPROPRIATE.
12. WHERE TEMPORARY DEWATERING OF EXCAVATIONS IS REQUIRED, PUMPED WATER SHALL BE TREATED USING APPROPRIATE MEASURES SUCH AS DEWATERING SILT BAGS, SETTLEMENT PONDS OR SPECIALIST TREATMENT SYSTEMS PRIOR TO DISCHARGE TO THE EXISTING DRAINAGE NETWORK.

EXPOSED GROUND & STOCKPILES

13. THE EXTENT OF EXPOSED GROUND AND THE VOLUME AND DURATION OF TEMPORARY STOCKPILES SHALL BE MINIMISED AS FAR AS PRACTICABLE.
14. CONSTRUCTION ACTIVITIES INVOLVING SIGNIFICANT AREAS OF EXPOSED PEAT OR SOIL SHALL BE SCALED BACK OR SUSPENDED DURING PERIODS OF HEAVY RAINFALL OR WHERE HEAVY RAINFALL IS FORECAST.

PROPOSED INTERNAL ACCESS ROADS

15. COLLECTOR DRAINS SHALL BE PROVIDED ALONGSIDE PROPOSED INTERNAL ACCESS ROADS WHERE REQUIRED TO COLLECT CONSTRUCTION RUNOFF AND CONVEY IT TO APPROPRIATE TREATMENT MEASURES.
16. ON STEEPER SECTIONS OF PROPOSED INTERNAL ACCESS ROAD, TRANSVERSE DRAINS OR GRIPS SHALL BE INSTALLED WHERE APPROPRIATE TO INTERCEPT ROAD RUNOFF AND DIVERT IT TO ADJACENT ROADSIDE COLLECTOR DRAINS.
17. CHECK DAMS SHALL BE INSTALLED WITHIN COLLECTOR DRAINS WHERE APPROPRIATE TO REDUCE FLOW VELOCITIES AND PROMOTE SETTLEMENT OF SUSPENDED SEDIMENT. CHECK DAMS SHALL COMPRISE 4/40 MM NON-FRIABLE CRUSHED ROCK AND SHALL GENERALLY BE INSTALLED AT 25 M OR 50 M INTERVALS DEPENDING ON LOCAL GRADIENT.
18. SILT TRAPS, CHECK DAMS, SETTLEMENT PONDS AND OTHER DRAINAGE TREATMENT MEASURES SHALL BE REGULARLY INSPECTED AND MAINTAINED, PARTICULARLY DURING AND FOLLOWING PERIODS OF HEAVY RAINFALL.

REFUELLING

19. REFUELLING AND MAINTENANCE OF MOBILE PLANT SHALL, WHERE PRACTICABLE, BE UNDERTAKEN OFF-SITE. WHERE REQUIRED ON-SITE, REFUELLING SHALL ONLY BE UNDERTAKEN WITHIN DESIGNATED AREAS AND IN ACCORDANCE WITH THE CEMP AND APPROPRIATE POLLUTION PREVENTION PROCEDURES.
20. REFUELLING AREAS SHALL BE LOCATED AWAY FROM NATURAL WATERCOURSES AND DRAINAGE FEATURES. SPILL KITS AND DRIP TRAYS SHALL BE READILY AVAILABLE FOR USE AS REQUIRED.
21. FUEL AND OTHER POTENTIALLY POLLUTING SUBSTANCES SHALL BE STORED IN APPROPRIATELY BUNDED AREAS IN ACCORDANCE WITH THE CEMP.

CONCRETE

22. CONCRETE WORKS SHALL BE MANAGED TO PREVENT THE DISCHARGE OF CEMENTITIOUS MATERIAL OR CONCRETE-CONTAMINATED WATER TO THE SURFACE WATER DRAINAGE SYSTEM, GROUNDWATER OR NATURAL WATERCOURSES.
23. CONCRETE WASH WATER AND WASTE CONCRETE SHALL BE CONTAINED AND MANAGED IN ACCORDANCE WITH THE CEMP AND SHALL NOT BE DISCHARGED TO THE SITE DRAINAGE SYSTEM OR NATURAL WATERCOURSES.

IF WATER POLLUTION IS IDENTIFIED THE FOLLOWING ACTIONS WILL BE TAKEN:

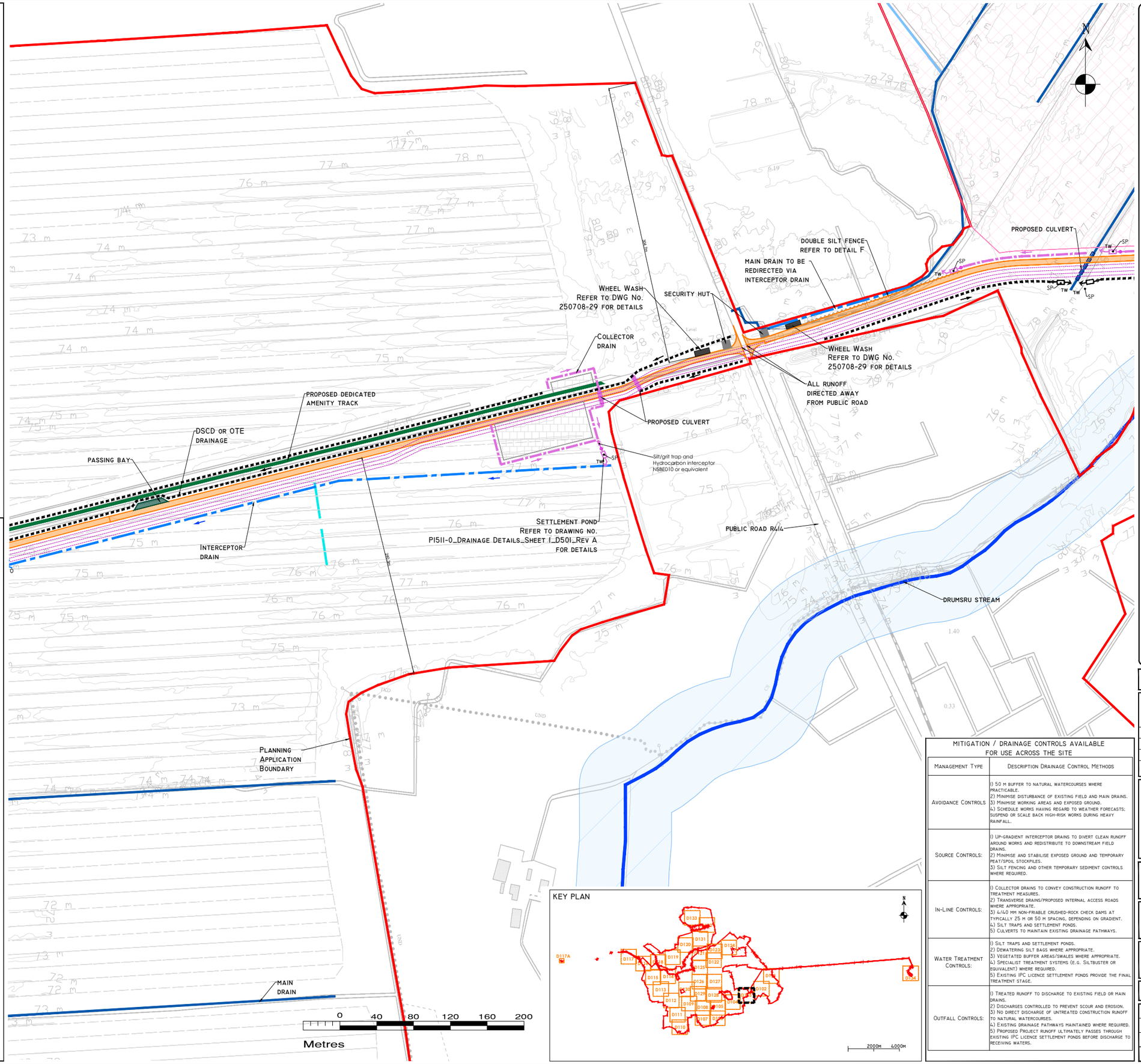
STOP - WORKS IN THE IMMEDIATE AREA WILL BE STOPPED AND THE SOURCE OF THE POLLUTION WILL BE IDENTIFIED.

CONTAIN - THE SOURCE OF THE POLLUTION WILL BE CONTAINED USING APPROPRIATE MEASURES TO PREVENT FURTHER RELEASE. WHERE NECESSARY, DRAINAGE PATHWAYS SHALL BE TEMPORARILY ISOLATED OR DIVERTED TO PREVENT CONTAMINATED WATER REACHING DOWNSTREAM RECEPTORS.

NOTIFY - THE SITE MANAGER AND ENVIRONMENTAL CLERK OF WORKS SHALL BE NOTIFIED IMMEDIATELY. RELEVANT STATUTORY AUTHORITIES AND OTHER BODIES SHALL BE NOTIFIED WHERE REQUIRED IN ACCORDANCE WITH THE CEMP AND THE PROJECT EMERGENCY RESPONSE PROCEDURE.

DRAINAGE NOTES:

1. ROADWAY SURFACING DESIGN AND CONSTRUCTION SHALL BE TO THE ENGINEER'S SPECIFICATION.
2. SPARE SILT FENCING, STRAW BALES OR SIMILAR APPROVED POLLUTION CONTROL MATERIALS SHALL BE STORED ON SITE. SUSPENDED SEDIMENT IN RUNOFF SHALL BE VISUALLY MONITORED DURING CONSTRUCTION. WHERE ELEVATED SILT LEVELS ARE OBSERVED, ADDITIONAL TEMPORARY CONTROLS SUCH AS SILT FENCES, STRAW BALES, SILT TRAPS OR CHECK DAMS SHALL BE INSTALLED AS REQUIRED. A MOBILE WATER TREATMENT SYSTEM (E.G. SILTBUSTER OR EQUIVALENT) SHALL BE AVAILABLE ON SITE FOR USE WHERE REQUIRED.
3. THE PROPOSED DRAINAGE SYSTEM SHALL BE CONSTRUCTED PRIOR TO, OR IN CONJUNCTION WITH, THE ASSOCIATED PROPOSED INTERNAL ACCESS ROADS AND OTHER INFRASTRUCTURE. TEMPORARY DRAINAGE AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED WHERE REQUIRED DURING CONSTRUCTION TO PREVENT ELEVATED SUSPENDED SEDIMENT CONCENTRATIONS IN RUNOFF.
4. APPROPRIATE DRAINAGE AND POLLUTION PREVENTION MEASURES SHALL BE MAINTAINED AT ALL TIMES TO PREVENT THE CONVEYANCE OF SIGNIFICANT VOLUMES OF SEDIMENT TO RECEIVING WATERCOURSES. REFER ALSO TO POLLUTION PREVENTION NOTES.
5. INTERCEPTOR DRAINS SHALL BE INSTALLED UP-GRADIENT OF PROPOSED INFRASTRUCTURE, WHERE REQUIRED, TO INTERCEPT CLEAN SURFACE WATER RUNOFF AND MINIMISE THE VOLUME OF RUNOFF ENTERING CONSTRUCTION AREAS. INTERCEPTED CLEAN WATER SHALL BE DIRECTED AROUND THE WORKS AND REDISTRIBUTED TO DOWNSTREAM FIELD DRAINS. EXISTING FIELD DRAINS SHALL BE UTILISED FOR THIS PURPOSE WHERE PRACTICABLE.
6. COLLECTOR DRAINS SHALL BE INSTALLED DOWNSTREAM OF PROPOSED INTERNAL ACCESS ROADS AND OTHER CONSTRUCTION AREAS, WHERE REQUIRED, TO COLLECT RUNOFF WHERE SUSPENDED SEDIMENT MAY BECOME ENTRAINED. RUNOFF SHALL BE CONVEYED TO APPROPRIATE TREATMENT MEASURES, INCLUDING SILT TRAPS, CHECK DAMS, VEGETATED AREAS AND SETTLEMENT PONDS, PRIOR TO DISCHARGE TO THE EXISTING FIELD DRAIN OR MAIN DRAIN NETWORK.
7. TRANSVERSE DRAINS ('GRIPS') SHALL BE INSTALLED ON SECTIONS OF PROPOSED INTERNAL ACCESS ROADS, WHERE APPROPRIATE, TO INTERCEPT PROPOSED INTERNAL ACCESS ROAD RUNOFF AND DIVERT IT TO ADJACENT ROADSIDE COLLECTOR DRAINS. THE LOCATIONS OF TRANSVERSE DRAINS SHALL BE DETERMINED HAVING REGARD TO LOCAL GRADIENT AND DRAINAGE CONDITIONS.
8. DIRECT DISCHARGE OF UNTREATED CONSTRUCTION RUNOFF TO NATURAL WATERCOURSES SHALL NOT BE PERMITTED. TREATED RUNOFF SHALL BE DISCHARGED TO THE EXISTING BOG DRAINAGE NETWORK IN ACCORDANCE WITH THE DRAINAGE DESIGN.
9. BATTERS OF PROPOSED DRAINS SHALL GENERALLY HAVE SIDE SLOPES APPROPRIATE TO THEIR DEPTH AND LOCAL GROUND CONDITIONS AND SHALL BE LEFT TO NATURALLY RE-VEGETATE OR SHALL BE STABILISED USING SUITABLE LOCALLY SOURCED VEGETATION WHERE REQUIRED.
10. COLLECTOR DRAINS SHALL BE SHALLOW AND CONSTRUCTED WITH MODERATE GRADIENTS WHERE PRACTICABLE TO MINIMISE SCOUR. CHECK DAMS SHALL BE INSTALLED WHERE APPROPRIATE TO REDUCE FLOW VELOCITIES AND PROMOTE SETTLEMENT OF SUSPENDED SEDIMENT.
11. SETTLEMENT PONDS SHALL BE PROVIDED DOWNSTREAM OF PROPOSED INTERNAL ACCESS ROADS SECTIONS AND AT PROPOSED TURBINE/HARDSTAND LOCATIONS WHERE REQUIRED. SETTLEMENT PONDS SHALL PROVIDE TREATMENT AND TEMPORARY ATTENUATION OF RUNOFF PRIOR TO DISCHARGE TO THE EXISTING BOG DRAINAGE NETWORK. POND SIZING SHALL BE APPROPRIATE TO THE CONTRIBUTING CATCHMENT AREA. TYPICAL POND DETAILS ARE SHOWN ON DRAWING D501.
12. SILT FENCING OR OTHER APPROPRIATE SEDIMENT CONTROL MEASURES SHALL BE INSTALLED AROUND TEMPORARY PEAT/SPOIL STOCKPILES WHERE REQUIRED TO PREVENT SEDIMENT-LADEN RUNOFF ENTERING THE DRAINAGE NETWORK. TEMPORARY CONTROLS MAY BE REMOVED ONCE THE DISTURBED AREA HAS BEEN ADEQUATELY STABILISED.
13. TEMPORARY SILT FENCING SHALL BE INSTALLED WHERE REQUIRED BETWEEN CONSTRUCTION WORKS AND EXISTING DRAINAGE FEATURES OR NATURAL WATERCOURSES, PARTICULARLY WHERE WORKS OCCUR WITHIN THE PRESCRIBED SURFACE WATER BUFFER ZONES.
14. DRAIN SLOPES AND OTHER EXPOSED SURFACES SHALL BE PROTECTED FROM EROSION UNTIL ADEQUATELY STABILISED. SUITABLE STRIPPED VEGETATIVE MATERIAL, INCLUDING PEAT SOD/SCRAW WHERE AVAILABLE, MAY BE REUSED LOCALLY TO ASSIST STABILISATION AND RE-VEGETATION.
15. THE EXTENT AND DURATION OF EXPOSED GROUND SHALL BE MINIMISED AS FAR AS PRACTICABLE.
16. CHECK DAMS SHALL COMPRISE 4/40 MM NON-FRIABLE CRUSHED ROCK AND SHALL BE INSTALLED WITHIN COLLECTOR DRAINS WHERE APPROPRIATE. CHECK DAMS SHALL GENERALLY BE INSTALLED AT 25 M OR 50 M INTERVALS, DEPENDING ON THE LOCAL LONGITUDINAL GRADIENT AND SITE CONDITIONS.
17. CHECK DAMS, SILT TRAPS AND SETTLEMENT PONDS SHALL BE VISUALLY INSPECTED AND MAINTAINED AS PART OF THE CONSTRUCTION-PHASE DRAINAGE MAINTENANCE PROGRAMME, PARTICULARLY DURING AND FOLLOWING PERIODS OF HEAVY RAINFALL. ACCUMULATED SEDIMENT SHALL BE REMOVED AND DISPOSED OF APPROPRIATELY.
18. WHERE CHECK DAMS BECOME CLOGGED WITH SEDIMENT OR VEGETATION, THEY SHALL BE CLEANED OR REPLACED AS REQUIRED TO MAINTAIN THEIR HYDRAULIC AND SEDIMENT-CONTROL FUNCTION.
19. THE CONSTRUCTION-PHASE DRAINAGE INFRASTRUCTURE WILL GENERALLY FORM THE BASIS OF THE OPERATIONAL DRAINAGE SYSTEM. COLLECTOR DRAINS, SETTLEMENT PONDS AND OTHER TREATMENT/ATTENUATION FEATURES WILL BE RETAINED AND MAINTAINED WHERE REQUIRED. LOCAL SETTLEMENT PONDS MAY BE INFILLED OR DECOMMISSIONED FOLLOWING THE CONSTRUCTION PHASE, SUBJECT TO CONFIRMATION BY THE SITE ENGINEER.
20. WHERE TEMPORARY DEWATERING OF EXCAVATIONS IS REQUIRED, SILT BAGS AND/OR OTHER APPROPRIATE TREATMENT MEASURES SHALL BE USED AS NECESSARY. DISCHARGE FROM DEWATERING SILT BAGS SHALL BE DIRECTED TO SETTLEMENT PONDS OR OTHER SUITABLE TREATMENT MEASURES PRIOR TO DISCHARGE TO EXISTING FIELD DRAINS OR MAIN DRAINS.
21. FUEL AND OTHER POTENTIALLY POLLUTING SUBSTANCES SHALL BE STORED IN APPROPRIATELY BUNDED CONTAINMENT AREAS IN ACCORDANCE WITH THE CEMP AND POLLUTION PREVENTION NOTES.
22. CULVERTS SHALL BE PROVIDED WHERE PROPOSED INTERNAL ACCESS ROADS OR HARDSTANDS CROSS EXISTING MAIN BOG DRAINAGE PATHWAYS. CULVERTS SHALL BE APPROPRIATELY SIZED AND INSTALLED TO MAINTAIN EXISTING DRAINAGE CONNECTIVITY AND SHALL BE REGULARLY INSPECTED AND MAINTAINED.
23. ALL SURFACE WATER RUNOFF FROM THE PROPOSED PROJECT SHALL ULTIMATELY PASS THROUGH THE EXISTING IPC LICENCE SETTLEMENT PONDS AT THE BOG OUTFALL LOCATIONS PRIOR TO ONWARD DISCHARGE TO THE SURROUNDING STREAM AND RIVER NETWORK.



KEY PLAN

MITIGATION / DRAINAGE CONTROLS AVAILABLE FOR USE ACROSS THE SITE

MANAGEMENT TYPE	DESCRIPTION DRAINAGE CONTROL METHODS
AVOIDANCE CONTROLS	1) 50 M BUFFER TO NATURAL WATERCOURSES WHERE PRACTICABLE. 2) MINIMISE DISTURBANCE OF EXISTING FIELD AND MAIN DRAINS. 3) MINIMISE WORKING AREAS AND EXPOSED GROUND. 4) SCHEDULE WORKS HAVING REGARD TO WEATHER FORECASTS; SUSPEND OR SCALE BACK HIGH-RISK WORKS DURING HEAVY RAINFALL.
SOURCE CONTROLS:	1) UP-GRADIENT INTERCEPTOR DRAINS TO DIVERT CLEAN RUNOFF AROUND WORKS AND REDISTRIBUTE TO DOWNSTREAM FIELD DRAINS. 2) MINIMISE AND STABILISE EXPOSED GROUND AND TEMPORARY PEAT/SPOIL STOCKPILES. 3) SILT FENCING AND OTHER TEMPORARY SEDIMENT CONTROLS WHERE REQUIRED.
IN-LINE CONTROLS:	1) COLLECTOR DRAINS TO CONVEY CONSTRUCTION RUNOFF TO TREATMENT MEASURES. 2) TRANSVERSE DRAINS/PROPOSED INTERNAL ACCESS ROADS WHERE APPROPRIATE. 3) 4/40 MM NON-FRIABLE CRUSHED-ROCK CHECK DAMS AT TYPICALLY 25 M OR 50 M SPACING, DEPENDING ON GRADIENT. 4) SILT TRAPS AND SETTLEMENT PONDS. 5) CULVERTS TO MAINTAIN EXISTING DRAINAGE PATHWAYS.
WATER TREATMENT CONTROLS:	1) SILT TRAPS AND SETTLEMENT PONDS. 2) DEWATERING SILT BAGS WHERE APPROPRIATE. 3) VEGETATED BUFFER AREAS/SWALES WHERE APPROPRIATE. 4) SPECIALIST TREATMENT SYSTEMS (E.G. SILTBUSTER OR EQUIVALENT) WHERE REQUIRED. 5) EXISTING IPC LICENCE SETTLEMENT PONDS PROVIDE THE FINAL TREATMENT STAGE.
OUTFALL CONTROLS:	1) TREATED RUNOFF TO DISCHARGE TO EXISTING FIELD OR MAIN DRAINS. 2) DISCHARGES CONTROLLED TO PREVENT SCOUR AND EROSION. 3) NO DIRECT DISCHARGE OF UNTREATED CONSTRUCTION RUNOFF TO NATURAL WATERCOURSES. 4) EXISTING DRAINAGE PATHWAYS MAINTAINED WHERE REQUIRED. 5) PROPOSED PROJECT RUNOFF ULTIMATELY PASSES THROUGH EXISTING IPC LICENCE SETTLEMENT PONDS BEFORE DISCHARGE TO RECEIVING WATERS.

DRAWING LEGEND:

EXISTING DRAINAGE
- WATERCOURSES
- WATERCOURSES 50M BUFFER
- STREAM FLOW DIRECTION
- EXISTING MAIN DRAINS
- REDIRECTED MAIN DRAINS
- EXISTING PIPED DRAINS
- EXISTING DISCHARGE DRAINS
- EXISTING BOUNDARY DRAINS
- FIELD DRAIN
- EXISTING SETTLEMENT PONDS
- EXISTING WC CROSSING/CULVERT

PROPOSED DRAINAGE
- UPSTREAM INTERCEPTOR DRAIN
- DOWNSTREAM COLLECTOR DRAIN (DSCD)
- DSCD OR OVER THE EDGE (OTE)
- DIRECTION OF FLOW
- SILT FENCES
- DOUBLE SILT FENCES
- WF SETTLEMENT POND
- LEVEL SPREADER
- PROPOSED WC CROSSING/CULVERT
- INTERCEPTOR DITCH CULVERT
- COLLECTOR DITCH CULVERT
- WATERCOURSE DRAIN PROTECTION BERM
- O OVERLAND FLOW DISCHARGE
- TW TREATED WATER DISCHARGE
- SP NEW SETTLEMENT POND

- PLANNING APPLICATION BOUNDARY
- EXISTING GROUND SURFACE MINOR CONTOUR (1 M INTERVAL)
- TURBINE 220, TURBINE FOUNDATION AND SWEPT AREA
- TURBINE 200, TURBINE FOUNDATION AND SWEPT AREA
- TURBINE FOUNDATION
- CRANE PLATFORM
- BLADE SETDOWN AREAS
- UPGRADES TO EXISTING TRACKS
- PROPOSED INTERNAL ACCESS ROADS AND TURNING BAY
- PROPOSED INTERNAL 33KV CABLING
- PROPOSED GRID CONNECTION UNDERGROUND 220KV ELECTRICAL CABLING
- PROPOSED ON-SITE SUBSTATION
- PROPOSED OFF-SITE GIS SUBSTATION
- PROPOSED MET MAST
- PROPOSED RELAY MAST
- TEMPORARY CONSTRUCTION COMPOUNDS
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- LODGE BOG ENHANCEMENT AREA

BASEMAP NOTE: THESE DRAWINGS USE 1:5,000 SCALE ORDNANCE SURVEY IRELAND (OSI) BASEMAPS AS AN UNDERLAY. FOR CLARITY, THE BASEMAP FEATURES ARE NOT INCLUDED IN THE DRAWING LEGEND AND ARE DISPLAYED IN LIGHT GREY WITH PARTIAL TRANSPARENCY TO DISTINGUISH THEM FROM THE PROPOSED DEVELOPMENT FEATURES.

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Title:
PROPOSED CONSTRUCTION PHASE AND OPERATIONAL PHASE DRAINAGE LAYOUT

Figure No: D103

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POLLUTION PREVENTION NOTES:

1. SITE MANAGEMENT AND DRAINAGE PROPOSALS ARE INTENDED TO ENSURE PROTECTION OF SURFACE WATER AND GROUNDWATER AND TO MINIMISE THE RISK OF POLLUTION, SILTATION AND EROSION.
2. APPROPRIATE DRAINAGE AND POLLUTION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO, OR IN CONJUNCTION WITH, CONSTRUCTION WORKS AND SHALL BE MAINTAINED FOR THE DURATION OF THE WORKS.
3. SILTY WATER MAY ARISE FROM EXCAVATION DEWATERING, EROSION OF EXPOSED OR DISTURBED GROUND, TEMPORARY STOCKPILES, PLANT AND WHEEL WASHING, PROPOSED INTERNAL ACCESS ROADS AND DISTURBANCE OF EXISTING FIELD DRAINS AND DITCHES.

DISCHARGES

4. WATER CONTAINING ELEVATED SUSPENDED SEDIMENT SHALL NOT BE PUMPED OR DISCHARGED DIRECTLY TO ANY NATURAL WATERCOURSE. CONSTRUCTION RUNOFF AND EXCAVATION DEWATERING SHALL BE APPROPRIATELY TREATED PRIOR TO DISCHARGE TO THE EXISTING BOG DRAINAGE NETWORK.
5. NO EXCAVATED MATERIAL OR TEMPORARY STOCKPILES SHALL BE STORED WITHIN THE PRESCRIBED SURFACE WATER BUFFER ZONES.
6. RUNOFF FROM CONSTRUCTION AREAS SHALL BE COLLECTED IN COLLECTOR DRAINS AND DIRECTED TO APPROPRIATE TREATMENT MEASURES, INCLUDING SILT TRAPS, CHECK DAMS, SETTLEMENT PONDS, VEGETATED BUFFER AREAS AND/OR OTHER SUITABLE TREATMENT SYSTEMS, PRIOR TO DISCHARGE TO EXISTING FIELD DRAINS OR MAIN DRAINS.
7. CLEAN SURFACE WATER RUNOFF SHALL, WHERE PRACTICABLE, BE INTERCEPTED UP-GRADIENT OF CONSTRUCTION AREAS USING INTERCEPTOR DRAINS AND DIRECTED AROUND THE WORKS BEFORE BEING REDISTRIBUTED TO DOWNSTREAM FIELD DRAINS. EXISTING FIELD DRAINS MAY BE UTILISED FOR THIS PURPOSE WHERE APPROPRIATE.
8. PUMPING OF CLEAN WATER FROM EXCAVATIONS, OR OVER-PUMPING OF DRAINS, DITCHES OR WATERCOURSES, SHALL BE UNDERTAKEN IN A MANNER WHICH DOES NOT CAUSE SCOUR OR EROSION AT THE POINT OF DISCHARGE. FLOW VELOCITIES SHALL BE CONTROLLED USING APPROPRIATE MEASURES SUCH AS SPLASH PLATES OR OTHER SUITABLE DISCHARGE CONTROLS.
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10. ALL SURFACE WATER RUNOFF FROM THE PROPOSED PROJECT SHALL ULTIMATELY PASS THROUGH THE EXISTING IPC LICENCE SETTLEMENT PONDS AT THE BOG OUTFALL LOCATIONS PRIOR TO DISCHARGE TO THE RECEIVING STREAM AND RIVER NETWORK.

EXCAVATIONS

11. WHERE EXCAVATIONS ARE PROPOSED, INTERCEPTOR/CUT-OFF DRAINS SHALL BE INSTALLED WHERE REQUIRED TO MINIMISE THE VOLUME OF CLEAN SURFACE WATER ENTERING THE EXCAVATION. THIS SHALL INCLUDE TURBINE BASE EXCAVATIONS WHERE APPROPRIATE.
12. WHERE TEMPORARY DEWATERING OF EXCAVATIONS IS REQUIRED, PUMPED WATER SHALL BE TREATED USING APPROPRIATE MEASURES SUCH AS DEWATERING SILT BAGS, SETTLEMENT PONDS OR SPECIALIST TREATMENT SYSTEMS PRIOR TO DISCHARGE TO THE EXISTING DRAINAGE NETWORK.

EXPOSED GROUND & STOCKPILES

13. THE EXTENT OF EXPOSED GROUND AND THE VOLUME AND DURATION OF TEMPORARY STOCKPILES SHALL BE MINIMISED AS FAR AS PRACTICABLE.
14. CONSTRUCTION ACTIVITIES INVOLVING SIGNIFICANT AREAS OF EXPOSED PEAT OR SOIL SHALL BE SCALED BACK OR SUSPENDED DURING PERIODS OF HEAVY RAINFALL OR WHERE HEAVY RAINFALL IS FORECAST.

PROPOSED INTERNAL ACCESS ROADS

15. COLLECTOR DRAINS SHALL BE PROVIDED ALONGSIDE PROPOSED INTERNAL ACCESS ROADS WHERE REQUIRED TO COLLECT CONSTRUCTION RUNOFF AND CONVEY IT TO APPROPRIATE TREATMENT MEASURES.
16. ON STEEPER SECTIONS OF PROPOSED INTERNAL ACCESS ROAD, TRANSVERSE DRAINS OR GRIPS SHALL BE INSTALLED WHERE APPROPRIATE TO INTERCEPT ROAD RUNOFF AND DIVERT IT TO ADJACENT ROADSIDE COLLECTOR DRAINS.
17. CHECK DAMS SHALL BE INSTALLED WITHIN COLLECTOR DRAINS WHERE APPROPRIATE TO REDUCE FLOW VELOCITIES AND PROMOTE SETTLEMENT OF SUSPENDED SEDIMENT. CHECK DAMS SHALL COMPRISE 4/40 MM NON-FRIABLE CRUSHED ROCK AND SHALL GENERALLY BE INSTALLED AT 25 M OR 50 M INTERVALS DEPENDING ON LOCAL GRADIENT.
18. SILT TRAPS, CHECK DAMS, SETTLEMENT PONDS AND OTHER DRAINAGE TREATMENT MEASURES SHALL BE REGULARLY INSPECTED AND MAINTAINED, PARTICULARLY DURING AND FOLLOWING PERIODS OF HEAVY RAINFALL.

REFUELLING

19. REFUELLING AND MAINTENANCE OF MOBILE PLANT SHALL, WHERE PRACTICABLE, BE UNDERTAKEN OFF-SITE. WHERE REQUIRED ON-SITE, REFUELLING SHALL ONLY BE UNDERTAKEN WITHIN DESIGNATED AREAS AND IN ACCORDANCE WITH THE CEMP AND APPROPRIATE POLLUTION PREVENTION PROCEDURES.
20. REFUELLING AREAS SHALL BE LOCATED AWAY FROM NATURAL WATERCOURSES AND DRAINAGE FEATURES. SPILL KITS AND DRIP TRAYS SHALL BE READILY AVAILABLE FOR USE AS REQUIRED.
21. FUEL AND OTHER POTENTIALLY POLLUTING SUBSTANCES SHALL BE STORED IN APPROPRIATELY BUNDED AREAS IN ACCORDANCE WITH THE CEMP.

CONCRETE

22. CONCRETE WORKS SHALL BE MANAGED TO PREVENT THE DISCHARGE OF CEMENTITIOUS MATERIAL OR CONCRETE-CONTAMINATED WATER TO THE SURFACE WATER DRAINAGE SYSTEM, GROUNDWATER OR NATURAL WATERCOURSES.
23. CONCRETE WASH WATER AND WASTE CONCRETE SHALL BE CONTAINED AND MANAGED IN ACCORDANCE WITH THE CEMP AND SHALL NOT BE DISCHARGED TO THE SITE DRAINAGE SYSTEM OR NATURAL WATERCOURSES.

IF WATER POLLUTION IS IDENTIFIED THE FOLLOWING ACTIONS WILL BE TAKEN:

STOP - WORKS IN THE IMMEDIATE AREA WILL BE STOPPED AND THE SOURCE OF THE POLLUTION WILL BE IDENTIFIED.

CONTAIN - THE SOURCE OF THE POLLUTION WILL BE CONTAINED USING APPROPRIATE MEASURES TO PREVENT FURTHER RELEASE. WHERE NECESSARY, DRAINAGE PATHWAYS SHALL BE TEMPORARILY ISOLATED OR DIVERTED TO PREVENT CONTAMINATED WATER REACHING DOWNSTREAM RECEPTORS.

NOTIFY - THE SITE MANAGER AND ENVIRONMENTAL CLERK OF WORKS SHALL BE NOTIFIED IMMEDIATELY. RELEVANT STATUTORY AUTHORITIES AND OTHER BODIES SHALL BE NOTIFIED WHERE REQUIRED IN ACCORDANCE WITH THE CEMP AND THE PROJECT EMERGENCY RESPONSE PROCEDURE.

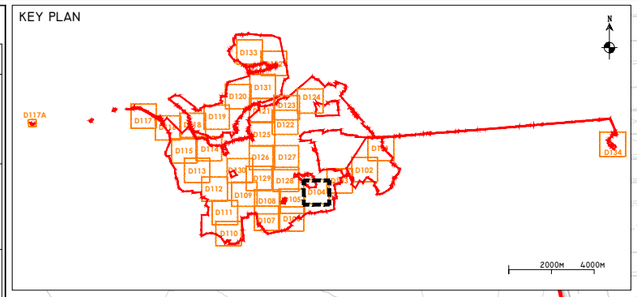
DRAINAGE NOTES:

1. ROADWAY SURFACING DESIGN AND CONSTRUCTION SHALL BE TO THE ENGINEER'S SPECIFICATION.
2. SPARE SILT FENCING, STRAW BALES OR SIMILAR APPROVED POLLUTION CONTROL MATERIALS SHALL BE STORED ON SITE. SUSPENDED SEDIMENT IN RUNOFF SHALL BE VISUALLY MONITORED DURING CONSTRUCTION. WHERE ELEVATED SILT LEVELS ARE OBSERVED, ADDITIONAL TEMPORARY CONTROLS SUCH AS SILT FENCES, STRAW BALES, SILT TRAPS OR CHECK DAMS SHALL BE INSTALLED AS REQUIRED. A MOBILE WATER TREATMENT SYSTEM (E.G. SILTBUSTER OR EQUIVALENT) SHALL BE AVAILABLE ON SITE FOR USE WHERE REQUIRED.
3. THE PROPOSED DRAINAGE SYSTEM SHALL BE CONSTRUCTED PRIOR TO, OR IN CONJUNCTION WITH, THE ASSOCIATED PROPOSED INTERNAL ACCESS ROADS AND OTHER INFRASTRUCTURE. TEMPORARY DRAINAGE AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED WHERE REQUIRED DURING CONSTRUCTION TO PREVENT ELEVATED SUSPENDED SEDIMENT CONCENTRATIONS IN RUNOFF.
4. APPROPRIATE DRAINAGE AND POLLUTION PREVENTION MEASURES SHALL BE MAINTAINED AT ALL TIMES TO PREVENT THE CONVEYANCE OF SIGNIFICANT VOLUMES OF SEDIMENT TO RECEIVING WATERCOURSES. REFER ALSO TO POLLUTION PREVENTION NOTES.
5. INTERCEPTOR DRAINS SHALL BE INSTALLED UP-GRADIENT OF PROPOSED INFRASTRUCTURE, WHERE REQUIRED, TO INTERCEPT CLEAN SURFACE WATER RUNOFF AND MINIMISE THE VOLUME OF RUNOFF ENTERING CONSTRUCTION AREAS. INTERCEPTED CLEAN WATER SHALL BE DIRECTED AROUND THE WORKS AND REDISTRIBUTED TO DOWNSTREAM FIELD DRAINS. EXISTING FIELD DRAINS SHALL BE UTILISED FOR THIS PURPOSE WHERE PRACTICABLE.
6. COLLECTOR DRAINS SHALL BE INSTALLED DOWNSTREAM OF PROPOSED INTERNAL ACCESS ROADS AND OTHER CONSTRUCTION AREAS, WHERE REQUIRED, TO COLLECT RUNOFF WHERE SUSPENDED SEDIMENT MAY BECOME ENTRAINED. RUNOFF SHALL BE CONVEYED TO APPROPRIATE TREATMENT MEASURES, INCLUDING SILT TRAPS, CHECK DAMS, VEGETATED AREAS AND SETTLEMENT PONDS, PRIOR TO DISCHARGE TO THE EXISTING FIELD DRAIN OR MAIN DRAIN NETWORK.
7. TRANSVERSE DRAINS ('GRIPS') SHALL BE INSTALLED ON SECTIONS OF PROPOSED INTERNAL ACCESS ROADS, WHERE APPROPRIATE, TO INTERCEPT PROPOSED INTERNAL ACCESS ROAD RUNOFF AND DIVERT IT TO ADJACENT ROADSIDE COLLECTOR DRAINS. THE LOCATIONS OF TRANSVERSE DRAINS SHALL BE DETERMINED HAVING REGARD TO LOCAL GRADIENT AND DRAINAGE CONDITIONS.
8. DIRECT DISCHARGE OF UNTREATED CONSTRUCTION RUNOFF TO NATURAL WATERCOURSES SHALL NOT BE PERMITTED. TREATED RUNOFF SHALL BE DISCHARGED TO THE EXISTING BOG DRAINAGE NETWORK IN ACCORDANCE WITH THE DRAINAGE DESIGN.
9. BATTERS OF PROPOSED DRAINS SHALL GENERALLY HAVE SIDE SLOPES APPROPRIATE TO THEIR DEPTH AND LOCAL GROUND CONDITIONS AND SHALL BE LEFT TO NATURALLY RE-VEGETATE OR SHALL BE STABILISED USING SUITABLE LOCALLY SOURCED VEGETATION WHERE REQUIRED.
10. COLLECTOR DRAINS SHALL BE SHALLOW AND CONSTRUCTED WITH MODERATE GRADIENTS WHERE PRACTICABLE TO MINIMISE SCOUR. CHECK DAMS SHALL BE INSTALLED WHERE APPROPRIATE TO REDUCE FLOW VELOCITIES AND PROMOTE SETTLEMENT OF SUSPENDED SEDIMENT.
11. SETTLEMENT PONDS SHALL BE PROVIDED DOWNSTREAM OF PROPOSED INTERNAL ACCESS ROADS SECTIONS AND AT PROPOSED TURBINE/HARDSTAND LOCATIONS WHERE REQUIRED. SETTLEMENT PONDS SHALL PROVIDE TREATMENT AND TEMPORARY ATTENUATION OF RUNOFF PRIOR TO DISCHARGE TO THE EXISTING BOG DRAINAGE NETWORK. POND SIZING SHALL BE APPROPRIATE TO THE CONTRIBUTING CATCHMENT AREA. TYPICAL POND DETAILS ARE SHOWN ON DRAWING D501.
12. SILT FENCING OR OTHER APPROPRIATE SEDIMENT CONTROL MEASURES SHALL BE INSTALLED AROUND TEMPORARY PEAT/SPOIL STOCKPILES WHERE REQUIRED TO PREVENT SEDIMENT-LADEN RUNOFF ENTERING THE DRAINAGE NETWORK. TEMPORARY CONTROLS MAY BE REMOVED ONCE THE DISTURBED AREA HAS BEEN ADEQUATELY STABILISED.
13. TEMPORARY SILT FENCING SHALL BE INSTALLED WHERE REQUIRED BETWEEN CONSTRUCTION WORKS AND EXISTING DRAINAGE FEATURES OR NATURAL WATERCOURSES, PARTICULARLY WHERE WORKS OCCUR WITHIN THE PRESCRIBED SURFACE WATER BUFFER ZONES.
14. DRAIN SLOPES AND OTHER EXPOSED SURFACES SHALL BE PROTECTED FROM EROSION UNTIL ADEQUATELY STABILISED. SUITABLE STRIPPED VEGETATIVE MATERIAL, INCLUDING PEAT SOD/SCRAW WHERE AVAILABLE, MAY BE REUSED LOCALLY TO ASSIST STABILISATION AND RE-VEGETATION.
15. THE EXTENT AND DURATION OF EXPOSED GROUND SHALL BE MINIMISED AS FAR AS PRACTICABLE.
16. CHECK DAMS SHALL COMPRISE 4/40 MM NON-FRIABLE CRUSHED ROCK AND SHALL BE INSTALLED WITHIN COLLECTOR DRAINS WHERE APPROPRIATE. CHECK DAMS SHALL GENERALLY BE INSTALLED AT 25 M OR 50 M INTERVALS, DEPENDING ON THE LOCAL LONGITUDINAL GRADIENT AND SITE CONDITIONS.
17. CHECK DAMS, SILT TRAPS AND SETTLEMENT PONDS SHALL BE VISUALLY INSPECTED AND MAINTAINED AS PART OF THE CONSTRUCTION-PHASE DRAINAGE MAINTENANCE PROGRAMME, PARTICULARLY DURING AND FOLLOWING PERIODS OF HEAVY RAINFALL. ACCUMULATED SEDIMENT SHALL BE REMOVED AND DISPOSED OF APPROPRIATELY.
18. WHERE CHECK DAMS BECOME CLOGGED WITH SEDIMENT OR VEGETATION, THEY SHALL BE CLEANED OR REPLACED AS REQUIRED TO MAINTAIN THEIR HYDRAULIC AND SEDIMENT-CONTROL FUNCTION.
19. THE CONSTRUCTION-PHASE DRAINAGE INFRASTRUCTURE WILL GENERALLY FORM THE BASIS OF THE OPERATIONAL DRAINAGE SYSTEM. COLLECTOR DRAINS, SETTLEMENT PONDS AND OTHER TREATMENT/ATTENUATION FEATURES WILL BE RETAINED AND MAINTAINED WHERE REQUIRED. LOCAL SETTLEMENT PONDS MAY BE INFILLED OR DECOMMISSIONED FOLLOWING THE CONSTRUCTION PHASE, SUBJECT TO CONFIRMATION BY THE SITE ENGINEER.
20. WHERE TEMPORARY DEWATERING OF EXCAVATIONS IS REQUIRED, SILT BAGS AND/OR OTHER APPROPRIATE TREATMENT MEASURES SHALL BE USED AS NECESSARY. DISCHARGE FROM DEWATERING SILT BAGS SHALL BE DIRECTED TO SETTLEMENT PONDS OR OTHER SUITABLE TREATMENT MEASURES PRIOR TO DISCHARGE TO EXISTING FIELD DRAINS OR MAIN DRAINS.
21. FUEL AND OTHER POTENTIALLY POLLUTING SUBSTANCES SHALL BE STORED IN APPROPRIATELY BUNDED CONTAINMENT AREAS IN ACCORDANCE WITH THE CEMP AND POLLUTION PREVENTION NOTES.
22. CULVERTS SHALL BE PROVIDED WHERE PROPOSED INTERNAL ACCESS ROADS OR HARDSTANDS CROSS EXISTING MAIN BOG DRAINAGE PATHWAYS. CULVERTS SHALL BE APPROPRIATELY SIZED AND INSTALLED TO MAINTAIN EXISTING DRAINAGE CONNECTIVITY AND SHALL BE REGULARLY INSPECTED AND MAINTAINED.
23. ALL SURFACE WATER RUNOFF FROM THE PROPOSED PROJECT SHALL ULTIMATELY PASS THROUGH THE EXISTING IPC LICENCE SETTLEMENT PONDS AT THE BOG OUTFALL LOCATIONS PRIOR TO ONWARD DISCHARGE TO THE SURROUNDING STREAM AND RIVER NETWORK.

MITIGATION / DRAINAGE CONTROLS AVAILABLE FOR USE ACROSS THE SITE

MANAGEMENT TYPE	DESCRIPTION DRAINAGE CONTROL METHODS
AVOIDANCE CONTROLS	1) 50 M BUFFER TO NATURAL WATERCOURSES WHERE PRACTICABLE. 2) MINIMISE DISTURBANCE OF EXISTING FIELD AND MAIN DRAINS. 3) MINIMISE WORKING AREAS AND EXPOSED GROUND. 4) SCHEDULE WORKS HAVING REGARD TO WEATHER FORECASTS; SUSPEND OR SCALE BACK HIGH-RISK WORKS DURING HEAVY RAINFALL.
SOURCE CONTROLS:	1) UP-GRADIENT INTERCEPTOR DRAINS TO DIVERT CLEAN RUNOFF AROUND WORKS AND REDISTRIBUTE TO DOWNSTREAM FIELD DRAINS. 2) MINIMISE AND STABILISE EXPOSED GROUND AND TEMPORARY PEAT/SPOIL STOCKPILES. 3) SILT FENCING AND OTHER TEMPORARY SEDIMENT CONTROLS WHERE REQUIRED.
IN-LINE CONTROLS:	1) COLLECTOR DRAINS TO CONVEY CONSTRUCTION RUNOFF TO TREATMENT MEASURES. 2) TRANSVERSE DRAINS/PROPOSED INTERNAL ACCESS ROADS WHERE APPROPRIATE. 3) 4/40 MM NON-FRIABLE CRUSHED-ROCK CHECK DAMS AT TYPICALLY 25 M OR 50 M SPACING, DEPENDING ON GRADIENT. 4) SILT TRAPS AND SETTLEMENT PONDS. 5) CULVERTS TO MAINTAIN EXISTING DRAINAGE PATHWAYS.
WATER TREATMENT CONTROLS:	1) SILT TRAPS AND SETTLEMENT PONDS. 2) DEWATERING SILT BAGS WHERE APPROPRIATE. 3) VEGETATED BUFFER AREAS/SWALES WHERE APPROPRIATE. 4) SPECIALIST TREATMENT SYSTEMS (E.G. SILTBUSTER OR EQUIVALENT) WHERE REQUIRED. 5) EXISTING IPC LICENCE SETTLEMENT PONDS PROVIDE THE FINAL TREATMENT STAGE.
OUTFALL CONTROLS:	1) TREATED RUNOFF TO DISCHARGE TO EXISTING FIELD OR MAIN DRAINS. 2) DISCHARGES CONTROLLED TO PREVENT SCOUR AND EROSION. 3) NO DIRECT DISCHARGE OF UNTREATED CONSTRUCTION RUNOFF TO NATURAL WATERCOURSES. 4) EXISTING DRAINAGE PATHWAYS MAINTAINED WHERE REQUIRED. 5) PROPOSED PROJECT RUNOFF ULTIMATELY PASSES THROUGH EXISTING IPC LICENCE SETTLEMENT PONDS BEFORE DISCHARGE TO RECEIVING WATERS.

KEY PLAN



DRAWING LEGEND:

EXISTING DRAINAGE
- WATERCOURSES
- WATERCOURSES 50M BUFFER
- STREAM FLOW DIRECTION
- EXISTING MAIN DRAINS
- REDIRECTED MAIN DRAINS
- EXISTING PIPED DRAINS
- EXISTING DISCHARGE DRAINS
- EXISTING BOUNDARY DRAINS
- FIELD DRAIN
- EXISTING SETTLEMENT PONDS
- EXISTING WC CROSSING/CULVERT

PROPOSED DRAINAGE
- UPSTREAM INTERCEPTOR DRAIN
- DOWNSTREAM COLLECTOR DRAIN (DSCD)
- DSCD OR OVER THE EDGE (OTE)
- DIRECTION OF FLOW
- SILT FENCES
- DOUBLE SILT FENCES
- WF SETTLEMENT POND
- LEVEL SPREADER
- PROPOSED WC CROSSING/CULVERT
- INTERCEPTOR DITCH CULVERT
- COLLECTOR DITCH CULVERT
- WATERCOURSE DRAIN PROTECTION BERM
- O OVERLAND FLOW DISCHARGE
- TW TREATED WATER DISCHARGE
- SP NEW SETTLEMENT POND

- PLANNING APPLICATION BOUNDARY
- EXISTING GROUND SURFACE MINOR CONTOUR (1 M INTERVAL)
- TURBINE 220, TURBINE FOUNDATION AND SWEPT AREA
- TURBINE 200, TURBINE FOUNDATION AND SWEPT AREA
- TURBINE FOUNDATION
- CRANE PLATFORM
- BLADE SETDOWN AREAS
- UPGRADES TO EXISTING TRACKS
- PROPOSED INTERNAL ACCESS ROADS AND TURNING BAY
- PROPOSED INTERNAL 33KV CABLING
- PROPOSED GRID CONNECTION UNDERGROUND 220KV ELECTRICAL CABLING
- PROPOSED ON-SITE SUBSTATION
- PROPOSED OFF-SITE GIS SUBSTATION
- PROPOSED MET MAST
- PROPOSED RELAY MAST
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Title:
PROPOSED CONSTRUCTION PHASE AND OPERATIONAL PHASE DRAINAGE LAYOUT

Figure No: DI04

Drawing No: P1511-0-1026-A1-D104-00C	
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5. NO EXCAVATED MATERIAL OR TEMPORARY STOCKPILES SHALL BE STORED WITHIN THE PRESCRIBED SURFACE WATER BUFFER ZONES.
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10. ALL SURFACE WATER RUNOFF FROM THE PROPOSED PROJECT SHALL ULTIMATELY PASS THROUGH THE EXISTING IPC LICENCE SETTLEMENT PONDS AT THE BOG OUTFALL LOCATIONS PRIOR TO DISCHARGE TO THE RECEIVING STREAM AND RIVER NETWORK.

EXCAVATIONS

11. WHERE EXCAVATIONS ARE PROPOSED, INTERCEPTOR/CUT-OFF DRAINS SHALL BE INSTALLED WHERE REQUIRED TO MINIMISE THE VOLUME OF CLEAN SURFACE WATER ENTERING THE EXCAVATION. THIS SHALL INCLUDE TURBINE BASE EXCAVATIONS WHERE APPROPRIATE.
12. WHERE TEMPORARY DEWATERING OF EXCAVATIONS IS REQUIRED, PUMPED WATER SHALL BE TREATED USING APPROPRIATE MEASURES SUCH AS DEWATERING SILT BAGS, SETTLEMENT PONDS OR SPECIALIST TREATMENT SYSTEMS PRIOR TO DISCHARGE TO THE EXISTING DRAINAGE NETWORK.

EXPOSED GROUND & STOCKPILES

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PROPOSED INTERNAL ACCESS ROADS

15. COLLECTOR DRAINS SHALL BE PROVIDED ALONGSIDE PROPOSED INTERNAL ACCESS ROADS WHERE REQUIRED TO COLLECT CONSTRUCTION RUNOFF AND CONVEY IT TO APPROPRIATE TREATMENT MEASURES.
16. ON STEEPER SECTIONS OF PROPOSED INTERNAL ACCESS ROAD, TRANSVERSE DRAINS OR GRIPS SHALL BE INSTALLED WHERE APPROPRIATE TO INTERCEPT ROAD RUNOFF AND DIVERT IT TO ADJACENT ROADSIDE COLLECTOR DRAINS.
17. CHECK DAMS SHALL BE INSTALLED WITHIN COLLECTOR DRAINS WHERE APPROPRIATE TO REDUCE FLOW VELOCITIES AND PROMOTE SETTLEMENT OF SUSPENDED SEDIMENT. CHECK DAMS SHALL COMPRISE 4/40 MM NON-FRIABLE CRUSHED ROCK AND SHALL GENERALLY BE INSTALLED AT 25 M OR 50 M INTERVALS DEPENDING ON LOCAL GRADIENT.
18. SILT TRAPS, CHECK DAMS, SETTLEMENT PONDS AND OTHER DRAINAGE TREATMENT MEASURES SHALL BE REGULARLY INSPECTED AND MAINTAINED, PARTICULARLY DURING AND FOLLOWING PERIODS OF HEAVY RAINFALL.

REFUELLING

19. REFUELLING AND MAINTENANCE OF MOBILE PLANT SHALL, WHERE PRACTICABLE, BE UNDERTAKEN OFF-SITE. WHERE REQUIRED ON-SITE, REFUELLING SHALL ONLY BE UNDERTAKEN WITHIN DESIGNATED AREAS AND IN ACCORDANCE WITH THE CEMP AND APPROPRIATE POLLUTION PREVENTION PROCEDURES.
20. REFUELLING AREAS SHALL BE LOCATED AWAY FROM NATURAL WATERCOURSES AND DRAINAGE FEATURES. SPILL KITS AND DRIP TRAYS SHALL BE READILY AVAILABLE FOR USE AS REQUIRED.
21. FUEL AND OTHER POTENTIALLY POLLUTING SUBSTANCES SHALL BE STORED IN APPROPRIATELY BUNDED AREAS IN ACCORDANCE WITH THE CEMP.

CONCRETE

22. CONCRETE WORKS SHALL BE MANAGED TO PREVENT THE DISCHARGE OF CEMENTITIOUS MATERIAL OR CONCRETE-CONTAMINATED WATER TO THE SURFACE WATER DRAINAGE SYSTEM, GROUNDWATER OR NATURAL WATERCOURSES.
23. CONCRETE WASH WATER AND WASTE CONCRETE SHALL BE CONTAINED AND MANAGED IN ACCORDANCE WITH THE CEMP AND SHALL NOT BE DISCHARGED TO THE SITE DRAINAGE SYSTEM OR NATURAL WATERCOURSES.

IF WATER POLLUTION IS IDENTIFIED THE FOLLOWING ACTIONS WILL BE TAKEN:

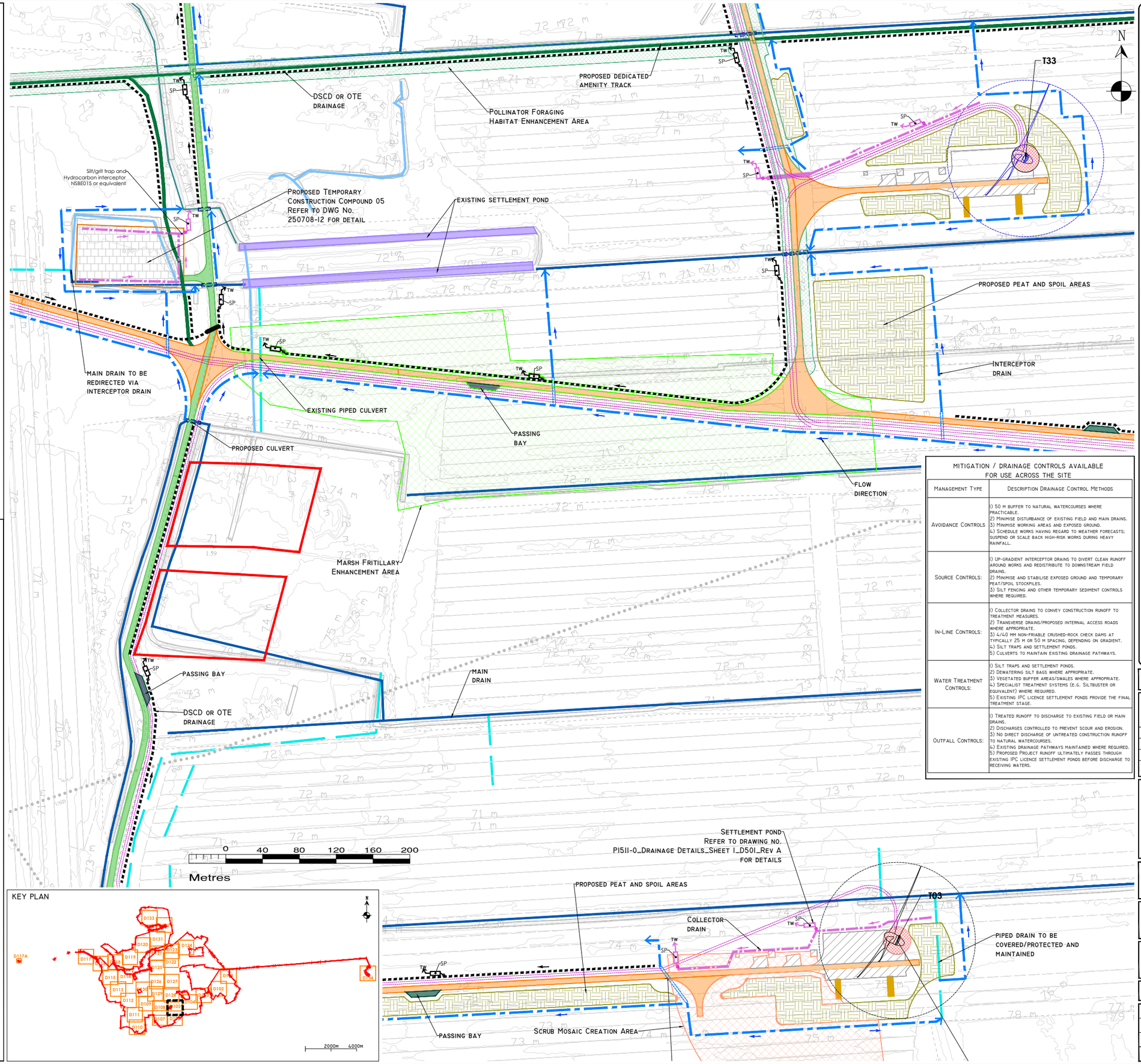
STOP - WORKS IN THE IMMEDIATE AREA WILL BE STOPPED AND THE SOURCE OF THE POLLUTION WILL BE IDENTIFIED.

CONTAIN - THE SOURCE OF THE POLLUTION WILL BE CONTAINED USING APPROPRIATE MEASURES TO PREVENT FURTHER RELEASE. WHERE NECESSARY, DRAINAGE PATHWAYS SHALL BE TEMPORARILY ISOLATED OR DIVERTED TO PREVENT CONTAMINATED WATER REACHING DOWNSTREAM RECEPTORS.

NOTIFY - THE SITE MANAGER AND ENVIRONMENTAL CLERK OF WORKS SHALL BE NOTIFIED IMMEDIATELY. RELEVANT STATUTORY AUTHORITIES AND OTHER BODIES SHALL BE NOTIFIED WHERE REQUIRED IN ACCORDANCE WITH THE CEMP AND THE PROJECT EMERGENCY RESPONSE PROCEDURE.

DRAINAGE NOTES:

1. ROADWAY SURFACING DESIGN AND CONSTRUCTION SHALL BE TO THE ENGINEER'S SPECIFICATION.
2. SPARE SILT FENCING, STRAW BALES OR SIMILAR APPROVED POLLUTION CONTROL MATERIALS SHALL BE STORED ON SITE. SUSPENDED SEDIMENT IN RUNOFF SHALL BE VISUALLY MONITORED DURING CONSTRUCTION. WHERE ELEVATED SILT LEVELS ARE OBSERVED, ADDITIONAL TEMPORARY CONTROLS SUCH AS SILT FENCES, STRAW BALES, SILT TRAPS OR CHECK DAMS SHALL BE INSTALLED AS REQUIRED. A MOBILE WATER TREATMENT SYSTEM (E.G. SILTBUSTER OR EQUIVALENT) SHALL BE AVAILABLE ON SITE FOR USE WHERE REQUIRED.
3. THE PROPOSED DRAINAGE SYSTEM SHALL BE CONSTRUCTED PRIOR TO, OR IN CONJUNCTION WITH, THE ASSOCIATED PROPOSED INTERNAL ACCESS ROADS AND OTHER INFRASTRUCTURE. TEMPORARY DRAINAGE AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED WHERE REQUIRED DURING CONSTRUCTION TO PREVENT ELEVATED SUSPENDED SEDIMENT CONCENTRATIONS IN RUNOFF.
4. APPROPRIATE DRAINAGE AND POLLUTION PREVENTION MEASURES SHALL BE MAINTAINED AT ALL TIMES TO PREVENT THE CONVEYANCE OF SIGNIFICANT VOLUMES OF SEDIMENT TO RECEIVING WATERCOURSES. REFER ALSO TO POLLUTION PREVENTION NOTES.
5. INTERCEPTOR DRAINS SHALL BE INSTALLED UP-GRADIENT OF PROPOSED INFRASTRUCTURE, WHERE REQUIRED, TO INTERCEPT CLEAN SURFACE WATER RUNOFF AND MINIMISE THE VOLUME OF RUNOFF ENTERING CONSTRUCTION AREAS. INTERCEPTED CLEAN WATER SHALL BE DIRECTED AROUND THE WORKS AND REDISTRIBUTED TO DOWNSTREAM FIELD DRAINS. EXISTING FIELD DRAINS SHALL BE UTILISED FOR THIS PURPOSE WHERE PRACTICABLE.
6. COLLECTOR DRAINS SHALL BE INSTALLED DOWNSTREAM OF PROPOSED INTERNAL ACCESS ROADS AND OTHER CONSTRUCTION AREAS, WHERE REQUIRED, TO COLLECT RUNOFF WHERE SUSPENDED SEDIMENT MAY BECOME ENTRAINED. RUNOFF SHALL BE CONVEYED TO APPROPRIATE TREATMENT MEASURES, INCLUDING SILT TRAPS, CHECK DAMS, VEGETATED AREAS AND SETTLEMENT PONDS, PRIOR TO DISCHARGE TO THE EXISTING FIELD DRAIN OR MAIN DRAIN NETWORK.
7. TRANSVERSE DRAINS ('GRIPS') SHALL BE INSTALLED ON SECTIONS OF PROPOSED INTERNAL ACCESS ROADS, WHERE APPROPRIATE, TO INTERCEPT PROPOSED INTERNAL ACCESS ROAD RUNOFF AND DIVERT IT TO ADJACENT ROADSIDE COLLECTOR DRAINS. THE LOCATIONS OF TRANSVERSE DRAINS SHALL BE DETERMINED HAVING REGARD TO LOCAL GRADIENT AND DRAINAGE CONDITIONS.
8. DIRECT DISCHARGE OF UNTREATED CONSTRUCTION RUNOFF TO NATURAL WATERCOURSES SHALL NOT BE PERMITTED. TREATED RUNOFF SHALL BE DISCHARGED TO THE EXISTING BOG DRAINAGE NETWORK IN ACCORDANCE WITH THE DRAINAGE DESIGN.
9. BATTERS OF PROPOSED DRAINS SHALL GENERALLY HAVE SIDE SLOPES APPROPRIATE TO THEIR DEPTH AND LOCAL GROUND CONDITIONS AND SHALL BE LEFT TO NATURALLY RE-VEGETATE OR SHALL BE STABILISED USING SUITABLE LOCALLY SOURCED VEGETATION WHERE REQUIRED.
10. COLLECTOR DRAINS SHALL BE SHALLOW AND CONSTRUCTED WITH MODERATE GRADIENTS WHERE PRACTICABLE TO MINIMISE SCOUR. CHECK DAMS SHALL BE INSTALLED WHERE APPROPRIATE TO REDUCE FLOW VELOCITIES AND PROMOTE SETTLEMENT OF SUSPENDED SEDIMENT.
11. SETTLEMENT PONDS SHALL BE PROVIDED DOWNSTREAM OF PROPOSED INTERNAL ACCESS ROADS SECTIONS AND AT PROPOSED TURBINE/HARDSTAND LOCATIONS WHERE REQUIRED. SETTLEMENT PONDS SHALL PROVIDE TREATMENT AND TEMPORARY ATTENUATION OF RUNOFF PRIOR TO DISCHARGE TO THE EXISTING BOG DRAINAGE NETWORK. POND SIZING SHALL BE APPROPRIATE TO THE CONTRIBUTING CATCHMENT AREA. TYPICAL POND DETAILS ARE SHOWN ON DRAWING D501.
12. SILT FENCING OR OTHER APPROPRIATE SEDIMENT CONTROL MEASURES SHALL BE INSTALLED AROUND TEMPORARY PEAT/SPOIL STOCKPILES WHERE REQUIRED TO PREVENT SEDIMENT-LADEN RUNOFF ENTERING THE DRAINAGE NETWORK. TEMPORARY CONTROLS MAY BE REMOVED ONCE THE DISTURBED AREA HAS BEEN ADEQUATELY STABILISED.
13. TEMPORARY SILT FENCING SHALL BE INSTALLED WHERE REQUIRED BETWEEN CONSTRUCTION WORKS AND EXISTING DRAINAGE FEATURES OR NATURAL WATERCOURSES, PARTICULARLY WHERE WORKS OCCUR WITHIN THE PRESCRIBED SURFACE WATER BUFFER ZONES.
14. DRAIN SLOPES AND OTHER EXPOSED SURFACES SHALL BE PROTECTED FROM EROSION UNTIL ADEQUATELY STABILISED. SUITABLE STRIPPED VEGETATIVE MATERIAL, INCLUDING PEAT SOD/SCRAW WHERE AVAILABLE, MAY BE REUSED LOCALLY TO ASSIST STABILISATION AND RE-VEGETATION.
15. THE EXTENT AND DURATION OF EXPOSED GROUND SHALL BE MINIMISED AS FAR AS PRACTICABLE.
16. CHECK DAMS SHALL COMPRISE 4/40 MM NON-FRIABLE CRUSHED ROCK AND SHALL BE INSTALLED WITHIN COLLECTOR DRAINS WHERE APPROPRIATE. CHECK DAMS SHALL GENERALLY BE INSTALLED AT 25 M OR 50 M INTERVALS, DEPENDING ON THE LOCAL LONGITUDINAL GRADIENT AND SITE CONDITIONS.
17. CHECK DAMS, SILT TRAPS AND SETTLEMENT PONDS SHALL BE VISUALLY INSPECTED AND MAINTAINED AS PART OF THE CONSTRUCTION-PHASE DRAINAGE MAINTENANCE PROGRAMME, PARTICULARLY DURING AND FOLLOWING PERIODS OF HEAVY RAINFALL. ACCUMULATED SEDIMENT SHALL BE REMOVED AND DISPOSED OF APPROPRIATELY.
18. WHERE CHECK DAMS BECOME CLOGGED WITH SEDIMENT OR VEGETATION, THEY SHALL BE CLEANED OR REPLACED AS REQUIRED TO MAINTAIN THEIR HYDRAULIC AND SEDIMENT-CONTROL FUNCTION.
19. THE CONSTRUCTION-PHASE DRAINAGE INFRASTRUCTURE WILL GENERALLY FORM THE BASIS OF THE OPERATIONAL DRAINAGE SYSTEM. COLLECTOR DRAINS, SETTLEMENT PONDS AND OTHER TREATMENT/ATTENUATION FEATURES WILL BE RETAINED AND MAINTAINED WHERE REQUIRED. LOCAL SETTLEMENT PONDS MAY BE INFILLED OR DECOMMISSIONED FOLLOWING THE CONSTRUCTION PHASE, SUBJECT TO CONFIRMATION BY THE SITE ENGINEER.
20. WHERE TEMPORARY DEWATERING OF EXCAVATIONS IS REQUIRED, SILT BAGS AND/OR OTHER APPROPRIATE TREATMENT MEASURES SHALL BE USED AS NECESSARY. DISCHARGE FROM DEWATERING SILT BAGS SHALL BE DIRECTED TO SETTLEMENT PONDS OR OTHER SUITABLE TREATMENT MEASURES PRIOR TO DISCHARGE TO EXISTING FIELD DRAINS OR MAIN DRAINS.
21. FUEL AND OTHER POTENTIALLY POLLUTING SUBSTANCES SHALL BE STORED IN APPROPRIATELY BUNDED CONTAINMENT AREAS IN ACCORDANCE WITH THE CEMP AND POLLUTION PREVENTION NOTES.
22. CULVERTS SHALL BE PROVIDED WHERE PROPOSED INTERNAL ACCESS ROADS OR HARDSTANDS CROSS EXISTING MAIN BOG DRAINAGE PATHWAYS. CULVERTS SHALL BE APPROPRIATELY SIZED AND INSTALLED TO MAINTAIN EXISTING DRAINAGE CONNECTIVITY AND SHALL BE REGULARLY INSPECTED AND MAINTAINED.
23. ALL SURFACE WATER RUNOFF FROM THE PROPOSED PROJECT SHALL ULTIMATELY PASS THROUGH THE EXISTING IPC LICENCE SETTLEMENT PONDS AT THE BOG OUTFALL LOCATIONS PRIOR TO ONWARD DISCHARGE TO THE SURROUNDING STREAM AND RIVER NETWORK.



KEY PLAN

MITIGATION / DRAINAGE CONTROLS AVAILABLE FOR USE ACROSS THE SITE

MANAGEMENT TYPE	DESCRIPTION DRAINAGE CONTROL METHODS
AVOIDANCE CONTROLS	1) 50 M BUFFER TO NATURAL WATERCOURSES WHERE PRACTICABLE. 2) MINIMISE DISTURBANCE OF EXISTING FIELD AND MAIN DRAINS. 3) MINIMISE WORKING AREAS AND EXPOSED GROUND. 4) SCHEDULE WORKS HAVING REGARD TO WEATHER FORECASTS; SUSPEND OR SCALE BACK HIGH-RISK WORKS DURING HEAVY RAINFALL.
SOURCE CONTROLS:	1) UP-GRADIENT INTERCEPTOR DRAINS TO DIVERT CLEAN RUNOFF AROUND WORKS AND REDISTRIBUTE TO DOWNSTREAM FIELD DRAINS. 2) MINIMISE AND STABILISE EXPOSED GROUND AND TEMPORARY PEAT/SPOIL STOCKPILES. 3) SILT FENCING AND OTHER TEMPORARY SEDIMENT CONTROLS WHERE REQUIRED.
IN-LINE CONTROLS:	1) COLLECTOR DRAINS TO CONVEY CONSTRUCTION RUNOFF TO TREATMENT MEASURES. 2) TRANSVERSE DRAINS/PROPOSED INTERNAL ACCESS ROADS WHERE APPROPRIATE. 3) 4/40 MM NON-FRIABLE CRUSHED-ROCK CHECK DAMS AT TYPICALLY 25 M OR 50 M SPACING, DEPENDING ON GRADIENT. 4) SILT TRAPS AND SETTLEMENT PONDS. 5) CULVERTS TO MAINTAIN EXISTING DRAINAGE PATHWAYS.
WATER TREATMENT CONTROLS:	1) SILT TRAPS AND SETTLEMENT PONDS. 2) DEWATERING SILT BAGS WHERE APPROPRIATE. 3) VEGETATED BUFFER AREAS/SWALES WHERE APPROPRIATE. 4) SPECIALIST TREATMENT SYSTEMS (E.G. SILTBUSTER OR EQUIVALENT) WHERE REQUIRED. 5) EXISTING IPC LICENCE SETTLEMENT PONDS PROVIDE THE FINAL TREATMENT STAGE.
OUTFALL CONTROLS:	1) TREATED RUNOFF TO DISCHARGE TO EXISTING FIELD OR MAIN DRAINS. 2) DISCHARGES CONTROLLED TO PREVENT SCOUR AND EROSION. 3) NO DIRECT DISCHARGE OF UNTREATED CONSTRUCTION RUNOFF TO NATURAL WATERCOURSES. 4) EXISTING DRAINAGE PATHWAYS MAINTAINED WHERE REQUIRED. 5) PROPOSED PROJECT RUNOFF ULTIMATELY PASSES THROUGH EXISTING IPC LICENCE SETTLEMENT PONDS BEFORE DISCHARGE TO RECEIVING WATERS.

DRAWING LEGEND:

EXISTING DRAINAGE
- WATERCOURSES
- WATERCOURSES 50M BUFFER
- STREAM FLOW DIRECTION
- EXISTING MAIN DRAINS
- REDIRECTED MAIN DRAINS
- EXISTING PIPED DRAINS
- EXISTING DISCHARGE DRAINS
- EXISTING BOUNDARY DRAINS
- FIELD DRAIN
- EXISTING SETTLEMENT PONDS
- EXISTING WC CROSSING/CULVERT

PROPOSED DRAINAGE
- UPSTREAM INTERCEPTOR DRAIN
- DOWNSTREAM COLLECTOR DRAIN (DSCD)
- DSCD OR OVER THE EDGE (OTE)
- DIRECTION OF FLOW
- SILT FENCES
- DOUBLE SILT FENCES
- WF SETTLEMENT POND
- LEVEL SPREADER
- PROPOSED WC CROSSING/CULVERT
- INTERCEPTOR DITCH CULVERT
- COLLECTOR DITCH CULVERT
- WATERCOURSE DRAIN PROTECTION BERM
- O OVERLAND FLOW DISCHARGE
- TW TREATED WATER DISCHARGE
- SP NEW SETTLEMENT POND

- PLANNING APPLICATION BOUNDARY
- EXISTING GROUND SURFACE MINOR CONTOUR (1 M INTERVAL)
- TURBINE 220, TURBINE FOUNDATION AND SWEPT AREA
- TURBINE 200, TURBINE FOUNDATION AND SWEPT AREA
- TURBINE FOUNDATION
- CRANE PLATFORM
- BLADE SETDOWN AREAS
- UPGRADES TO EXISTING TRACKS
- PROPOSED INTERNAL ACCESS ROADS AND TURNING BAY
- PROPOSED INTERNAL 33KV CABLING
- PROPOSED GRID CONNECTION UNDERGROUND 220KV ELECTRICAL CABLING
- PROPOSED ON-SITE SUBSTATION
- PROPOSED OFF-SITE GIS SUBSTATION
- PROPOSED MET MAST
- PROPOSED RELAY MAST
- TEMPORARY CONSTRUCTION COMPOUNDS
- PROPOSED CAR PARKING
- PROPOSED PEAT AND SPOIL AREAS
- PROPOSED PASSING BAYS
- PROPOSED DEDICATED AMENITY TRACK
- PROPOSED DEDICATED AMENITY BOARD WALK
- SCRUB MOSAIC CREATION AREA
- POLLINATOR FORAGING HABITAT ENHANCEMENT AREA
- PEATLAND ENHANCEMENT AREA
- NATIVE TREE (WOODLAND AND SCRUB) PLANTING AREA
- MARSH FRITILLARY ENHANCEMENT AREA
- LODGE BOG ENHANCEMENT AREA

BASEMAP NOTE: THESE DRAWINGS USE 1:5,000 SCALE ORDNANCE SURVEY IRELAND (OSI) BASEMAPS AS AN UNDERLAY. FOR CLARITY, THE BASEMAP FEATURES ARE NOT INCLUDED IN THE DRAWING LEGEND AND ARE DISPLAYED IN LIGHT GREY WITH PARTIAL TRANSPARENCY TO DISTINGUISH THEM FROM THE PROPOSED DEVELOPMENT FEATURES.

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Revisions

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Client: BORD NA MÓNA POWERGEN LTD

Job: BALLYDERMOT WF, CO. OFFALY/CO. KILDARE

Title: PROPOSED CONSTRUCTION PHASE AND OPERATIONAL PHASE DRAINAGE LAYOUT

Figure No: D105

Drawing No: P1511-0-1026-A1-D105-00C	
Sheet Size: A1	Project No.: P1511-0
Scale: 1:2,000 (A1)	Drawn By: GA
Date: 21/10/2026	Checked By: MG

POLLUTION PREVENTION NOTES:

1. Site management and drainage proposals are intended to ensure protection of surface water and groundwater and to minimise the risk of pollution, siltation and erosion.

2. Appropriate drainage and pollution control measures shall be installed prior to, or in conjunction with, construction works and shall be maintained for the duration of the works.

3. Silty water may arise from excavation dewatering, erosion of exposed or disturbed ground, temporary stockpiles, plant and wheel washing, proposed internal access roads and disturbance of existing field drains and ditches.

Discharges

4. Water containing elevated suspended sediment shall not be pumped or discharged directly to any natural watercourse. Construction runoff and excavation dewatering shall be appropriately treated prior to discharge to the existing bog drainage network.
5. No excavated material or temporary stockpiles shall be stored within the prescribed surface water buffer zones.
6. Runoff from construction areas shall be collected in collector drains and directed to appropriate treatment measures, including silt traps, check dams, settlement ponds, vegetated buffer areas and/or other suitable treatment systems, prior to discharge to existing field drains or main drains.
7. Clean surface water runoff shall, where practicable, be intercepted up-gradient of construction areas using interceptor drains and directed around the works before being redistributed to downstream field drains. Existing field drains may be utilised for this purpose where appropriate.
8. Pumping of clean water from excavations, or over-pumping of drains, ditches or watercourses, shall be undertaken in a manner which does not cause scour or erosion at the point of discharge. Flow velocities shall be controlled using appropriate measures such as splash plates or other suitable discharge controls.
9. Existing drains and ditches shall be retained and protected where practicable. Vegetation shall not be removed from existing drains unless required to facilitate the works.
10. All surface water runoff from the Proposed Project shall ultimately pass through the existing IPC licence settlement ponds at the bog outfall locations prior to discharge to the receiving stream and river network.

Excavations

11. Where excavations are proposed, interceptor/cut-off drains shall be installed where required to minimise the volume of clean surface water entering the excavation. This shall include turbine base excavations where appropriate.
12. Where temporary dewatering of excavations is required, pumped water shall be treated using appropriate measures such as dewatering silt bags, settlement ponds or specialist treatment systems prior to discharge to the existing drainage network.

Exposed Ground & Stockpiles

13. The extent of exposed ground and the volume and duration of temporary stockpiles shall be minimised as far as practicable.
14. Construction activities involving significant areas of exposed peat or soil shall be scaled back or suspended during periods of heavy rainfall or where heavy rainfall is forecast.

Proposed Internal Access Roads

15. Collector drains shall be provided alongside proposed internal access roads where required to collect construction runoff and convey it to appropriate treatment measures.
16. On steeper sections of proposed internal access road, transverse drains or grips shall be installed where appropriate to intercept road runoff and divert it to adjacent roadside collector drains.
17. Check dams shall be installed within collector drains where appropriate to reduce flow velocities and promote settlement of suspended sediment. Check dams shall comprise 4/40 mm non-friable crushed rock and shall generally be installed at 25 m or 50 m intervals depending on local gradient.
18. Silt traps, check dams, settlement ponds and other drainage treatment measures shall be regularly inspected and maintained, particularly during and following periods of heavy rainfall.

Refuelling

19. Refuelling and maintenance of mobile plant shall, where practicable, be undertaken off-site. Where required on-site, refuelling shall only be undertaken within designated areas and in accordance with the CEMP and appropriate pollution prevention procedures.
20. Refuelling areas shall be located away from natural watercourses and drainage features. Spill kits and drip trays shall be readily available for use as required.
21. Fuel and other potentially polluting substances shall be stored in appropriately bunded areas in accordance with the CEMP.

Concrete

22. Concrete works shall be managed to prevent the discharge of cementitious material or concrete-contaminated water to the surface water drainage system, groundwater or natural watercourses.
23. Concrete wash water and waste concrete shall be contained and managed in accordance with the CEMP and shall not be discharged to the site drainage system or natural watercourses.

If water pollution is identified the following actions will be taken:

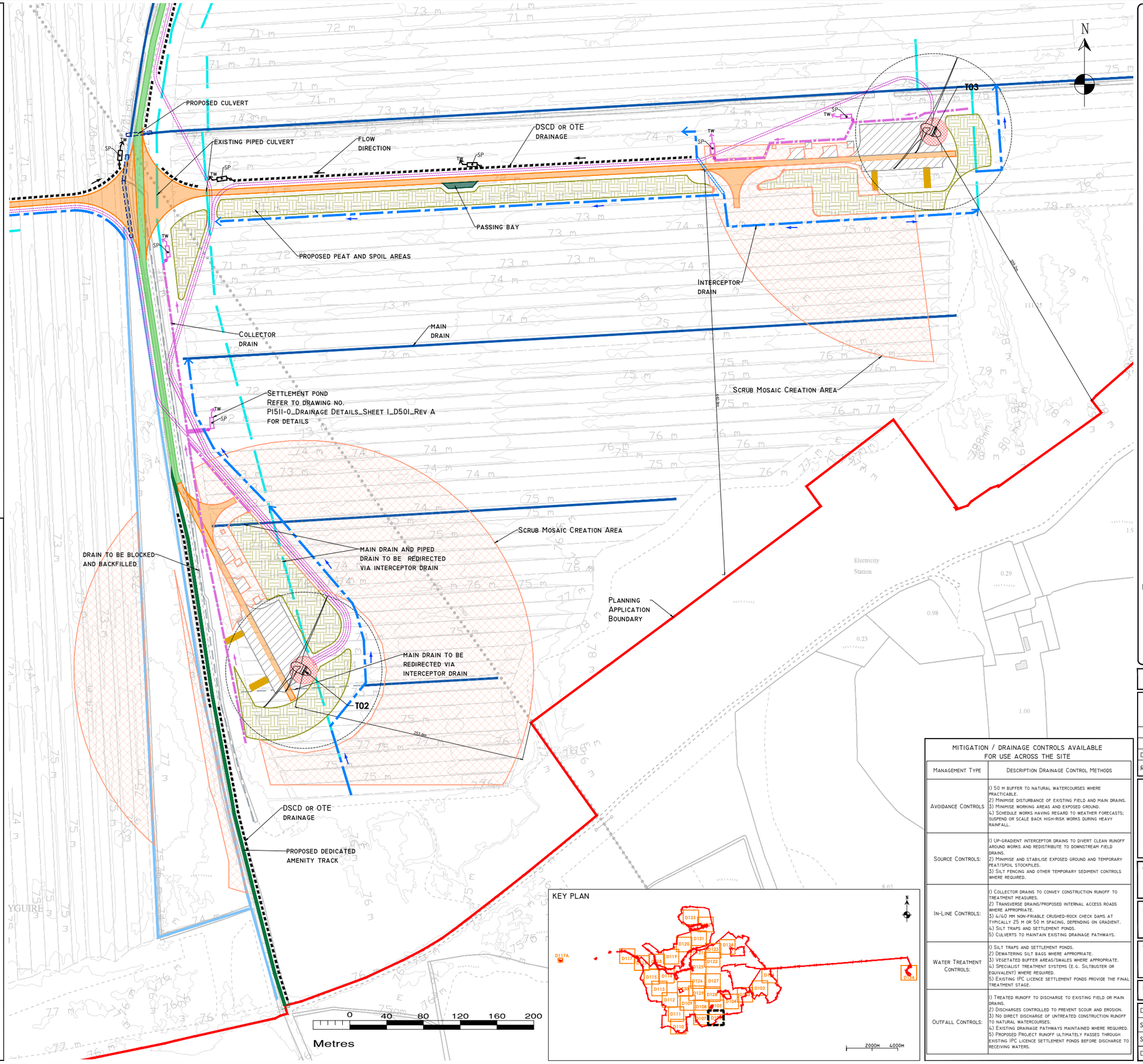
STOP - works in the immediate area will be stopped and the source of the pollution will be identified.

CONTAIN - the source of the pollution will be contained using appropriate measures to prevent further release. Where necessary, drainage pathways shall be temporarily isolated or diverted to prevent contaminated water reaching downstream receptors.

NOTIFY - The Site Manager and Environmental Clerk of Works shall be notified immediately. Relevant statutory authorities and other bodies shall be notified where required in accordance with the CEMP and the Project Emergency Response Procedure.

DRAINAGE NOTES:

1. Roadway surfacing design and construction shall be to the Engineer's Specification.
2. Spare silt fencing, straw bales or similar approved pollution control materials shall be stored on site. Suspended sediment in runoff shall be visually monitored during construction. Where elevated silt levels are observed, additional temporary controls such as silt fences, straw bales, silt traps or check dams shall be installed as required. A mobile water treatment system (e.g. Siltbuster or equivalent) shall be available on site for use where required.
3. The proposed drainage system shall be constructed prior to, or in conjunction with, the associated proposed internal access roads and other infrastructure. Temporary drainage and sediment control measures shall be installed where required during construction to prevent elevated suspended sediment concentrations in runoff.
4. Appropriate drainage and pollution prevention measures shall be maintained at all times to prevent the conveyance of significant volumes of sediment to receiving watercourses. Refer also to Pollution Prevention Notes.
5. Interceptor drains shall be installed up-gradient of proposed infrastructure, where required, to intercept clean surface water runoff and minimise the volume of runoff entering construction areas. Intercepted clean water shall be directed around the works and redistributed to downstream field drains. Existing field drains shall be utilised for this purpose where practicable.
6. Collector drains shall be installed downstream of proposed internal access roads and other construction areas, where required, to collect runoff where suspended sediment may become entrained. Runoff shall be conveyed to appropriate treatment measures, including silt traps, check dams, vegetated areas and settlement ponds, prior to discharge to the existing field drain or main drain network.
7. Transverse drains ('grips') shall be installed on sections of proposed internal access roads, where appropriate, to intercept proposed internal access road runoff and divert it to adjacent roadside collector drains. The locations of transverse drains shall be determined having regard to local gradient and drainage conditions.
8. Direct discharge of untreated construction runoff to natural watercourses shall not be permitted. Treated runoff shall be discharged to the existing bog drainage network in accordance with the drainage design.
9. Batters of proposed drains shall generally have side slopes appropriate to their depth and local ground conditions and shall be left to naturally re-vegetate or shall be stabilised using suitable locally sourced vegetation where required.
10. Collector drains shall be shallow and constructed with moderate gradients where practicable to minimise scour. Check dams shall be installed where appropriate to reduce flow velocities and promote settlement of suspended sediment.
11. Settlement ponds shall be provided downstream of proposed internal access roads sections and at proposed turbine/hardstand locations where required. Settlement ponds shall provide treatment and temporary attenuation of runoff prior to discharge to the existing bog drainage network. Pond sizing shall be appropriate to the contributing catchment area. Typical pond details are shown on Drawing D501.
12. Silt fencing or other appropriate sediment control measures shall be installed around temporary peat/spoil stockpiles where required to prevent sediment-laden runoff entering the drainage network. Temporary controls may be removed once the disturbed area has been adequately stabilised.
13. Temporary silt fencing shall be installed where required between construction works and existing drainage features or natural watercourses, particularly where works occur within the prescribed surface water buffer zones.
14. Drain slopes and other exposed surfaces shall be protected from erosion until adequately stabilised. Suitable stripped vegetative material, including peat sod/scraw where available, may be reused locally to assist stabilisation and re-vegetation.
15. The extent and duration of exposed ground shall be minimised as far as practicable.
16. Check dams shall comprise 4/40 mm non-friable crushed rock and shall be installed within collector drains where appropriate. Check dams shall generally be installed at 25 m or 50 m intervals, depending on the local longitudinal gradient and site conditions.
17. Check dams, silt traps and settlement ponds shall be visually inspected and maintained as part of the construction-phase drainage maintenance programme, particularly during and following periods of heavy rainfall. Accumulated sediment shall be removed and disposed of appropriately.
18. Where check dams become clogged with sediment or vegetation, they shall be cleaned or replaced as required to maintain their hydraulic and sediment-control function.
19. The construction-phase drainage infrastructure will generally form the basis of the operational drainage system. Collector drains, settlement ponds and other treatment/attenuation features will be retained and maintained where required. Local settlement ponds may be infilled or decommissioned following the construction phase, subject to confirmation by the site engineer.
20. Where temporary dewatering of excavations is required, silt bags and/or other appropriate treatment measures shall be used as necessary. Discharge from dewatering silt bags shall be directed to settlement ponds or other suitable treatment measures prior to discharge to existing field drains or main drains.
21. Fuel and other potentially polluting substances shall be stored in appropriately bunded containment areas in accordance with the CEMP and Pollution Prevention Notes.
22. Culverts shall be provided where proposed internal access roads or hardstands cross existing main bog drainage pathways. Culverts shall be appropriately sized and installed to maintain existing drainage connectivity and shall be regularly inspected and maintained.
23. All surface water runoff from the Proposed Project shall ultimately pass through the existing IPC licence settlement ponds at the bog outfall locations prior to onward discharge to the surrounding stream and river network.



KEY PLAN

MITIGATION / DRAINAGE CONTROLS AVAILABLE FOR USE ACROSS THE SITE

Management Type	Description Drainage Control Methods
Avoidance Controls	1) 50 m buffer to natural watercourses where practicable. 2) Minimise disturbance of existing field and main drains. 3) Minimise working areas and exposed ground. 4) Schedule works having regard to weather forecasts; suspend or scale back high-risk works during heavy rainfall.
Source Controls:	1) Up-gradient interceptor drains to divert clean runoff around works and redistribute to downstream field drains. 2) Minimise and stabilise exposed ground and temporary peat/spoil stockpiles. 3) Silt fencing and other temporary sediment controls where required.
In-Line Controls:	1) Collector drains to convey construction runoff to treatment measures. 2) Transverse drains/proposed internal access roads where appropriate. 3) 4/40 mm non-friable crushed-rock check dams at typically 25 m or 50 m spacing, depending on gradient. 4) Silt traps and settlement ponds. 5) Culverts to maintain existing drainage pathways.
Water Treatment Controls:	1) Silt traps and settlement ponds. 2) Dewatering silt bags where appropriate. 3) Vegetated buffer areas/swales where appropriate. 4) Specialist treatment systems (e.g. Siltbuster or equivalent) where required. 5) Existing IPC Licence settlement ponds provide the final treatment stage.
Outfall Controls:	1) Treated runoff to discharge to existing field or main drains. 2) Discharges controlled to prevent scour and erosion. 3) No direct discharge of untreated construction runoff to natural watercourses. 4) Existing drainage pathways maintained where required. 5) Proposed Project runoff ultimately passes through existing IPC Licence settlement ponds before discharge to receiving waters.

Drawing Legend:

- Existing Drainage:
  - Watercourses
  - Watercourses 50m Buffer
  - Stream Flow Direction
  - Existing Main Drains
  - Redirected Main Drains
  - Existing Piped Drains
  - Existing Discharge Drains
  - Existing Boundary Drains
  - Field Drain
  - Existing Settlement Ponds
  - Existing WC Crossing/Culvert
- Proposed Drainage:
  - Upstream Interceptor Drain
  - Downstream Collector Drain (DSCD)
  - DSCD or Over The Edge (OTE)
  - Direction of Flow
  - Silt Fences
  - Double Silt Fences
  - WF Settlement Pond
  - Level Spreader
  - Proposed WC Crossing/Culvert
  - Interceptor Ditch Culvert
  - Collector Ditch Culvert
  - Watercourse Drain Protection Berm
  - O Overland Flow Discharge
  - TW Treated Water Discharge
  - SP New Settlement Pond
- Planning Application Boundary
- Existing Ground Surface Minor Contour (1 m Interval)
- Turbine 220, Turbine Foundation and Swept Area
- Turbine 200, Turbine Foundation and Swept Area
- Turbine Foundation
- Crane Platform
- Blade Setdown Areas
- Upgrades to Existing Tracks
- Proposed Internal Access Roads and Turning Bay
- Proposed Internal 33kV Cabling
- Proposed Grid Connection Underground 220kV Electrical Cabling
- Proposed On-site Substation
- Proposed Off-site GIS Substation
- Proposed Met Mast
- Proposed Relay Mast
- Temporary Construction Compounds
- Proposed Car Parking
- Proposed Peat and Spoil Areas
- Proposed Passing Bays
- Proposed Dedicated Amenity Track
- Proposed Dedicated Amenity Board Walk
- Scrub Mosaic Creation Area
- Pollinator Foraging Habitat Enhancement Area
- Peatland Enhancement Area
- Native Tree (Woodland and Scrub) Planting Area
- Marsh Fritillary Enhancement Area
- Lodge Bog Enhancement Area

Basemap Note: These drawings use 1:5,000 scale Ordnance Survey Ireland (OSi) basemaps as an underlay. For clarity, the basemap features are not included in the drawing legend and are displayed in light grey with partial transparency to distinguish them from the proposed development features.

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Client: Bord na Móna Powergen Ltd

Job: Ballydermot WF, Co. Offaly/Co. Kildare

Title: Proposed Construction Phase and Operational Phase Drainage Layout

Figure No: D106

Drawing No: P1511-0-1026-A1-D106-00C	
Sheet Size: A1	Project No.: P1511-0
Scale: 1:2,000 (A1)	Drawn By: GA
Date: 21/10/2026	Checked By: MG

POLLUTION PREVENTION NOTES:

1. SITE MANAGEMENT AND DRAINAGE PROPOSALS ARE INTENDED TO ENSURE PROTECTION OF SURFACE WATER AND GROUNDWATER AND TO MINIMISE THE RISK OF POLLUTION, SILTATION AND EROSION.
2. APPROPRIATE DRAINAGE AND POLLUTION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO, OR IN CONJUNCTION WITH, CONSTRUCTION WORKS AND SHALL BE MAINTAINED FOR THE DURATION OF THE WORKS.
3. SILTY WATER MAY ARISE FROM EXCAVATION DEWATERING, EROSION OF EXPOSED OR DISTURBED GROUND, TEMPORARY STOCKPILES, PLANT AND WHEEL WASHING, PROPOSED INTERNAL ACCESS ROADS AND DISTURBANCE OF EXISTING FIELD DRAINS AND DITCHES.

DISCHARGES

4. WATER CONTAINING ELEVATED SUSPENDED SEDIMENT SHALL NOT BE PUMPED OR DISCHARGED DIRECTLY TO ANY NATURAL WATERCOURSE. CONSTRUCTION RUNOFF AND EXCAVATION DEWATERING SHALL BE APPROPRIATELY TREATED PRIOR TO DISCHARGE TO THE EXISTING BOG DRAINAGE NETWORK.
5. NO EXCAVATED MATERIAL OR TEMPORARY STOCKPILES SHALL BE STORED WITHIN THE PRESCRIBED SURFACE WATER BUFFER ZONES.
6. RUNOFF FROM CONSTRUCTION AREAS SHALL BE COLLECTED IN COLLECTOR DRAINS AND DIRECTED TO APPROPRIATE TREATMENT MEASURES, INCLUDING SILT TRAPS, CHECK DAMS, SETTLEMENT PONDS, VEGETATED BUFFER AREAS AND/OR OTHER SUITABLE TREATMENT SYSTEMS, PRIOR TO DISCHARGE TO EXISTING FIELD DRAINS OR MAIN DRAINS.
7. CLEAN SURFACE WATER RUNOFF SHALL, WHERE PRACTICABLE, BE INTERCEPTED UP-GRADIENT OF CONSTRUCTION AREAS USING INTERCEPTOR DRAINS AND DIRECTED AROUND THE WORKS BEFORE BEING REDISTRIBUTED TO DOWNSTREAM FIELD DRAINS. EXISTING FIELD DRAINS MAY BE UTILISED FOR THIS PURPOSE WHERE APPROPRIATE.
8. PUMPING OF CLEAN WATER FROM EXCAVATIONS, OR OVER-PUMPING OF DRAINS, DITCHES OR WATERCOURSES, SHALL BE UNDERTAKEN IN A MANNER WHICH DOES NOT CAUSE SCOUR OR EROSION AT THE POINT OF DISCHARGE. FLOW VELOCITIES SHALL BE CONTROLLED USING APPROPRIATE MEASURES SUCH AS SPLASH PLATES OR OTHER SUITABLE DISCHARGE CONTROLS.
9. EXISTING DRAINS AND DITCHES SHALL BE RETAINED AND PROTECTED WHERE PRACTICABLE. VEGETATION SHALL NOT BE REMOVED FROM EXISTING DRAINS UNLESS REQUIRED TO FACILITATE THE WORKS.
10. ALL SURFACE WATER RUNOFF FROM THE PROPOSED PROJECT SHALL ULTIMATELY PASS THROUGH THE EXISTING IPC LICENCE SETTLEMENT PONDS AT THE BOG OUTFALL LOCATIONS PRIOR TO DISCHARGE TO THE RECEIVING STREAM AND RIVER NETWORK.

EXCAVATIONS

11. WHERE EXCAVATIONS ARE PROPOSED, INTERCEPTOR/CUT-OFF DRAINS SHALL BE INSTALLED WHERE REQUIRED TO MINIMISE THE VOLUME OF CLEAN SURFACE WATER ENTERING THE EXCAVATION. THIS SHALL INCLUDE TURBINE BASE EXCAVATIONS WHERE APPROPRIATE.
12. WHERE TEMPORARY DEWATERING OF EXCAVATIONS IS REQUIRED, PUMPED WATER SHALL BE TREATED USING APPROPRIATE MEASURES SUCH AS DEWATERING SILT BAGS, SETTLEMENT PONDS OR SPECIALIST TREATMENT SYSTEMS PRIOR TO DISCHARGE TO THE EXISTING DRAINAGE NETWORK.

EXPOSED GROUND & STOCKPILES

13. THE EXTENT OF EXPOSED GROUND AND THE VOLUME AND DURATION OF TEMPORARY STOCKPILES SHALL BE MINIMISED AS FAR AS PRACTICABLE.
14. CONSTRUCTION ACTIVITIES INVOLVING SIGNIFICANT AREAS OF EXPOSED PEAT OR SOIL SHALL BE SCALED BACK OR SUSPENDED DURING PERIODS OF HEAVY RAINFALL OR WHERE HEAVY RAINFALL IS FORECAST.

PROPOSED INTERNAL ACCESS ROADS

15. COLLECTOR DRAINS SHALL BE PROVIDED ALONGSIDE PROPOSED INTERNAL ACCESS ROADS WHERE REQUIRED TO COLLECT CONSTRUCTION RUNOFF AND CONVEY IT TO APPROPRIATE TREATMENT MEASURES.
16. ON STEEPER SECTIONS OF PROPOSED INTERNAL ACCESS ROAD, TRANSVERSE DRAINS OR GRIPS SHALL BE INSTALLED WHERE APPROPRIATE TO INTERCEPT ROAD RUNOFF AND DIVERT IT TO ADJACENT ROADSIDE COLLECTOR DRAINS.
17. CHECK DAMS SHALL BE INSTALLED WITHIN COLLECTOR DRAINS WHERE APPROPRIATE TO REDUCE FLOW VELOCITIES AND PROMOTE SETTLEMENT OF SUSPENDED SEDIMENT. CHECK DAMS SHALL COMPRISE 4/40 MM NON-FRIABLE CRUSHED ROCK AND SHALL GENERALLY BE INSTALLED AT 25 M OR 50 M INTERVALS DEPENDING ON LOCAL GRADIENT.
18. SILT TRAPS, CHECK DAMS, SETTLEMENT PONDS AND OTHER DRAINAGE TREATMENT MEASURES SHALL BE REGULARLY INSPECTED AND MAINTAINED, PARTICULARLY DURING AND FOLLOWING PERIODS OF HEAVY RAINFALL.

REFUELLING

19. REFUELLING AND MAINTENANCE OF MOBILE PLANT SHALL, WHERE PRACTICABLE, BE UNDERTAKEN OFF-SITE. WHERE REQUIRED ON-SITE, REFUELLING SHALL ONLY BE UNDERTAKEN WITHIN DESIGNATED AREAS AND IN ACCORDANCE WITH THE CEMP AND APPROPRIATE POLLUTION PREVENTION PROCEDURES.
20. REFUELLING AREAS SHALL BE LOCATED AWAY FROM NATURAL WATERCOURSES AND DRAINAGE FEATURES. SPILL KITS AND DRIP TRAYS SHALL BE READILY AVAILABLE FOR USE AS REQUIRED.
21. FUEL AND OTHER POTENTIALLY POLLUTING SUBSTANCES SHALL BE STORED IN APPROPRIATELY BUNDED AREAS IN ACCORDANCE WITH THE CEMP.

CONCRETE

22. CONCRETE WORKS SHALL BE MANAGED TO PREVENT THE DISCHARGE OF CEMENTITIOUS MATERIAL OR CONCRETE-CONTAMINATED WATER TO THE SURFACE WATER DRAINAGE SYSTEM, GROUNDWATER OR NATURAL WATERCOURSES.
23. CONCRETE WASH WATER AND WASTE CONCRETE SHALL BE CONTAINED AND MANAGED IN ACCORDANCE WITH THE CEMP AND SHALL NOT BE DISCHARGED TO THE SITE DRAINAGE SYSTEM OR NATURAL WATERCOURSES.

IF WATER POLLUTION IS IDENTIFIED THE FOLLOWING ACTIONS WILL BE TAKEN:

STOP - WORKS IN THE IMMEDIATE AREA WILL BE STOPPED AND THE SOURCE OF THE POLLUTION WILL BE IDENTIFIED.

CONTAIN - THE SOURCE OF THE POLLUTION WILL BE CONTAINED USING APPROPRIATE MEASURES TO PREVENT FURTHER RELEASE. WHERE NECESSARY, DRAINAGE PATHWAYS SHALL BE TEMPORARILY ISOLATED OR DIVERTED TO PREVENT CONTAMINATED WATER REACHING DOWNSTREAM RECEPTORS.

NOTIFY - THE SITE MANAGER AND ENVIRONMENTAL CLERK OF WORKS SHALL BE NOTIFIED IMMEDIATELY. RELEVANT STATUTORY AUTHORITIES AND OTHER BODIES SHALL BE NOTIFIED WHERE REQUIRED IN ACCORDANCE WITH THE CEMP AND THE PROJECT EMERGENCY RESPONSE PROCEDURE.

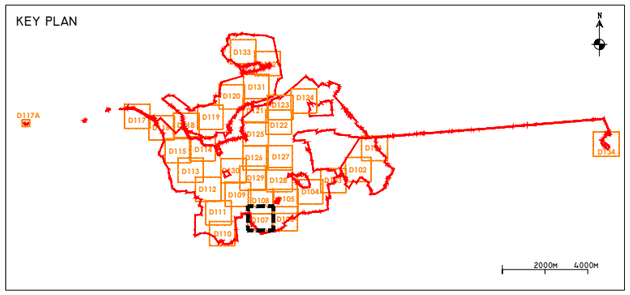
DRAINAGE NOTES:

1. ROADWAY SURFACING DESIGN AND CONSTRUCTION SHALL BE TO THE ENGINEER'S SPECIFICATION.
2. SPARE SILT FENCING, STRAW BALES OR SIMILAR APPROVED POLLUTION CONTROL MATERIALS SHALL BE STORED ON SITE. SUSPENDED SEDIMENT IN RUNOFF SHALL BE VISUALLY MONITORED DURING CONSTRUCTION. WHERE ELEVATED SILT LEVELS ARE OBSERVED, ADDITIONAL TEMPORARY CONTROLS SUCH AS SILT FENCES, STRAW BALES, SILT TRAPS OR CHECK DAMS SHALL BE INSTALLED AS REQUIRED. A MOBILE WATER TREATMENT SYSTEM (E.G. SILTBUSTER OR EQUIVALENT) SHALL BE AVAILABLE ON SITE FOR USE WHERE REQUIRED.
3. THE PROPOSED DRAINAGE SYSTEM SHALL BE CONSTRUCTED PRIOR TO, OR IN CONJUNCTION WITH, THE ASSOCIATED PROPOSED INTERNAL ACCESS ROADS AND OTHER INFRASTRUCTURE. TEMPORARY DRAINAGE AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED WHERE REQUIRED DURING CONSTRUCTION TO PREVENT ELEVATED SUSPENDED SEDIMENT CONCENTRATIONS IN RUNOFF.
4. APPROPRIATE DRAINAGE AND POLLUTION PREVENTION MEASURES SHALL BE MAINTAINED AT ALL TIMES TO PREVENT THE CONVEYANCE OF SIGNIFICANT VOLUMES OF SEDIMENT TO RECEIVING WATERCOURSES. REFER ALSO TO POLLUTION PREVENTION NOTES.
5. INTERCEPTOR DRAINS SHALL BE INSTALLED UP-GRADIENT OF PROPOSED INFRASTRUCTURE, WHERE REQUIRED, TO INTERCEPT CLEAN SURFACE WATER RUNOFF AND MINIMISE THE VOLUME OF RUNOFF ENTERING CONSTRUCTION AREAS. INTERCEPTED CLEAN WATER SHALL BE DIRECTED AROUND THE WORKS AND REDISTRIBUTED TO DOWNSTREAM FIELD DRAINS. EXISTING FIELD DRAINS SHALL BE UTILISED FOR THIS PURPOSE WHERE PRACTICABLE.
6. COLLECTOR DRAINS SHALL BE INSTALLED DOWNSTREAM OF PROPOSED INTERNAL ACCESS ROADS AND OTHER CONSTRUCTION AREAS, WHERE REQUIRED, TO COLLECT RUNOFF WHERE SUSPENDED SEDIMENT MAY BECOME ENTRAINED. RUNOFF SHALL BE CONVEYED TO APPROPRIATE TREATMENT MEASURES, INCLUDING SILT TRAPS, CHECK DAMS, VEGETATED AREAS AND SETTLEMENT PONDS, PRIOR TO DISCHARGE TO THE EXISTING FIELD DRAIN OR MAIN DRAIN NETWORK.
7. TRANSVERSE DRAINS ('GRIPS') SHALL BE INSTALLED ON SECTIONS OF PROPOSED INTERNAL ACCESS ROADS, WHERE APPROPRIATE, TO INTERCEPT PROPOSED INTERNAL ACCESS ROAD RUNOFF AND DIVERT IT TO ADJACENT ROADSIDE COLLECTOR DRAINS. THE LOCATIONS OF TRANSVERSE DRAINS SHALL BE DETERMINED HAVING REGARD TO LOCAL GRADIENT AND DRAINAGE CONDITIONS.
8. DIRECT DISCHARGE OF UNTREATED CONSTRUCTION RUNOFF TO NATURAL WATERCOURSES SHALL NOT BE PERMITTED. TREATED RUNOFF SHALL BE DISCHARGED TO THE EXISTING BOG DRAINAGE NETWORK IN ACCORDANCE WITH THE DRAINAGE DESIGN.
9. BATTERS OF PROPOSED DRAINS SHALL GENERALLY HAVE SIDE SLOPES APPROPRIATE TO THEIR DEPTH AND LOCAL GROUND CONDITIONS AND SHALL BE LEFT TO NATURALLY RE-VEGETATE OR SHALL BE STABILISED USING SUITABLE LOCALLY SOURCED VEGETATION WHERE REQUIRED.
10. COLLECTOR DRAINS SHALL BE SHALLOW AND CONSTRUCTED WITH MODERATE GRADIENTS WHERE PRACTICABLE TO MINIMISE SCOUR. CHECK DAMS SHALL BE INSTALLED WHERE APPROPRIATE TO REDUCE FLOW VELOCITIES AND PROMOTE SETTLEMENT OF SUSPENDED SEDIMENT.
11. SETTLEMENT PONDS SHALL BE PROVIDED DOWNSTREAM OF PROPOSED INTERNAL ACCESS ROADS SECTIONS AND AT PROPOSED TURBINE/HARDSTAND LOCATIONS WHERE REQUIRED. SETTLEMENT PONDS SHALL PROVIDE TREATMENT AND TEMPORARY ATTENUATION OF RUNOFF PRIOR TO DISCHARGE TO THE EXISTING BOG DRAINAGE NETWORK. POND SIZING SHALL BE APPROPRIATE TO THE CONTRIBUTING CATCHMENT AREA. TYPICAL POND DETAILS ARE SHOWN ON DRAWING D501.
12. SILT FENCING OR OTHER APPROPRIATE SEDIMENT CONTROL MEASURES SHALL BE INSTALLED AROUND TEMPORARY PEAT/SPOIL STOCKPILES WHERE REQUIRED TO PREVENT SEDIMENT-LADEN RUNOFF ENTERING THE DRAINAGE NETWORK. TEMPORARY CONTROLS MAY BE REMOVED ONCE THE DISTURBED AREA HAS BEEN ADEQUATELY STABILISED.
13. TEMPORARY SILT FENCING SHALL BE INSTALLED WHERE REQUIRED BETWEEN CONSTRUCTION WORKS AND EXISTING DRAINAGE FEATURES OR NATURAL WATERCOURSES, PARTICULARLY WHERE WORKS OCCUR WITHIN THE PRESCRIBED SURFACE WATER BUFFER ZONES.
14. DRAIN SLOPES AND OTHER EXPOSED SURFACES SHALL BE PROTECTED FROM EROSION UNTIL ADEQUATELY STABILISED. SUITABLE STRIPPED VEGETATIVE MATERIAL, INCLUDING PEAT SOD/SCRAW WHERE AVAILABLE, MAY BE REUSED LOCALLY TO ASSIST STABILISATION AND RE-VEGETATION.
15. THE EXTENT AND DURATION OF EXPOSED GROUND SHALL BE MINIMISED AS FAR AS PRACTICABLE.
16. CHECK DAMS SHALL COMPRISE 4/40 MM NON-FRIABLE CRUSHED ROCK AND SHALL BE INSTALLED WITHIN COLLECTOR DRAINS WHERE APPROPRIATE. CHECK DAMS SHALL GENERALLY BE INSTALLED AT 25 M OR 50 M INTERVALS, DEPENDING ON THE LOCAL LONGITUDINAL GRADIENT AND SITE CONDITIONS.
17. CHECK DAMS, SILT TRAPS AND SETTLEMENT PONDS SHALL BE VISUALLY INSPECTED AND MAINTAINED AS PART OF THE CONSTRUCTION-PHASE DRAINAGE MAINTENANCE PROGRAMME, PARTICULARLY DURING AND FOLLOWING PERIODS OF HEAVY RAINFALL. ACCUMULATED SEDIMENT SHALL BE REMOVED AND DISPOSED OF APPROPRIATELY.
18. WHERE CHECK DAMS BECOME CLOGGED WITH SEDIMENT OR VEGETATION, THEY SHALL BE CLEANED OR REPLACED AS REQUIRED TO MAINTAIN THEIR HYDRAULIC AND SEDIMENT-CONTROL FUNCTION.
19. THE CONSTRUCTION-PHASE DRAINAGE INFRASTRUCTURE WILL GENERALLY FORM THE BASIS OF THE OPERATIONAL DRAINAGE SYSTEM. COLLECTOR DRAINS, SETTLEMENT PONDS AND OTHER TREATMENT/ATTENUATION FEATURES WILL BE RETAINED AND MAINTAINED WHERE REQUIRED. LOCAL SETTLEMENT PONDS MAY BE INFILLED OR DECOMMISSIONED FOLLOWING THE CONSTRUCTION PHASE, SUBJECT TO CONFIRMATION BY THE SITE ENGINEER.
20. WHERE TEMPORARY DEWATERING OF EXCAVATIONS IS REQUIRED, SILT BAGS AND/OR OTHER APPROPRIATE TREATMENT MEASURES SHALL BE USED AS NECESSARY. DISCHARGE FROM DEWATERING SILT BAGS SHALL BE DIRECTED TO SETTLEMENT PONDS OR OTHER SUITABLE TREATMENT MEASURES PRIOR TO DISCHARGE TO EXISTING FIELD DRAINS OR MAIN DRAINS.
21. FUEL AND OTHER POTENTIALLY POLLUTING SUBSTANCES SHALL BE STORED IN APPROPRIATELY BUNDED CONTAINMENT AREAS IN ACCORDANCE WITH THE CEMP AND POLLUTION PREVENTION NOTES.
22. CULVERTS SHALL BE PROVIDED WHERE PROPOSED INTERNAL ACCESS ROADS OR HARDSTANDS CROSS EXISTING MAIN BOG DRAINAGE PATHWAYS. CULVERTS SHALL BE APPROPRIATELY SIZED AND INSTALLED TO MAINTAIN EXISTING DRAINAGE CONNECTIVITY AND SHALL BE REGULARLY INSPECTED AND MAINTAINED.
23. ALL SURFACE WATER RUNOFF FROM THE PROPOSED PROJECT SHALL ULTIMATELY PASS THROUGH THE EXISTING IPC LICENCE SETTLEMENT PONDS AT THE BOG OUTFALL LOCATIONS PRIOR TO ONWARD DISCHARGE TO THE SURROUNDING STREAM AND RIVER NETWORK.

MITIGATION / DRAINAGE CONTROLS AVAILABLE FOR USE ACROSS THE SITE

MANAGEMENT TYPE	DESCRIPTION DRAINAGE CONTROL METHODS
AVOIDANCE CONTROLS	1) 50 M BUFFER TO NATURAL WATERCOURSES WHERE PRACTICABLE. 2) MINIMISE DISTURBANCE OF EXISTING FIELD AND MAIN DRAINS. 3) MINIMISE WORKING AREAS AND EXPOSED GROUND. 4) SCHEDULE WORKS HAVING REGARD TO WEATHER FORECASTS; SUSPEND OR SCALE BACK HIGH-RISK WORKS DURING HEAVY RAINFALL.
SOURCE CONTROLS:	1) UP-GRADIENT INTERCEPTOR DRAINS TO DIVERT CLEAN RUNOFF AROUND WORKS AND REDISTRIBUTE TO DOWNSTREAM FIELD DRAINS. 2) MINIMISE AND STABILISE EXPOSED GROUND AND TEMPORARY PEAT/SPOIL STOCKPILES. 3) SILT FENCING AND OTHER TEMPORARY SEDIMENT CONTROLS WHERE REQUIRED.
IN-LINE CONTROLS:	1) COLLECTOR DRAINS TO CONVEY CONSTRUCTION RUNOFF TO TREATMENT MEASURES. 2) TRANSVERSE DRAINS/PROPOSED INTERNAL ACCESS ROADS WHERE APPROPRIATE. 3) 4/40 MM NON-FRIABLE CRUSHED-ROCK CHECK DAMS AT TYPICALLY 25 M OR 50 M SPACING, DEPENDING ON GRADIENT. 4) SILT TRAPS AND SETTLEMENT PONDS. 5) CULVERTS TO MAINTAIN EXISTING DRAINAGE PATHWAYS.
WATER TREATMENT CONTROLS:	1) SILT TRAPS AND SETTLEMENT PONDS. 2) DEWATERING SILT BAGS WHERE APPROPRIATE. 3) VEGETATED BUFFER AREAS/SWALES WHERE APPROPRIATE. 4) SPECIALIST TREATMENT SYSTEMS (E.G. SILTBUSTER OR EQUIVALENT) WHERE REQUIRED. 5) EXISTING IPC LICENCE SETTLEMENT PONDS PROVIDE THE FINAL TREATMENT STAGE.
OUTFALL CONTROLS:	1) TREATED RUNOFF TO DISCHARGE TO EXISTING FIELD OR MAIN DRAINS. 2) DISCHARGES CONTROLLED TO PREVENT SCOUR AND EROSION. 3) NO DIRECT DISCHARGE OF UNTREATED CONSTRUCTION RUNOFF TO NATURAL WATERCOURSES. 4) EXISTING DRAINAGE PATHWAYS MAINTAINED WHERE REQUIRED. 5) PROPOSED PROJECT RUNOFF ULTIMATELY PASSES THROUGH EXISTING IPC LICENCE SETTLEMENT PONDS BEFORE DISCHARGE TO RECEIVING WATERS.

KEY PLAN



DRAWING LEGEND:

EXISTING DRAINAGE
- WATERCOURSES
- WATERCOURSES 50M BUFFER
- STREAM FLOW DIRECTION
- EXISTING MAIN DRAINS
- REDIRECTED MAIN DRAINS
- EXISTING PIPED DRAINS
- EXISTING DISCHARGE DRAINS
- EXISTING BOUNDARY DRAINS
- FIELD DRAIN
- EXISTING SETTLEMENT PONDS
- EXISTING WC CROSSING/CULVERT

PROPOSED DRAINAGE
- UPSTREAM INTERCEPTOR DRAIN
- DOWNSTREAM COLLECTOR DRAIN (DSCD)
- DSCD OR OVER THE EDGE (OTE)
- DIRECTION OF FLOW
- SILT FENCES
- DOUBLE SILT FENCES
- WF SETTLEMENT POND
- LEVEL SPREADER
- PROPOSED WC CROSSING/CULVERT
- INTERCEPTOR DITCH CULVERT
- COLLECTOR DITCH CULVERT
- WATERCOURSE DRAIN PROTECTION BERM
- O OVERLAND FLOW DISCHARGE
- TW TREATED WATER DISCHARGE
- SP NEW SETTLEMENT POND

- PLANNING APPLICATION BOUNDARY
- EXISTING GROUND SURFACE MINOR CONTOUR (1 M INTERVAL)
- TURBINE 220, TURBINE FOUNDATION AND SWEPT AREA
- TURBINE 200, TURBINE FOUNDATION AND SWEPT AREA
- TURBINE FOUNDATION
- CRANE PLATFORM
- BLADE SETDOWN AREAS
- UPGRADES TO EXISTING TRACKS
- PROPOSED INTERNAL ACCESS ROADS AND TURNING BAY
- PROPOSED INTERNAL 33KV CABLING
- PROPOSED GRID CONNECTION UNDERGROUND 220KV ELECTRICAL CABLING
- PROPOSED ON-SITE SUBSTATION
- PROPOSED OFF-SITE GIS SUBSTATION
- PROPOSED MET MAST
- PROPOSED RELAY MAST
- TEMPORARY CONSTRUCTION COMPOUNDS
- PROPOSED CAR PARKING
- PROPOSED PEAT AND SPOIL AREAS
- PROPOSED PASSING BAYS
- PROPOSED DEDICATED AMENITY TRACK
- PROPOSED DEDICATED AMENITY BOARD WALK
- SCRUB MOSAIC CREATION AREA
- POLLINATOR FORAGING HABITAT ENHANCEMENT AREA
- PEATLAND ENHANCEMENT AREA
- NATIVE TREE (WOODLAND AND SCRUB) PLANTING AREA
- MARSH FRITILLARY ENHANCEMENT AREA
- LODGE BOG ENHANCEMENT AREA

BASEMAP NOTE: THESE DRAWINGS USE 1:5,000 SCALE ORDNANCE SURVEY IRELAND (OSI) BASEMAPS AS AN UNDERLAY. FOR CLARITY, THE BASEMAP FEATURES ARE NOT INCLUDED IN THE DRAWING LEGEND AND ARE DISPLAYED IN LIGHT GREY WITH PARTIAL TRANSPARENCY TO DISTINGUISH THEM FROM THE PROPOSED DEVELOPMENT FEATURES.

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Revisions

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Title:
PROPOSED CONSTRUCTION PHASE AND OPERATIONAL PHASE DRAINAGE LAYOUT

Figure No: DI07

Drawing No: P1511-0-1026-A1-D107-00C	
Sheet Size: A1	Project No.: P1511-0
Scale: 1:2,000 (A1)	Drawn By: GA
Date: 21/10/2026	Checked By: MG

POLLUTION PREVENTION NOTES:

1. Site management and drainage proposals are intended to ensure protection of surface water and groundwater and to minimise the risk of pollution, siltation and erosion.
2. Appropriate drainage and pollution control measures shall be installed prior to, or in conjunction with, construction works and shall be maintained for the duration of the works.
3. Silty water may arise from excavation dewatering, erosion of exposed or disturbed ground, temporary stockpiles, plant and wheel washing, proposed internal access roads and disturbance of existing field drains and ditches.

Discharges

4. Water containing elevated suspended sediment shall not be pumped or discharged directly to any natural watercourse. Construction runoff and excavation dewatering shall be appropriately treated prior to discharge to the existing bog drainage network.
5. No excavated material or temporary stockpiles shall be stored within the prescribed surface water buffer zones.
6. Runoff from construction areas shall be collected in collector drains and directed to appropriate treatment measures, including silt traps, check dams, settlement ponds, vegetated buffer areas and/or other suitable treatment systems, prior to discharge to existing field drains or main drains.
7. Clean surface water runoff shall, where practicable, be intercepted up-gradient of construction areas using interceptor drains and directed around the works before being redistributed to downstream field drains. Existing field drains may be utilised for this purpose where appropriate.
8. Pumping of clean water from excavations, or over-pumping of drains, ditches or watercourses, shall be undertaken in a manner which does not cause scour or erosion at the point of discharge. Flow velocities shall be controlled using appropriate measures such as splash plates or other suitable discharge controls.
9. Existing drains and ditches shall be retained and protected where practicable. Vegetation shall not be removed from existing drains unless required to facilitate the works.
10. All surface water runoff from the Proposed Project shall ultimately pass through the existing IPC licence settlement ponds at the bog outfall locations prior to discharge to the receiving stream and river network.

Excavations

11. Where excavations are proposed, interceptor/cut-off drains shall be installed where required to minimise the volume of clean surface water entering the excavation. This shall include turbine base excavations where appropriate.
12. Where temporary dewatering of excavations is required, pumped water shall be treated using appropriate measures such as dewatering silt bags, settlement ponds or specialist treatment systems prior to discharge to the existing drainage network.

Exposed Ground & Stockpiles

13. The extent of exposed ground and the volume and duration of temporary stockpiles shall be minimised as far as practicable.
14. Construction activities involving significant areas of exposed peat or soil shall be scaled back or suspended during periods of heavy rainfall or where heavy rainfall is forecast.

Proposed Internal Access Roads

15. Collector drains shall be provided alongside proposed internal access roads where required to collect construction runoff and convey it to appropriate treatment measures.
16. On steeper sections of proposed internal access road, transverse drains or grips shall be installed where appropriate to intercept road runoff and divert it to adjacent roadside collector drains.
17. Check dams shall be installed within collector drains where appropriate to reduce flow velocities and promote settlement of suspended sediment. Check dams shall comprise 4/40 mm non-friable crushed rock and shall generally be installed at 25 m or 50 m intervals depending on local gradient.
18. Silt traps, check dams, settlement ponds and other drainage treatment measures shall be regularly inspected and maintained, particularly during and following periods of heavy rainfall.

Refuelling

19. Refuelling and maintenance of mobile plant shall, where practicable, be undertaken off-site. Where required on-site, refuelling shall only be undertaken within designated areas and in accordance with the CEMP and appropriate pollution prevention procedures.
20. Refuelling areas shall be located away from natural watercourses and drainage features. Spill kits and drip trays shall be readily available for use as required.
21. Fuel and other potentially polluting substances shall be stored in appropriately bunded areas in accordance with the CEMP.

Concrete

22. Concrete works shall be managed to prevent the discharge of cementitious material or concrete-contaminated water to the surface water drainage system, groundwater or natural watercourses.
23. Concrete wash water and waste concrete shall be contained and managed in accordance with the CEMP and shall not be discharged to the site drainage system or natural watercourses.

If water pollution is identified the following actions will be taken:

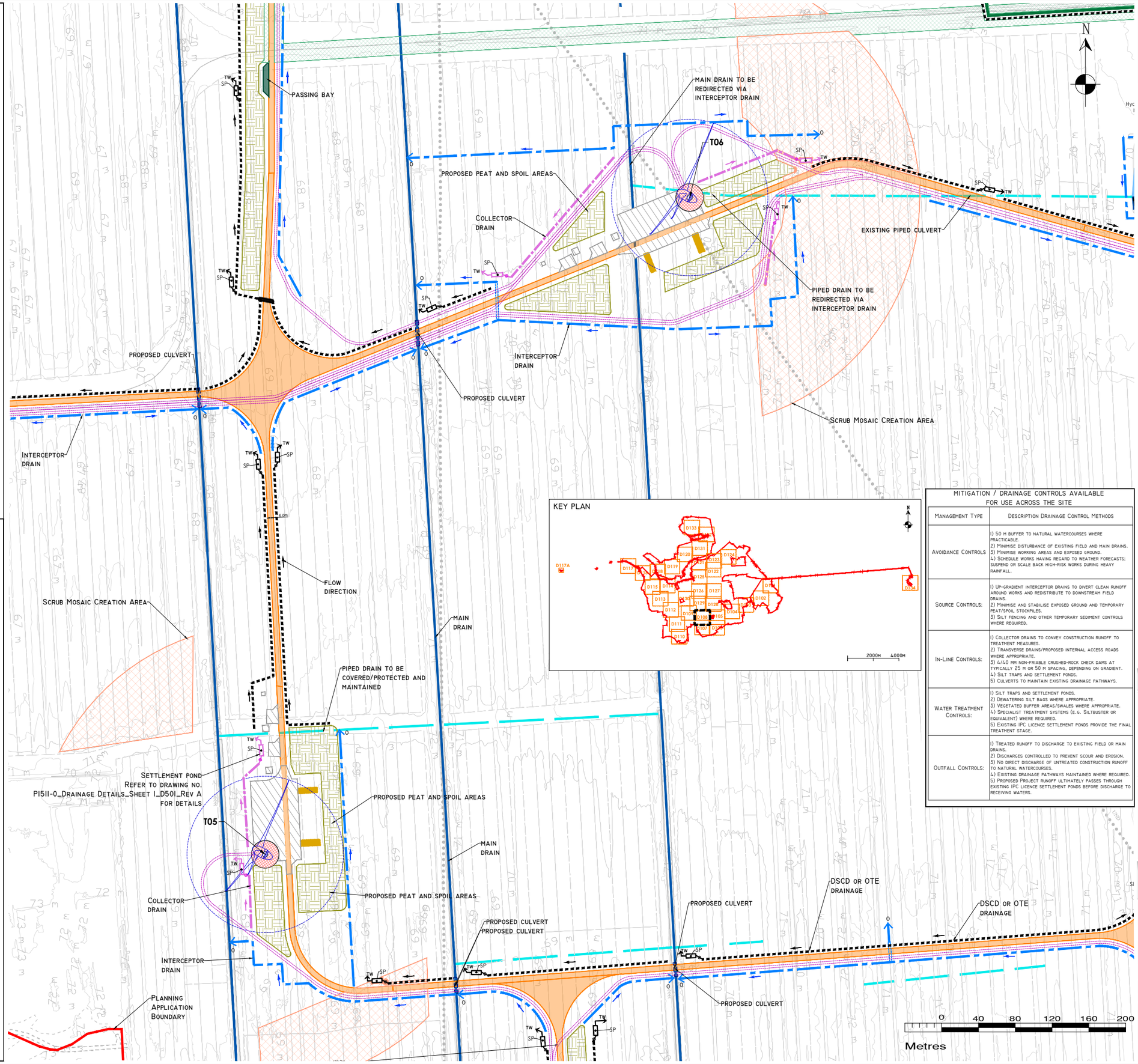
STOP - works in the immediate area will be stopped and the source of the pollution will be identified.

CONTAIN - the source of the pollution will be contained using appropriate measures to prevent further release. Where necessary, drainage pathways shall be temporarily isolated or diverted to prevent contaminated water reaching downstream receptors.

NOTIFY - The Site Manager and Environmental Clerk of Works shall be notified immediately. Relevant statutory authorities and other bodies shall be notified where required in accordance with the CEMP and the Project Emergency Response Procedure.

DRAINAGE NOTES:

1. Roadway surfacing design and construction shall be to the Engineer's Specification.
2. Spare silt fencing, straw bales or similar approved pollution control materials shall be stored on site. Suspended sediment in runoff shall be visually monitored during construction. Where elevated silt levels are observed, additional temporary controls such as silt fences, straw bales, silt traps or check dams shall be installed as required. A mobile water treatment system (e.g. Siltbuster or equivalent) shall be available on site for use where required.
3. The proposed drainage system shall be constructed prior to, or in conjunction with, the associated proposed internal access roads and other infrastructure. Temporary drainage and sediment control measures shall be installed where required during construction to prevent elevated suspended sediment concentrations in runoff.
4. Appropriate drainage and pollution prevention measures shall be maintained at all times to prevent the conveyance of significant volumes of sediment to receiving watercourses. Refer also to Pollution Prevention Notes.
5. Interceptor drains shall be installed up-gradient of proposed infrastructure, where required, to intercept clean surface water runoff and minimise the volume of runoff entering construction areas. Intercepted clean water shall be directed around the works and redistributed to downstream field drains. Existing field drains shall be utilised for this purpose where practicable.
6. Collector drains shall be installed downstream of proposed internal access roads and other construction areas, where required, to collect runoff where suspended sediment may become entrained. Runoff shall be conveyed to appropriate treatment measures, including silt traps, check dams, vegetated areas and settlement ponds, prior to discharge to the existing field drain or main drain network.
7. Transverse drains ('grips') shall be installed on sections of proposed internal access roads, where appropriate, to intercept Proposed internal access road runoff and divert it to adjacent roadside collector drains. The locations of transverse drains shall be determined having regard to local gradient and drainage conditions.
8. Direct discharge of untreated construction runoff to natural watercourses shall not be permitted. Treated runoff shall be discharged to the existing bog drainage network in accordance with the drainage design.
9. Batters of proposed drains shall generally have side slopes appropriate to their depth and local ground conditions and shall be left to naturally re-vegetate or shall be stabilised using suitable locally sourced vegetation where required.
10. Collector drains shall be shallow and constructed with moderate gradients where practicable to minimise scour. Check dams shall be installed where appropriate to reduce flow velocities and promote settlement of suspended sediment.
11. Settlement ponds shall be provided downstream of proposed internal access roads sections and at proposed turbine/hardstand locations where required. Settlement ponds shall provide treatment and temporary attenuation of runoff prior to discharge to the existing bog drainage network. Pond sizing shall be appropriate to the contributing catchment area. Typical pond details are shown on Drawing D501.
12. Silt fencing or other appropriate sediment control measures shall be installed around temporary peat/spoil stockpiles where required to prevent sediment-laden runoff entering the drainage network. Temporary controls may be removed once the disturbed area has been adequately stabilised.
13. Temporary silt fencing shall be installed where required between construction works and existing drainage features or natural watercourses, particularly where works occur within the prescribed surface water buffer zones.
14. Drain slopes and other exposed surfaces shall be protected from erosion until adequately stabilised. Suitable stripped vegetative material, including peat sod/scraw where available, may be reused locally to assist stabilisation and re-vegetation.
15. The extent and duration of exposed ground shall be minimised as far as practicable.
16. Check dams shall comprise 4/40 mm non-friable crushed rock and shall be installed within collector drains where appropriate. Check dams shall generally be installed at 25 m or 50 m intervals, depending on the local longitudinal gradient and site conditions.
17. Check dams, silt traps and settlement ponds shall be visually inspected and maintained as part of the construction-phase drainage maintenance programme, particularly during and following periods of heavy rainfall. Accumulated sediment shall be removed and disposed of appropriately.
18. Where check dams become clogged with sediment or vegetation, they shall be cleaned or replaced as required to maintain their hydraulic and sediment-control function.
19. The construction-phase drainage infrastructure will generally form the basis of the operational drainage system. Collector drains, settlement ponds and other treatment/attenuation features will be retained and maintained where required. Local settlement ponds may be infilled or decommissioned following the construction phase, subject to confirmation by the site engineer.
20. Where temporary dewatering of excavations is required, silt bags and/or other appropriate treatment measures shall be used as necessary. Discharge from dewatering silt bags shall be directed to settlement ponds or other suitable treatment measures prior to discharge to existing field drains or main drains.
21. Fuel and other potentially polluting substances shall be stored in appropriately bunded containment areas in accordance with the CEMP and Pollution Prevention Notes.
22. Culverts shall be provided where proposed internal access roads or hardstands cross existing main bog drainage pathways. Culverts shall be appropriately sized and installed to maintain existing drainage connectivity and shall be regularly inspected and maintained.
23. All surface water runoff from the Proposed Project shall ultimately pass through the existing IPC licence settlement ponds at the bog outfall locations prior to onward discharge to the surrounding stream and river network.



KEY PLAN

MITIGATION / DRAINAGE CONTROLS AVAILABLE FOR USE ACROSS THE SITE

Management Type	Description Drainage Control Methods
Avoidance Controls	1) 50 m buffer to natural watercourses where practicable. 2) Minimise disturbance of existing field and main drains. 3) Minimise working areas and exposed ground. 4) Schedule works having regard to weather forecasts; suspend or scale back high-risk works during heavy rainfall.
Source Controls:	1) Up-gradient interceptor drains to divert clean runoff around works and redistribute to downstream field drains. 2) Minimise and stabilise exposed ground and temporary peat/spoil stockpiles. 3) Silt fencing and other temporary sediment controls where required.
In-Line Controls:	1) Collector drains to convey construction runoff to treatment measures. 2) Transverse drains/proposed internal access roads where appropriate. 3) 4/40 mm non-friable crushed-rock check dams at typically 25 m or 50 m spacing, depending on gradient. 4) Silt traps and settlement ponds. 5) Culverts to maintain existing drainage pathways.
Water Treatment Controls:	1) Silt traps and settlement ponds. 2) Dewatering silt bags where appropriate. 3) Vegetated buffer areas/swales where appropriate. 4) Specialist treatment systems (e.g. Siltbuster or equivalent) where required. 5) Existing IPC licence settlement ponds provide the final treatment stage.
Outfall Controls:	1) Treated runoff to discharge to existing field or main drains. 2) Discharges controlled to prevent scour and erosion. 3) No direct discharge of untreated construction runoff to natural watercourses. 4) Existing drainage pathways maintained where required. 5) Proposed Project runoff ultimately passes through existing IPC licence settlement ponds before discharge to receiving waters.

DRAWING LEGEND:

EXISTING DRAINAGE
- WATERCOURSES
- WATERCOURSES 50M BUFFER
- STREAM FLOW DIRECTION
- EXISTING MAIN DRAINS
- REDIRECTED MAIN DRAINS
- EXISTING PIPED DRAINS
- EXISTING DISCHARGE DRAINS
- EXISTING BOUNDARY DRAINS
- FIELD DRAIN
- EXISTING SETTLEMENT PONDS
- EXISTING WC CROSSING/CULVERT

PROPOSED DRAINAGE
- UPSTREAM INTERCEPTOR DRAIN
- DOWNSTREAM COLLECTOR DRAIN (DSCD)
- DSCD OR OVER THE EDGE (OTE)
- DIRECTION OF FLOW
- SILT FENCES
- DOUBLE SILT FENCES
- WF SETTLEMENT POND
- LEVEL SPREADER
- PROPOSED WC CROSSING/CULVERT
- INTERCEPTOR DITCH CULVERT
- COLLECTOR DITCH CULVERT
- WATERCOURSE DRAIN PROTECTION BERM
- O OVERLAND FLOW DISCHARGE
- TW TREATED WATER DISCHARGE
- SP NEW SETTLEMENT POND

- PLANNING APPLICATION BOUNDARY
- EXISTING GROUND SURFACE MINOR CONTOUR (1 M INTERVAL)
- TURBINE 220, TURBINE FOUNDATION AND SWEPT AREA
- TURBINE 200, TURBINE FOUNDATION AND SWEPT AREA
- TURBINE FOUNDATION
- CRANE PLATFORM
- BLADE SETDOWN AREAS
- UPGRADES TO EXISTING TRACKS
- PROPOSED INTERNAL ACCESS ROADS AND TURNING BAY
- PROPOSED INTERNAL 33KV CABLING
- PROPOSED GRID CONNECTION UNDERGROUND 220KV ELECTRICAL CABLING
- PROPOSED ON-SITE SUBSTATION
- PROPOSED OFF-SITE GIS SUBSTATION
- PROPOSED MET MAST
- PROPOSED RELAY MAST
- TEMPORARY CONSTRUCTION COMPOUNDS
- PROPOSED CAR PARKING
- PROPOSED PEAT AND SPOIL AREAS
- PROPOSED PASSING BAYS
- PROPOSED DEDICATED AMENITY TRACK
- PROPOSED DEDICATED AMENITY BOARD WALK
- SCRUB MOSAIC CREATION AREA
- POLLINATOR FORAGING HABITAT ENHANCEMENT AREA
- PEATLAND ENHANCEMENT AREA
- NATIVE TREE (WOODLAND AND SCRUB) PLANTING AREA
- MARSH FRITILLARY ENHANCEMENT AREA
- LODGE BOG ENHANCEMENT AREA

Basemap Note: These drawings use 1:5,000 scale Ordnance Survey Ireland (OSi) basemaps as an underlay. For clarity, the basemap features are not included in the drawing legend and are displayed in light grey with partial transparency to distinguish them from the proposed development features.

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Date	Description	Chkd	Signed

Revisions

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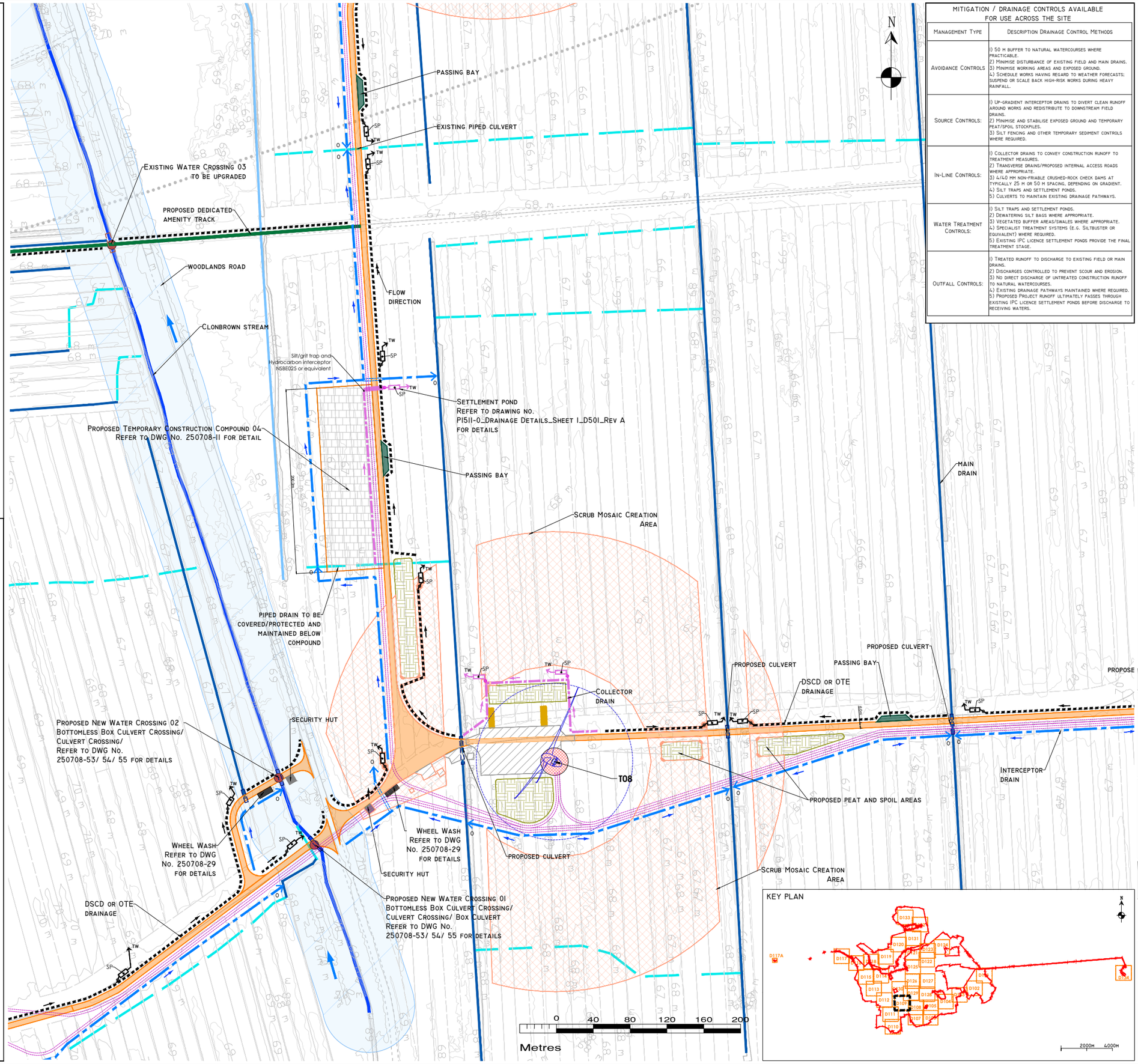
Client: Bord na Móna Powergen Ltd

Job: Ballydermot WF, Co. Offaly/Co. Kildare

Title: Proposed Construction Phase and Operational Phase Drainage Layout

Figure No: D108

Drawing No: P1511-0-1026-A1-D108-00C	
Sheet Size: A1	Project No.: P1511-0
Scale: 1:2,000 (A1)	Drawn By: GA
Date: 21/10/2026	Checked By: MG



Pollution Prevention Notes:

1. Site management and drainage proposals are intended to ensure protection of surface water and groundwater and to minimise the risk of pollution, siltation and erosion.
2. Appropriate drainage and pollution control measures shall be installed prior to, or in conjunction with, construction works and shall be maintained for the duration of the works.
3. Silty water may arise from excavation dewatering, erosion of exposed or disturbed ground, temporary stockpiles, plant and wheel washing, proposed internal access roads and disturbance of existing field drains and ditches.

Discharges

4. Water containing elevated suspended sediment shall not be pumped or discharged directly to any natural watercourse. Construction runoff and excavation dewatering shall be appropriately treated prior to discharge to the existing bog drainage network.
5. No excavated material or temporary stockpiles shall be stored within the prescribed surface water buffer zones.
6. Runoff from construction areas shall be collected in collector drains and directed to appropriate treatment measures, including silt traps, check dams, settlement ponds, vegetated buffer areas and/or other suitable treatment systems, prior to discharge to existing field drains or main drains.
7. Clean surface water runoff shall, where practicable, be intercepted up-gradient of construction areas using interceptor drains and directed around the works before being redistributed to downstream field drains. Existing field drains may be utilised for this purpose where appropriate.
8. Pumping of clean water from excavations, or over-pumping of drains, ditches or watercourses, shall be undertaken in a manner which does not cause scour or erosion at the point of discharge. Flow velocities shall be controlled using appropriate measures such as splash plates or other suitable discharge controls.
9. Existing drains and ditches shall be retained and protected where practicable. Vegetation shall not be removed from existing drains unless required to facilitate the works.
10. All surface water runoff from the Proposed Project shall ultimately pass through the existing IPC licence settlement ponds at the bog outfall locations prior to discharge to the receiving stream and river network.

Excavations

11. Where excavations are proposed, interceptor/cut-off drains shall be installed where required to minimise the volume of clean surface water entering the excavation. This shall include turbine base excavations where appropriate.
12. Where temporary dewatering of excavations is required, pumped water shall be treated using appropriate measures such as dewatering silt bags, settlement ponds or specialist treatment systems prior to discharge to the existing drainage network.

Exposed Ground & Stockpiles

13. The extent of exposed ground and the volume and duration of temporary stockpiles shall be minimised as far as practicable.
14. Construction activities involving significant areas of exposed peat or soil shall be scaled back or suspended during periods of heavy rainfall or where heavy rainfall is forecast.

Proposed Internal Access Roads

15. Collector drains shall be provided alongside proposed internal access roads where required to collect construction runoff and convey it to appropriate treatment measures.
16. On steeper sections of proposed internal access road, transverse drains or grips shall be installed where appropriate to intercept road runoff and divert it to adjacent roadside collector drains.
17. Check dams shall be installed within collector drains where appropriate to reduce flow velocities and promote settlement of suspended sediment. Check dams shall comprise 4/40 mm non-friable crushed rock and shall generally be installed at 25 m or 50 m intervals depending on local gradient.
18. Silt traps, check dams, settlement ponds and other drainage treatment measures shall be regularly inspected and maintained, particularly during and following periods of heavy rainfall.

Refuelling

19. Refuelling and maintenance of mobile plant shall, where practicable, be undertaken off-site. Where required on-site, refuelling shall only be undertaken within designated areas and in accordance with the CEMP and appropriate pollution prevention procedures.
20. Refuelling areas shall be located away from natural watercourses and drainage features. Spill kits and drip trays shall be readily available for use as required.
21. Fuel and other potentially polluting substances shall be stored in appropriately bunded areas in accordance with the CEMP.

Concrete

22. Concrete works shall be managed to prevent the discharge of cementitious material or concrete-contaminated water to the surface water drainage system, groundwater or natural watercourses.
23. Concrete wash water and waste concrete shall be contained and managed in accordance with the CEMP and shall not be discharged to the site drainage system or natural watercourses.

If water pollution is identified the following actions will be taken:

STOP - works in the immediate area will be stopped and the source of the pollution will be identified.

CONTAIN - the source of the pollution will be contained using appropriate measures to prevent further release. Where necessary, drainage pathways shall be temporarily isolated or diverted to prevent contaminated water reaching downstream receptors.

NOTIFY - The Site Manager and Environmental Clerk of Works shall be notified immediately. Relevant statutory authorities and other bodies shall be notified where required in accordance with the CEMP and the project Emergency Response Procedure.

Drainage Notes:

1. Roadway surfacing design and construction shall be to the Engineer's Specification.
2. Spare silt fencing, straw bales or similar approved pollution control materials shall be stored on site. Suspended sediment in runoff shall be visually monitored during construction. Where elevated silt levels are observed, additional temporary controls such as silt fences, straw bales, silt traps or check dams shall be installed as required. A mobile water treatment system (e.g. Siltbuster or equivalent) shall be available on site for use where required.
3. The proposed drainage system shall be constructed prior to, or in conjunction with, the associated proposed internal access roads and other infrastructure. Temporary drainage and sediment control measures shall be installed where required during construction to prevent elevated suspended sediment concentrations in runoff.
4. Appropriate drainage and pollution prevention measures shall be maintained at all times to prevent the conveyance of significant volumes of sediment to receiving watercourses. Refer also to Pollution Prevention Notes.
5. Interceptor drains shall be installed up-gradient of proposed infrastructure, where required, to intercept clean surface water runoff and minimise the volume of runoff entering construction areas. Intercepted clean water shall be directed around the works and redistributed to downstream field drains. Existing field drains shall be utilised for this purpose where practicable.
6. Collector drains shall be installed downstream of proposed internal access roads and other construction areas, where required, to collect runoff where suspended sediment may become entrained. Runoff shall be conveyed to appropriate treatment measures, including silt traps, check dams, vegetated areas and settlement ponds, prior to discharge to the existing field drain or main drain network.
7. Transverse drains ('grips') shall be installed on sections of proposed internal access roads, where appropriate, to intercept Proposed internal access road runoff and divert it to adjacent roadside collector drains. The locations of transverse drains shall be determined having regard to local gradient and drainage conditions.
8. Direct discharge of untreated construction runoff to natural watercourses shall not be permitted. Treated runoff shall be discharged to the existing bog drainage network in accordance with the drainage design.
9. Batters of proposed drains shall generally have side slopes appropriate to their depth and local ground conditions and shall be left to naturally re-vegetate or shall be stabilised using suitable locally sourced vegetation where required.
10. Collector drains shall be shallow and constructed with moderate gradients where practicable to minimise scour. Check dams shall be installed where appropriate to reduce flow velocities and promote settlement of suspended sediment.
11. Settlement ponds shall be provided downstream of proposed internal access roads sections and at proposed turbine/hardstand locations where required. Settlement ponds shall provide treatment and temporary attenuation of runoff prior to discharge to the existing bog drainage network. Pond sizing shall be appropriate to the contributing catchment area. Typical pond details are shown on Drawing D501.
12. Silt fencing or other appropriate sediment control measures shall be installed around temporary peat/spoil stockpiles where required to prevent sediment-laden runoff entering the drainage network. Temporary controls may be removed once the disturbed area has been adequately stabilised.
13. Temporary silt fencing shall be installed where required between construction works and existing drainage features or natural watercourses, particularly where works occur within the prescribed surface water buffer zones.
14. Drain slopes and other exposed surfaces shall be protected from erosion until adequately stabilised. Suitable stripped vegetative material, including peat sod/scraw where available, may be reused locally to assist stabilisation and re-vegetation.
15. The extent and duration of exposed ground shall be minimised as far as practicable.
16. Check dams shall comprise 4/40 mm non-friable crushed rock and shall be installed within collector drains where appropriate. Check dams shall generally be installed at 25 m or 50 m intervals, depending on the local longitudinal gradient and site conditions.
17. Check dams, silt traps and settlement ponds shall be visually inspected and maintained as part of the construction-phase drainage maintenance programme, particularly during and following periods of heavy rainfall. Accumulated sediment shall be removed and disposed of appropriately.
18. Where check dams become clogged with sediment or vegetation, they shall be cleaned or replaced as required to maintain their hydraulic and sediment-control function.
19. The construction-phase drainage infrastructure will generally form the basis of the operational drainage system. Collector drains, settlement ponds and other treatment/attenuation features will be retained and maintained where required. Local settlement ponds may be infilled or decommissioned following the construction phase, subject to confirmation by the site engineer.
20. Where temporary dewatering of excavations is required, silt bags and/or other appropriate treatment measures shall be used as necessary. Discharge from dewatering silt bags shall be directed to settlement ponds or other suitable treatment measures prior to discharge to existing field drains or main drains.
21. Fuel and other potentially polluting substances shall be stored in appropriately bunded containment areas in accordance with the CEMP and Pollution Prevention Notes.
22. Culverts shall be provided where proposed internal access roads or hardstands cross existing main bog drainage pathways. Culverts shall be appropriately sized and installed to maintain existing drainage connectivity and shall be regularly inspected and maintained.
23. All surface water runoff from the Proposed Project shall ultimately pass through the existing IPC licence settlement ponds at the bog outfall locations prior to onward discharge to the surrounding stream and river network.

Mitigation / Drainage Controls Available for Use Across the Site

Management Type	Description Drainage Control Methods
Avoidance Controls	1) 50 m buffer to natural watercourses where practicable. 2) Minimise disturbance of existing field and main drains. 3) Minimise working areas and exposed ground. 4) Schedule works having regard to weather forecasts; suspend or scale back high-risk works during heavy rainfall.
Source Controls:	1) Up-gradient interceptor drains to divert clean runoff around works and redistribute to downstream field drains. 2) Minimise and stabilise exposed ground and temporary peat/spoil stockpiles. 3) Silt fencing and other temporary sediment controls where required.
In-Line Controls:	1) Collector drains to convey construction runoff to treatment measures. 2) Transverse drains/proposed internal access roads where appropriate. 3) 4/40 mm non-friable crushed-rock check dams at typically 25 m or 50 m spacing, depending on gradient. 4) Silt traps and settlement ponds. 5) Culverts to maintain existing drainage pathways.
Water Treatment Controls:	1) Silt traps and settlement ponds. 2) Dewatering silt bags where appropriate. 3) Vegetated buffer areas/swales where appropriate. 4) Specialist treatment systems (e.g. Siltbuster or equivalent) where required. 5) Existing IPC licence settlement ponds provide the final treatment stage.
Outfall Controls:	1) Treated runoff to discharge to existing field or main drains. 2) Discharges controlled to prevent scour and erosion. 3) No direct discharge of untreated construction runoff to natural watercourses. 4) Existing drainage pathways maintained where required. 5) Proposed Project runoff ultimately passes through existing IPC licence settlement ponds before discharge to receiving waters.

Drawing Legend:

- Existing Drainage:
  - Watercourses
  - Watercourses 50m Buffer
  - Stream Flow Direction
  - Existing Main Drains
  - Redirected Main Drains
  - Existing Piped Drains
  - Existing Discharge Drains
  - Existing Boundary Drains
  - Field Drain
  - Existing Settlement Ponds
  - Existing WC Crossing/Culvert
- Proposed Drainage:
  - Upstream Interceptor Drain
  - Downstream Collector Drain (DSCD)
  - DSCD or Over The Edge (OTE)
  - Direction of Flow
  - Silt Fences
  - Double Silt Fences
  - WF Settlement Pond
  - Level Spreader
  - Proposed WC Crossing/Culvert
  - Interceptor Ditch Culvert
  - Collector Ditch Culvert
  - Watercourse Drain Protection Berm
  - O Overland Flow Discharge
  - TW Treated Water Discharge
  - SP New Settlement Pond
- Planning Application Boundary
- Existing Ground Surface Minor Contour (1 m Interval)
- Turbine 220, Turbine Foundation and Swept Area
- Turbine 200, Turbine Foundation and Swept Area
- Turbine Foundation
- Crane Platform
- Blade Setdown Areas
- Upgrades to Existing Tracks
- Proposed Internal Access Roads and Turning Bay
- Proposed Internal 33kV Cabling
- Proposed Grid Connection Underground 220kV Electrical Cabling
- Proposed On-site Substation
- Proposed Off-site GIS Substation
- Proposed Met Mast
- Proposed Relay Mast
- Temporary Construction Compounds
- Proposed Car Parking
- Proposed Peat and Spoil Areas
- Proposed Passing Bays
- Proposed Dedicated Amenity Track
- Proposed Dedicated Amenity Board Walk
- Scrub Mosaic Creation Area
- Pollinator Foraging Habitat Enhancement Area
- Peatland Enhancement Area
- Native Tree (Woodland and Scrub) Planting Area
- Marsh Fritillary Enhancement Area
- Lodge Bog Enhancement Area

Basemap Note: These drawings use 1:5,000 scale Ordnance Survey Ireland (OSi) basemaps as an underlay. For clarity, the basemap features are not included in the drawing legend and are displayed in light grey with partial transparency to distinguish them from the proposed development features.

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Revisions			

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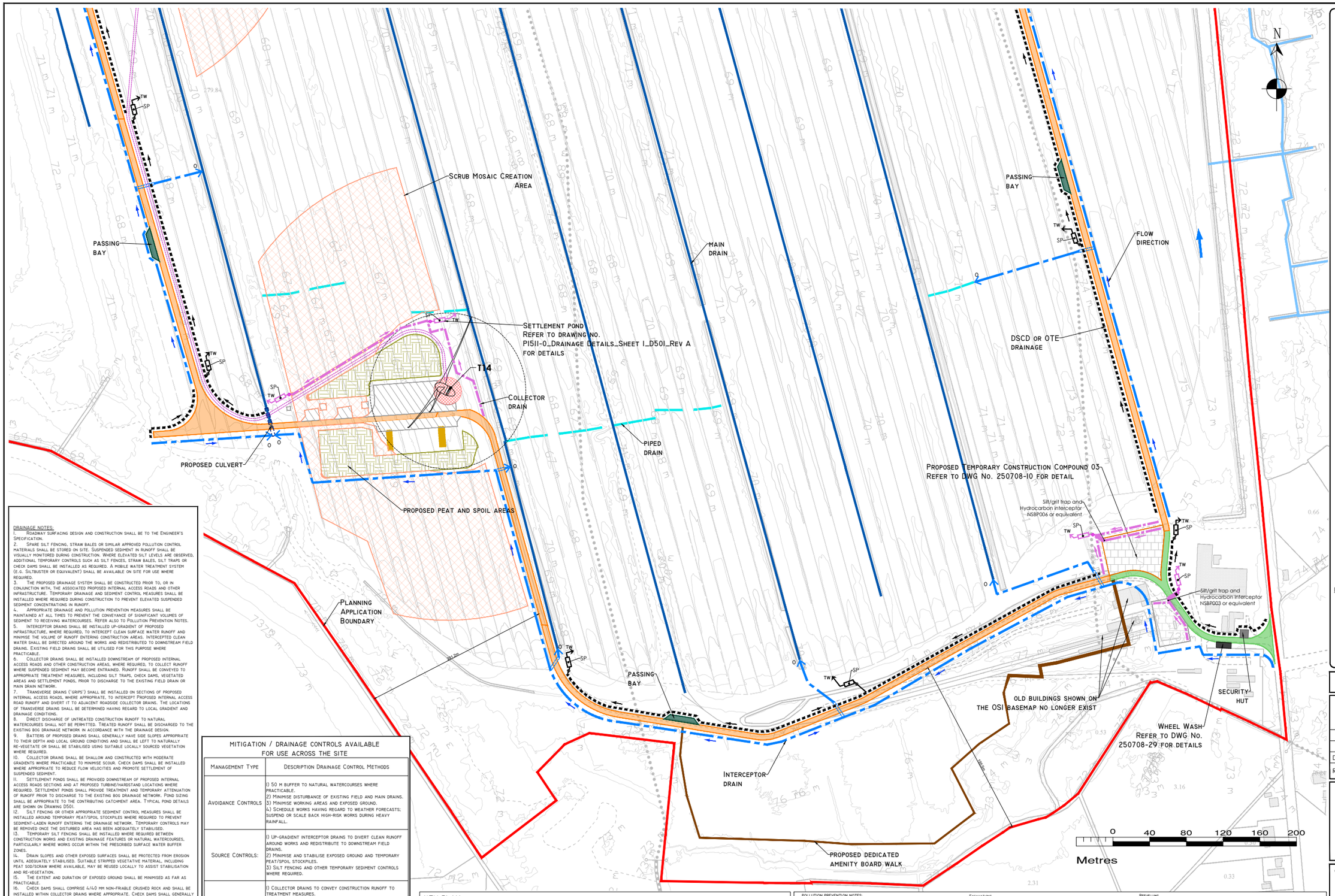
Job: Ballydermot WF, Co. Offaly/Co. Kildare

Title: Proposed Construction Phase and Operational Phase Drainage Layout

Figure No: D109

Drawing No: P1511-0-1026-A1-D109-00C	
Sheet Size: A1	Project No.: P1511-0
Scale: 1:2,000 (A1)	Drawn By: GA
Date: 21/10/2026	Checked By: MG

KEY PLAN



DRAWING LEGEND:

EXISTING DRAINAGE
- WATERCOURSES
- WATERCOURSES 50M BUFFER
- STREAM FLOW DIRECTION
- EXISTING MAIN DRAINS
- REDIRECTED MAIN DRAINS
- EXISTING PIPED DRAINS
- EXISTING DISCHARGE DRAINS
- EXISTING BOUNDARY DRAINS
- FIELD DRAIN
- EXISTING SETTLEMENT PONDS
- EXISTING WC CROSSING/CULVERT

PROPOSED DRAINAGE
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- SILT FENCES
- DOUBLE SILT FENCES
- WF SETTLEMENT POND
- LEVEL SPREADER
- PROPOSED WC CROSSING/CULVERT
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- COLLECTOR DITCH CULVERT
- WATERCOURSE DRAIN PROTECTION BERM
- O OVERLAND FLOW DISCHARGE
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- PLANNING APPLICATION BOUNDARY
- EXISTING GROUND SURFACE MINOR CONTOUR (1 M INTERVAL)
- TURBINE 220, TURBINE FOUNDATION AND SWEPT AREA
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- UPGRADES TO EXISTING TRACKS
- PROPOSED INTERNAL ACCESS ROADS AND TURNING BAY
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- PROPOSED GRID CONNECTION UNDERGROUND 220KV ELECTRICAL CABLING
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- PROPOSED OFF-SITE GIS SUBSTATION
- PROPOSED MET MAST
- PROPOSED RELAY MAST
- TEMPORARY CONSTRUCTION COMPOUNDS
- PROPOSED CAR PARKING
- PROPOSED PEAT AND SPOIL AREAS
- PROPOSED PASSING BAYS
- PROPOSED DEDICATED AMENITY TRACK
- PROPOSED DEDICATED AMENITY BOARD WALK
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- MARSH FRITILLARY ENHANCEMENT AREA
- LODGE BOG ENHANCEMENT AREA

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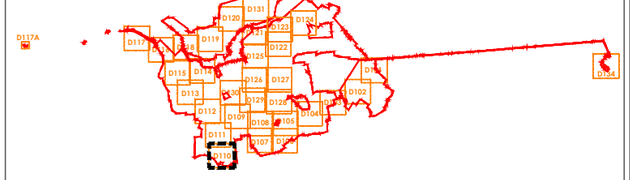
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DRAINAGE NOTES:
1. ROADWAY SURFACING DESIGN AND CONSTRUCTION SHALL BE TO THE ENGINEER'S SPECIFICATION.
2. SPARE SILT FENCING, STRAW BALES OR SIMILAR APPROVED POLLUTION CONTROL MATERIALS SHALL BE STORED ON SITE. SUSPENDED SEDIMENT IN RUNOFF SHALL BE VISUALLY MONITORED DURING CONSTRUCTION. WHERE ELEVATED SILT LEVELS ARE OBSERVED, ADDITIONAL TEMPORARY CONTROLS SUCH AS SILT FENCES, STRAW BALES, SILT TRAPS OR CHECK DAMS SHALL BE INSTALLED AS REQUIRED. A MOBILE WATER TREATMENT SYSTEM (E.G. SILTBUSTER OR EQUIVALENT) SHALL BE AVAILABLE ON SITE FOR USE WHERE REQUIRED.
3. THE PROPOSED DRAINAGE SYSTEM SHALL BE CONSTRUCTED PRIOR TO, OR IN CONJUNCTION WITH, THE ASSOCIATED PROPOSED INTERNAL ACCESS ROADS AND OTHER INFRASTRUCTURE. TEMPORARY DRAINAGE AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED WHERE REQUIRED DURING CONSTRUCTION TO PREVENT ELEVATED SUSPENDED SEDIMENT CONCENTRATIONS IN RUNOFF.
4. APPROPRIATE DRAINAGE AND POLLUTION PREVENTION MEASURES SHALL BE MAINTAINED AT ALL TIMES TO PREVENT THE CONVEYANCE OF SIGNIFICANT VOLUMES OF SEDIMENT TO RECEIVING WATERCOURSES. REFER ALSO TO POLLUTION PREVENTION NOTES.
5. INTERCEPTOR DRAINS SHALL BE INSTALLED UP-GRADIENT OF PROPOSED INFRASTRUCTURE, WHERE REQUIRED, TO INTERCEPT CLEAN SURFACE WATER RUNOFF AND MINIMISE THE VOLUME OF RUNOFF ENTERING CONSTRUCTION AREAS. INTERCEPTED CLEAN WATER SHALL BE DIRECTED AROUND THE WORKS AND REDISTRIBUTED TO DOWNSTREAM FIELD DRAINS. EXISTING FIELD DRAINS SHALL BE UTILISED FOR THIS PURPOSE WHERE PRACTICABLE.
6. COLLECTOR DRAINS SHALL BE INSTALLED DOWNSTREAM OF PROPOSED INTERNAL ACCESS ROADS AND OTHER CONSTRUCTION AREAS, WHERE REQUIRED, TO COLLECT RUNOFF WHERE SUSPENDED SEDIMENT MAY BECOME ENTRAINED. RUNOFF SHALL BE CONVEYED TO APPROPRIATE TREATMENT MEASURES, INCLUDING SILT TRAPS, CHECK DAMS, VEGETATED AREAS AND SETTLEMENT PONDS, PRIOR TO DISCHARGE TO THE EXISTING FIELD DRAIN OR MAIN DRAIN NETWORK.
7. TRANSVERSE DRAINS ('GRIPS') SHALL BE INSTALLED ON SECTIONS OF PROPOSED INTERNAL ACCESS ROADS, WHERE APPROPRIATE, TO INTERCEPT PROPOSED INTERNAL ACCESS ROAD RUNOFF AND DIVERT IT TO ADJACENT ROADSIDE COLLECTOR DRAINS. THE LOCATIONS OF TRANSVERSE DRAINS SHALL BE DETERMINED HAVING REGARD TO LOCAL GRADIENT AND DRAINAGE CONDITIONS.
8. DIRECT DISCHARGE OF UNTREATED CONSTRUCTION RUNOFF TO NATURAL WATERCOURSES SHALL NOT BE PERMITTED. TREATED RUNOFF SHALL BE DISCHARGED TO THE EXISTING BOG DRAINAGE NETWORK IN ACCORDANCE WITH THE DRAINAGE DESIGN.
9. BATTERS OF PROPOSED DRAINS SHALL GENERALLY HAVE SIDE SLOPES APPROPRIATE TO THEIR DEPTH AND LOCAL GROUND CONDITIONS AND SHALL BE LEFT TO NATURALLY RE-VEGETATE OR SHALL BE STABILISED USING SUITABLE LOCALLY SOURCED VEGETATION WHERE REQUIRED.
10. COLLECTOR DRAINS SHALL BE SHALLOW AND CONSTRUCTED WITH MODERATE GRADIENTS WHERE PRACTICABLE TO MINIMISE SCOUR. CHECK DAMS SHALL BE INSTALLED WHERE APPROPRIATE TO REDUCE FLOW VELOCITIES AND PROMOTE SETTLEMENT OF SUSPENDED SEDIMENT.
11. SETTLEMENT PONDS SHALL BE PROVIDED DOWNSTREAM OF PROPOSED INTERNAL ACCESS ROADS SECTIONS AND AT PROPOSED TURBINE/HARDSTAND LOCATIONS WHERE REQUIRED. SETTLEMENT PONDS SHALL PROVIDE TREATMENT AND TEMPORARY ATTENUATION OF RUNOFF PRIOR TO DISCHARGE TO THE EXISTING BOG DRAINAGE NETWORK. POND SIZING SHALL BE APPROPRIATE TO THE CONTRIBUTING CATCHMENT AREA. TYPICAL POND DETAILS ARE SHOWN ON DRAWING D501.
12. SILT FENCING OR OTHER APPROPRIATE SEDIMENT CONTROL MEASURES SHALL BE INSTALLED AROUND TEMPORARY PEAT/SPOIL STOCKPILES WHERE REQUIRED TO PREVENT SEDIMENT-LADEN RUNOFF ENTERING THE DRAINAGE NETWORK. TEMPORARY CONTROLS MAY BE REMOVED ONCE THE DISTURBED AREA HAS BEEN ADEQUATELY STABILISED.
13. TEMPORARY SILT FENCING SHALL BE INSTALLED WHERE REQUIRED BETWEEN CONSTRUCTION WORKS AND EXISTING DRAINAGE FEATURES OR NATURAL WATERCOURSES, PARTICULARLY WHERE WORKS OCCUR WITHIN THE PRESCRIBED SURFACE WATER BUFFER ZONES.
14. DRAIN SLOPES AND OTHER EXPOSED SURFACES SHALL BE PROTECTED FROM EROSION UNTIL ADEQUATELY STABILISED. SUITABLE STRIPPED VEGETATIVE MATERIAL, INCLUDING PEAT SOD/SCRAW WHERE AVAILABLE, MAY BE REUSED LOCALLY TO ASSIST STABILISATION AND RE-VEGETATION.
15. THE EXTENT AND DURATION OF EXPOSED GROUND SHALL BE MINIMISED AS FAR AS PRACTICABLE.
16. CHECK DAMS SHALL COMPRISE 4/40 MM NON-FRIABLE CRUSHED ROCK AND SHALL BE INSTALLED WITHIN COLLECTOR DRAINS WHERE APPROPRIATE. CHECK DAMS SHALL GENERALLY BE INSTALLED AT 25 M OR 50 M INTERVALS, DEPENDING ON THE LOCAL LONGITUDINAL GRADIENT AND SITE CONDITIONS.
17. CHECK DAMS, SILT TRAPS AND SETTLEMENT PONDS SHALL BE VISUALLY INSPECTED AND MAINTAINED AS PART OF THE CONSTRUCTION-PHASE DRAINAGE MAINTENANCE PROGRAMME, PARTICULARLY DURING AND FOLLOWING PERIODS OF HEAVY RAINFALL. ACCUMULATED SEDIMENT SHALL BE REMOVED AND DISPOSED OF APPROPRIATELY.
18. WHERE CHECK DAMS BECOME CLOGGED WITH SEDIMENT OR VEGETATION, THEY SHALL BE CLEANED OR REPLACED AS REQUIRED TO MAINTAIN THEIR HYDRAULIC AND SEDIMENT-CONTROL FUNCTION.
19. THE CONSTRUCTION-PHASE DRAINAGE INFRASTRUCTURE WILL GENERALLY FORM THE BASIS OF THE OPERATIONAL DRAINAGE SYSTEM. COLLECTOR DRAINS, SETTLEMENT PONDS AND OTHER TREATMENT/ATTENUATION FEATURES WILL BE RETAINED AND MAINTAINED WHERE REQUIRED. LOCAL SETTLEMENT PONDS MAY BE INFILLED OR DECOMMISSIONED FOLLOWING THE CONSTRUCTION PHASE, SUBJECT TO CONFIRMATION BY THE SITE ENGINEER.
20. WHERE TEMPORARY DEWATERING OF EXCAVATIONS IS REQUIRED, SILT BAGS AND/OR OTHER APPROPRIATE TREATMENT MEASURES SHALL BE USED AS NECESSARY. DISCHARGE FROM DEWATERING SILT BAGS SHALL BE DIRECTED TO SETTLEMENT PONDS OR OTHER SUITABLE TREATMENT MEASURES PRIOR TO DISCHARGE TO EXISTING FIELD DRAINS OR MAIN DRAINS.
21. FUEL AND OTHER POTENTIALLY POLLUTING SUBSTANCES SHALL BE STORED IN APPROPRIATELY BUNDED CONTAINMENT AREAS IN ACCORDANCE WITH THE CEMP AND POLLUTION PREVENTION NOTES.
22. CULVERTS SHALL BE PROVIDED WHERE PROPOSED INTERNAL ACCESS ROADS OR HARDSTANDS CROSS EXISTING MAIN BOG DRAINAGE PATHWAYS. CULVERTS SHALL BE APPROPRIATELY SIZED AND INSTALLED TO MAINTAIN EXISTING DRAINAGE CONNECTIVITY AND SHALL BE REGULARLY INSPECTED AND MAINTAINED.
23. ALL SURFACE WATER RUNOFF FROM THE PROPOSED PROJECT SHALL ULTIMATELY PASS THROUGH THE EXISTING IPC LICENCE SETTLEMENT PONDS AT THE BOG OUTFALL LOCATIONS PRIOR TO ONWARD DISCHARGE TO THE SURROUNDING STREAM AND RIVER NETWORK.

MITIGATION / DRAINAGE CONTROLS AVAILABLE FOR USE ACROSS THE SITE

MANAGEMENT TYPE	DESCRIPTION DRAINAGE CONTROL METHODS
AVOIDANCE CONTROLS	1) 50 M BUFFER TO NATURAL WATERCOURSES WHERE PRACTICABLE. 2) MINIMISE DISTURBANCE OF EXISTING FIELD AND MAIN DRAINS. 3) MINIMISE WORKING AREAS AND EXPOSED GROUND. 4) SCHEDULE WORKS HAVING REGARD TO WEATHER FORECASTS; SUSPEND OR SCALE BACK HIGH-RISK WORKS DURING HEAVY RAINFALL.
SOURCE CONTROLS:	1) UP-GRADIENT INTERCEPTOR DRAINS TO DIVERT CLEAN RUNOFF AROUND WORKS AND REDISTRIBUTE TO DOWNSTREAM FIELD DRAINS. 2) MINIMISE AND STABILISE EXPOSED GROUND AND TEMPORARY PEAT/SPOIL STOCKPILES. 3) SILT FENCING AND OTHER TEMPORARY SEDIMENT CONTROLS WHERE REQUIRED.
IN-LINE CONTROLS:	1) COLLECTOR DRAINS TO CONVEY CONSTRUCTION RUNOFF TO TREATMENT MEASURES. 2) TRANSVERSE DRAINS/PROPOSED INTERNAL ACCESS ROADS WHERE APPROPRIATE. 3) 4/40 MM NON-FRIABLE CRUSHED-ROCK CHECK DAMS AT TYPICALLY 25 M OR 50 M SPACING, DEPENDING ON GRADIENT. 4) SILT TRAPS AND SETTLEMENT PONDS. 5) CULVERTS TO MAINTAIN EXISTING DRAINAGE PATHWAYS.
WATER TREATMENT CONTROLS:	1) SILT TRAPS AND SETTLEMENT PONDS. 2) DEWATERING SILT BAGS WHERE APPROPRIATE. 3) VEGETATED BUFFER AREAS/SWALES WHERE APPROPRIATE. 4) SPECIALIST TREATMENT SYSTEMS (E.G. SILTBUSTER OR EQUIVALENT) WHERE REQUIRED. 5) EXISTING IPC LICENCE SETTLEMENT PONDS PROVIDE THE FINAL TREATMENT STAGE.
OUTFALL CONTROLS:	1) TREATED RUNOFF TO DISCHARGE TO EXISTING FIELD OR MAIN DRAINS. 2) DISCHARGES CONTROLLED TO PREVENT SCOUR AND EROSION. 3) NO DIRECT DISCHARGE OF UNTREATED CONSTRUCTION RUNOFF TO NATURAL WATERCOURSES. 4) EXISTING DRAINAGE PATHWAYS MAINTAINED WHERE REQUIRED. 5) PROPOSED PROJECT RUNOFF ULTIMATELY PASSES THROUGH EXISTING IPC LICENCE SETTLEMENT PONDS BEFORE DISCHARGE TO RECEIVING WATERS.

KEY PLAN



POLLUTION PREVENTION NOTES:
I. SITE MANAGEMENT AND DRAINAGE PROPOSALS ARE INTENDED TO ENSURE PROTECTION OF SURFACE WATER AND GROUNDWATER AND TO MINIMISE THE RISK OF POLLUTION, SILTATION AND EROSION.
2. APPROPRIATE DRAINAGE AND POLLUTION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO, OR IN CONJUNCTION WITH, CONSTRUCTION WORKS AND SHALL BE MAINTAINED FOR THE DURATION OF THE WORKS.
3. SILTY WATER MAY ARISE FROM EXCAVATION DEWATERING, EROSION OF EXPOSED OR DISTURBED GROUND, TEMPORARY STOCKPILES, PLANT AND WHEEL WASHING, SITE ROADS/TRACKS AND DISTURBANCE OF EXISTING FIELD DRAINS AND DITCHES.

DISCHARGES
4. WATER CONTAINING ELEVATED SUSPENDED SEDIMENT SHALL NOT BE PUMPED OR DISCHARGED DIRECTLY TO ANY NATURAL WATERCOURSE. CONSTRUCTION RUNOFF AND EXCAVATION DEWATERING SHALL BE APPROPRIATELY TREATED PRIOR TO DISCHARGE TO THE EXISTING BOG DRAINAGE NETWORK.
5. NO EXCAVATED MATERIAL OR TEMPORARY STOCKPILES SHALL BE STORED WITHIN THE PRESCRIBED SURFACE WATER BUFFER ZONES.
6. RUNOFF FROM CONSTRUCTION AREAS SHALL BE COLLECTED IN COLLECTOR DRAINS AND DIRECTED TO APPROPRIATE TREATMENT MEASURES, INCLUDING SILT TRAPS, CHECK DAMS, SETTLEMENT PONDS, VEGETATED BUFFER AREAS AND/OR OTHER SUITABLE TREATMENT SYSTEMS, PRIOR TO DISCHARGE TO EXISTING FIELD DRAINS OR MAIN DRAINS.
7. CLEAN SURFACE WATER RUNOFF SHALL, WHERE PRACTICABLE, BE INTERCEPTED UP-GRADIENT OF CONSTRUCTION AREAS USING INTERCEPTOR DRAINS AND DIRECTED AROUND THE WORKS BEFORE BEING REDISTRIBUTED TO DOWNSTREAM FIELD DRAINS. EXISTING FIELD DRAINS MAY BE UTILISED FOR THIS PURPOSE WHERE APPROPRIATE.
8. PUMPING OF CLEAN WATER FROM EXCAVATIONS, OR OVER-PUMPING OF DRAINS, DITCHES OR WATERCOURSES, SHALL BE UNDERTAKEN IN A MANNER WHICH DOES NOT CAUSE SCOUR OR EROSION AT THE POINT OF DISCHARGE. FLOW VELOCITIES SHALL BE CONTROLLED USING APPROPRIATE MEASURES SUCH AS SPLASH PLATES OR OTHER SUITABLE DISCHARGE CONTROLS.
9. EXISTING DRAINS AND DITCHES SHALL BE RETAINED AND PROTECTED WHERE PRACTICABLE. VEGETATION SHALL NOT BE REMOVED FROM EXISTING DRAINS UNLESS REQUIRED TO FACILITATE THE WORKS.
10. ALL SURFACE WATER RUNOFF FROM THE PROPOSED PROJECT SHALL ULTIMATELY PASS THROUGH THE EXISTING IPC LICENCE SETTLEMENT PONDS AT THE BOG OUTFALL LOCATIONS PRIOR TO DISCHARGE TO THE RECEIVING STREAM AND RIVER NETWORK.

EXCAVATIONS
1. WHERE EXCAVATIONS ARE PROPOSED, INTERCEPTOR/CUT-OFF DRAINS SHALL BE INSTALLED WHERE REQUIRED TO MINIMISE THE VOLUME OF CLEAN SURFACE WATER ENTERING THE EXCAVATION. THIS SHALL INCLUDE TURBINE BASE EXCAVATIONS WHERE APPROPRIATE.
2. WHERE TEMPORARY DEWATERING OF EXCAVATIONS IS REQUIRED, PUMPED WATER SHALL BE TREATED USING APPROPRIATE MEASURES SUCH AS DEWATERING SILT BAGS, SETTLEMENT PONDS OR SPECIALIST TREATMENT SYSTEMS PRIOR TO DISCHARGE TO THE EXISTING DRAINAGE NETWORK.

EXPOSED GROUND & STOCKPILES
3. THE EXTENT OF EXPOSED GROUND AND THE VOLUME AND DURATION OF TEMPORARY STOCKPILES SHALL BE MINIMISED AS FAR AS PRACTICABLE.
4. CONSTRUCTION ACTIVITIES INVOLVING SIGNIFICANT AREAS OF EXPOSED PEAT OR SOIL SHALL BE SCALED BACK OR SUSPENDED DURING PERIODS OF HEAVY RAINFALL OR WHERE HEAVY RAINFALL IS FORECAST.

SITE TRACKS
5. COLLECTOR DRAINS SHALL BE PROVIDED ALONGSIDE ACCESS ROADS WHERE REQUIRED TO COLLECT CONSTRUCTION RUNOFF AND CONVEY IT TO APPROPRIATE TREATMENT MEASURES.
6. ON STEEPER SECTIONS OF ACCESS ROAD, TRANSVERSE DRAINS OR GRIPS SHALL BE INSTALLED WHERE APPROPRIATE TO INTERCEPT ROAD RUNOFF AND DIVERT IT TO ADJACENT ROADSIDE COLLECTOR DRAINS.
7. CHECK DAMS SHALL BE INSTALLED WITHIN COLLECTOR DRAINS WHERE APPROPRIATE TO REDUCE FLOW VELOCITIES AND PROMOTE SETTLEMENT OF SUSPENDED SEDIMENT. CHECK DAMS SHALL COMPRISE 4/40 MM NON-FRIABLE CRUSHED ROCK AND SHALL GENERALLY BE INSTALLED AT 25 M OR 50 M INTERVALS DEPENDING ON LOCAL GRADIENT.
8. SILT TRAPS, CHECK DAMS, SETTLEMENT PONDS AND OTHER DRAINAGE TREATMENT MEASURES SHALL BE REGULARLY INSPECTED AND MAINTAINED, PARTICULARLY DURING AND FOLLOWING PERIODS OF HEAVY RAINFALL.

REFUELLING
9. REFUELLING AND MAINTENANCE OF MOBILE PLANT SHALL, WHERE PRACTICABLE, BE UNDERTAKEN OFF-SITE. WHERE REQUIRED ON-SITE, REFUELLING SHALL ONLY BE UNDERTAKEN WITHIN DESIGNATED AREAS AND IN ACCORDANCE WITH THE CEMP AND APPROPRIATE POLLUTION PREVENTION PROCEDURES.
10. REFUELLING AREAS SHALL BE LOCATED AWAY FROM NATURAL WATERCOURSES AND DRAINAGE FEATURES. SPILL KITS AND DRIP TRAYS SHALL BE READILY AVAILABLE FOR USE AS REQUIRED.
11. FUEL AND OTHER POTENTIALLY POLLUTING SUBSTANCES SHALL BE STORED IN APPROPRIATELY BUNDED AREAS IN ACCORDANCE WITH THE CEMP.

CONCRETE
1. CONCRETE WORKS SHALL BE MANAGED TO PREVENT THE DISCHARGE OF CEMENTITIOUS MATERIAL OR CONCRETE-CONTAMINATED WATER TO THE SURFACE WATER DRAINAGE SYSTEM, GROUNDWATER OR NATURAL WATERCOURSES.
2. CONCRETE WASH WATER AND WASTE CONCRETE SHALL BE CONTAINED AND MANAGED IN ACCORDANCE WITH THE CEMP AND SHALL NOT BE DISCHARGED TO THE SITE DRAINAGE SYSTEM OR NATURAL WATERCOURSES.

IF WATER POLLUTION IS IDENTIFIED THE FOLLOWING ACTIONS WILL BE TAKEN:

STOP - WORKS IN THE IMMEDIATE AREA WILL BE STOPPED AND THE SOURCE OF THE POLLUTION WILL BE IDENTIFIED.

CONTAIN - THE SOURCE OF THE POLLUTION WILL BE CONTAINED USING APPROPRIATE MEASURES TO PREVENT FURTHER RELEASE. WHERE NECESSARY, DRAINAGE PATHWAYS SHALL BE TEMPORARILY ISOLATED OR DIVERTED TO PREVENT CONTAMINATED WATER REACHING DOWNSTREAM RECEPTORS.

NOTIFY - THE SITE MANAGER AND ENVIRONMENTAL CLERK OF WORKS SHALL BE NOTIFIED IMMEDIATELY. RELEVANT STATUTORY AUTHORITIES AND OTHER BODIES SHALL BE NOTIFIED WHERE REQUIRED IN ACCORDANCE WITH THE CEMP AND THE PROJECT EMERGENCY RESPONSE PROCEDURE.

Date	Description	Chkd	Signed

Revisions

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PROPOSED CONSTRUCTION PHASE AND OPERATIONAL PHASE DRAINAGE LAYOUT

Figure No: DII0

Drawing No: P1511-0-1026-A1-D110-00C	
Sheet Size: A1	Project No.: P1511-0
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POLLUTION PREVENTION NOTES:

1. Site management and drainage proposals are intended to ensure protection of surface water and groundwater and to minimise the risk of pollution, siltation and erosion.
2. Appropriate drainage and pollution control measures shall be installed prior to, or in conjunction with, construction works and shall be maintained for the duration of the works.
3. Silty water may arise from excavation dewatering, erosion of exposed or disturbed ground, temporary stockpiles, plant and wheel washing, proposed internal access roads and disturbance of existing field drains and ditches.

Discharges

4. Water containing elevated suspended sediment shall not be pumped or discharged directly to any natural watercourse. Construction runoff and excavation dewatering shall be appropriately treated prior to discharge to the existing bog drainage network.
5. No excavated material or temporary stockpiles shall be stored within the prescribed surface water buffer zones.
6. Runoff from construction areas shall be collected in collector drains and directed to appropriate treatment measures, including silt traps, check dams, settlement ponds, vegetated buffer areas and/or other suitable treatment systems, prior to discharge to existing field drains or main drains.
7. Clean surface water runoff shall, where practicable, be intercepted up-gradient of construction areas using interceptor drains and directed around the works before being redistributed to downstream field drains. Existing field drains may be utilised for this purpose where appropriate.
8. Pumping of clean water from excavations, or over-pumping of drains, ditches or watercourses, shall be undertaken in a manner which does not cause scour or erosion at the point of discharge. Flow velocities shall be controlled using appropriate measures such as splash plates or other suitable discharge controls.
9. Existing drains and ditches shall be retained and protected where practicable. Vegetation shall not be removed from existing drains unless required to facilitate the works.
10. All surface water runoff from the Proposed Project shall ultimately pass through the existing IPC licence settlement ponds at the bog outfall locations prior to discharge to the receiving stream and river network.

Excavations

11. Where excavations are proposed, interceptor/cut-off drains shall be installed where required to minimise the volume of clean surface water entering the excavation. This shall include turbine base excavations where appropriate.
12. Where temporary dewatering of excavations is required, pumped water shall be treated using appropriate measures such as dewatering silt bags, settlement ponds or specialist treatment systems prior to discharge to the existing drainage network.

Exposed Ground & Stockpiles

13. The extent of exposed ground and the volume and duration of temporary stockpiles shall be minimised as far as practicable.
14. Construction activities involving significant areas of exposed peat or soil shall be scaled back or suspended during periods of heavy rainfall or where heavy rainfall is forecast.

Proposed Internal Access Roads

15. Collector drains shall be provided alongside proposed internal access roads where required to collect construction runoff and convey it to appropriate treatment measures.
16. On steeper sections of proposed internal access road, transverse drains or grips shall be installed where appropriate to intercept road runoff and divert it to adjacent roadside collector drains.
17. Check dams shall be installed within collector drains where appropriate to reduce flow velocities and promote settlement of suspended sediment. Check dams shall comprise 4/40 mm non-friable crushed rock and shall generally be installed at 25 m or 50 m intervals depending on local gradient.
18. Silt traps, check dams, settlement ponds and other drainage treatment measures shall be regularly inspected and maintained, particularly during and following periods of heavy rainfall.

Refuelling

19. Refuelling and maintenance of mobile plant shall, where practicable, be undertaken off-site. Where required on-site, refuelling shall only be undertaken within designated areas and in accordance with the CEMP and appropriate pollution prevention procedures.
20. Refuelling areas shall be located away from natural watercourses and drainage features. Spill kits and drip trays shall be readily available for use as required.
21. Fuel and other potentially polluting substances shall be stored in appropriately bunded areas in accordance with the CEMP.

Concrete

22. Concrete works shall be managed to prevent the discharge of cementitious material or concrete-contaminated water to the surface water drainage system, groundwater or natural watercourses.
23. Concrete wash water and waste concrete shall be contained and managed in accordance with the CEMP and shall not be discharged to the site drainage system or natural watercourses.

If water pollution is identified the following actions will be taken:

STOP - works in the immediate area will be stopped and the source of the pollution will be identified.

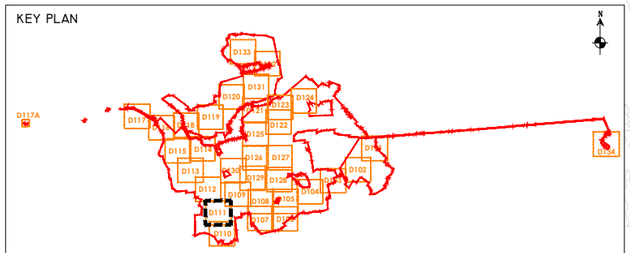
CONTAIN - the source of the pollution will be contained using appropriate measures to prevent further release. Where necessary, drainage pathways shall be temporarily isolated or diverted to prevent contaminated water reaching downstream receptors.

NOTIFY - The Site Manager and Environmental Clerk of Works shall be notified immediately. Relevant statutory authorities and other bodies shall be notified where required in accordance with the CEMP and the Project Emergency Response Procedure.

DRAINAGE NOTES:

1. Roadway surfacing design and construction shall be to the Engineer's Specification.
2. Spare silt fencing, straw bales or similar approved pollution control materials shall be stored on site. Suspended sediment in runoff shall be visually monitored during construction. Where elevated silt levels are observed, additional temporary controls such as silt fences, straw bales, silt traps or check dams shall be installed as required. A mobile water treatment system (e.g. Siltbuster or equivalent) shall be available on site for use where required.
3. The proposed drainage system shall be constructed prior to, or in conjunction with, the associated proposed internal access roads and other infrastructure. Temporary drainage and sediment control measures shall be installed where required during construction to prevent elevated suspended sediment concentrations in runoff.
4. Appropriate drainage and pollution prevention measures shall be maintained at all times to prevent the conveyance of significant volumes of sediment to receiving watercourses. Refer also to Pollution Prevention Notes.
5. Interceptor drains shall be installed up-gradient of proposed infrastructure, where required, to intercept clean surface water runoff and minimise the volume of runoff entering construction areas. Intercepted clean water shall be directed around the works and redistributed to downstream field drains. Existing field drains shall be utilised for this purpose where practicable.
6. Collector drains shall be installed downstream of proposed internal access roads and other construction areas, where required, to collect runoff where suspended sediment may become entrained. Runoff shall be conveyed to appropriate treatment measures, including silt traps, check dams, vegetated areas and settlement ponds, prior to discharge to the existing field drain or main drain network.
7. Transverse drains ('grips') shall be installed on sections of proposed internal access roads, where appropriate, to intercept proposed internal access road runoff and divert it to adjacent roadside collector drains. The locations of transverse drains shall be determined having regard to local gradient and drainage conditions.
8. Direct discharge of untreated construction runoff to natural watercourses shall not be permitted. Treated runoff shall be discharged to the existing bog drainage network in accordance with the drainage design.
9. Batters of proposed drains shall generally have side slopes appropriate to their depth and local ground conditions and shall be left to naturally re-vegetate or shall be stabilised using suitable locally sourced vegetation where required.
10. Collector drains shall be shallow and constructed with moderate gradients where practicable to minimise scour. Check dams shall be installed where appropriate to reduce flow velocities and promote settlement of suspended sediment.
11. Settlement ponds shall be provided downstream of proposed internal access roads sections and at proposed turbine/hardstand locations where required. Settlement ponds shall provide treatment and temporary attenuation of runoff prior to discharge to the existing bog drainage network. Pond sizing shall be appropriate to the contributing catchment area. Typical pond details are shown on Drawing D501.
12. Silt fencing or other appropriate sediment control measures shall be installed around temporary peat/spoil stockpiles where required to prevent sediment-laden runoff entering the drainage network. Temporary controls may be removed once the disturbed area has been adequately stabilised.
13. Temporary silt fencing shall be installed where required between construction works and existing drainage features or natural watercourses, particularly where works occur within the prescribed surface water buffer zones.
14. Drain slopes and other exposed surfaces shall be protected from erosion until adequately stabilised. Suitable stripped vegetative material, including peat sod/scraw where available, may be reused locally to assist stabilisation and re-vegetation.
15. The extent and duration of exposed ground shall be minimised as far as practicable.
16. Check dams shall comprise 4/40 mm non-friable crushed rock and shall be installed within collector drains where appropriate. Check dams shall generally be installed at 25 m or 50 m intervals, depending on the local longitudinal gradient and site conditions.
17. Check dams, silt traps and settlement ponds shall be visually inspected and maintained as part of the construction-phase drainage maintenance programme, particularly during and following periods of heavy rainfall. Accumulated sediment shall be removed and disposed of appropriately.
18. Where check dams become clogged with sediment or vegetation, they shall be cleaned or replaced as required to maintain their hydraulic and sediment-control function.
19. The construction-phase drainage infrastructure will generally form the basis of the operational drainage system. Collector drains, settlement ponds and other treatment/attenuation features will be retained and maintained where required. Local settlement ponds may be infilled or decommissioned following the construction phase, subject to confirmation by the site engineer.
20. Where temporary dewatering of excavations is required, silt bags and/or other appropriate treatment measures shall be used as necessary. Discharge from dewatering silt bags shall be directed to settlement ponds or other suitable treatment measures prior to discharge to existing field drains or main drains.
21. Fuel and other potentially polluting substances shall be stored in appropriately bunded containment areas in accordance with the CEMP and Pollution Prevention Notes.
22. Culverts shall be provided where proposed internal access roads or hardstands cross existing main bog drainage pathways. Culverts shall be appropriately sized and installed to maintain existing drainage connectivity and shall be regularly inspected and maintained.
23. All surface water runoff from the Proposed Project shall ultimately pass through the existing IPC licence settlement ponds at the bog outfall locations prior to onward discharge to the surrounding stream and river network.

KEY PLAN



MITIGATION / DRAINAGE CONTROLS AVAILABLE FOR USE ACROSS THE SITE

Management Type	Description Drainage Control Methods
Avoidance Controls	1) 50 m buffer to natural watercourses where practicable. 2) Minimise disturbance of existing field and main drains. 3) Minimise working areas and exposed ground. 4) Schedule works having regard to weather forecasts; suspend or scale back high-risk works during heavy rainfall.
Source Controls:	1) Up-gradient interceptor drains to divert clean runoff around works and redistribute to downstream field drains. 2) Minimise and stabilise exposed ground and temporary peat/spoil stockpiles. 3) Silt fencing and other temporary sediment controls where required.
In-Line Controls:	1) Collector drains to convey construction runoff to treatment measures. 2) Transverse drains/proposed internal access roads where appropriate. 3) 4/40 mm non-friable crushed-rock check dams at typically 25 m or 50 m spacing, depending on gradient. 4) Silt traps and settlement ponds. 5) Culverts to maintain existing drainage pathways.
Water Treatment Controls:	1) Silt traps and settlement ponds. 2) Dewatering silt bags where appropriate. 3) Vegetated buffer areas/swales where appropriate. 4) Specialist treatment systems (e.g. Siltbuster or equivalent) where required. 5) Existing IPC licence settlement ponds provide the final treatment stage.
Outfall Controls:	1) Treated runoff to discharge to existing field or main drains. 2) Discharges controlled to prevent scour and erosion. 3) No direct discharge of untreated construction runoff to natural watercourses. 4) Existing drainage pathways maintained where required. 5) Proposed Project runoff ultimately passes through existing IPC licence settlement ponds before discharge to receiving waters.

DRAWING LEGEND:

- Watercourses
- Watercourses 50m buffer
- Stream flow direction
- Existing main drains
- Redirected main drains
- Existing piped drains
- Existing discharge drains
- Existing boundary drains
- Field drain
- Existing settlement ponds
- Existing WC crossing/culvert

(Existing Drainage)

- Upstream interceptor drain
- Downstream collector drain (DSCD)
- DSCD or Over The Edge (OTE)
- Direction of flow
- Silt fences
- Double silt fences
- WF settlement pond
- Level spreader
- Proposed WC crossing/culvert
- Interceptor ditch culvert
- Collector ditch culvert
- Watercourse drain protection berm
- O Overland flow discharge
- TW Treated water discharge
- SP New settlement pond

(Proposed Drainage)

- Planning application boundary
- Existing ground surface minor contour (1 m interval)
- Turbine 220, turbine foundation and swept area
- Turbine 200, turbine foundation and swept area
- Turbine foundation
- Crane platform
- Blade setdown areas
- Upgrades to existing tracks
- Proposed internal access roads and turning bay
- Proposed internal 33kV cabling
- Proposed grid connection underground 220kV electrical cabling
- Proposed on-site substation
- Proposed off-site GIS substation
- Proposed met mast
- Proposed relay mast
- Temporary construction compounds
- Proposed car parking
- Proposed peat and spoil areas
- Proposed passing bays
- Proposed dedicated amenity track
- Proposed dedicated amenity board walk
- Scrub mosaic creation area
- Pollinator foraging habitat enhancement area
- Peatland enhancement area
- Native tree (woodland and scrub) planting area
- Marsh fritillary enhancement area
- Lodge Bog Enhancement Area

Basemap Note: These drawings use 1:5,000 scale Ordnance Survey Ireland (OSi) basemaps as an underlay. For clarity, the basemap features are not included in the drawing legend and are displayed in light grey with partial transparency to distinguish them from the proposed development features.

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Client: Bord na Móna Powergen Ltd

Job: Ballydermot WF, Co. Offaly/Co. Kildare

Title: Proposed Construction Phase and Operational Phase Drainage Layout

Figure No: D111

Drawing No: P1511-0-1026-A1-D111-00C	
Sheet Size: A1	Project No.: P1511-0
Scale: 1:2,000 (A1)	Drawn By: GA
Date: 21/10/2026	Checked By: MG

POLLUTION PREVENTION NOTES:

1. Site management and drainage proposals are intended to ensure protection of surface water and groundwater and to minimise the risk of pollution, siltation and erosion.
2. Appropriate drainage and pollution control measures shall be installed prior to, or in conjunction with, construction works and shall be maintained for the duration of the works.
3. Silty water may arise from excavation dewatering, erosion of exposed or disturbed ground, temporary stockpiles, plant and wheel washing, proposed internal access roads and disturbance of existing field drains and ditches.

Discharges

4. Water containing elevated suspended sediment shall not be pumped or discharged directly to any natural watercourse. Construction runoff and excavation dewatering shall be appropriately treated prior to discharge to the existing bog drainage network.
5. No excavated material or temporary stockpiles shall be stored within the prescribed surface water buffer zones.
6. Runoff from construction areas shall be collected in collector drains and directed to appropriate treatment measures, including silt traps, check dams, settlement ponds, vegetated buffer areas and/or other suitable treatment systems, prior to discharge to existing field drains or main drains.
7. Clean surface water runoff shall, where practicable, be intercepted up-gradient of construction areas using interceptor drains and directed around the works before being redistributed to downstream field drains. Existing field drains may be utilised for this purpose where appropriate.
8. Pumping of clean water from excavations, or over-pumping of drains, ditches or watercourses, shall be undertaken in a manner which does not cause scour or erosion at the point of discharge. Flow velocities shall be controlled using appropriate measures such as splash plates or other suitable discharge controls.
9. Existing drains and ditches shall be retained and protected where practicable. Vegetation shall not be removed from existing drains unless required to facilitate the works.
10. All surface water runoff from the Proposed Project shall ultimately pass through the existing IPC licence settlement ponds at the bog outfall locations prior to discharge to the receiving stream and river network.

Excavations

11. Where excavations are proposed, interceptor/cut-off drains shall be installed where required to minimise the volume of clean surface water entering the excavation. This shall include turbine base excavations where appropriate.
12. Where temporary dewatering of excavations is required, pumped water shall be treated using appropriate measures such as dewatering silt bags, settlement ponds or specialist treatment systems prior to discharge to the existing drainage network.

Exposed Ground & Stockpiles

13. The extent of exposed ground and the volume and duration of temporary stockpiles shall be minimised as far as practicable.
14. Construction activities involving significant areas of exposed peat or soil shall be scaled back or suspended during periods of heavy rainfall or where heavy rainfall is forecast.

Proposed Internal Access Roads

15. Collector drains shall be provided alongside proposed internal access roads where required to collect construction runoff and convey it to appropriate treatment measures.
16. On steeper sections of proposed internal access road, transverse drains or grips shall be installed where appropriate to intercept road runoff and divert it to adjacent roadside collector drains.
17. Check dams shall be installed within collector drains where appropriate to reduce flow velocities and promote settlement of suspended sediment. Check dams shall comprise 4/40 mm non-friable crushed rock and shall generally be installed at 25 m or 50 m intervals depending on local gradient.
18. Silt traps, check dams, settlement ponds and other drainage treatment measures shall be regularly inspected and maintained, particularly during and following periods of heavy rainfall.

Refuelling

19. Refuelling and maintenance of mobile plant shall, where practicable, be undertaken off-site. Where required on-site, refuelling shall only be undertaken within designated areas and in accordance with the CEMP and appropriate pollution prevention procedures.
20. Refuelling areas shall be located away from natural watercourses and drainage features. Spill kits and drip trays shall be readily available for use as required.
21. Fuel and other potentially polluting substances shall be stored in appropriately bunded areas in accordance with the CEMP.

Concrete

22. Concrete works shall be managed to prevent the discharge of cementitious material or concrete-contaminated water to the surface water drainage system, groundwater or natural watercourses.
23. Concrete wash water and waste concrete shall be contained and managed in accordance with the CEMP and shall not be discharged to the site drainage system or natural watercourses.

If water pollution is identified the following actions will be taken:

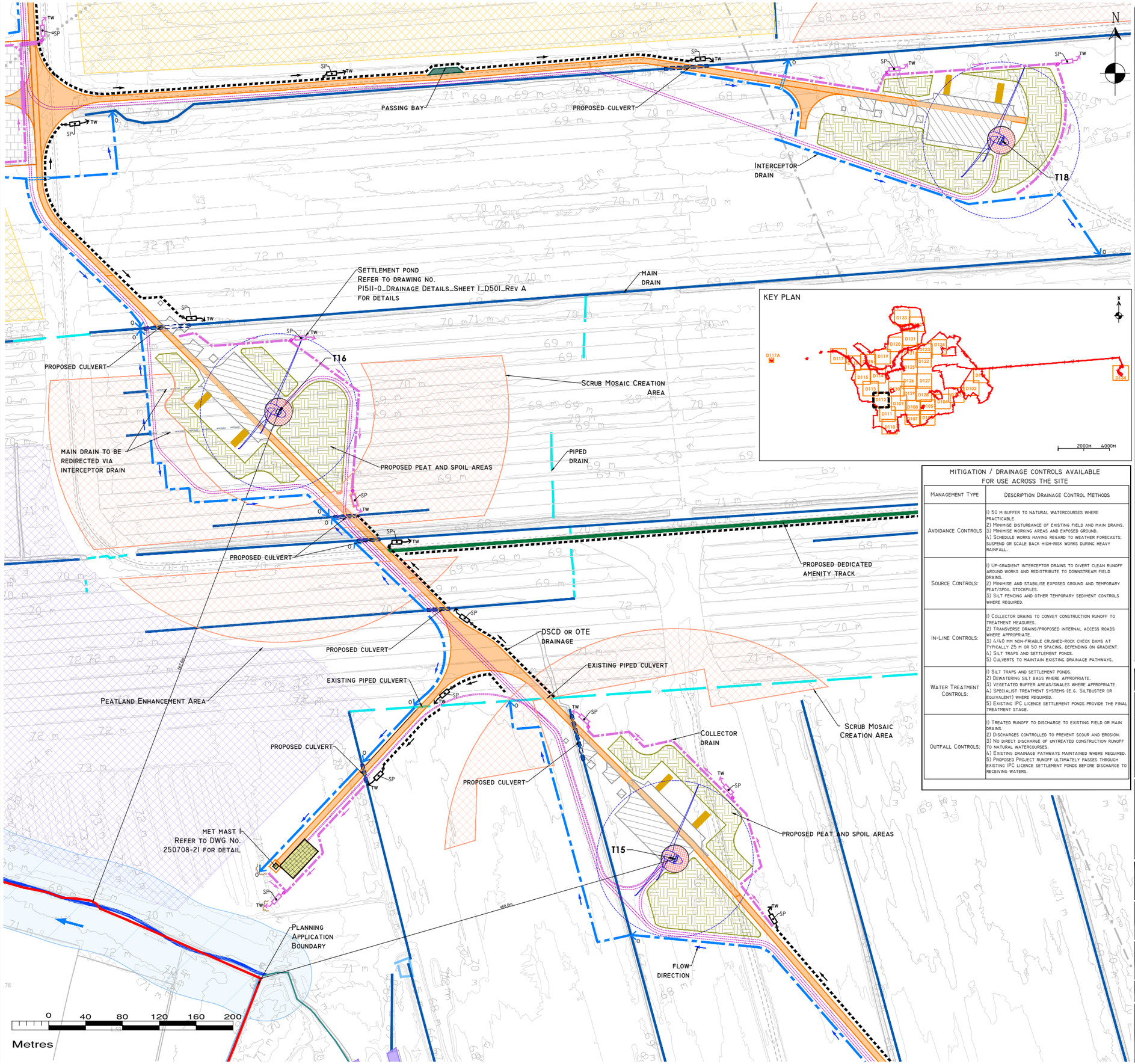
STOP - works in the immediate area will be stopped and the source of the pollution will be identified.

CONTAIN - the source of the pollution will be contained using appropriate measures to prevent further release. Where necessary, drainage pathways shall be temporarily isolated or diverted to prevent contaminated water reaching downstream receptors.

NOTIFY - the Site Manager and Environmental Clerk of Works shall be notified immediately. Relevant statutory authorities and other bodies shall be notified where required in accordance with the CEMP and the project Emergency Response Procedure.

DRAINAGE NOTES:

1. Roadway surfacing design and construction shall be to the Engineer's Specification.
2. Spare silt fencing, straw bales or similar approved pollution control materials shall be stored on site. Suspended sediment in runoff shall be visually monitored during construction. Where elevated silt levels are observed, additional temporary controls such as silt fences, straw bales, silt traps or check dams shall be installed as required. A mobile water treatment system (e.g. Siltbuster or equivalent) shall be available on site for use where required.
3. The proposed drainage system shall be constructed prior to, or in conjunction with, the associated proposed internal access roads and other infrastructure. Temporary drainage and sediment control measures shall be installed where required during construction to prevent elevated suspended sediment concentrations in runoff.
4. Appropriate drainage and pollution prevention measures shall be maintained at all times to prevent the conveyance of significant volumes of sediment to receiving watercourses. Refer also to Pollution Prevention Notes.
5. Interceptor drains shall be installed up-gradient of proposed infrastructure, where required, to intercept clean surface water runoff and minimise the volume of runoff entering construction areas. Intercepted clean water shall be directed around the works and redistributed to downstream field drains. Existing field drains shall be utilised for this purpose where practicable.
6. Collector drains shall be installed downstream of proposed internal access roads and other construction areas, where required, to collect runoff where suspended sediment may become entrained. Runoff shall be conveyed to appropriate treatment measures, including silt traps, check dams, vegetated areas and settlement ponds, prior to discharge to the existing field drain or main drain network.
7. Transverse drains ('grips') shall be installed on sections of proposed internal access roads, where appropriate, to intercept proposed internal access road runoff and divert it to adjacent roadside collector drains. The locations of transverse drains shall be determined having regard to local gradient and drainage conditions.
8. Direct discharge of untreated construction runoff to natural watercourses shall not be permitted. Treated runoff shall be discharged to the existing bog drainage network in accordance with the drainage design.
9. Batters of proposed drains shall generally have side slopes appropriate to their depth and local ground conditions and shall be left to naturally re-vegetate or shall be stabilised using suitable locally sourced vegetation where required.
10. Collector drains shall be shallow and constructed with moderate gradients where practicable to minimise scour. Check dams shall be installed where appropriate to reduce flow velocities and promote settlement of suspended sediment.
11. Settlement ponds shall be provided downstream of proposed internal access roads sections and at proposed turbine/hardstand locations where required. Settlement ponds shall provide treatment and temporary attenuation of runoff prior to discharge to the existing bog drainage network. Pond sizing shall be appropriate to the contributing catchment area. Typical pond details are shown on Drawing D501.
12. Silt fencing or other appropriate sediment control measures shall be installed around temporary peat/spoil stockpiles where required to prevent sediment-laden runoff entering the drainage network. Temporary controls may be removed once the disturbed area has been adequately stabilised.
13. Temporary silt fencing shall be installed where required between construction works and existing drainage features or natural watercourses, particularly where works occur within the prescribed surface water buffer zones.
14. Drain slopes and other exposed surfaces shall be protected from erosion until adequately stabilised. Suitable stripped vegetative material, including peat sod/scraw where available, may be reused locally to assist stabilisation and re-vegetation.
15. The extent and duration of exposed ground shall be minimised as far as practicable.
16. Check dams shall comprise 4/40 mm non-friable crushed rock and shall be installed within collector drains where appropriate. Check dams shall generally be installed at 25 m or 50 m intervals, depending on the local longitudinal gradient and site conditions.
17. Check dams, silt traps and settlement ponds shall be visually inspected and maintained as part of the construction-phase drainage maintenance programme, particularly during and following periods of heavy rainfall. Accumulated sediment shall be removed and disposed of appropriately.
18. Where check dams become clogged with sediment or vegetation, they shall be cleaned or replaced as required to maintain their hydraulic and sediment-control function.
19. The construction-phase drainage infrastructure will generally form the basis of the operational drainage system. Collector drains, settlement ponds and other treatment/attenuation features will be retained and maintained where required. Local settlement ponds may be infilled or decommissioned following the construction phase, subject to confirmation by the Site Engineer.
20. Where temporary dewatering of excavations is required, silt bags and/or other appropriate treatment measures shall be used as necessary. Discharge from dewatering silt bags shall be directed to settlement ponds or other suitable treatment measures prior to discharge to existing field drains or main drains.
21. Fuel and other potentially polluting substances shall be stored in appropriately bunded containment areas in accordance with the CEMP and Pollution Prevention Notes.
22. Culverts shall be provided where proposed internal access roads or hardstands cross existing main bog drainage pathways. Culverts shall be appropriately sized and installed to maintain existing drainage connectivity and shall be regularly inspected and maintained.
23. All surface water runoff from the Proposed Project shall ultimately pass through the existing IPC licence settlement ponds at the bog outfall locations prior to onward discharge to the surrounding stream and river network.



MITIGATION / DRAINAGE CONTROLS AVAILABLE FOR USE ACROSS THE SITE

Management Type	Description Drainage Control Methods
Avoidance Controls	1) 50 m buffer to natural watercourses where practicable. 2) Minimise disturbance of existing field and main drains. 3) Minimise working areas and exposed ground. 4) Schedule works having regard to weather forecasts; suspend or scale back high-risk works during heavy rainfall.
Source Controls:	1) Up-gradient interceptor drains to divert clean runoff around works and redistribute to downstream field drains. 2) Minimise and stabilise exposed ground and temporary peat/spoil stockpiles. 3) Silt fencing and other temporary sediment controls where required.
In-Line Controls:	1) Collector drains to convey construction runoff to treatment measures. 2) Transverse drains/proposed internal access roads where appropriate. 3) 4/40 mm non-friable crushed-rock check dams at typically 25 m or 50 m spacing, depending on gradient. 4) Silt traps and settlement ponds. 5) Culverts to maintain existing drainage pathways.
Water Treatment Controls:	1) Silt traps and settlement ponds. 2) Dewatering silt bags where appropriate. 3) Vegetated buffer areas/swales where appropriate. 4) Specialist treatment systems (e.g. Siltbuster or equivalent) where required. 5) Existing IPC licence settlement ponds provide the final treatment stage.
Outfall Controls:	1) Treated runoff to discharge to existing field or main drains. 2) Discharges controlled to prevent scour and erosion. 3) No direct discharge of untreated construction runoff to natural watercourses. 4) Existing drainage pathways maintained where required. 5) Proposed Project runoff ultimately passes through existing IPC licence settlement ponds before discharge to receiving waters.

Drawing Legend:

Existing Drainage
- Watercourses
- Watercourses 50m Buffer
- Stream Flow Direction
- Existing Main Drains
- Redirected Main Drains
- Existing Piped Drains
- Existing Discharge Drains
- Existing Boundary Drains
- Field Drain
- Existing Settlement Ponds
- Existing WC Crossing/Culvert

Proposed Drainage
- Upstream Interceptor Drain
- Downstream Collector Drain (DSCD)
- DSCD or Over The Edge (OTE)
- Direction of Flow
- Silt Fences
- Double Silt Fences
- WF Settlement Pond
- Level Spreader
- Proposed WC Crossing/Culvert
- Interceptor Ditch Culvert
- Collector Ditch Culvert
- Watercourse Drain Protection Berm
- O Overland Flow Discharge
- TW Treated Water Discharge
- SP New Settlement Pond

- Planning Application Boundary
- Existing Ground Surface Minor Contour (1 m Interval)
- Turbine 220, Turbine Foundation and Swept Area
- Turbine 200, Turbine Foundation and Swept Area
- Turbine Foundation
- Crane Platform
- Blade Setdown Areas
- Upgrades to Existing Tracks
- Proposed Internal Access Roads and Turning Bay
- Proposed Internal 33kV Cabling
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- Proposed Off-Site GIS Substation
- Proposed Met Mast
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- Temporary Construction Compounds
- Proposed Car Parking
- Proposed Peat and Spoil Areas
- Proposed Passing Bays
- Proposed Dedicated Amenity Track
- Proposed Dedicated Amenity Board Walk
- Scrub Mosaic Creation Area
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- Native Tree (Woodland and Scrub) Planting Area
- Marsh Fritillary Enhancement Area
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Revisions

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Client: Bord na Móna Powergen Ltd

Job: Ballydermot WF, Co. Offaly/Co. Kildare

Title: Proposed Construction Phase and Operational Phase Drainage Layout

Figure No: D112

Drawing No: P1511-0-1026-A1-D112-00C	
Sheet Size: A1	Project No.: P1511-0
Scale: 1:2,000 (A1)	Drawn By: GA
Date: 21/10/2026	Checked By: MG

MITIGATION / DRAINAGE CONTROLS AVAILABLE FOR USE ACROSS THE SITE

Management Type	Description Drainage Control Methods
Avoidance Controls	1) 50 m buffer to natural watercourses where practicable. 2) Minimise disturbance of existing field and main drains. 3) Minimise working areas and exposed ground. 4) Schedule works having regard to weather forecasts; suspend or scale back high-risk works during heavy rainfall.
Source Controls:	1) Up-gradient interceptor drains to divert clean runoff around works and redistribute to downstream field drains. 2) Minimise and stabilise exposed ground and temporary peat/spoil stockpiles. 3) Silt fencing and other temporary sediment controls where required.
In-Line Controls:	1) Collector drains to convey construction runoff to treatment measures. 2) Transverse drains/proposed internal access roads where appropriate. 3) 4/40 mm non-friable crushed-rock check dams at typically 25 m or 50 m spacing, depending on gradient. 4) Silt traps and settlement ponds. 5) Culverts to maintain existing drainage pathways.
Water Treatment Controls:	1) Silt traps and settlement ponds. 2) Dewatering silt bags where appropriate. 3) Vegetated buffer areas/swales where appropriate. 4) Specialist treatment systems (e.g. Siltbuster or equivalent) where required. 5) Existing IPC Licence settlement ponds provide the final treatment stage.
Outfall Controls:	1) Treated runoff to discharge to existing field or main drains. 2) Discharges controlled to prevent scour and erosion. 3) No direct discharge of untreated construction runoff to natural watercourses. 4) Existing drainage pathways maintained where required. 5) Proposed Project runoff ultimately passes through existing IPC Licence settlement ponds before discharge to receiving waters.

Pollution Prevention Notes:

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Discharges

4. Water containing elevated suspended sediment shall not be pumped or discharged directly to any natural watercourse. Construction runoff and excavation dewatering shall be appropriately treated prior to discharge to the existing bog drainage network.
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Excavations

11. Where excavations are proposed, interceptor/cut-off drains shall be installed where required to minimise the volume of clean surface water entering the excavation. This shall include turbine base excavations where appropriate.
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Exposed Ground & Stockpiles

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Refuelling

19. Refuelling and maintenance of mobile plant shall, where practicable, be undertaken off-site. Where required on-site, refuelling shall only be undertaken within designated areas and in accordance with the CEMP and appropriate pollution prevention procedures.
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Concrete

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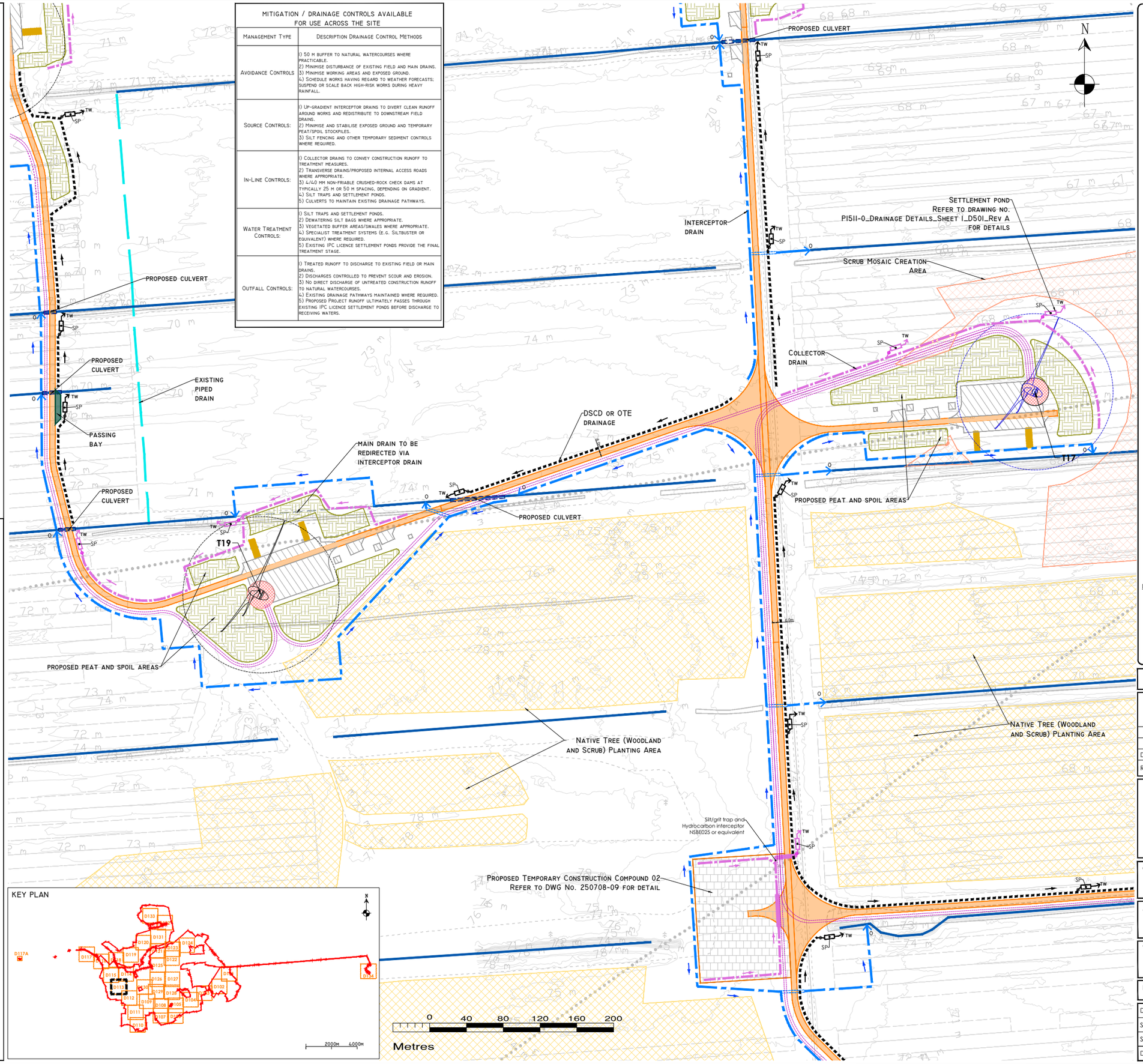
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NOTIFY - The Site Manager and Environmental Clerk of Works shall be notified immediately. Relevant statutory authorities and other bodies shall be notified where required in accordance with the CEMP and the Project Emergency Response Procedure.

Drainage Notes:

1. Roadway surfacing design and construction shall be to the Engineer's Specification.
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12. Silt fencing or other appropriate sediment control measures shall be installed around temporary peat/spoil stockpiles where required to prevent sediment-laden runoff entering the drainage network. Temporary controls may be removed once the disturbed area has been adequately stabilised.
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KEY PLAN

Drawing Legend:

- Existing Drainage
  - Watercourses
  - Watercourses 50m Buffer
  - Stream Flow Direction
  - Existing Main Drains
  - Redirected Main Drains
  - Existing Piped Drains
  - Existing Discharge Drains
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Date	Description	Chkd	Signed

Revisions

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Client:
Bord na Móna Powergen Ltd

Job:
Ballydermot WF,
Co. Offaly/Co. Kildare

Title:
Proposed Construction Phase and Operational Phase Drainage Layout

Figure No: DII3

Drawing No: P1511-0-1026-A1-D113-00C	
Sheet Size: A1	Project No.: P1511-0
Scale: 1:2,000 (A1)	Drawn By: GA
Date: 21/10/2026	Checked By: MG

Pollution Prevention Notes:

1. Site management and drainage proposals are intended to ensure protection of surface water and groundwater and to minimise the risk of pollution, siltation and erosion.
2. Appropriate drainage and pollution control measures shall be installed prior to, or in conjunction with, construction works and shall be maintained for the duration of the works.
3. Silty water may arise from excavation dewatering, erosion of exposed or disturbed ground, temporary stockpiles, plant and wheel washing, proposed internal access roads and disturbance of existing field drains and ditches.

Discharges

4. Water containing elevated suspended sediment shall not be pumped or discharged directly to any natural watercourse. Construction runoff and excavation dewatering shall be appropriately treated prior to discharge to the existing bog drainage network.
5. No excavated material or temporary stockpiles shall be stored within the prescribed surface water buffer zones.
6. Runoff from construction areas shall be collected in collector drains and directed to appropriate treatment measures, including silt traps, check dams, settlement ponds, vegetated buffer areas and/or other suitable treatment systems, prior to discharge to existing field drains or main drains.
7. Clean surface water runoff shall, where practicable, be intercepted up-gradient of construction areas using interceptor drains and directed around the works before being redistributed to downstream field drains. Existing field drains may be utilised for this purpose where appropriate.
8. Pumping of clean water from excavations, or over-pumping of drains, ditches or watercourses, shall be undertaken in a manner which does not cause scour or erosion at the point of discharge. Flow velocities shall be controlled using appropriate measures such as splash plates or other suitable discharge controls.
9. Existing drains and ditches shall be retained and protected where practicable. Vegetation shall not be removed from existing drains unless required to facilitate the works.
10. All surface water runoff from the Proposed Project shall ultimately pass through the existing IPC licence settlement ponds at the bog outfall locations prior to discharge to the receiving stream and river network.

Excavations

11. Where excavations are proposed, interceptor/cut-off drains shall be installed where required to minimise the volume of clean surface water entering the excavation. This shall include turbine base excavations where appropriate.
12. Where temporary dewatering of excavations is required, pumped water shall be treated using appropriate measures such as dewatering silt bags, settlement ponds or specialist treatment systems prior to discharge to the existing drainage network.

Exposed Ground & Stockpiles

13. The extent of exposed ground and the volume and duration of temporary stockpiles shall be minimised as far as practicable.
14. Construction activities involving significant areas of exposed peat or soil shall be scaled back or suspended during periods of heavy rainfall or where heavy rainfall is forecast.

Proposed Internal Access Roads

15. Collector drains shall be provided alongside proposed internal access roads where required to collect construction runoff and convey it to appropriate treatment measures.
16. On steeper sections of proposed internal access road, transverse drains or grips shall be installed where appropriate to intercept road runoff and divert it to adjacent roadside collector drains.
17. Check dams shall be installed within collector drains where appropriate to reduce flow velocities and promote settlement of suspended sediment. Check dams shall comprise 4/40 mm non-friable crushed rock and shall generally be installed at 25 m or 50 m intervals depending on local gradient.
18. Silt traps, check dams, settlement ponds and other drainage treatment measures shall be regularly inspected and maintained, particularly during and following periods of heavy rainfall.

Refuelling

19. Refuelling and maintenance of mobile plant shall, where practicable, be undertaken off-site. Where required on-site, refuelling shall only be undertaken within designated areas and in accordance with the CEMP and appropriate pollution prevention procedures.
20. Refuelling areas shall be located away from natural watercourses and drainage features. Spill kits and drip trays shall be readily available for use as required.
21. Fuel and other potentially polluting substances shall be stored in appropriately bunded areas in accordance with the CEMP.

Concrete

22. Concrete works shall be managed to prevent the discharge of cementitious material or concrete-contaminated water to the surface water drainage system, groundwater or natural watercourses.
23. Concrete wash water and waste concrete shall be contained and managed in accordance with the CEMP and shall not be discharged to the site drainage system or natural watercourses.

If water pollution is identified the following actions will be taken:

Stop - works in the immediate area will be stopped and the source of the pollution will be identified.

Contain - the source of the pollution will be contained using appropriate measures to prevent further release. Where necessary, drainage pathways shall be temporarily isolated or diverted to prevent contaminated water reaching downstream receptors.

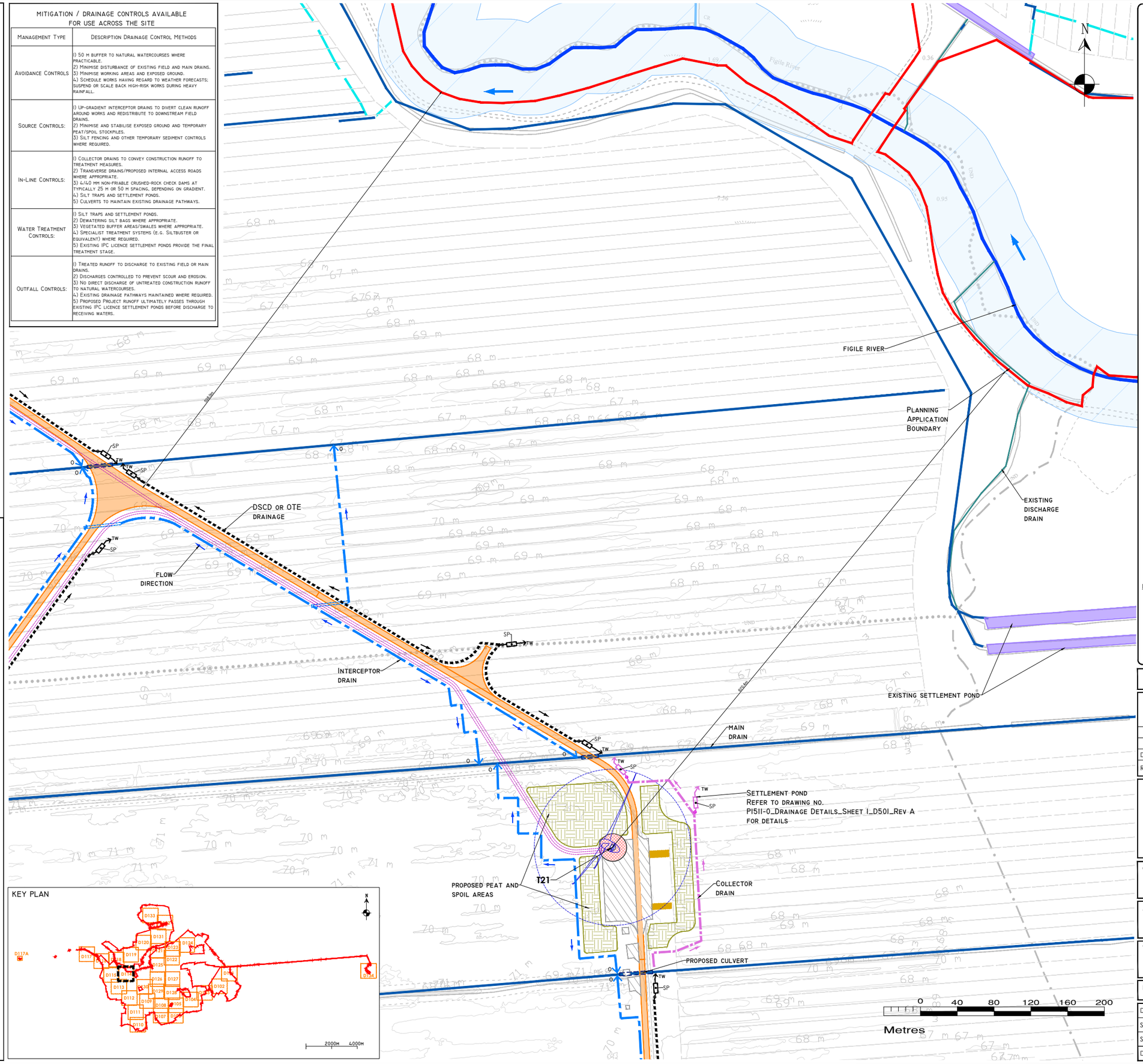
Notify - the Site Manager and Environmental Clerk of Works shall be notified immediately. Relevant statutory authorities and other bodies shall be notified where required in accordance with the CEMP and the Project Emergency Response Procedure.

Drainage Notes:

1. Roadway surfacing design and construction shall be to the Engineer's Specification.
2. Spare silt fencing, straw bales or similar approved pollution control materials shall be stored on site. Suspended sediment in runoff shall be visually monitored during construction. Where elevated silt levels are observed, additional temporary controls such as silt fences, straw bales, silt traps or check dams shall be installed as required. A mobile water treatment system (e.g. Siltbuster or equivalent) shall be available on site for use where required.
3. The proposed drainage system shall be constructed prior to, or in conjunction with, the associated proposed internal access roads and other infrastructure. Temporary drainage and sediment control measures shall be installed where required during construction to prevent elevated suspended sediment concentrations in runoff.
4. Appropriate drainage and pollution prevention measures shall be maintained at all times to prevent the conveyance of significant volumes of sediment to receiving watercourses. Refer also to Pollution Prevention Notes.
5. Interceptor drains shall be installed up-gradient of proposed infrastructure, where required, to intercept clean surface water runoff and minimise the volume of runoff entering construction areas. Intercepted clean water shall be directed around the works and redistributed to downstream field drains. Existing field drains shall be utilised for this purpose where practicable.
6. Collector drains shall be installed downstream of proposed internal access roads and other construction areas, where required, to collect runoff where suspended sediment may become entrained. Runoff shall be conveyed to appropriate treatment measures, including silt traps, check dams, vegetated areas and settlement ponds, prior to discharge to the existing field drain or main drain network.
7. Transverse drains ('grips') shall be installed on sections of proposed internal access roads, where appropriate, to intercept Proposed internal access road runoff and divert it to adjacent roadside collector drains. The locations of transverse drains shall be determined having regard to local gradient and drainage conditions.
8. Direct discharge of untreated construction runoff to natural watercourses shall not be permitted. Treated runoff shall be discharged to the existing bog drainage network in accordance with the drainage design.
9. Batters of proposed drains shall generally have side slopes appropriate to their depth and local ground conditions and shall be left to naturally re-vegetate or shall be stabilised using suitable locally sourced vegetation where required.
10. Collector drains shall be shallow and constructed with moderate gradients where practicable to minimise scour. Check dams shall be installed where appropriate to reduce flow velocities and promote settlement of suspended sediment.
11. Settlement ponds shall be provided downstream of proposed internal access roads sections and at proposed turbine/hardstand locations where required. Settlement ponds shall provide treatment and temporary attenuation of runoff prior to discharge to the existing bog drainage network. Pond sizing shall be appropriate to the contributing catchment area. Typical pond details are shown on Drawing D50i.
12. Silt fencing or other appropriate sediment control measures shall be installed around temporary peat/spoil stockpiles where required to prevent sediment-laden runoff entering the drainage network. Temporary controls may be removed once the disturbed area has been adequately stabilised.
13. Temporary silt fencing shall be installed where required between construction works and existing drainage features or natural watercourses, particularly where works occur within the prescribed surface water buffer zones.
14. Drain slopes and other exposed surfaces shall be protected from erosion until adequately stabilised. Suitable stripped vegetative material, including peat sod/scraw where available, may be reused locally to assist stabilisation and re-vegetation.
15. The extent and duration of exposed ground shall be minimised as far as practicable.
16. Check dams shall comprise 4/40 mm non-friable crushed rock and shall be installed within collector drains where appropriate. Check dams shall generally be installed at 25 m or 50 m intervals, depending on the local longitudinal gradient and site conditions.
17. Check dams, silt traps and settlement ponds shall be visually inspected and maintained as part of the construction-phase drainage maintenance programme, particularly during and following periods of heavy rainfall. Accumulated sediment shall be removed and disposed of appropriately.
18. Where check dams become clogged with sediment or vegetation, they shall be cleaned or replaced as required to maintain their hydraulic and sediment-control function.
19. The construction-phase drainage infrastructure will generally form the basis of the operational drainage system. Collector drains, settlement ponds and other treatment/attenuation features will be retained and maintained where required. Local settlement ponds may be infilled or decommissioned following the construction phase, subject to confirmation by the site engineer.
20. Where temporary dewatering of excavations is required, silt bags and/or other appropriate treatment measures shall be used as necessary. Discharge from dewatering silt bags shall be directed to settlement ponds or other suitable treatment measures prior to discharge to existing field drains or main drains.
21. Fuel and other potentially polluting substances shall be stored in appropriately bunded containment areas in accordance with the CEMP and Pollution Prevention Notes.
22. Culverts shall be provided where proposed internal access roads or hardstands cross existing main bog drainage pathways. Culverts shall be appropriately sized and installed to maintain existing drainage connectivity and shall be regularly inspected and maintained.
23. All surface water runoff from the Proposed Project shall ultimately pass through the existing IPC licence settlement ponds at the bog outfall locations prior to onward discharge to the surrounding stream and river network.

Mitigation / Drainage Controls Available for Use Across the Site

Management Type	Description Drainage Control Methods
Avoidance Controls	1) 50 m buffer to natural watercourses where practicable. 2) Minimise disturbance of existing field and main drains. 3) Minimise working areas and exposed ground. 4) Schedule works having regard to weather forecasts; suspend or scale back high-risk works during heavy rainfall.
Source Controls:	1) Up-gradient interceptor drains to divert clean runoff around works and redistribute to downstream field drains. 2) Minimise and stabilise exposed ground and temporary peat/spoil stockpiles. 3) Silt fencing and other temporary sediment controls where required.
In-Line Controls:	1) Collector drains to convey construction runoff to treatment measures. 2) Transverse drains/proposed internal access roads where appropriate. 3) 4/40 mm non-friable crushed-rock check dams at typically 25 m or 50 m spacing, depending on gradient. 4) Silt traps and settlement ponds. 5) Culverts to maintain existing drainage pathways.
Water Treatment Controls:	1) Silt traps and settlement ponds. 2) Dewatering silt bags where appropriate. 3) Vegetated buffer areas/swales where appropriate. 4) Specialist treatment systems (e.g. Siltbuster or equivalent) where required. 5) Existing IPC licence settlement ponds provide the final treatment stage.
Outfall Controls:	1) Treated runoff to discharge to existing field or main drains. 2) Discharges controlled to prevent scour and erosion. 3) No direct discharge of untreated construction runoff to natural watercourses. 4) Existing drainage pathways maintained where required. 5) Proposed Project runoff ultimately passes through existing IPC licence settlement ponds before discharge to receiving waters.



KEY PLAN

Drawing Legend:

- Existing Drainage:
  - Watercourses
  - Watercourses 50m Buffer
  - Stream Flow Direction
  - Existing Main Drains
  - Redirected Main Drains
  - Existing Piped Drains
  - Existing Discharge Drains
  - Existing Boundary Drains
  - Field Drain
  - Existing Settlement Ponds
  - Existing WC Crossing/Culvert
- Proposed Drainage:
  - Upstream Interceptor Drain
  - Downstream Collector Drain (DSCD)
  - DSCD or Over The Edge (OTE)
  - Direction of Flow
  - Silt Fences
  - Double Silt Fences
  - WF Settlement Pond
  - Level Spreader
  - Proposed WC Crossing/Culvert
  - Interceptor Ditch Culvert
  - Collector Ditch Culvert
  - Watercourse Drain Protection Berm
  - O Overland Flow Discharge
  - TW Treated Water Discharge
  - SP New Settlement Pond
- Planning Application Boundary
- Existing Ground Surface Minor Contour (1 m Interval)
- Turbine 220, Turbine Foundation and Swept Area
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- Turbine Foundation
- Crane Platform
- Blade Setdown Areas
- Upgrades to Existing Tracks
- Proposed Internal Access Roads and Turning Bay
- Proposed Internal 33kV Cabling
- Proposed Grid Connection Underground 220kV Electrical Cabling
- Proposed On-Site Substation
- Proposed Off-Site GIS Substation
- Proposed Met Mast
- Proposed Relay Mast
- Temporary Construction Compounds
- Proposed Car Parking
- Proposed Peat and Spoil Areas
- Proposed Passing Bays
- Proposed Dedicated Amenity Track
- Proposed Dedicated Amenity Board Walk
- Scrub Mosaic Creation Area
- Pollinator Foraging Habitat Enhancement Area
- Peatland Enhancement Area
- Native Tree (Woodland and Scrub) Planting Area
- Marsh Fritillary Enhancement Area
- Lodge Bog Enhancement Area

Basemap Note: These drawings use 1:5,000 scale Ordnance Survey Ireland (OSi) basemaps as an underlay. For clarity, the basemap features are not included in the drawing legend and are displayed in light grey with partial transparency to distinguish them from the proposed development features.

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4. All dimensions are in metres unless otherwise stated.

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Client: Bord na Móna Powergen Ltd

Job: Ballydermot WF, Co. Offaly/Co. Kildare

Title: Proposed Construction Phase and Operational Phase Drainage Layout

Figure No: DII4

Drawing No: P1511-0-1026-A1-D114-00C	
Sheet Size: A1	Project No.: P1511-0
Scale: 1:2,000 (A1)	Drawn By: GA
Date: 21/10/2026	Checked By: MG

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Discharges

4. Water containing elevated suspended sediment shall not be pumped or discharged directly to any natural watercourse. Construction runoff and excavation dewatering shall be appropriately treated prior to discharge to the existing bog drainage network.
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Proposed Internal Access Roads

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Concrete

22. Concrete works shall be managed to prevent the discharge of cementitious material or concrete-contaminated water to the surface water drainage system, groundwater or natural watercourses.
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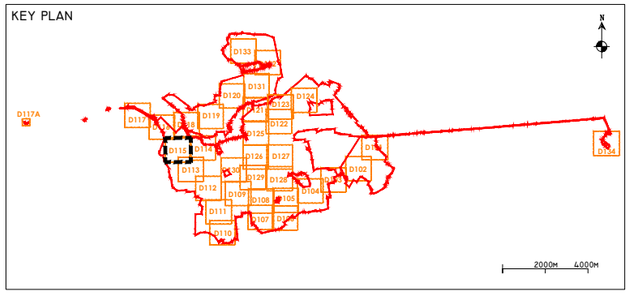
CONTAIN - the source of the pollution will be contained using appropriate measures to prevent further release. Where necessary, drainage pathways shall be temporarily isolated or diverted to prevent contaminated water reaching downstream receptors.

NOTIFY - The Site Manager and Environmental Clerk of Works shall be notified immediately. Relevant statutory authorities and other bodies shall be notified where required in accordance with the CEMP and the Project Emergency Response Procedure.

DRAINAGE NOTES:

1. Roadway surfacing design and construction shall be to the Engineer's Specification.
2. Spare silt fencing, straw bales or similar approved pollution control materials shall be stored on site. Suspended sediment in runoff shall be visually monitored during construction. Where elevated silt levels are observed, additional temporary controls such as silt fences, straw bales, silt traps or check dams shall be installed as required. A mobile water treatment system (e.g. Siltbuster or equivalent) shall be available on site for use where required.
3. The proposed drainage system shall be constructed prior to, or in conjunction with, the associated proposed internal access roads and other infrastructure. Temporary drainage and sediment control measures shall be installed where required during construction to prevent elevated suspended sediment concentrations in runoff.
4. Appropriate drainage and pollution prevention measures shall be maintained at all times to prevent the conveyance of significant volumes of sediment to receiving watercourses. Refer also to Pollution Prevention Notes.
5. Interceptor drains shall be installed up-gradient of proposed infrastructure, where required, to intercept clean surface water runoff and minimise the volume of runoff entering construction areas. Intercepted clean water shall be directed around the works and redistributed to downstream field drains. Existing field drains shall be utilised for this purpose where practicable.
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8. Direct discharge of untreated construction runoff to natural watercourses shall not be permitted. Treated runoff shall be discharged to the existing bog drainage network in accordance with the drainage design.
9. Batters of proposed drains shall generally have side slopes appropriate to their depth and local ground conditions and shall be left to naturally re-vegetate or shall be stabilised using suitable locally sourced vegetation where required.
10. Collector drains shall be shallow and constructed with moderate gradients where practicable to minimise scour. Check dams shall be installed where appropriate to reduce flow velocities and promote settlement of suspended sediment.
11. Settlement ponds shall be provided downstream of proposed internal access roads sections and at proposed turbine/hardstand locations where required. Settlement ponds shall provide treatment and temporary attenuation of runoff prior to discharge to the existing bog drainage network. Pond sizing shall be appropriate to the contributing catchment area. Typical pond details are shown on Drawing D501.
12. Silt fencing or other appropriate sediment control measures shall be installed around temporary peat/spoil stockpiles where required to prevent sediment-laden runoff entering the drainage network. Temporary controls may be removed once the disturbed area has been adequately stabilised.
13. Temporary silt fencing shall be installed where required between construction works and existing drainage features or natural watercourses, particularly where works occur within the prescribed surface water buffer zones.
14. Drain slopes and other exposed surfaces shall be protected from erosion until adequately stabilised. Suitable stripped vegetative material, including peat sod/scraw where available, may be reused locally to assist stabilisation and re-vegetation.
15. The extent and duration of exposed ground shall be minimised as far as practicable.
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18. Where check dams become clogged with sediment or vegetation, they shall be cleaned or replaced as required to maintain their hydraulic and sediment-control function.
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21. Fuel and other potentially polluting substances shall be stored in appropriately bunded containment areas in accordance with the CEMP and Pollution Prevention Notes.
22. Culverts shall be provided where proposed internal access roads or hardstands cross existing main bog drainage pathways. Culverts shall be appropriately sized and installed to maintain existing drainage connectivity and shall be regularly inspected and maintained.
23. All surface water runoff from the Proposed Project shall ultimately pass through the existing IPC licence settlement ponds at the bog outfall locations prior to onward discharge to the surrounding stream and river network.

KEY PLAN



MITIGATION / DRAINAGE CONTROLS AVAILABLE FOR USE ACROSS THE SITE

Management Type	Description Drainage Control Methods
Avoidance Controls	1) 50 m buffer to natural watercourses where practicable. 2) Minimise disturbance of existing field and main drains. 3) Minimise working areas and exposed ground. 4) Schedule works having regard to weather forecasts; suspend or scale back high-risk works during heavy rainfall.
Source Controls:	1) Up-gradient interceptor drains to divert clean runoff around works and redistribute to downstream field drains. 2) Minimise and stabilise exposed ground and temporary peat/spoil stockpiles. 3) Silt fencing and other temporary sediment controls where required.
In-Line Controls:	1) Collector drains to convey construction runoff to treatment measures. 2) Transverse drains/proposed internal access roads where appropriate. 3) 4/40 mm non-friable crushed-rock check dams at typically 25 m or 50 m spacing, depending on gradient. 4) Silt traps and settlement ponds. 5) Culverts to maintain existing drainage pathways.
Water Treatment Controls:	1) Silt traps and settlement ponds. 2) Dewatering silt bags where appropriate. 3) Vegetated buffer areas/swales where appropriate. 4) Specialist treatment systems (e.g. Siltbuster or equivalent) where required. 5) Existing IPC licence settlement ponds provide the final treatment stage.
Outfall Controls:	1) Treated runoff to discharge to existing field or main drains. 2) Discharges controlled to prevent scour and erosion. 3) No direct discharge of untreated construction runoff to natural watercourses. 4) Existing drainage pathways maintained where required. 5) Proposed Project runoff ultimately passes through existing IPC licence settlement ponds before discharge to receiving waters.

DRAWING LEGEND:

EXISTING DRAINAGE
- Watercourses
- Watercourses 50m Buffer
- Stream Flow Direction
- Existing Main Drains
- Redirected Main Drains
- Existing Piped Drains
- Existing Discharge Drains
- Existing Boundary Drains
- Field Drain
- Existing Settlement Ponds
- Existing WC Crossing/Culvert

PROPOSED DRAINAGE
- Upstream Interceptor Drain
- Downstream Collector Drain (DSCD)
- DSCD or Over The Edge (OTE)
- Direction of Flow
- Silt Fences
- Double Silt Fences
- WF Settlement Pond
- Level Spreader
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- O Overland Flow Discharge
- TW Treated Water Discharge
- SP New Settlement Pond

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- Existing Ground Surface Minor Contour (1 m Interval)
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Revisions			

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Client:
Bord na Móna Powergen Ltd

Job:
Ballydermot WF,
Co. Offaly/Co. Kildare

Title:
Proposed Construction Phase and Operational Phase Drainage Layout

Figure No: DII5

Drawing No: P1511-0-1026-A1-D115-00C	
Sheet Size: A1	Project No.: P1511-0
Scale: 1:2,000 (A1)	Drawn By: GA
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4. Water containing elevated suspended sediment shall not be pumped or discharged directly to any natural watercourse. Construction runoff and excavation dewatering shall be appropriately treated prior to discharge to the existing bog drainage network.
5. No excavated material or temporary stockpiles shall be stored within the prescribed surface water buffer zones.
6. Runoff from construction areas shall be collected in collector drains and directed to appropriate treatment measures, including silt traps, check dams, settlement ponds, vegetated buffer areas and/or other suitable treatment systems, prior to discharge to existing field drains or main drains.
7. Clean surface water runoff shall, where practicable, be intercepted up-gradient of construction areas using interceptor drains and directed around the works before being redistributed to downstream field drains. Existing field drains may be utilised for this purpose where appropriate.
8. Pumping of clean water from excavations, or over-pumping of drains, ditches or watercourses, shall be undertaken in a manner which does not cause scour or erosion at the point of discharge. Flow velocities shall be controlled using appropriate measures such as splash plates or other suitable discharge controls.
9. Existing drains and ditches shall be retained and protected where practicable. Vegetation shall not be removed from existing drains unless required to facilitate the works.
10. All surface water runoff from the Proposed Project shall ultimately pass through the existing IPC licence settlement ponds at the bog outfall locations prior to discharge to the receiving stream and river network.

Excavations

11. Where excavations are proposed, interceptor/cut-off drains shall be installed where required to minimise the volume of clean surface water entering the excavation. This shall include turbine base excavations where appropriate.
12. Where temporary dewatering of excavations is required, pumped water shall be treated using appropriate measures such as dewatering silt bags, settlement ponds or specialist treatment systems prior to discharge to the existing drainage network.

Exposed Ground & Stockpiles

13. The extent of exposed ground and the volume and duration of temporary stockpiles shall be minimised as far as practicable.
14. Construction activities involving significant areas of exposed peat or soil shall be scaled back or suspended during periods of heavy rainfall or where heavy rainfall is forecast.

Proposed Internal Access Roads

15. Collector drains shall be provided alongside proposed internal access roads where required to collect construction runoff and convey it to appropriate treatment measures.
16. On steeper sections of proposed internal access road, transverse drains or grips shall be installed where appropriate to intercept road runoff and divert it to adjacent roadside collector drains.
17. Check dams shall be installed within collector drains where appropriate to reduce flow velocities and promote settlement of suspended sediment. Check dams shall comprise 4/40 mm non-friable crushed rock and shall generally be installed at 25 m or 50 m intervals depending on local gradient.
18. Silt traps, check dams, settlement ponds and other drainage treatment measures shall be regularly inspected and maintained, particularly during and following periods of heavy rainfall.

Refuelling

19. Refuelling and maintenance of mobile plant shall, where practicable, be undertaken off-site. Where required on-site, refuelling shall only be undertaken within designated areas and in accordance with the CEMP and appropriate pollution prevention procedures.
20. Refuelling areas shall be located away from natural watercourses and drainage features. Spill kits and drip trays shall be readily available for use as required.
21. Fuel and other potentially polluting substances shall be stored in appropriately bunded areas in accordance with the CEMP.

Concrete

22. Concrete works shall be managed to prevent the discharge of cementitious material or concrete-contaminated water to the surface water drainage system, groundwater or natural watercourses.
23. Concrete wash water and waste concrete shall be contained and managed in accordance with the CEMP and shall not be discharged to the site drainage system or natural watercourses.

If water pollution is identified the following actions will be taken:

STOP - works in the immediate area will be stopped and the source of the pollution will be identified.

CONTAIN - the source of the pollution will be contained using appropriate measures to prevent further release. Where necessary, drainage pathways shall be temporarily isolated or diverted to prevent contaminated water reaching downstream receptors.

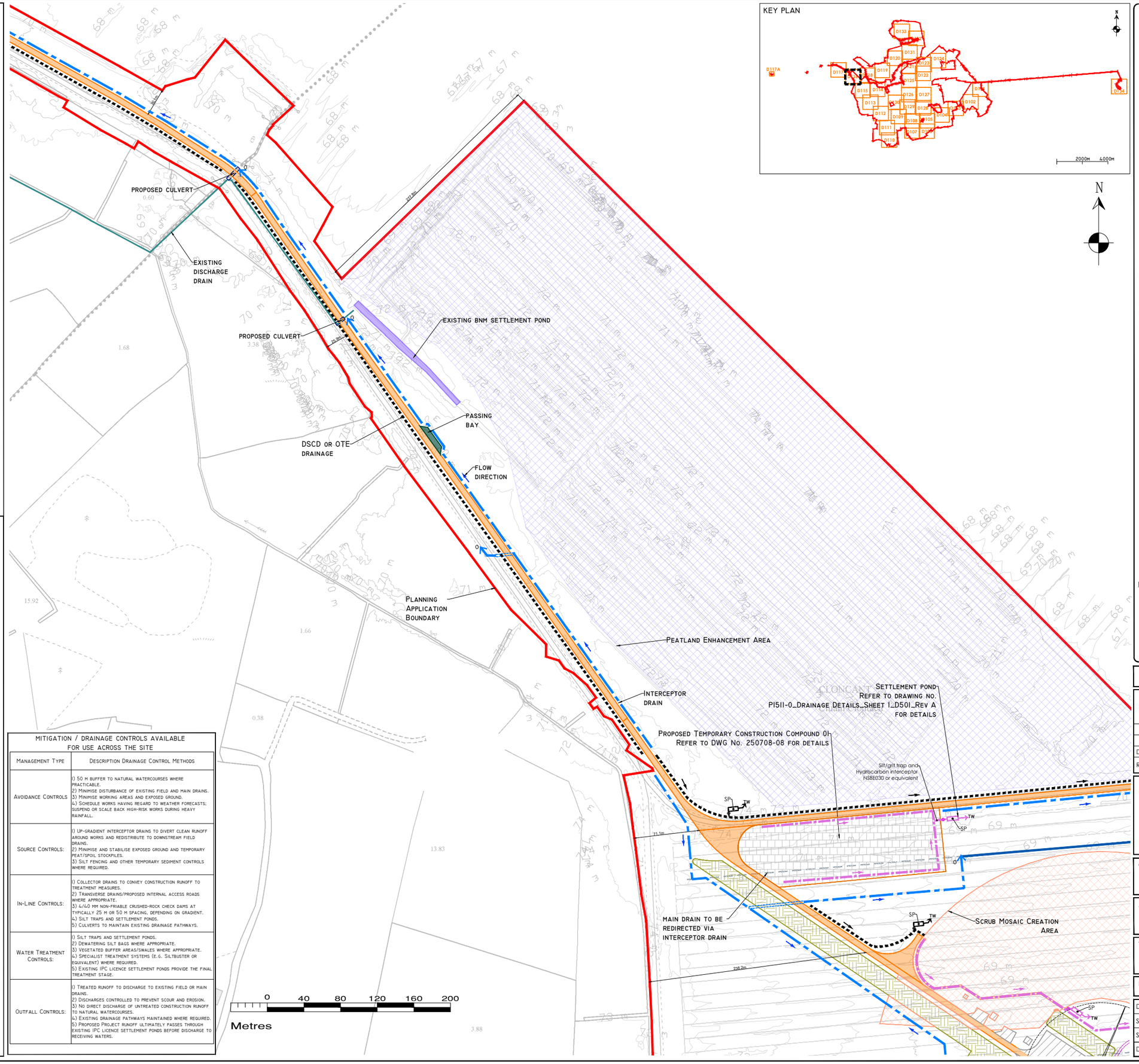
NOTIFY - The Site Manager and Environmental Clerk of Works shall be notified immediately. Relevant statutory authorities and other bodies shall be notified where required in accordance with the CEMP and the Project Emergency Response Procedure.

DRAINAGE NOTES:

1. Roadway surfacing design and construction shall be to the Engineer's Specification.
2. Spare silt fencing, straw bales or similar approved pollution control materials shall be stored on site. Suspended sediment in runoff shall be visually monitored during construction. Where elevated silt levels are observed, additional temporary controls such as silt fences, straw bales, silt traps or check dams shall be installed as required. A mobile water treatment system (e.g. Siltbuster or equivalent) shall be available on site for use where required.
3. The proposed drainage system shall be constructed prior to, or in conjunction with, the associated proposed internal access roads and other infrastructure. Temporary drainage and sediment control measures shall be installed where required during construction to prevent elevated suspended sediment concentrations in runoff.
4. Appropriate drainage and pollution prevention measures shall be maintained at all times to prevent the conveyance of significant volumes of sediment to receiving watercourses. Refer also to Pollution Prevention Notes.
5. Interceptor drains shall be installed up-gradient of proposed infrastructure, where required, to intercept clean surface water runoff and minimise the volume of runoff entering construction areas. Intercepted clean water shall be directed around the works and redistributed to downstream field drains. Existing field drains shall be utilised for this purpose where practicable.
6. Collector drains shall be installed downstream of proposed internal access roads and other construction areas, where required, to collect runoff where suspended sediment may become entrained. Runoff shall be conveyed to appropriate treatment measures, including silt traps, check dams, vegetated areas and settlement ponds, prior to discharge to the existing field drain or main drain network.
7. Transverse drains ('grips') shall be installed on sections of proposed internal access roads, where appropriate, to intercept proposed internal access road runoff and divert it to adjacent roadside collector drains. The locations of transverse drains shall be determined having regard to local gradient and drainage conditions.
8. Direct discharge of untreated construction runoff to natural watercourses shall not be permitted. Treated runoff shall be discharged to the existing bog drainage network in accordance with the drainage design.
9. Batters of proposed drains shall generally have side slopes appropriate to their depth and local ground conditions and shall be left to naturally re-vegetate or shall be stabilised using suitable locally sourced vegetation where required.
10. Collector drains shall be shallow and constructed with moderate gradients where practicable to minimise scour. Check dams shall be installed where appropriate to reduce flow velocities and promote settlement of suspended sediment.
11. Settlement ponds shall be provided downstream of proposed internal access roads sections and at proposed turbine/hardstand locations where required. Settlement ponds shall provide treatment and temporary attenuation of runoff prior to discharge to the existing bog drainage network. Pond sizing shall be appropriate to the contributing catchment area. Typical pond details are shown on Drawing D501.
12. Silt fencing or other appropriate sediment control measures shall be installed around temporary peat/spoil stockpiles where required to prevent sediment-laden runoff entering the drainage network. Temporary controls may be removed once the disturbed area has been adequately stabilised.
13. Temporary silt fencing shall be installed where required between construction works and existing drainage features or natural watercourses, particularly where works occur within the prescribed surface water buffer zones.
14. Drain slopes and other exposed surfaces shall be protected from erosion until adequately stabilised. Suitable stripped vegetative material, including peat sod/scraw where available, may be reused locally to assist stabilisation and re-vegetation.
15. The extent and duration of exposed ground shall be minimised as far as practicable.
16. Check dams shall comprise 4/40 mm non-friable crushed rock and shall be installed within collector drains where appropriate. Check dams shall generally be installed at 25 m or 50 m intervals, depending on the local longitudinal gradient and site conditions.
17. Check dams, silt traps and settlement ponds shall be visually inspected and maintained as part of the construction-phase drainage maintenance programme, particularly during and following periods of heavy rainfall. Accumulated sediment shall be removed and disposed of appropriately.
18. Where check dams become clogged with sediment or vegetation, they shall be cleaned or replaced as required to maintain their hydraulic and sediment-control function.
19. The construction-phase drainage infrastructure will generally form the basis of the operational drainage system. Collector drains, settlement ponds and other treatment/attenuation features will be retained and maintained where required. Local settlement ponds may be infilled or decommissioned following the construction phase, subject to confirmation by the site engineer.
20. Where temporary dewatering of excavations is required, silt bags and/or other appropriate treatment measures shall be used as necessary. Discharge from dewatering silt bags shall be directed to settlement ponds or other suitable treatment measures prior to discharge to existing field drains or main drains.
21. Fuel and other potentially polluting substances shall be stored in appropriately bunded containment areas in accordance with the CEMP and Pollution Prevention Notes.
22. Culverts shall be provided where proposed internal access roads or hardstands cross existing main bog drainage pathways. Culverts shall be appropriately sized and installed to maintain existing drainage connectivity and shall be regularly inspected and maintained.
23. All surface water runoff from the Proposed Project shall ultimately pass through the existing IPC licence settlement ponds at the bog outfall locations prior to onward discharge to the surrounding stream and river network.

MITIGATION / DRAINAGE CONTROLS AVAILABLE FOR USE ACROSS THE SITE

Management Type	Description Drainage Control Methods
Avoidance Controls	1) 50 m buffer to natural watercourses where practicable. 2) Minimise disturbance of existing field and main drains. 3) Minimise working areas and exposed ground. 4) Schedule works having regard to weather forecasts; suspend or scale back high-risk works during heavy rainfall.
Source Controls:	1) Up-gradient interceptor drains to divert clean runoff around works and redistribute to downstream field drains. 2) Minimise and stabilise exposed ground and temporary peat/spoil stockpiles. 3) Silt fencing and other temporary sediment controls where required.
In-Line Controls:	1) Collector drains to convey construction runoff to treatment measures. 2) Transverse drains/proposed internal access roads where appropriate. 3) 4/40 mm non-friable crushed-rock check dams at typically 25 m or 50 m spacing, depending on gradient. 4) Silt traps and settlement ponds. 5) Culverts to maintain existing drainage pathways.
Water Treatment Controls:	1) Silt traps and settlement ponds. 2) Dewatering silt bags where appropriate. 3) Vegetated buffer areas/swales where appropriate. 4) Specialist treatment systems (e.g. Siltbuster or equivalent) where required. 5) Existing IPC licence settlement ponds provide the final treatment stage.
Outfall Controls:	1) Treated runoff to discharge to existing field or main drains. 2) Discharges controlled to prevent scour and erosion. 3) No direct discharge of untreated construction runoff to natural watercourses. 4) Existing drainage pathways maintained where required. 5) Proposed Project runoff ultimately passes through existing IPC licence settlement ponds before discharge to receiving waters.



KEY PLAN

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DRAWING LEGEND:

EXISTING DRAINAGE
- WATERCOURSES
- WATERCOURSES 50M BUFFER
- STREAM FLOW DIRECTION
- EXISTING MAIN DRAINS
- REDIRECTED MAIN DRAINS
- EXISTING PIPED DRAINS
- EXISTING DISCHARGE DRAINS
- EXISTING BOUNDARY DRAINS
- FIELD DRAIN
- EXISTING SETTLEMENT PONDS
- EXISTING WC CROSSING/CULVERT

PROPOSED DRAINAGE
- UPSTREAM INTERCEPTOR DRAIN
- DOWNSTREAM COLLECTOR DRAIN (DSCD)
- DSCD OR OVER THE EDGE (OTE)
- DIRECTION OF FLOW
- SILT FENCES
- DOUBLE SILT FENCES
- WF SETTLEMENT POND
- LEVEL SPREADER
- PROPOSED WC CROSSING/CULVERT
- INTERCEPTOR DITCH CULVERT
- COLLECTOR DITCH CULVERT
- WATERCOURSE DRAIN PROTECTION BERM
- O OVERLAND FLOW DISCHARGE
- TW TREATED WATER DISCHARGE
- SP NEW SETTLEMENT POND

- PLANNING APPLICATION BOUNDARY
- EXISTING GROUND SURFACE MINOR CONTOUR (1 M INTERVAL)
- TURBINE 220, TURBINE FOUNDATION AND SWEPT AREA
- TURBINE 200, TURBINE FOUNDATION AND SWEPT AREA
- TURBINE FOUNDATION
- CRANE PLATFORM
- BLADE SETDOWN AREAS
- UPGRADES TO EXISTING TRACKS
- PROPOSED INTERNAL ACCESS ROADS AND TURNING BAY
- PROPOSED INTERNAL 33KV CABLING
- PROPOSED GRID CONNECTION UNDERGROUND 220KV ELECTRICAL CABLING
- PROPOSED ON-SITE SUBSTATION
- PROPOSED OFF-SITE GIS SUBSTATION
- PROPOSED MET MAST
- PROPOSED RELAY MAST
- TEMPORARY CONSTRUCTION COMPOUNDS
- PROPOSED CAR PARKING
- PROPOSED PEAT AND SPOIL AREAS
- PROPOSED PASSING BAYS
- PROPOSED DEDICATED AMENITY TRACK
- PROPOSED DEDICATED AMENITY BOARD WALK
- SCRUB MOSAIC CREATION AREA
- POLLINATOR FORAGING HABITAT ENHANCEMENT AREA
- PEATLAND ENHANCEMENT AREA
- NATIVE TREE (WOODLAND AND SCRUB) PLANTING AREA
- MARSH FRITILLARY ENHANCEMENT AREA
- LODGE BOG ENHANCEMENT AREA

Basemap Note: These drawings use 1:5,000 scale Ordnance Survey Ireland (OSi) basemaps as an underlay. For clarity, the basemap features are not included in the drawing legend and are displayed in light grey with partial transparency to distinguish them from the proposed development features.

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Revisions			

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Client:
Bord na Móna Powergen Ltd

Job:
Ballydermot WF,
Co. Offaly/Co. Kildare

Title:
Proposed Construction Phase and Operational Phase Drainage Layout

Figure No: DII6

Drawing No: P1511-0-1026-A1-D116-00C	
Sheet Size: A1	Project No.: P1511-0
Scale: 1:2,000 (A1)	Drawn By: GA
Date: 21/10/2026	Checked By: MG

POLLUTION PREVENTION NOTES:

1. Site management and drainage proposals are intended to ensure protection of surface water and groundwater and to minimise the risk of pollution, siltation and erosion.
2. Appropriate drainage and pollution control measures shall be installed prior to, or in conjunction with, construction works and shall be maintained for the duration of the works.
3. Silty water may arise from excavation dewatering, erosion of exposed or disturbed ground, temporary stockpiles, plant and wheel washing, proposed internal access roads and disturbance of existing field drains and ditches.

Discharges

4. Water containing elevated suspended sediment shall not be pumped or discharged directly to any natural watercourse. Construction runoff and excavation dewatering shall be appropriately treated prior to discharge to the existing bog drainage network.
5. No excavated material or temporary stockpiles shall be stored within the prescribed surface water buffer zones.
6. Runoff from construction areas shall be collected in collector drains and directed to appropriate treatment measures, including silt traps, check dams, settlement ponds, vegetated buffer areas and/or other suitable treatment systems, prior to discharge to existing field drains or main drains.
7. Clean surface water runoff shall, where practicable, be intercepted up-gradient of construction areas using interceptor drains and directed around the works before being redistributed to downstream field drains. Existing field drains may be utilised for this purpose where appropriate.
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10. All surface water runoff from the Proposed Project shall ultimately pass through the existing IPC licence settlement ponds at the bog outfall locations prior to discharge to the receiving stream and river network.

Excavations

11. Where excavations are proposed, interceptor/cut-off drains shall be installed where required to minimise the volume of clean surface water entering the excavation. This shall include turbine base excavations where appropriate.
12. Where temporary dewatering of excavations is required, pumped water shall be treated using appropriate measures such as dewatering silt bags, settlement ponds or specialist treatment systems prior to discharge to the existing drainage network.

Exposed Ground & Stockpiles

13. The extent of exposed ground and the volume and duration of temporary stockpiles shall be minimised as far as practicable.
14. Construction activities involving significant areas of exposed peat or soil shall be scaled back or suspended during periods of heavy rainfall or where heavy rainfall is forecast.

Proposed Internal Access Roads

15. Collector drains shall be provided alongside proposed internal access roads where required to collect construction runoff and convey it to appropriate treatment measures.
16. On steeper sections of proposed internal access road, transverse drains or grips shall be installed where appropriate to intercept road runoff and divert it to adjacent roadside collector drains.
17. Check dams shall be installed within collector drains where appropriate to reduce flow velocities and promote settlement of suspended sediment. Check dams shall comprise 4/40 mm non-friable crushed rock and shall generally be installed at 25 m or 50 m intervals depending on local gradient.
18. Silt traps, check dams, settlement ponds and other drainage treatment measures shall be regularly inspected and maintained, particularly during and following periods of heavy rainfall.

Refuelling

19. Refuelling and maintenance of mobile plant shall, where practicable, be undertaken off-site. Where required on-site, refuelling shall only be undertaken within designated areas and in accordance with the CEMP and appropriate pollution prevention procedures.
20. Refuelling areas shall be located away from natural watercourses and drainage features. Spill kits and drip trays shall be readily available for use as required.
21. Fuel and other potentially polluting substances shall be stored in appropriately bunded areas in accordance with the CEMP.

Concrete

22. Concrete works shall be managed to prevent the discharge of cementitious material or concrete-contaminated water to the surface water drainage system, groundwater or natural watercourses.
23. Concrete wash water and waste concrete shall be contained and managed in accordance with the CEMP and shall not be discharged to the site drainage system or natural watercourses.

If water pollution is identified the following actions will be taken:

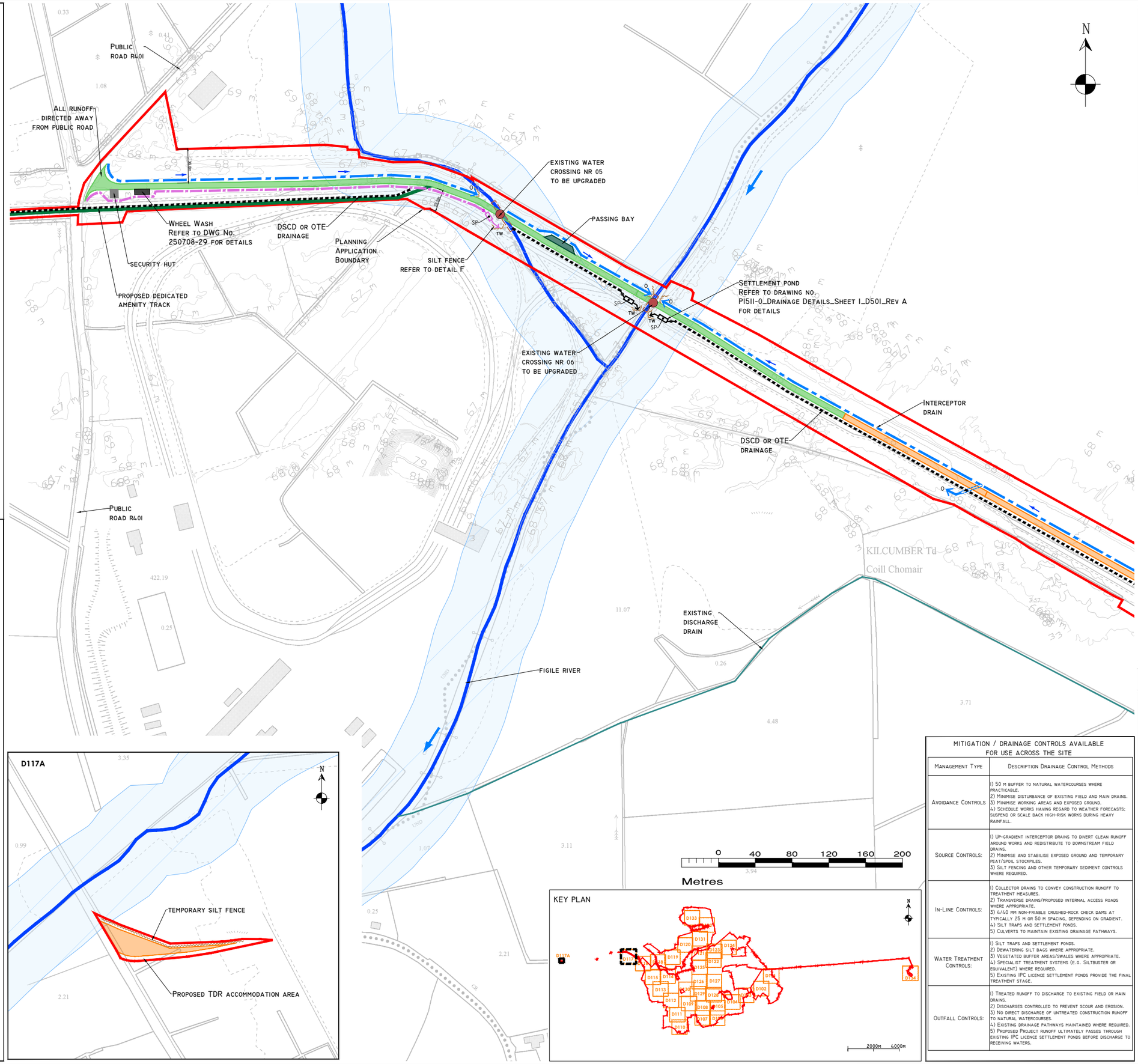
STOP - works in the immediate area will be stopped and the source of the pollution will be identified.

CONTAIN - the source of the pollution will be contained using appropriate measures to prevent further release. Where necessary, drainage pathways shall be temporarily isolated or diverted to prevent contaminated water reaching downstream receptors.

NOTIFY - The Site Manager and Environmental Clerk of Works shall be notified immediately. Relevant statutory authorities and other bodies shall be notified where required in accordance with the CEMP and the project Emergency Response Procedure.

DRAINAGE NOTES:

1. Roadway surfacing design and construction shall be to the Engineer's Specification.
2. Spare silt fencing, straw bales or similar approved pollution control materials shall be stored on site. Suspended sediment in runoff shall be visually monitored during construction. Where elevated silt levels are observed, additional temporary controls such as silt fences, straw bales, silt traps or check dams shall be installed as required. A mobile water treatment system (e.g. Siltbuster or equivalent) shall be available on site for use where required.
3. The proposed drainage system shall be constructed prior to, or in conjunction with, the associated proposed internal access roads and other infrastructure. Temporary drainage and sediment control measures shall be installed where required during construction to prevent elevated suspended sediment concentrations in runoff.
4. Appropriate drainage and pollution prevention measures shall be maintained at all times to prevent the conveyance of significant volumes of sediment to receiving watercourses. Refer also to Pollution Prevention Notes.
5. Interceptor drains shall be installed up-gradient of proposed infrastructure, where required, to intercept clean surface water runoff and minimise the volume of runoff entering construction areas. Intercepted clean water shall be directed around the works and redistributed to downstream field drains. Existing field drains shall be utilised for this purpose where practicable.
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8. Direct discharge of untreated construction runoff to natural watercourses shall not be permitted. Treated runoff shall be discharged to the existing bog drainage network in accordance with the drainage design.
9. Batters of proposed drains shall generally have side slopes appropriate to their depth and local ground conditions and shall be left to naturally re-vegetate or shall be stabilised using suitable locally sourced vegetation where required.
10. Collector drains shall be shallow and constructed with moderate gradients where practicable to minimise scour. Check dams shall be installed where appropriate to reduce flow velocities and promote settlement of suspended sediment.
11. Settlement ponds shall be provided downstream of proposed internal access roads sections and at proposed turbine/hardstand locations where required. Settlement ponds shall provide treatment and temporary attenuation of runoff prior to discharge to the existing bog drainage network. Pond sizing shall be appropriate to the contributing catchment area. Typical pond details are shown on Drawing D501.
12. Silt fencing or other appropriate sediment control measures shall be installed around temporary peat/spoil stockpiles where required to prevent sediment-laden runoff entering the drainage network. Temporary controls may be removed once the disturbed area has been adequately stabilised.
13. Temporary silt fencing shall be installed where required between construction works and existing drainage features or natural watercourses, particularly where works occur within the prescribed surface water buffer zones.
14. Drain slopes and other exposed surfaces shall be protected from erosion until adequately stabilised. Suitable stripped vegetative material, including peat sod/scraw where available, may be reused locally to assist stabilisation and re-vegetation.
15. The extent and duration of exposed ground shall be minimised as far as practicable.
16. Check dams shall comprise 4/40 mm non-friable crushed rock and shall be installed within collector drains where appropriate. Check dams shall generally be installed at 25 m or 50 m intervals, depending on the local longitudinal gradient and site conditions.
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19. The construction-phase drainage infrastructure will generally form the basis of the operational drainage system. Collector drains, settlement ponds and other treatment/attenuation features will be retained and maintained where required. Local settlement ponds may be infilled or decommissioned following the construction phase, subject to confirmation by the site engineer.
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21. Fuel and other potentially polluting substances shall be stored in appropriately bunded containment areas in accordance with the CEMP and Pollution Prevention Notes.
22. Culverts shall be provided where proposed internal access roads or hardstands cross existing main bog drainage pathways. Culverts shall be appropriately sized and installed to maintain existing drainage connectivity and shall be regularly inspected and maintained.
23. All surface water runoff from the Proposed Project shall ultimately pass through the existing IPC licence settlement ponds at the bog outfall locations prior to onward discharge to the surrounding stream and river network.



MITIGATION / DRAINAGE CONTROLS AVAILABLE FOR USE ACROSS THE SITE

Management Type	Description Drainage Control Methods
Avoidance Controls	1) 50 m buffer to natural watercourses where practicable. 2) Minimise disturbance of existing field and main drains. 3) Minimise working areas and exposed ground. 4) Schedule works having regard to weather forecasts; suspend or scale back high-risk works during heavy rainfall.
Source Controls:	1) Up-gradient interceptor drains to divert clean runoff around works and redistribute to downstream field drains. 2) Minimise and stabilise exposed ground and temporary peat/spoil stockpiles. 3) Silt fencing and other temporary sediment controls where required.
In-Line Controls:	1) Collector drains to convey construction runoff to treatment measures. 2) Transverse drains/proposed internal access roads where appropriate. 3) 4/40 mm non-friable crushed-rock check dams at typically 25 m or 50 m spacing, depending on gradient. 4) Silt traps and settlement ponds. 5) Culverts to maintain existing drainage pathways.
Water Treatment Controls:	1) Silt traps and settlement ponds. 2) Dewatering silt bags where appropriate. 3) Vegetated buffer areas/swales where appropriate. 4) Specialist treatment systems (e.g. Siltbuster or equivalent) where required. 5) Existing IPC licence settlement ponds provide the final treatment stage.
Outfall Controls:	1) Treated runoff to discharge to existing field or main drains. 2) Discharges controlled to prevent scour and erosion. 3) No direct discharge of untreated construction runoff to natural watercourses. 4) Existing drainage pathways maintained where required. 5) Proposed Project runoff ultimately passes through existing IPC licence settlement ponds before discharge to receiving waters.

Drawing Legend:

Existing Drainage
- Watercourses
- Watercourses 50m Buffer
- Stream Flow Direction
- Existing Main Drains
- Redirected Main Drains
- Existing Piped Drains
- Existing Discharge Drains
- Existing Boundary Drains
- Field Drain
- Existing Settlement Ponds
- Existing WC Crossing/Culvert

Proposed Drainage
- Upstream Interceptor Drain
- Downstream Collector Drain (DSCD)
- DSCD or Over The Edge (OTE)
- Direction of Flow
- Silt Fences
- Double Silt Fences
- WF Settlement Pond
- Level Spreader
- Proposed WC Crossing/Culvert
- Interceptor Ditch Culvert
- Collector Ditch Culvert
- Watercourse Drain Protection Berm
- O Overland Flow Discharge
- TW Treated Water Discharge
- SP New Settlement Pond

- Planning Application Boundary
- Existing Ground Surface Minor Contour (1 m Interval)
- Turbine 220, Turbine Foundation and Swept Area
- Turbine 200, Turbine Foundation and Swept Area
- Turbine Foundation
- Crane Platform
- Blade Setdown Areas
- Upgrades to Existing Tracks
- Proposed Internal Access Roads and Turning Bay
- Proposed Internal 33kV Cabling
- Proposed Grid Connection Underground 220KV Electrical Cabling
- Proposed On-Site Substation
- Proposed Off-Site GIS Substation
- Proposed Met Mast
- Proposed Relay Mast
- Temporary Construction Compounds
- Proposed Car Parking
- Proposed Peat and Spoil Areas
- Proposed Passing Bays
- Proposed Dedicated Amenity Track
- Proposed Dedicated Amenity Board Walk
- Scrub Mosaic Creation Area
- Pollinator Foraging Habitat Enhancement Area
- Peatland Enhancement Area
- Native Tree (Woodland and Scrub) Planting Area
- Marsh Fritillary Enhancement Area
- Lodge Bog Enhancement Area

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Revisions

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Client: Bord na Móna Powergen Ltd

Job: Ballydermot WF, Co. Offaly/Co. Kildare

Title: Proposed Construction Phase and Operational Phase Drainage Layout

Figure No: DII7

Drawing No: P1511-0-1026-A1-D117-00C	
Sheet Size: A1	Project No.: P1511-0
Scale: 1:2,000 (A1)	Drawn By: GA
Date: 21/10/2026	Checked By: MG

POLLUTION PREVENTION NOTES:

1. SITE MANAGEMENT AND DRAINAGE PROPOSALS ARE INTENDED TO ENSURE PROTECTION OF SURFACE WATER AND GROUNDWATER AND TO MINIMISE THE RISK OF POLLUTION, SILTATION AND EROSION.
2. APPROPRIATE DRAINAGE AND POLLUTION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO, OR IN CONJUNCTION WITH, CONSTRUCTION WORKS AND SHALL BE MAINTAINED FOR THE DURATION OF THE WORKS.
3. SILTY WATER MAY ARISE FROM EXCAVATION DEWATERING, EROSION OF EXPOSED OR DISTURBED GROUND, TEMPORARY STOCKPILES, PLANT AND WHEEL WASHING, PROPOSED INTERNAL ACCESS ROADS AND DISTURBANCE OF EXISTING FIELD DRAINS AND DITCHES.

DISCHARGES

4. WATER CONTAINING ELEVATED SUSPENDED SEDIMENT SHALL NOT BE PUMPED OR DISCHARGED DIRECTLY TO ANY NATURAL WATERCOURSE. CONSTRUCTION RUNOFF AND EXCAVATION DEWATERING SHALL BE APPROPRIATELY TREATED PRIOR TO DISCHARGE TO THE EXISTING BOG DRAINAGE NETWORK.
5. NO EXCAVATED MATERIAL OR TEMPORARY STOCKPILES SHALL BE STORED WITHIN THE PRESCRIBED SURFACE WATER BUFFER ZONES.
6. RUNOFF FROM CONSTRUCTION AREAS SHALL BE COLLECTED IN COLLECTOR DRAINS AND DIRECTED TO APPROPRIATE TREATMENT MEASURES, INCLUDING SILT TRAPS, CHECK DAMS, SETTLEMENT PONDS, VEGETATED BUFFER AREAS AND/OR OTHER SUITABLE TREATMENT SYSTEMS, PRIOR TO DISCHARGE TO EXISTING FIELD DRAINS OR MAIN DRAINS.
7. CLEAN SURFACE WATER RUNOFF SHALL, WHERE PRACTICABLE, BE INTERCEPTED UP-GRADIENT OF CONSTRUCTION AREAS USING INTERCEPTOR DRAINS AND DIRECTED AROUND THE WORKS BEFORE BEING REDISTRIBUTED TO DOWNSTREAM FIELD DRAINS. EXISTING FIELD DRAINS MAY BE UTILISED FOR THIS PURPOSE WHERE APPROPRIATE.
8. PUMPING OF CLEAN WATER FROM EXCAVATIONS, OR OVER-PUMPING OF DRAINS, DITCHES OR WATERCOURSES, SHALL BE UNDERTAKEN IN A MANNER WHICH DOES NOT CAUSE SCOUR OR EROSION AT THE POINT OF DISCHARGE. FLOW VELOCITIES SHALL BE CONTROLLED USING APPROPRIATE MEASURES SUCH AS SPLASH PLATES OR OTHER SUITABLE DISCHARGE CONTROLS.
9. EXISTING DRAINS AND DITCHES SHALL BE RETAINED AND PROTECTED WHERE PRACTICABLE. VEGETATION SHALL NOT BE REMOVED FROM EXISTING DRAINS UNLESS REQUIRED TO FACILITATE THE WORKS.
10. ALL SURFACE WATER RUNOFF FROM THE PROPOSED PROJECT SHALL ULTIMATELY PASS THROUGH THE EXISTING IPC LICENCE SETTLEMENT PONDS AT THE BOG OUTFALL LOCATIONS PRIOR TO DISCHARGE TO THE RECEIVING STREAM AND RIVER NETWORK.

EXCAVATIONS

11. WHERE EXCAVATIONS ARE PROPOSED, INTERCEPTOR/CUT-OFF DRAINS SHALL BE INSTALLED WHERE REQUIRED TO MINIMISE THE VOLUME OF CLEAN SURFACE WATER ENTERING THE EXCAVATION. THIS SHALL INCLUDE TURBINE BASE EXCAVATIONS WHERE APPROPRIATE.
12. WHERE TEMPORARY DEWATERING OF EXCAVATIONS IS REQUIRED, PUMPED WATER SHALL BE TREATED USING APPROPRIATE MEASURES SUCH AS DEWATERING SILT BAGS, SETTLEMENT PONDS OR SPECIALIST TREATMENT SYSTEMS PRIOR TO DISCHARGE TO THE EXISTING DRAINAGE NETWORK.

EXPOSED GROUND & STOCKPILES

13. THE EXTENT OF EXPOSED GROUND AND THE VOLUME AND DURATION OF TEMPORARY STOCKPILES SHALL BE MINIMISED AS FAR AS PRACTICABLE.
14. CONSTRUCTION ACTIVITIES INVOLVING SIGNIFICANT AREAS OF EXPOSED PEAT OR SOIL SHALL BE SCALED BACK OR SUSPENDED DURING PERIODS OF HEAVY RAINFALL OR WHERE HEAVY RAINFALL IS FORECAST.

PROPOSED INTERNAL ACCESS ROADS

15. COLLECTOR DRAINS SHALL BE PROVIDED ALONGSIDE PROPOSED INTERNAL ACCESS ROADS WHERE REQUIRED TO COLLECT CONSTRUCTION RUNOFF AND CONVEY IT TO APPROPRIATE TREATMENT MEASURES.
16. ON STEEPER SECTIONS OF PROPOSED INTERNAL ACCESS ROAD, TRANSVERSE DRAINS OR GRIPS SHALL BE INSTALLED WHERE APPROPRIATE TO INTERCEPT ROAD RUNOFF AND DIVERT IT TO ADJACENT ROADSIDE COLLECTOR DRAINS.
17. CHECK DAMS SHALL BE INSTALLED WITHIN COLLECTOR DRAINS WHERE APPROPRIATE TO REDUCE FLOW VELOCITIES AND PROMOTE SETTLEMENT OF SUSPENDED SEDIMENT. CHECK DAMS SHALL COMPRISE 4/40 MM NON-FRIABLE CRUSHED ROCK AND SHALL GENERALLY BE INSTALLED AT 25 M OR 50 M INTERVALS DEPENDING ON LOCAL GRADIENT.
18. SILT TRAPS, CHECK DAMS, SETTLEMENT PONDS AND OTHER DRAINAGE TREATMENT MEASURES SHALL BE REGULARLY INSPECTED AND MAINTAINED, PARTICULARLY DURING AND FOLLOWING PERIODS OF HEAVY RAINFALL.

REFUELLING

19. REFUELLING AND MAINTENANCE OF MOBILE PLANT SHALL, WHERE PRACTICABLE, BE UNDERTAKEN OFF-SITE. WHERE REQUIRED ON-SITE, REFUELLING SHALL ONLY BE UNDERTAKEN WITHIN DESIGNATED AREAS AND IN ACCORDANCE WITH THE CEMP AND APPROPRIATE POLLUTION PREVENTION PROCEDURES.
20. REFUELLING AREAS SHALL BE LOCATED AWAY FROM NATURAL WATERCOURSES AND DRAINAGE FEATURES. SPILL KITS AND DRIP TRAYS SHALL BE READILY AVAILABLE FOR USE AS REQUIRED.
21. FUEL AND OTHER POTENTIALLY POLLUTING SUBSTANCES SHALL BE STORED IN APPROPRIATELY BUNDED AREAS IN ACCORDANCE WITH THE CEMP.

CONCRETE

22. CONCRETE WORKS SHALL BE MANAGED TO PREVENT THE DISCHARGE OF CEMENTITIOUS MATERIAL OR CONCRETE-CONTAMINATED WATER TO THE SURFACE WATER DRAINAGE SYSTEM, GROUNDWATER OR NATURAL WATERCOURSES.
23. CONCRETE WASH WATER AND WASTE CONCRETE SHALL BE CONTAINED AND MANAGED IN ACCORDANCE WITH THE CEMP AND SHALL NOT BE DISCHARGED TO THE SITE DRAINAGE SYSTEM OR NATURAL WATERCOURSES.

IF WATER POLLUTION IS IDENTIFIED THE FOLLOWING ACTIONS WILL BE TAKEN:

STOP - WORKS IN THE IMMEDIATE AREA WILL BE STOPPED AND THE SOURCE OF THE POLLUTION WILL BE IDENTIFIED.

CONTAIN - THE SOURCE OF THE POLLUTION WILL BE CONTAINED USING APPROPRIATE MEASURES TO PREVENT FURTHER RELEASE. WHERE NECESSARY, DRAINAGE PATHWAYS SHALL BE TEMPORARILY ISOLATED OR DIVERTED TO PREVENT CONTAMINATED WATER REACHING DOWNSTREAM RECEPTORS.

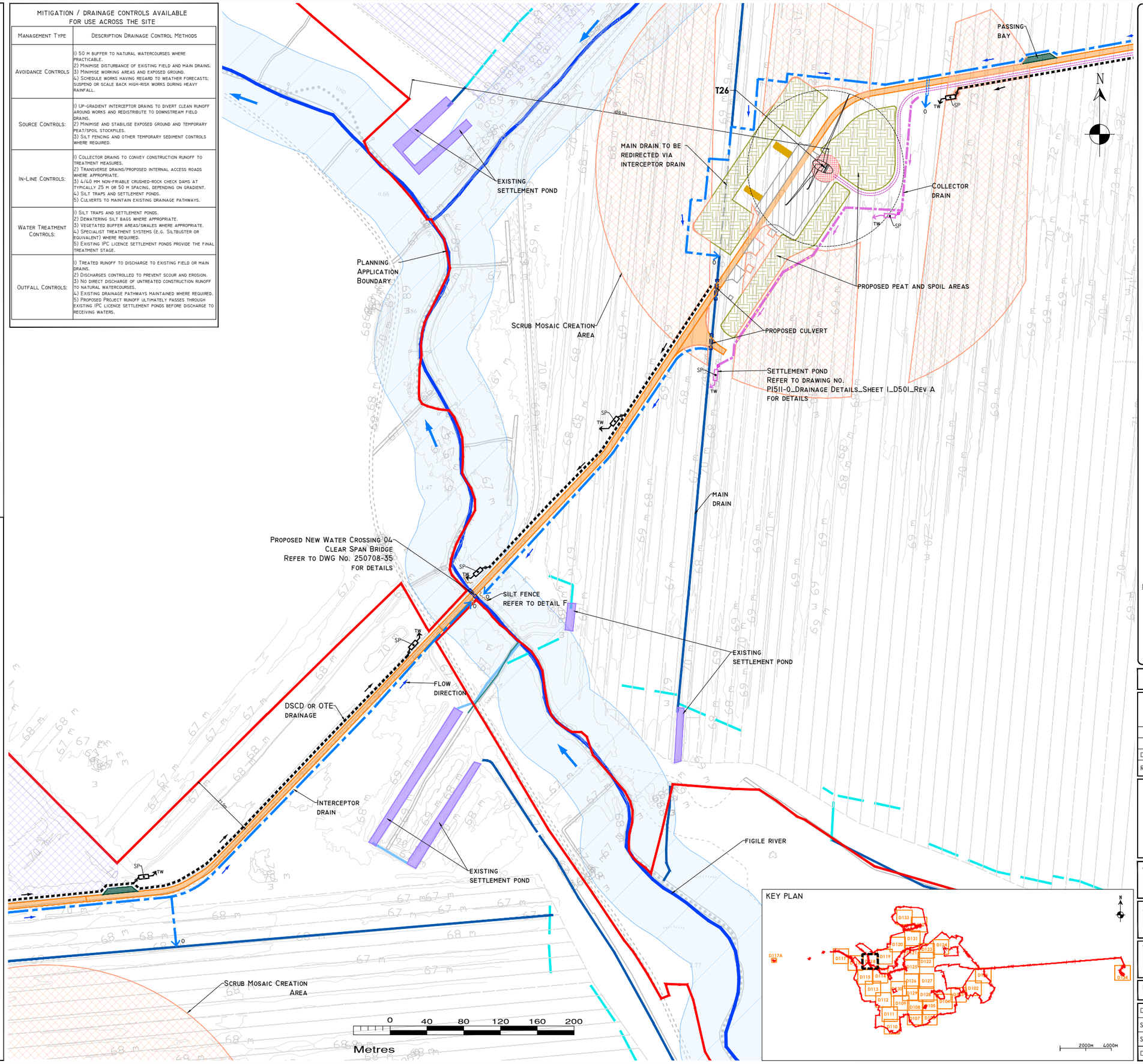
NOTIFY - THE SITE MANAGER AND ENVIRONMENTAL CLERK OF WORKS SHALL BE NOTIFIED IMMEDIATELY. RELEVANT STATUTORY AUTHORITIES AND OTHER BODIES SHALL BE NOTIFIED WHERE REQUIRED IN ACCORDANCE WITH THE CEMP AND THE PROJECT EMERGENCY RESPONSE PROCEDURE.

DRAINAGE NOTES:

1. ROADWAY SURFACING DESIGN AND CONSTRUCTION SHALL BE TO THE ENGINEER'S SPECIFICATION.
2. SPARE SILT FENCING, STRAW BALES OR SIMILAR APPROVED POLLUTION CONTROL MATERIALS SHALL BE STORED ON SITE. SUSPENDED SEDIMENT IN RUNOFF SHALL BE VISUALLY MONITORED DURING CONSTRUCTION. WHERE ELEVATED SILT LEVELS ARE OBSERVED, ADDITIONAL TEMPORARY CONTROLS SUCH AS SILT FENCES, STRAW BALES, SILT TRAPS OR CHECK DAMS SHALL BE INSTALLED AS REQUIRED. A MOBILE WATER TREATMENT SYSTEM (E.G. SILTBUSTER OR EQUIVALENT) SHALL BE AVAILABLE ON SITE FOR USE WHERE REQUIRED.
3. THE PROPOSED DRAINAGE SYSTEM SHALL BE CONSTRUCTED PRIOR TO, OR IN CONJUNCTION WITH, THE ASSOCIATED PROPOSED INTERNAL ACCESS ROADS AND OTHER INFRASTRUCTURE. TEMPORARY DRAINAGE AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED WHERE REQUIRED DURING CONSTRUCTION TO PREVENT ELEVATED SUSPENDED SEDIMENT CONCENTRATIONS IN RUNOFF.
4. APPROPRIATE DRAINAGE AND POLLUTION PREVENTION MEASURES SHALL BE MAINTAINED AT ALL TIMES TO PREVENT THE CONVEYANCE OF SIGNIFICANT VOLUMES OF SEDIMENT TO RECEIVING WATERCOURSES. REFER ALSO TO POLLUTION PREVENTION NOTES.
5. INTERCEPTOR DRAINS SHALL BE INSTALLED UP-GRADIENT OF PROPOSED INFRASTRUCTURE, WHERE REQUIRED, TO INTERCEPT CLEAN SURFACE WATER RUNOFF AND MINIMISE THE VOLUME OF RUNOFF ENTERING CONSTRUCTION AREAS. INTERCEPTED CLEAN WATER SHALL BE DIRECTED AROUND THE WORKS AND REDISTRIBUTED TO DOWNSTREAM FIELD DRAINS. EXISTING FIELD DRAINS SHALL BE UTILISED FOR THIS PURPOSE WHERE PRACTICABLE.
6. COLLECTOR DRAINS SHALL BE INSTALLED DOWNSTREAM OF PROPOSED INTERNAL ACCESS ROADS AND OTHER CONSTRUCTION AREAS, WHERE REQUIRED, TO COLLECT RUNOFF WHERE SUSPENDED SEDIMENT MAY BECOME ENTRAINED. RUNOFF SHALL BE CONVEYED TO APPROPRIATE TREATMENT MEASURES, INCLUDING SILT TRAPS, CHECK DAMS, VEGETATED AREAS AND SETTLEMENT PONDS, PRIOR TO DISCHARGE TO THE EXISTING FIELD DRAIN OR MAIN DRAIN NETWORK.
7. TRANSVERSE DRAINS ('GRIPS') SHALL BE INSTALLED ON SECTIONS OF PROPOSED INTERNAL ACCESS ROADS, WHERE APPROPRIATE, TO INTERCEPT PROPOSED INTERNAL ACCESS ROAD RUNOFF AND DIVERT IT TO ADJACENT ROADSIDE COLLECTOR DRAINS. THE LOCATIONS OF TRANSVERSE DRAINS SHALL BE DETERMINED HAVING REGARD TO LOCAL GRADIENT AND DRAINAGE CONDITIONS.
8. DIRECT DISCHARGE OF UNTREATED CONSTRUCTION RUNOFF TO NATURAL WATERCOURSES SHALL NOT BE PERMITTED. TREATED RUNOFF SHALL BE DISCHARGED TO THE EXISTING BOG DRAINAGE NETWORK IN ACCORDANCE WITH THE DRAINAGE DESIGN.
9. BATTERS OF PROPOSED DRAINS SHALL GENERALLY HAVE SIDE SLOPES APPROPRIATE TO THEIR DEPTH AND LOCAL GROUND CONDITIONS AND SHALL BE LEFT TO NATURALLY RE-VEGETATE OR SHALL BE STABILISED USING SUITABLE LOCALLY SOURCED VEGETATION WHERE REQUIRED.
10. COLLECTOR DRAINS SHALL BE SHALLOW AND CONSTRUCTED WITH MODERATE GRADIENTS WHERE PRACTICABLE TO MINIMISE SCOUR. CHECK DAMS SHALL BE INSTALLED WHERE APPROPRIATE TO REDUCE FLOW VELOCITIES AND PROMOTE SETTLEMENT OF SUSPENDED SEDIMENT.
11. SETTLEMENT PONDS SHALL BE PROVIDED DOWNSTREAM OF PROPOSED INTERNAL ACCESS ROADS SECTIONS AND AT PROPOSED TURBINE/HARDSTAND LOCATIONS WHERE REQUIRED. SETTLEMENT PONDS SHALL PROVIDE TREATMENT AND TEMPORARY ATTENUATION OF RUNOFF PRIOR TO DISCHARGE TO THE EXISTING BOG DRAINAGE NETWORK. POND SIZING SHALL BE APPROPRIATE TO THE CONTRIBUTING CATCHMENT AREA. TYPICAL POND DETAILS ARE SHOWN ON DRAWING D501.
12. SILT FENCING OR OTHER APPROPRIATE SEDIMENT CONTROL MEASURES SHALL BE INSTALLED AROUND TEMPORARY PEAT/SPOIL STOCKPILES WHERE REQUIRED TO PREVENT SEDIMENT-LADEN RUNOFF ENTERING THE DRAINAGE NETWORK. TEMPORARY CONTROLS MAY BE REMOVED ONCE THE DISTURBED AREA HAS BEEN ADEQUATELY STABILISED.
13. TEMPORARY SILT FENCING SHALL BE INSTALLED WHERE REQUIRED BETWEEN CONSTRUCTION WORKS AND EXISTING DRAINAGE FEATURES OR NATURAL WATERCOURSES, PARTICULARLY WHERE WORKS OCCUR WITHIN THE PRESCRIBED SURFACE WATER BUFFER ZONES.
14. DRAIN SLOPES AND OTHER EXPOSED SURFACES SHALL BE PROTECTED FROM EROSION UNTIL ADEQUATELY STABILISED. SUITABLE STRIPPED VEGETATIVE MATERIAL, INCLUDING PEAT SOD/SCRAW WHERE AVAILABLE, MAY BE REUSED LOCALLY TO ASSIST STABILISATION AND RE-VEGETATION.
15. THE EXTENT AND DURATION OF EXPOSED GROUND SHALL BE MINIMISED AS FAR AS PRACTICABLE.
16. CHECK DAMS SHALL COMPRISE 4/40 MM NON-FRIABLE CRUSHED ROCK AND SHALL BE INSTALLED WITHIN COLLECTOR DRAINS WHERE APPROPRIATE. CHECK DAMS SHALL GENERALLY BE INSTALLED AT 25 M OR 50 M INTERVALS, DEPENDING ON THE LOCAL LONGITUDINAL GRADIENT AND SITE CONDITIONS.
17. CHECK DAMS, SILT TRAPS AND SETTLEMENT PONDS SHALL BE VISUALLY INSPECTED AND MAINTAINED AS PART OF THE CONSTRUCTION-PHASE DRAINAGE MAINTENANCE PROGRAMME, PARTICULARLY DURING AND FOLLOWING PERIODS OF HEAVY RAINFALL. ACCUMULATED SEDIMENT SHALL BE REMOVED AND DISPOSED OF APPROPRIATELY.
18. WHERE CHECK DAMS BECOME CLOGGED WITH SEDIMENT OR VEGETATION, THEY SHALL BE CLEANED OR REPLACED AS REQUIRED TO MAINTAIN THEIR HYDRAULIC AND SEDIMENT-CONTROL FUNCTION.
19. THE CONSTRUCTION-PHASE DRAINAGE INFRASTRUCTURE WILL GENERALLY FORM THE BASIS OF THE OPERATIONAL DRAINAGE SYSTEM. COLLECTOR DRAINS, SETTLEMENT PONDS AND OTHER TREATMENT/ATTENUATION FEATURES WILL BE RETAINED AND MAINTAINED WHERE REQUIRED. LOCAL SETTLEMENT PONDS MAY BE INFILLED OR DECOMMISSIONED FOLLOWING THE CONSTRUCTION PHASE, SUBJECT TO CONFIRMATION BY THE SITE ENGINEER.
20. WHERE TEMPORARY DEWATERING OF EXCAVATIONS IS REQUIRED, SILT BAGS AND/OR OTHER APPROPRIATE TREATMENT MEASURES SHALL BE USED AS NECESSARY. DISCHARGE FROM DEWATERING SILT BAGS SHALL BE DIRECTED TO SETTLEMENT PONDS OR OTHER SUITABLE TREATMENT MEASURES PRIOR TO DISCHARGE TO EXISTING FIELD DRAINS OR MAIN DRAINS.
21. FUEL AND OTHER POTENTIALLY POLLUTING SUBSTANCES SHALL BE STORED IN APPROPRIATELY BUNDED CONTAINMENT AREAS IN ACCORDANCE WITH THE CEMP AND POLLUTION PREVENTION NOTES.
22. CULVERTS SHALL BE PROVIDED WHERE PROPOSED INTERNAL ACCESS ROADS OR HARDSTANDS CROSS EXISTING MAIN BOG DRAINAGE PATHWAYS. CULVERTS SHALL BE APPROPRIATELY SIZED AND INSTALLED TO MAINTAIN EXISTING DRAINAGE CONNECTIVITY AND SHALL BE REGULARLY INSPECTED AND MAINTAINED.
23. ALL SURFACE WATER RUNOFF FROM THE PROPOSED PROJECT SHALL ULTIMATELY PASS THROUGH THE EXISTING IPC LICENCE SETTLEMENT PONDS AT THE BOG OUTFALL LOCATIONS PRIOR TO ONWARD DISCHARGE TO THE SURROUNDING STREAM AND RIVER NETWORK.

MITIGATION / DRAINAGE CONTROLS AVAILABLE FOR USE ACROSS THE SITE

MANAGEMENT TYPE	DESCRIPTION DRAINAGE CONTROL METHODS
AVOIDANCE CONTROLS	1) 50 M BUFFER TO NATURAL WATERCOURSES WHERE PRACTICABLE. 2) MINIMISE DISTURBANCE OF EXISTING FIELD AND MAIN DRAINS. 3) MINIMISE WORKING AREAS AND EXPOSED GROUND. 4) SCHEDULE WORKS HAVING REGARD TO WEATHER FORECASTS; SUSPEND OR SCALE BACK HIGH-RISK WORKS DURING HEAVY RAINFALL.
SOURCE CONTROLS:	1) UP-GRADIENT INTERCEPTOR DRAINS TO DIVERT CLEAN RUNOFF AROUND WORKS AND REDISTRIBUTE TO DOWNSTREAM FIELD DRAINS. 2) MINIMISE AND STABILISE EXPOSED GROUND AND TEMPORARY PEAT/SPOIL STOCKPILES. 3) SILT FENCING AND OTHER TEMPORARY SEDIMENT CONTROLS WHERE REQUIRED.
IN-LINE CONTROLS:	1) COLLECTOR DRAINS TO CONVEY CONSTRUCTION RUNOFF TO TREATMENT MEASURES. 2) TRANSVERSE DRAINS/PROPOSED INTERNAL ACCESS ROADS WHERE APPROPRIATE. 3) 4/40 MM NON-FRIABLE CRUSHED-ROCK CHECK DAMS AT TYPICALLY 25 M OR 50 M SPACING, DEPENDING ON GRADIENT. 4) SILT TRAPS AND SETTLEMENT PONDS. 5) CULVERTS TO MAINTAIN EXISTING DRAINAGE PATHWAYS.
WATER TREATMENT CONTROLS:	1) SILT TRAPS AND SETTLEMENT PONDS. 2) DEWATERING SILT BAGS WHERE APPROPRIATE. 3) VEGETATED BUFFER AREAS/SWALES WHERE APPROPRIATE. 4) SPECIALIST TREATMENT SYSTEMS (E.G. SILTBUSTER OR EQUIVALENT) WHERE REQUIRED. 5) EXISTING IPC LICENCE SETTLEMENT PONDS PROVIDE THE FINAL TREATMENT STAGE.
OUTFALL CONTROLS:	1) TREATED RUNOFF TO DISCHARGE TO EXISTING FIELD OR MAIN DRAINS. 2) DISCHARGES CONTROLLED TO PREVENT SCOUR AND EROSION. 3) NO DIRECT DISCHARGE OF UNTREATED CONSTRUCTION RUNOFF TO NATURAL WATERCOURSES. 4) EXISTING DRAINAGE PATHWAYS MAINTAINED WHERE REQUIRED. 5) PROPOSED PROJECT RUNOFF ULTIMATELY PASSES THROUGH EXISTING IPC LICENCE SETTLEMENT PONDS BEFORE DISCHARGE TO RECEIVING WATERS.



DRAWING LEGEND:

EXISTING DRAINAGE
- WATERCOURSES
- WATERCOURSES 50M BUFFER
- STREAM FLOW DIRECTION
- EXISTING MAIN DRAINS
- REDIRECTED MAIN DRAINS
- EXISTING PIPED DRAINS
- EXISTING DISCHARGE DRAINS
- EXISTING BOUNDARY DRAINS
- FIELD DRAIN
- EXISTING SETTLEMENT PONDS
- EXISTING WC CROSSING/CULVERT

PROPOSED DRAINAGE
- UPSTREAM INTERCEPTOR DRAIN
- DOWNSTREAM COLLECTOR DRAIN (DSCD)
- DSCD OR OVER THE EDGE (OTE)
- DIRECTION OF FLOW
- SILT FENCES
- DOUBLE SILT FENCES
- WF SETTLEMENT POND
- LEVEL SPREADER
- PROPOSED WC CROSSING/CULVERT
- INTERCEPTOR DITCH CULVERT
- COLLECTOR DITCH CULVERT
- WATERCOURSE DRAIN PROTECTION BERM
- O OVERLAND FLOW DISCHARGE
- TW TREATED WATER DISCHARGE
- SP NEW SETTLEMENT POND

- PLANNING APPLICATION BOUNDARY
- EXISTING GROUND SURFACE MINOR CONTOUR (1 M INTERVAL)
- TURBINE 220, TURBINE FOUNDATION AND SWEPT AREA
- TURBINE 200, TURBINE FOUNDATION AND SWEPT AREA
- TURBINE FOUNDATION
- CRANE PLATFORM
- BLADE SETDOWN AREAS
- UPGRADES TO EXISTING TRACKS
- PROPOSED INTERNAL ACCESS ROADS AND TURNING BAY
- PROPOSED INTERNAL 33KV CABLING
- PROPOSED GRID CONNECTION UNDERGROUND 220KV ELECTRICAL CABLING
- PROPOSED ON-SITE SUBSTATION
- PROPOSED OFF-SITE GIS SUBSTATION
- PROPOSED MET MAST
- PROPOSED RELAY MAST
- TEMPORARY CONSTRUCTION COMPOUNDS
- PROPOSED CAR PARKING
- PROPOSED PEAT AND SPOIL AREAS
- PROPOSED PASSING BAYS
- PROPOSED DEDICATED AMENITY TRACK
- PROPOSED DEDICATED AMENITY BOARD WALK
- SCRUB MOSAIC CREATION AREA
- POLLINATOR FORAGING HABITAT ENHANCEMENT AREA
- PEATLAND ENHANCEMENT AREA
- NATIVE TREE (WOODLAND AND SCRUB) PLANTING AREA
- MARSH FRITILLARY ENHANCEMENT AREA
- LODGE BOG ENHANCEMENT AREA

BASEMAP NOTE: THESE DRAWINGS USE 1:5,000 SCALE ORDNANCE SURVEY IRELAND (OSI) BASEMAPS AS AN UNDERLAY. FOR CLARITY, THE BASEMAP FEATURES ARE NOT INCLUDED IN THE DRAWING LEGEND AND ARE DISPLAYED IN LIGHT GREY WITH PARTIAL TRANSPARENCY TO DISTINGUISH THEM FROM THE PROPOSED DEVELOPMENT FEATURES.

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Revisions

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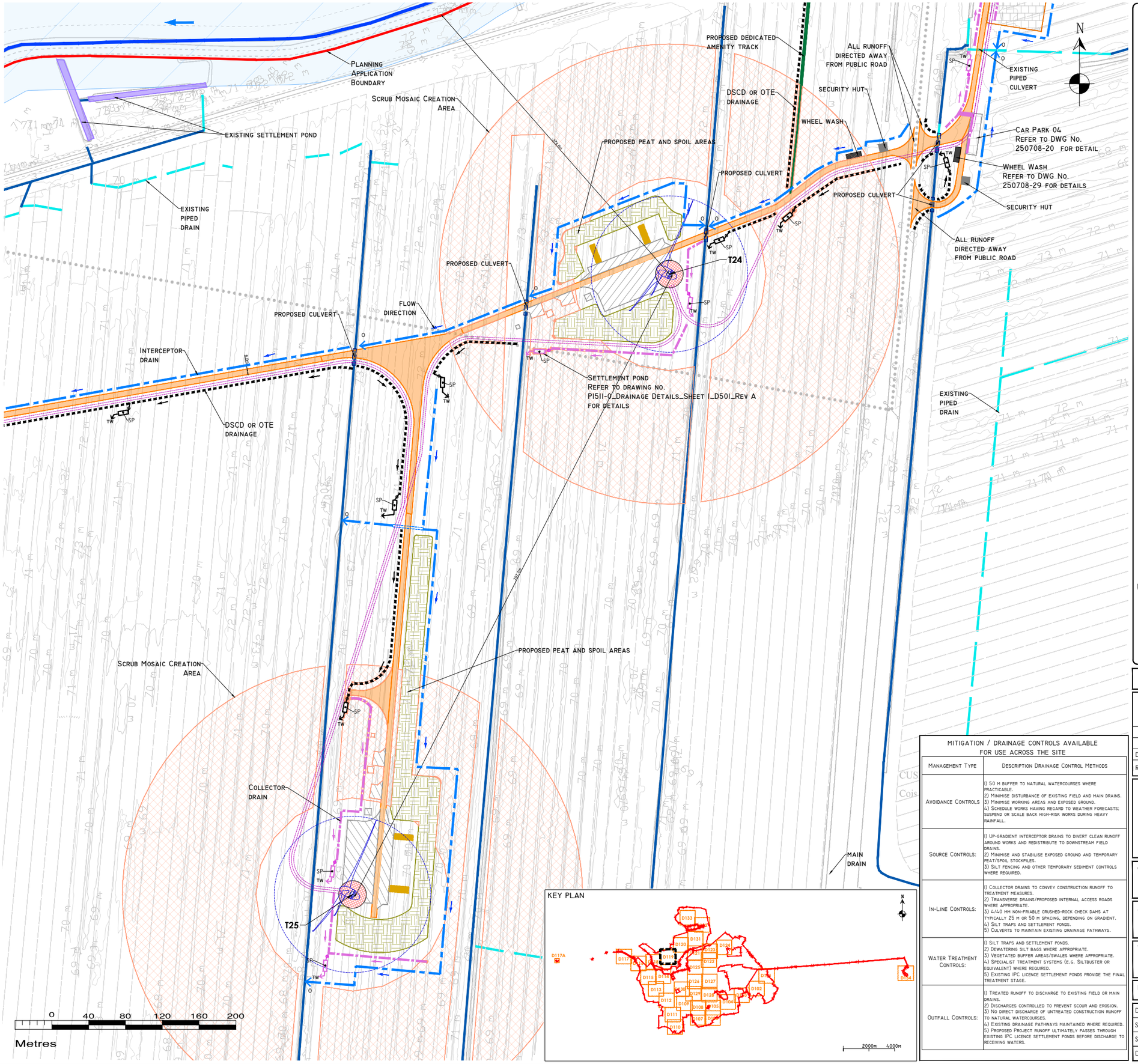
Job:
BALLYDERMOT WF,
CO. OFFALY/CO. KILDARE

Title:
PROPOSED CONSTRUCTION PHASE AND OPERATIONAL PHASE DRAINAGE LAYOUT

Figure No: DII8

KEY PLAN

Drawing No: P1511-0-1026-A1-D118-00C	
Sheet Size: A1	Project No.: P1511-0
Scale: 1:2,000 (A1)	Drawn By: GA
Date: 21/10/2026	Checked By: MG



POLLUTION PREVENTION NOTES:

1. Site management and drainage proposals are intended to ensure protection of surface water and groundwater and to minimise the risk of pollution, siltation and erosion.
2. Appropriate drainage and pollution control measures shall be installed prior to, or in conjunction with, construction works and shall be maintained for the duration of the works.
3. Silty water may arise from excavation dewatering, erosion of exposed or disturbed ground, temporary stockpiles, plant and wheel washing, proposed internal access roads and disturbance of existing field drains and ditches.

Discharges

4. Water containing elevated suspended sediment shall not be pumped or discharged directly to any natural watercourse. Construction runoff and excavation dewatering shall be appropriately treated prior to discharge to the existing bog drainage network.
5. No excavated material or temporary stockpiles shall be stored within the prescribed surface water buffer zones.
6. Runoff from construction areas shall be collected in collector drains and directed to appropriate treatment measures, including silt traps, check dams, settlement ponds, vegetated buffer areas and/or other suitable treatment systems, prior to discharge to existing field drains or main drains.
7. Clean surface water runoff shall, where practicable, be intercepted up-gradient of construction areas using interceptor drains and directed around the works before being redistributed to downstream field drains. Existing field drains may be utilised for this purpose where appropriate.
8. Pumping of clean water from excavations, or over-pumping of drains, ditches or watercourses, shall be undertaken in a manner which does not cause scour or erosion at the point of discharge. Flow velocities shall be controlled using appropriate measures such as splash plates or other suitable discharge controls.
9. Existing drains and ditches shall be retained and protected where practicable. Vegetation shall not be removed from existing drains unless required to facilitate the works.
10. All surface water runoff from the Proposed Project shall ultimately pass through the existing IPC licence settlement ponds at the bog outfall locations prior to discharge to the receiving stream and river network.

Excavations

11. Where excavations are proposed, interceptor/cut-off drains shall be installed where required to minimise the volume of clean surface water entering the excavation. This shall include turbine base excavations where appropriate.
12. Where temporary dewatering of excavations is required, pumped water shall be treated using appropriate measures such as dewatering silt bags, settlement ponds or specialist treatment systems prior to discharge to the existing drainage network.

Exposed Ground & Stockpiles

13. The extent of exposed ground and the volume and duration of temporary stockpiles shall be minimised as far as practicable.
14. Construction activities involving significant areas of exposed peat or soil shall be scaled back or suspended during periods of heavy rainfall or where heavy rainfall is forecast.

Proposed Internal Access Roads

15. Collector drains shall be provided alongside proposed internal access roads where required to collect construction runoff and convey it to appropriate treatment measures.
16. On steeper sections of proposed internal access road, transverse drains or grips shall be installed where appropriate to intercept road runoff and divert it to adjacent roadside collector drains.
17. Check dams shall be installed within collector drains where appropriate to reduce flow velocities and promote settlement of suspended sediment. Check dams shall comprise 4/40 mm non-friable crushed rock and shall generally be installed at 25 m or 50 m intervals depending on local gradient.
18. Silt traps, check dams, settlement ponds and other drainage treatment measures shall be regularly inspected and maintained, particularly during and following periods of heavy rainfall.

Refuelling

19. Refuelling and maintenance of mobile plant shall, where practicable, be undertaken off-site. Where required on-site, refuelling shall only be undertaken within designated areas and in accordance with the CEMP and appropriate pollution prevention procedures.
20. Refuelling areas shall be located away from natural watercourses and drainage features. Spill kits and drip trays shall be readily available for use as required.
21. Fuel and other potentially polluting substances shall be stored in appropriately bunded areas in accordance with the CEMP.

Concrete

22. Concrete works shall be managed to prevent the discharge of cementitious material or concrete-contaminated water to the surface water drainage system, groundwater or natural watercourses.
23. Concrete wash water and waste concrete shall be contained and managed in accordance with the CEMP and shall not be discharged to the site drainage system or natural watercourses.

If water pollution is identified the following actions will be taken:

STOP - works in the immediate area will be stopped and the source of the pollution will be identified.

CONTAIN - the source of the pollution will be contained using appropriate measures to prevent further release. Where necessary, drainage pathways shall be temporarily isolated or diverted to prevent contaminated water reaching downstream receptors.

NOTIFY - The Site Manager and Environmental Clerk of Works shall be notified immediately. Relevant statutory authorities and other bodies shall be notified where required in accordance with the CEMP and the Project Emergency Response Procedure.

DRAINAGE NOTES:

1. Roadway surfacing design and construction shall be to the Engineer's Specification.
2. Spare silt fencing, straw bales or similar approved pollution control materials shall be stored on site. Suspended sediment in runoff shall be visually monitored during construction. Where elevated silt levels are observed, additional temporary controls such as silt fences, straw bales, silt traps or check dams shall be installed as required. A mobile water treatment system (e.g. Siltbuster or equivalent) shall be available on site for use where required.
3. The proposed drainage system shall be constructed prior to, or in conjunction with, the associated proposed internal access roads and other infrastructure. Temporary drainage and sediment control measures shall be installed where required during construction to prevent elevated suspended sediment concentrations in runoff.
4. Appropriate drainage and pollution prevention measures shall be maintained at all times to prevent the conveyance of significant volumes of sediment to receiving watercourses. Refer also to Pollution Prevention Notes.
5. Interceptor drains shall be installed up-gradient of proposed infrastructure, where required, to intercept clean surface water runoff and minimise the volume of runoff entering construction areas. Intercepted clean water shall be directed around the works and redistributed to downstream field drains. Existing field drains shall be utilised for this purpose where practicable.
6. Collector drains shall be installed downstream of proposed internal access roads and other construction areas, where required, to collect runoff where suspended sediment may become entrained. Runoff shall be conveyed to appropriate treatment measures, including silt traps, check dams, vegetated areas and settlement ponds, prior to discharge to the existing field drain or main drain network.
7. Transverse drains ('grips') shall be installed on sections of proposed internal access roads, where appropriate, to intercept proposed internal access road runoff and divert it to adjacent roadside collector drains. The locations of transverse drains shall be determined having regard to local gradient and drainage conditions.
8. Direct discharge of untreated construction runoff to natural watercourses shall not be permitted. Treated runoff shall be discharged to the existing bog drainage network in accordance with the drainage design.
9. Batters of proposed drains shall generally have side slopes appropriate to their depth and local ground conditions and shall be left to naturally re-vegetate or shall be stabilised using suitable locally sourced vegetation where required.
10. Collector drains shall be shallow and constructed with moderate gradients where practicable to minimise scour. Check dams shall be installed where appropriate to reduce flow velocities and promote settlement of suspended sediment.
11. Settlement ponds shall be provided downstream of proposed internal access roads sections and at proposed turbine/hardstand locations where required. Settlement ponds shall provide treatment and temporary attenuation of runoff prior to discharge to the existing bog drainage network. Pond sizing shall be appropriate to the contributing catchment area. Typical pond details are shown on Drawing D501.
12. Silt fencing or other appropriate sediment control measures shall be installed around temporary peat/spoil stockpiles where required to prevent sediment-laden runoff entering the drainage network. Temporary controls may be removed once the disturbed area has been adequately stabilised.
13. Temporary silt fencing shall be installed where required between construction works and existing drainage features or natural watercourses, particularly where works occur within the prescribed surface water buffer zones.
14. Drain slopes and other exposed surfaces shall be protected from erosion until adequately stabilised. Suitable stripped vegetative material, including peat sod/scraw where available, may be reused locally to assist stabilisation and re-vegetation.
15. The extent and duration of exposed ground shall be minimised as far as practicable.
16. Check dams shall comprise 4/40 mm non-friable crushed rock and shall be installed within collector drains where appropriate. Check dams shall generally be installed at 25 m or 50 m intervals, depending on the local longitudinal gradient and site conditions.
17. Check dams, silt traps and settlement ponds shall be visually inspected and maintained as part of the construction-phase drainage maintenance programme, particularly during and following periods of heavy rainfall. Accumulated sediment shall be removed and disposed of appropriately.
18. Where check dams become clogged with sediment or vegetation, they shall be cleaned or replaced as required to maintain their hydraulic and sediment-control function.
19. The construction-phase drainage infrastructure will generally form the basis of the operational drainage system. Collector drains, settlement ponds and other treatment/attenuation features will be retained and maintained where required. Local settlement ponds may be infilled or decommissioned following the construction phase, subject to confirmation by the site engineer.
20. Where temporary dewatering of excavations is required, silt bags and/or other appropriate treatment measures shall be used as necessary. Discharge from dewatering silt bags shall be directed to settlement ponds or other suitable treatment measures prior to discharge to existing field drains or main drains.
21. Fuel and other potentially polluting substances shall be stored in appropriately bunded containment areas in accordance with the CEMP and Pollution Prevention Notes.
22. Culverts shall be provided where proposed internal access roads or hardstands cross existing main bog drainage pathways. Culverts shall be appropriately sized and installed to maintain existing drainage connectivity and shall be regularly inspected and maintained.
23. All surface water runoff from the Proposed Project shall ultimately pass through the existing IPC licence settlement ponds at the bog outfall locations prior to onward discharge to the surrounding stream and river network.

Drawing Legend:

Existing Drainage
- Watercourses
- Watercourses 50m Buffer
- Stream Flow Direction
- Existing Main Drains
- Redirected Main Drains
- Existing Piped Drains
- Existing Discharge Drains
- Existing Boundary Drains
- Field Drain
- Existing Settlement Ponds
- Existing WC Crossing/Culvert

Proposed Drainage
- Upstream Interceptor Drain
- Downstream Collector Drain (DSCD)
- DSCD or Over The Edge (OTE)
- Direction of Flow
- Silt Fences
- Double Silt Fences
- WF Settlement Pond
- Level Spreader
- Proposed WC Crossing/Culvert
- Interceptor Ditch Culvert
- Collector Ditch Culvert
- Watercourse Drain Protection Berm
- O Overland Flow Discharge
- TW Treated Water Discharge
- SP New Settlement Pond

- Planning Application Boundary
- Existing Ground Surface Minor Contour (1 m Interval)
- Turbine 220, Turbine Foundation and Swept Area
- Turbine 200, Turbine Foundation and Swept Area
- Turbine Foundation
- Crane Platform
- Blade Setdown Areas
- Upgrades to Existing Tracks
- Proposed Internal Access Roads and Turning Bay
- Proposed Internal 33kV Cabling
- Proposed Grid Connection Underground 220kV Electrical Cabling
- Proposed On-site Substation
- Proposed Off-site GIS Substation
- Proposed Met Mast
- Proposed Relay Mast
- Temporary Construction Compounds
- Proposed Car Parking
- Proposed Peat and Spoil Areas
- Proposed Passing Bays
- Proposed Dedicated Amenity Track
- Proposed Dedicated Amenity Board Walk
- Scrub Mosaic Creation Area
- Pollinator Foraging Habitat Enhancement Area
- Peatland Enhancement Area
- Native Tree (Woodland and Scrub) Planting Area
- Marsh Fritillary Enhancement Area
- Lodge Bog Enhancement Area

Basemap Note: These drawings use 1:5,000 scale Ordnance Survey Ireland (OSi) basemaps as an underlay. For clarity, the basemap features are not included in the drawing legend and are displayed in light grey with partial transparency to distinguish them from the proposed development features.

Drawing Notes

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MITIGATION / DRAINAGE CONTROLS AVAILABLE FOR USE ACROSS THE SITE

Management Type	Description Drainage Control Methods
Avoidance Controls	1) 50 m buffer to natural watercourses where practicable. 2) Minimise disturbance of existing field and main drains. 3) Minimise working areas and exposed ground. 4) Schedule works having regard to weather forecasts; suspend or scale back high-risk works during heavy rainfall.
Source Controls:	1) Up-gradient interceptor drains to divert clean runoff around works and redistribute to downstream field drains. 2) Minimise and stabilise exposed ground and temporary peat/spoil stockpiles. 3) Silt fencing and other temporary sediment controls where required.
In-Line Controls:	1) Collector drains to convey construction runoff to treatment measures. 2) Transverse drains/proposed internal access roads where appropriate. 3) 4/40 mm non-friable crushed-rock check dams at typically 25 m or 50 m spacing, depending on gradient. 4) Silt traps and settlement ponds. 5) Culverts to maintain existing drainage pathways.
Water Treatment Controls:	1) Silt traps and settlement ponds. 2) Dewatering silt bags where appropriate. 3) Vegetated buffer areas/swales where appropriate. 4) Specialist treatment systems (e.g. Siltbuster or equivalent) where required. 5) Existing IPC licence settlement ponds provide the final treatment stage.
Outfall Controls:	1) Treated runoff to discharge to existing field or main drains. 2) Discharges controlled to prevent scour and erosion. 3) No direct discharge of untreated construction runoff to natural watercourses. 4) Existing drainage pathways maintained where required. 5) Proposed Project runoff ultimately passes through existing IPC licence settlement ponds before discharge to receiving waters.

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Revisions			

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Client: Bord na Móna Powergen Ltd

Job: Ballydermot WF, Co. Offaly/Co. Kildare

Title: Proposed Construction Phase and Operational Phase Drainage Layout

Figure No: DII9

Drawing No: P1511-0-1026-A1-D119-00C	
Sheet Size: A1	Project No.: P1511-0
Scale: 1:2,000 (A1)	Drawn By: GA
Date: 21/10/2026	Checked By: MG

POLLUTION PREVENTION NOTES:

1. SITE MANAGEMENT AND DRAINAGE PROPOSALS ARE INTENDED TO ENSURE PROTECTION OF SURFACE WATER AND GROUNDWATER AND TO MINIMISE THE RISK OF POLLUTION, SILTATION AND EROSION.
2. APPROPRIATE DRAINAGE AND POLLUTION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO, OR IN CONJUNCTION WITH, CONSTRUCTION WORKS AND SHALL BE MAINTAINED FOR THE DURATION OF THE WORKS.
3. SILTY WATER MAY ARISE FROM EXCAVATION DEWATERING, EROSION OF EXPOSED OR DISTURBED GROUND, TEMPORARY STOCKPILES, PLANT AND WHEEL WASHING, PROPOSED INTERNAL ACCESS ROADS AND DISTURBANCE OF EXISTING FIELD DRAINS AND DITCHES.

DISCHARGES

4. WATER CONTAINING ELEVATED SUSPENDED SEDIMENT SHALL NOT BE PUMPED OR DISCHARGED DIRECTLY TO ANY NATURAL WATERCOURSE. CONSTRUCTION RUNOFF AND EXCAVATION DEWATERING SHALL BE APPROPRIATELY TREATED PRIOR TO DISCHARGE TO THE EXISTING BOG DRAINAGE NETWORK.
5. NO EXCAVATED MATERIAL OR TEMPORARY STOCKPILES SHALL BE STORED WITHIN THE PRESCRIBED SURFACE WATER BUFFER ZONES.
6. RUNOFF FROM CONSTRUCTION AREAS SHALL BE COLLECTED IN COLLECTOR DRAINS AND DIRECTED TO APPROPRIATE TREATMENT MEASURES, INCLUDING SILT TRAPS, CHECK DAMS, SETTLEMENT PONDS, VEGETATED BUFFER AREAS AND/OR OTHER SUITABLE TREATMENT SYSTEMS, PRIOR TO DISCHARGE TO EXISTING FIELD DRAINS OR MAIN DRAINS.
7. CLEAN SURFACE WATER RUNOFF SHALL, WHERE PRACTICABLE, BE INTERCEPTED UP-GRADIENT OF CONSTRUCTION AREAS USING INTERCEPTOR DRAINS AND DIRECTED AROUND THE WORKS BEFORE BEING REDISTRIBUTED TO DOWNSTREAM FIELD DRAINS. EXISTING FIELD DRAINS MAY BE UTILISED FOR THIS PURPOSE WHERE APPROPRIATE.
8. PUMPING OF CLEAN WATER FROM EXCAVATIONS, OR OVER-PUMPING OF DRAINS, DITCHES OR WATERCOURSES, SHALL BE UNDERTAKEN IN A MANNER WHICH DOES NOT CAUSE SCOUR OR EROSION AT THE POINT OF DISCHARGE. FLOW VELOCITIES SHALL BE CONTROLLED USING APPROPRIATE MEASURES SUCH AS SPLASH PLATES OR OTHER SUITABLE DISCHARGE CONTROLS.
9. EXISTING DRAINS AND DITCHES SHALL BE RETAINED AND PROTECTED WHERE PRACTICABLE. VEGETATION SHALL NOT BE REMOVED FROM EXISTING DRAINS UNLESS REQUIRED TO FACILITATE THE WORKS.
10. ALL SURFACE WATER RUNOFF FROM THE PROPOSED PROJECT SHALL ULTIMATELY PASS THROUGH THE EXISTING IPC LICENCE SETTLEMENT PONDS AT THE BOG OUTFALL LOCATIONS PRIOR TO DISCHARGE TO THE RECEIVING STREAM AND RIVER NETWORK.

EXCAVATIONS

11. WHERE EXCAVATIONS ARE PROPOSED, INTERCEPTOR/CUT-OFF DRAINS SHALL BE INSTALLED WHERE REQUIRED TO MINIMISE THE VOLUME OF CLEAN SURFACE WATER ENTERING THE EXCAVATION. THIS SHALL INCLUDE TURBINE BASE EXCAVATIONS WHERE APPROPRIATE.
12. WHERE TEMPORARY DEWATERING OF EXCAVATIONS IS REQUIRED, PUMPED WATER SHALL BE TREATED USING APPROPRIATE MEASURES SUCH AS DEWATERING SILT BAGS, SETTLEMENT PONDS OR SPECIALIST TREATMENT SYSTEMS PRIOR TO DISCHARGE TO THE EXISTING DRAINAGE NETWORK.

EXPOSED GROUND & STOCKPILES

13. THE EXTENT OF EXPOSED GROUND AND THE VOLUME AND DURATION OF TEMPORARY STOCKPILES SHALL BE MINIMISED AS FAR AS PRACTICABLE.
14. CONSTRUCTION ACTIVITIES INVOLVING SIGNIFICANT AREAS OF EXPOSED PEAT OR SOIL SHALL BE SCALED BACK OR SUSPENDED DURING PERIODS OF HEAVY RAINFALL OR WHERE HEAVY RAINFALL IS FORECAST.

PROPOSED INTERNAL ACCESS ROADS

15. COLLECTOR DRAINS SHALL BE PROVIDED ALONGSIDE PROPOSED INTERNAL ACCESS ROADS WHERE REQUIRED TO COLLECT CONSTRUCTION RUNOFF AND CONVEY IT TO APPROPRIATE TREATMENT MEASURES.
16. ON STEEPER SECTIONS OF PROPOSED INTERNAL ACCESS ROAD, TRANSVERSE DRAINS OR GRIPS SHALL BE INSTALLED WHERE APPROPRIATE TO INTERCEPT ROAD RUNOFF AND DIVERT IT TO ADJACENT ROADSIDE COLLECTOR DRAINS.
17. CHECK DAMS SHALL BE INSTALLED WITHIN COLLECTOR DRAINS WHERE APPROPRIATE TO REDUCE FLOW VELOCITIES AND PROMOTE SETTLEMENT OF SUSPENDED SEDIMENT. CHECK DAMS SHALL COMPRISE 4/40 MM NON-FRIABLE CRUSHED ROCK AND SHALL GENERALLY BE INSTALLED AT 25 M OR 50 M INTERVALS DEPENDING ON LOCAL GRADIENT.
18. SILT TRAPS, CHECK DAMS, SETTLEMENT PONDS AND OTHER DRAINAGE TREATMENT MEASURES SHALL BE REGULARLY INSPECTED AND MAINTAINED, PARTICULARLY DURING AND FOLLOWING PERIODS OF HEAVY RAINFALL.

REFUELLING

19. REFUELLING AND MAINTENANCE OF MOBILE PLANT SHALL, WHERE PRACTICABLE, BE UNDERTAKEN OFF-SITE. WHERE REQUIRED ON-SITE, REFUELLING SHALL ONLY BE UNDERTAKEN WITHIN DESIGNATED AREAS AND IN ACCORDANCE WITH THE CEMP AND APPROPRIATE POLLUTION PREVENTION PROCEDURES.
20. REFUELLING AREAS SHALL BE LOCATED AWAY FROM NATURAL WATERCOURSES AND DRAINAGE FEATURES. SPILL KITS AND DRIP TRAYS SHALL BE READILY AVAILABLE FOR USE AS REQUIRED.
21. FUEL AND OTHER POTENTIALLY POLLUTING SUBSTANCES SHALL BE STORED IN APPROPRIATELY BUNDED AREAS IN ACCORDANCE WITH THE CEMP.

CONCRETE

22. CONCRETE WORKS SHALL BE MANAGED TO PREVENT THE DISCHARGE OF CEMENTITIOUS MATERIAL OR CONCRETE-CONTAMINATED WATER TO THE SURFACE WATER DRAINAGE SYSTEM, GROUNDWATER OR NATURAL WATERCOURSES.
23. CONCRETE WASH WATER AND WASTE CONCRETE SHALL BE CONTAINED AND MANAGED IN ACCORDANCE WITH THE CEMP AND SHALL NOT BE DISCHARGED TO THE SITE DRAINAGE SYSTEM OR NATURAL WATERCOURSES.

IF WATER POLLUTION IS IDENTIFIED THE FOLLOWING ACTIONS WILL BE TAKEN:

STOP - WORKS IN THE IMMEDIATE AREA WILL BE STOPPED AND THE SOURCE OF THE POLLUTION WILL BE IDENTIFIED.

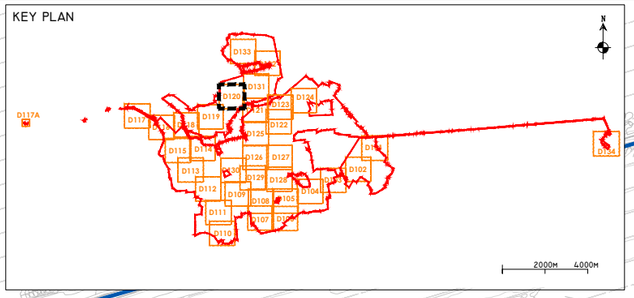
CONTAIN - THE SOURCE OF THE POLLUTION WILL BE CONTAINED USING APPROPRIATE MEASURES TO PREVENT FURTHER RELEASE. WHERE NECESSARY, DRAINAGE PATHWAYS SHALL BE TEMPORARILY ISOLATED OR DIVERTED TO PREVENT CONTAMINATED WATER REACHING DOWNSTREAM RECEPTORS.

NOTIFY - THE SITE MANAGER AND ENVIRONMENTAL CLERK OF WORKS SHALL BE NOTIFIED IMMEDIATELY. RELEVANT STATUTORY AUTHORITIES AND OTHER BODIES SHALL BE NOTIFIED WHERE REQUIRED IN ACCORDANCE WITH THE CEMP AND THE PROJECT EMERGENCY RESPONSE PROCEDURE.

DRAINAGE NOTES:

1. ROADWAY SURFACING DESIGN AND CONSTRUCTION SHALL BE TO THE ENGINEER'S SPECIFICATION.
2. SPARE SILT FENCING, STRAW BALES OR SIMILAR APPROVED POLLUTION CONTROL MATERIALS SHALL BE STORED ON SITE. SUSPENDED SEDIMENT IN RUNOFF SHALL BE VISUALLY MONITORED DURING CONSTRUCTION. WHERE ELEVATED SILT LEVELS ARE OBSERVED, ADDITIONAL TEMPORARY CONTROLS SUCH AS SILT FENCES, STRAW BALES, SILT TRAPS OR CHECK DAMS SHALL BE INSTALLED AS REQUIRED. A MOBILE WATER TREATMENT SYSTEM (E.G. SILTBUSTER OR EQUIVALENT) SHALL BE AVAILABLE ON SITE FOR USE WHERE REQUIRED.
3. THE PROPOSED DRAINAGE SYSTEM SHALL BE CONSTRUCTED PRIOR TO, OR IN CONJUNCTION WITH, THE ASSOCIATED PROPOSED INTERNAL ACCESS ROADS AND OTHER INFRASTRUCTURE. TEMPORARY DRAINAGE AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED WHERE REQUIRED DURING CONSTRUCTION TO PREVENT ELEVATED SUSPENDED SEDIMENT CONCENTRATIONS IN RUNOFF.
4. APPROPRIATE DRAINAGE AND POLLUTION PREVENTION MEASURES SHALL BE MAINTAINED AT ALL TIMES TO PREVENT THE CONVEYANCE OF SIGNIFICANT VOLUMES OF SEDIMENT TO RECEIVING WATERCOURSES. REFER ALSO TO POLLUTION PREVENTION NOTES.
5. INTERCEPTOR DRAINS SHALL BE INSTALLED UP-GRADIENT OF PROPOSED INFRASTRUCTURE, WHERE REQUIRED, TO INTERCEPT CLEAN SURFACE WATER RUNOFF AND MINIMISE THE VOLUME OF RUNOFF ENTERING CONSTRUCTION AREAS. INTERCEPTED CLEAN WATER SHALL BE DIRECTED AROUND THE WORKS AND REDISTRIBUTED TO DOWNSTREAM FIELD DRAINS. EXISTING FIELD DRAINS SHALL BE UTILISED FOR THIS PURPOSE WHERE PRACTICABLE.
6. COLLECTOR DRAINS SHALL BE INSTALLED DOWNSTREAM OF PROPOSED INTERNAL ACCESS ROADS AND OTHER CONSTRUCTION AREAS, WHERE REQUIRED, TO COLLECT RUNOFF WHERE SUSPENDED SEDIMENT MAY BECOME ENTRAINED. RUNOFF SHALL BE CONVEYED TO APPROPRIATE TREATMENT MEASURES, INCLUDING SILT TRAPS, CHECK DAMS, VEGETATED AREAS AND SETTLEMENT PONDS, PRIOR TO DISCHARGE TO THE EXISTING FIELD DRAIN OR MAIN DRAIN NETWORK.
7. TRANSVERSE DRAINS ('GRIPS') SHALL BE INSTALLED ON SECTIONS OF PROPOSED INTERNAL ACCESS ROADS, WHERE APPROPRIATE, TO INTERCEPT PROPOSED INTERNAL ACCESS ROAD RUNOFF AND DIVERT IT TO ADJACENT ROADSIDE COLLECTOR DRAINS. THE LOCATIONS OF TRANSVERSE DRAINS SHALL BE DETERMINED HAVING REGARD TO LOCAL GRADIENT AND DRAINAGE CONDITIONS.
8. DIRECT DISCHARGE OF UNTREATED CONSTRUCTION RUNOFF TO NATURAL WATERCOURSES SHALL NOT BE PERMITTED. TREATED RUNOFF SHALL BE DISCHARGED TO THE EXISTING BOG DRAINAGE NETWORK IN ACCORDANCE WITH THE DRAINAGE DESIGN.
9. BATTERS OF PROPOSED DRAINS SHALL GENERALLY HAVE SIDE SLOPES APPROPRIATE TO THEIR DEPTH AND LOCAL GROUND CONDITIONS AND SHALL BE LEFT TO NATURALLY RE-VEGETATE OR SHALL BE STABILISED USING SUITABLE LOCALLY SOURCED VEGETATION WHERE REQUIRED.
10. COLLECTOR DRAINS SHALL BE SHALLOW AND CONSTRUCTED WITH MODERATE GRADIENTS WHERE PRACTICABLE TO MINIMISE SCOUR. CHECK DAMS SHALL BE INSTALLED WHERE APPROPRIATE TO REDUCE FLOW VELOCITIES AND PROMOTE SETTLEMENT OF SUSPENDED SEDIMENT.
11. SETTLEMENT PONDS SHALL BE PROVIDED DOWNSTREAM OF PROPOSED INTERNAL ACCESS ROADS SECTIONS AND AT PROPOSED TURBINE/HARDSTAND LOCATIONS WHERE REQUIRED. SETTLEMENT PONDS SHALL PROVIDE TREATMENT AND TEMPORARY ATTENUATION OF RUNOFF PRIOR TO DISCHARGE TO THE EXISTING BOG DRAINAGE NETWORK. POND SIZING SHALL BE APPROPRIATE TO THE CONTRIBUTING CATCHMENT AREA. TYPICAL POND DETAILS ARE SHOWN ON DRAWING D501.
12. SILT FENCING OR OTHER APPROPRIATE SEDIMENT CONTROL MEASURES SHALL BE INSTALLED AROUND TEMPORARY PEAT/SPOIL STOCKPILES WHERE REQUIRED TO PREVENT SEDIMENT-LADEN RUNOFF ENTERING THE DRAINAGE NETWORK. TEMPORARY CONTROLS MAY BE REMOVED ONCE THE DISTURBED AREA HAS BEEN ADEQUATELY STABILISED.
13. TEMPORARY SILT FENCING SHALL BE INSTALLED WHERE REQUIRED BETWEEN CONSTRUCTION WORKS AND EXISTING DRAINAGE FEATURES OR NATURAL WATERCOURSES, PARTICULARLY WHERE WORKS OCCUR WITHIN THE PRESCRIBED SURFACE WATER BUFFER ZONES.
14. DRAIN SLOPES AND OTHER EXPOSED SURFACES SHALL BE PROTECTED FROM EROSION UNTIL ADEQUATELY STABILISED. SUITABLE STRIPPED VEGETATIVE MATERIAL, INCLUDING PEAT SOD/SCRAW WHERE AVAILABLE, MAY BE REUSED LOCALLY TO ASSIST STABILISATION AND RE-VEGETATION.
15. THE EXTENT AND DURATION OF EXPOSED GROUND SHALL BE MINIMISED AS FAR AS PRACTICABLE.
16. CHECK DAMS SHALL COMPRISE 4/40 MM NON-FRIABLE CRUSHED ROCK AND SHALL BE INSTALLED WITHIN COLLECTOR DRAINS WHERE APPROPRIATE. CHECK DAMS SHALL GENERALLY BE INSTALLED AT 25 M OR 50 M INTERVALS, DEPENDING ON THE LOCAL LONGITUDINAL GRADIENT AND SITE CONDITIONS.
17. CHECK DAMS, SILT TRAPS AND SETTLEMENT PONDS SHALL BE VISUALLY INSPECTED AND MAINTAINED AS PART OF THE CONSTRUCTION-PHASE DRAINAGE MAINTENANCE PROGRAMME, PARTICULARLY DURING AND FOLLOWING PERIODS OF HEAVY RAINFALL. ACCUMULATED SEDIMENT SHALL BE REMOVED AND DISPOSED OF APPROPRIATELY.
18. WHERE CHECK DAMS BECOME CLOGGED WITH SEDIMENT OR VEGETATION, THEY SHALL BE CLEANED OR REPLACED AS REQUIRED TO MAINTAIN THEIR HYDRAULIC AND SEDIMENT-CONTROL FUNCTION.
19. THE CONSTRUCTION-PHASE DRAINAGE INFRASTRUCTURE WILL GENERALLY FORM THE BASIS OF THE OPERATIONAL DRAINAGE SYSTEM. COLLECTOR DRAINS, SETTLEMENT PONDS AND OTHER TREATMENT/ATTENUATION FEATURES WILL BE RETAINED AND MAINTAINED WHERE REQUIRED. LOCAL SETTLEMENT PONDS MAY BE INFILLED OR DECOMMISSIONED FOLLOWING THE CONSTRUCTION PHASE, SUBJECT TO CONFIRMATION BY THE SITE ENGINEER.
20. WHERE TEMPORARY DEWATERING OF EXCAVATIONS IS REQUIRED, SILT BAGS AND/OR OTHER APPROPRIATE TREATMENT MEASURES SHALL BE USED AS NECESSARY. DISCHARGE FROM DEWATERING SILT BAGS SHALL BE DIRECTED TO SETTLEMENT PONDS OR OTHER SUITABLE TREATMENT MEASURES PRIOR TO DISCHARGE TO EXISTING FIELD DRAINS OR MAIN DRAINS.
21. FUEL AND OTHER POTENTIALLY POLLUTING SUBSTANCES SHALL BE STORED IN APPROPRIATELY BUNDED CONTAINMENT AREAS IN ACCORDANCE WITH THE CEMP AND POLLUTION PREVENTION NOTES.
22. CULVERTS SHALL BE PROVIDED WHERE PROPOSED INTERNAL ACCESS ROADS OR HARDSTANDS CROSS EXISTING MAIN BOG DRAINAGE PATHWAYS. CULVERTS SHALL BE APPROPRIATELY SIZED AND INSTALLED TO MAINTAIN EXISTING DRAINAGE CONNECTIVITY AND SHALL BE REGULARLY INSPECTED AND MAINTAINED.
23. ALL SURFACE WATER RUNOFF FROM THE PROPOSED PROJECT SHALL ULTIMATELY PASS THROUGH THE EXISTING IPC LICENCE SETTLEMENT PONDS AT THE BOG OUTFALL LOCATIONS PRIOR TO ONWARD DISCHARGE TO THE SURROUNDING STREAM AND RIVER NETWORK.

KEY PLAN



MITIGATION / DRAINAGE CONTROLS AVAILABLE FOR USE ACROSS THE SITE

MANAGEMENT TYPE	DESCRIPTION DRAINAGE CONTROL METHODS
AVOIDANCE CONTROLS	1) 50 M BUFFER TO NATURAL WATERCOURSES WHERE PRACTICABLE. 2) MINIMISE DISTURBANCE OF EXISTING FIELD AND MAIN DRAINS. 3) MINIMISE WORKING AREAS AND EXPOSED GROUND. 4) SCHEDULE WORKS HAVING REGARD TO WEATHER FORECASTS; SUSPEND OR SCALE BACK HIGH-RISK WORKS DURING HEAVY RAINFALL.
SOURCE CONTROLS:	1) UP-GRADIENT INTERCEPTOR DRAINS TO DIVERT CLEAN RUNOFF AROUND WORKS AND REDISTRIBUTE TO DOWNSTREAM FIELD DRAINS. 2) MINIMISE AND STABILISE EXPOSED GROUND AND TEMPORARY PEAT/SPOIL STOCKPILES. 3) SILT FENCING AND OTHER TEMPORARY SEDIMENT CONTROLS WHERE REQUIRED.
IN-LINE CONTROLS:	1) COLLECTOR DRAINS TO CONVEY CONSTRUCTION RUNOFF TO TREATMENT MEASURES. 2) TRANSVERSE DRAINS/PROPOSED INTERNAL ACCESS ROADS WHERE APPROPRIATE. 3) 4/40 MM NON-FRIABLE CRUSHED-ROCK CHECK DAMS AT TYPICALLY 25 M OR 50 M SPACING, DEPENDING ON GRADIENT. 4) SILT TRAPS AND SETTLEMENT PONDS. 5) CULVERTS TO MAINTAIN EXISTING DRAINAGE PATHWAYS.
WATER TREATMENT CONTROLS:	1) SILT TRAPS AND SETTLEMENT PONDS. 2) DEWATERING SILT BAGS WHERE APPROPRIATE. 3) VEGETATED BUFFER AREAS/SWALES WHERE APPROPRIATE. 4) SPECIALIST TREATMENT SYSTEMS (E.G. SILTBUSTER OR EQUIVALENT) WHERE REQUIRED. 5) EXISTING IPC LICENCE SETTLEMENT PONDS PROVIDE THE FINAL TREATMENT STAGE.
OUTFALL CONTROLS:	1) TREATED RUNOFF TO DISCHARGE TO EXISTING FIELD OR MAIN DRAINS. 2) DISCHARGES CONTROLLED TO PREVENT SCOUR AND EROSION. 3) NO DIRECT DISCHARGE OF UNTREATED CONSTRUCTION RUNOFF TO NATURAL WATERCOURSES. 4) EXISTING DRAINAGE PATHWAYS MAINTAINED WHERE REQUIRED. 5) PROPOSED PROJECT RUNOFF ULTIMATELY PASSES THROUGH EXISTING IPC LICENCE SETTLEMENT PONDS BEFORE DISCHARGE TO RECEIVING WATERS.

DRAWING LEGEND:

EXISTING DRAINAGE
- WATERCOURSES
- WATERCOURSES 50M BUFFER
- STREAM FLOW DIRECTION
- EXISTING MAIN DRAINS
- REDIRECTED MAIN DRAINS
- EXISTING PIPED DRAINS
- EXISTING DISCHARGE DRAINS
- EXISTING BOUNDARY DRAINS
- FIELD DRAIN
- EXISTING SETTLEMENT PONDS
- EXISTING WC CROSSING/CULVERT

PROPOSED DRAINAGE
- UPSTREAM INTERCEPTOR DRAIN
- DOWNSTREAM COLLECTOR DRAIN (DSCD)
- DSCD OR OVER THE EDGE (OTE)
- DIRECTION OF FLOW
- SILT FENCES
- DOUBLE SILT FENCES
- WF SETTLEMENT POND
- LEVEL SPREADER
- PROPOSED WC CROSSING/CULVERT
- INTERCEPTOR DITCH CULVERT
- COLLECTOR DITCH CULVERT
- WATERCOURSE DRAIN PROTECTION BERM
- O OVERLAND FLOW DISCHARGE
- TW TREATED WATER DISCHARGE
- SP NEW SETTLEMENT POND

- PLANNING APPLICATION BOUNDARY
- EXISTING GROUND SURFACE MINOR CONTOUR (1 M INTERVAL)
- TURBINE 220, TURBINE FOUNDATION AND SWEPT AREA
- TURBINE 200, TURBINE FOUNDATION AND SWEPT AREA
- TURBINE FOUNDATION
- CRANE PLATFORM
- BLADE SETDOWN AREAS
- UPGRADES TO EXISTING TRACKS
- PROPOSED INTERNAL ACCESS ROADS AND TURNING BAY
- PROPOSED INTERNAL 33KV CABLING
- PROPOSED GRID CONNECTION UNDERGROUND 220KV ELECTRICAL CABLING
- PROPOSED ON-SITE SUBSTATION
- PROPOSED OFF-SITE GIS SUBSTATION
- PROPOSED MET MAST
- PROPOSED RELAY MAST
- TEMPORARY CONSTRUCTION COMPOUNDS
- PROPOSED CAR PARKING
- PROPOSED PEAT AND SPOIL AREAS
- PROPOSED PASSING BAYS
- PROPOSED DEDICATED AMENITY TRACK
- PROPOSED DEDICATED AMENITY BOARD WALK
- SCRUB MOSAIC CREATION AREA
- POLLINATOR FORAGING HABITAT ENHANCEMENT AREA
- PEATLAND ENHANCEMENT AREA
- NATIVE TREE (WOODLAND AND SCRUB) PLANTING AREA
- MARSH FRITILLARY ENHANCEMENT AREA
- LODGE BOG ENHANCEMENT AREA

BASEMAP NOTE: THESE DRAWINGS USE 1:5,000 SCALE ORDNANCE SURVEY IRELAND (OSI) BASEMAPS AS AN UNDERLAY. FOR CLARITY, THE BASEMAP FEATURES ARE NOT INCLUDED IN THE DRAWING LEGEND AND ARE DISPLAYED IN LIGHT GREY WITH PARTIAL TRANSPARENCY TO DISTINGUISH THEM FROM THE PROPOSED DEVELOPMENT FEATURES.

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Revisions

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Client: BORD NA MÓNA POWERGEN LTD

Job: BALLYDERMOT WF, CO. OFFALY/CO. KILDARE

Title: PROPOSED CONSTRUCTION PHASE AND OPERATIONAL PHASE DRAINAGE LAYOUT

Figure No: DI20

Drawing No: P1511-0-1026-A1-D120-00C	
Sheet Size: A1	Project No.: P1511-0
Scale: 1:2,000 (A1)	Drawn By: GA
Date: 21/10/2026	Checked By: MG

MITIGATION / DRAINAGE CONTROLS AVAILABLE FOR USE ACROSS THE SITE

Management Type	Description Drainage Control Methods
Avoidance Controls	1) 50 m buffer to natural watercourses where practicable. 2) Minimise disturbance of existing field and main drains. 3) Minimise working areas and exposed ground. 4) Schedule works having regard to weather forecasts; suspend or scale back high-risk works during heavy rainfall.
Source Controls:	1) Up-gradient interceptor drains to divert clean runoff around works and redistribute to downstream field drains. 2) Minimise and stabilise exposed ground and temporary peat/spoil stockpiles. 3) Silt fencing and other temporary sediment controls where required.
In-Line Controls:	1) Collector drains to convey construction runoff to treatment measures. 2) Transverse drains/proposed internal access roads where appropriate. 3) 4/40 mm non-friable crushed-rock check dams at typically 25 m or 50 m spacing, depending on gradient. 4) Silt traps and settlement ponds. 5) Culverts to maintain existing drainage pathways.
Water Treatment Controls:	1) Silt traps and settlement ponds. 2) Dewatering silt bags where appropriate. 3) Vegetated buffer areas/swales where appropriate. 4) Specialist treatment systems (e.g. Siltbuster or equivalent) where required. 5) Existing IPC licence settlement ponds provide the final treatment stage.
Outfall Controls:	1) Treated runoff to discharge to existing field or main drains. 2) Discharges controlled to prevent scour and erosion. 3) No direct discharge of untreated construction runoff to natural watercourses. 4) Existing drainage pathways maintained where required. 5) Proposed Project runoff ultimately passes through existing IPC licence settlement ponds before discharge to receiving waters.

POLLUTION PREVENTION NOTES:

1. Site management and drainage proposals are intended to ensure protection of surface water and groundwater and to minimise the risk of pollution, siltation and erosion.
2. Appropriate drainage and pollution control measures shall be installed prior to, or in conjunction with, construction works and shall be maintained for the duration of the works.
3. Silty water may arise from excavation dewatering, erosion of exposed or disturbed ground, temporary stockpiles, plant and wheel washing, proposed internal access roads and disturbance of existing field drains and ditches.

Discharges

4. Water containing elevated suspended sediment shall not be pumped or discharged directly to any natural watercourse. Construction runoff and excavation dewatering shall be appropriately treated prior to discharge to the existing bog drainage network.
5. No excavated material or temporary stockpiles shall be stored within the prescribed surface water buffer zones.
6. Runoff from construction areas shall be collected in collector drains and directed to appropriate treatment measures, including silt traps, check dams, settlement ponds, vegetated buffer areas and/or other suitable treatment systems, prior to discharge to existing field drains or main drains.
7. Clean surface water runoff shall, where practicable, be intercepted up-gradient of construction areas using interceptor drains and directed around the works before being redistributed to downstream field drains. Existing field drains may be utilised for this purpose where appropriate.
8. Pumping of clean water from excavations, or over-pumping of drains, ditches or watercourses, shall be undertaken in a manner which does not cause scour or erosion at the point of discharge. Flow velocities shall be controlled using appropriate measures such as splash plates or other suitable discharge controls.
9. Existing drains and ditches shall be retained and protected where practicable. Vegetation shall not be removed from existing drains unless required to facilitate the works.
10. All surface water runoff from the Proposed Project shall ultimately pass through the existing IPC licence settlement ponds at the bog outfall locations prior to discharge to the receiving stream and river network.

Excavations

11. Where excavations are proposed, interceptor/cut-off drains shall be installed where required to minimise the volume of clean surface water entering the excavation. This shall include turbine base excavations where appropriate.
12. Where temporary dewatering of excavations is required, pumped water shall be treated using appropriate measures such as dewatering silt bags, settlement ponds or specialist treatment systems prior to discharge to the existing drainage network.

Exposed Ground & Stockpiles

13. The extent of exposed ground and the volume and duration of temporary stockpiles shall be minimised as far as practicable.
14. Construction activities involving significant areas of exposed peat or soil shall be scaled back or suspended during periods of heavy rainfall or where heavy rainfall is forecast.

Proposed Internal Access Roads

15. Collector drains shall be provided alongside proposed internal access roads where required to collect construction runoff and convey it to appropriate treatment measures.
16. On steeper sections of proposed internal access road, transverse drains or grips shall be installed where appropriate to intercept road runoff and divert it to adjacent roadside collector drains.
17. Check dams shall be installed within collector drains where appropriate to reduce flow velocities and promote settlement of suspended sediment. Check dams shall comprise 4/40 mm non-friable crushed rock and shall generally be installed at 25 m or 50 m intervals depending on local gradient.
18. Silt traps, check dams, settlement ponds and other drainage treatment measures shall be regularly inspected and maintained, particularly during and following periods of heavy rainfall.

Refuelling

19. Refuelling and maintenance of mobile plant shall, where practicable, be undertaken off-site. Where required on-site, refuelling shall only be undertaken within designated areas and in accordance with the CEMP and appropriate pollution prevention procedures.
20. Refuelling areas shall be located away from natural watercourses and drainage features. Spill kits and drip trays shall be readily available for use as required.
21. Fuel and other potentially polluting substances shall be stored in appropriately bunded areas in accordance with the CEMP.

Concrete

22. Concrete works shall be managed to prevent the discharge of cementitious material or concrete-contaminated water to the surface water drainage system, groundwater or natural watercourses.
23. Concrete wash water and waste concrete shall be contained and managed in accordance with the CEMP and shall not be discharged to the site drainage system or natural watercourses.

If water pollution is identified the following actions will be taken:

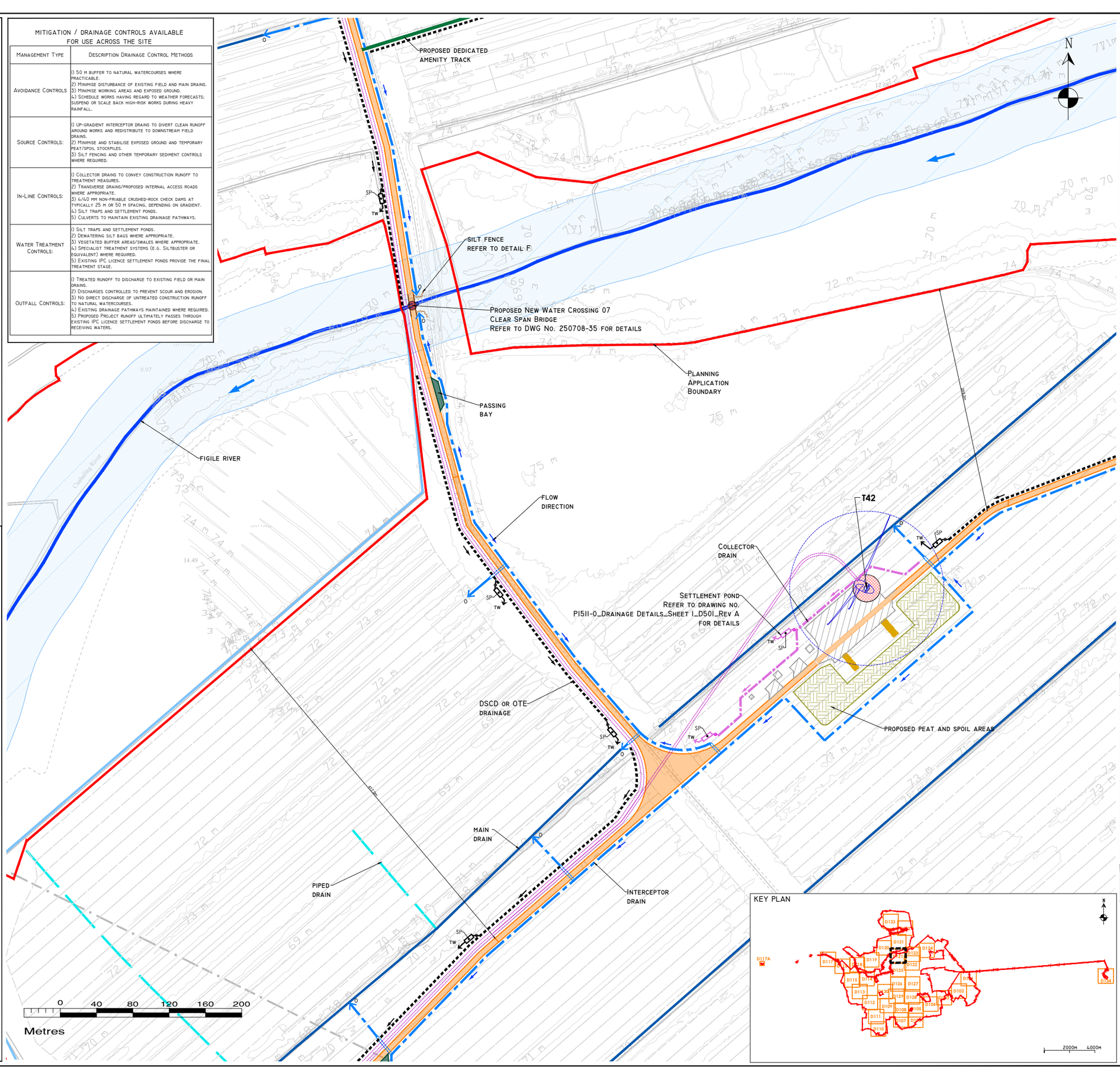
STOP - works in the immediate area will be stopped and the source of the pollution will be identified.

CONTAIN - the source of the pollution will be contained using appropriate measures to prevent further release. Where necessary, drainage pathways shall be temporarily isolated or diverted to prevent contaminated water reaching downstream receptors.

NOTIFY - The Site Manager and Environmental Clerk of Works shall be notified immediately. Relevant statutory authorities and other bodies shall be notified where required in accordance with the CEMP and the project Emergency Response Procedure.

DRAINAGE NOTES:

1. Roadway surfacing design and construction shall be to the Engineer's Specification.
2. Spare silt fencing, straw bales or similar approved pollution control materials shall be stored on site. Suspended sediment in runoff shall be visually monitored during construction. Where elevated silt levels are observed, additional temporary controls such as silt fences, straw bales, silt traps or check dams shall be installed as required. A mobile water treatment system (e.g. Siltbuster or equivalent) shall be available on site for use where required.
3. The proposed drainage system shall be constructed prior to, or in conjunction with, the associated proposed internal access roads and other infrastructure. Temporary drainage and sediment control measures shall be installed where required during construction to prevent elevated suspended sediment concentrations in runoff.
4. Appropriate drainage and pollution prevention measures shall be maintained at all times to prevent the conveyance of significant volumes of sediment to receiving watercourses. Refer also to Pollution Prevention Notes.
5. Interceptor drains shall be installed up-gradient of proposed infrastructure, where required, to intercept clean surface water runoff and minimise the volume of runoff entering construction areas. Intercepted clean water shall be directed around the works and redistributed to downstream field drains. Existing field drains shall be utilised for this purpose where practicable.
6. Collector drains shall be installed downstream of proposed internal access roads and other construction areas, where required, to collect runoff where suspended sediment may become entrained. Runoff shall be conveyed to appropriate treatment measures, including silt traps, check dams, vegetated areas and settlement ponds, prior to discharge to the existing field drain or main drain network.
7. Transverse drains ('grips') shall be installed on sections of proposed internal access roads, where appropriate, to intercept proposed internal access road runoff and divert it to adjacent roadside collector drains. The locations of transverse drains shall be determined having regard to local gradient and drainage conditions.
8. Direct discharge of untreated construction runoff to natural watercourses shall not be permitted. Treated runoff shall be discharged to the existing bog drainage network in accordance with the drainage design.
9. Batters of proposed drains shall generally have side slopes appropriate to their depth and local ground conditions and shall be left to naturally re-vegetate or shall be stabilised using suitable locally sourced vegetation where required.
10. Collector drains shall be shallow and constructed with moderate gradients where practicable to minimise scour. Check dams shall be installed where appropriate to reduce flow velocities and promote settlement of suspended sediment.
11. Settlement ponds shall be provided downstream of proposed internal access roads sections and at proposed turbine/hardstand locations where required. Settlement ponds shall provide treatment and temporary attenuation of runoff prior to discharge to the existing bog drainage network. Pond sizing shall be appropriate to the contributing catchment area. Typical pond details are shown on Drawing D501.
12. Silt fencing or other appropriate sediment control measures shall be installed around temporary peat/spoil stockpiles where required to prevent sediment-laden runoff entering the drainage network. Temporary controls may be removed once the disturbed area has been adequately stabilised.
13. Temporary silt fencing shall be installed where required between construction works and existing drainage features or natural watercourses, particularly where works occur within the prescribed surface water buffer zones.
14. Drain slopes and other exposed surfaces shall be protected from erosion until adequately stabilised. Suitable stripped vegetative material, including peat sod/scraw where available, may be reused locally to assist stabilisation and re-vegetation.
15. The extent and duration of exposed ground shall be minimised as far as practicable.
16. Check dams shall comprise 4/40 mm non-friable crushed rock and shall be installed within collector drains where appropriate. Check dams shall generally be installed at 25 m or 50 m intervals, depending on the local longitudinal gradient and site conditions.
17. Check dams, silt traps and settlement ponds shall be visually inspected and maintained as part of the construction-phase drainage maintenance programme, particularly during and following periods of heavy rainfall. Accumulated sediment shall be removed and disposed of appropriately.
18. Where check dams become clogged with sediment or vegetation, they shall be cleaned or replaced as required to maintain their hydraulic and sediment-control function.
19. The construction-phase drainage infrastructure will generally form the basis of the operational drainage system. Collector drains, settlement ponds and other treatment/attenuation features will be retained and maintained where required. Local settlement ponds may be infilled or decommissioned following the construction phase, subject to confirmation by the site engineer.
20. Where temporary dewatering of excavations is required, silt bags and/or other appropriate treatment measures shall be used as necessary. Discharge from dewatering silt bags shall be directed to settlement ponds or other suitable treatment measures prior to discharge to existing field drains or main drains.
21. Fuel and other potentially polluting substances shall be stored in appropriately bunded containment areas in accordance with the CEMP and Pollution Prevention Notes.
22. Culverts shall be provided where proposed internal access roads or hardstands cross existing main bog drainage pathways. Culverts shall be appropriately sized and installed to maintain existing drainage connectivity and shall be regularly inspected and maintained.
23. All surface water runoff from the Proposed Project shall ultimately pass through the existing IPC licence settlement ponds at the bog outfall locations prior to onward discharge to the surrounding stream and river network.



KEY PLAN

DRAWING LEGEND:

EXISTING DRAINAGE
- Watercourses
- Watercourses 50m buffer
- Stream flow direction
- Existing main drains
- Redirected main drains
- Existing piped drains
- Existing discharge drains
- Existing boundary drains
- Field drain
- Existing settlement ponds
- Existing WC crossing/culvert

PROPOSED DRAINAGE
- Upstream interceptor drain
- Downstream collector drain (DSCD)
- DSCD or Over The Edge (OTE)
- Direction of flow
- Silt fences
- Double silt fences
- WF settlement pond
- Level spreader
- Proposed WC crossing/culvert
- Interceptor ditch culvert
- Collector ditch culvert
- Watercourse drain protection berm
- O Overland flow discharge
- TW Treated water discharge
- SP New settlement pond

- Planning application boundary
- Existing ground surface minor contour (1 m interval)
- Turbine 220, turbine foundation and swept area
- Turbine 200, turbine foundation and swept area
- Turbine foundation
- Crane platform
- Blade setdown areas
- Upgrades to existing tracks
- Proposed internal access roads and turning bay
- Proposed internal 33kV cabling
- Proposed grid connection underground 220kV electrical cabling
- Proposed on-site substation
- Proposed off-site gis substation
- Proposed met mast
- Proposed relay mast
- Temporary construction compounds
- Proposed car parking
- Proposed peat and spoil areas
- Proposed passing bays
- Proposed dedicated amenity track
- Proposed dedicated amenity board walk
- Scrub mosaic creation area
- Pollinator foraging habitat enhancement area
- Peatland enhancement area
- Native tree (woodland and scrub) planting area
- Marsh fritillary enhancement area
- Lodge Bog Enhancement Area

Basemap Note: These drawings use 1:5,000 scale Ordnance Survey Ireland (OSi) basemaps as an underlay. For clarity, the basemap features are not included in the drawing legend and are displayed in light grey with partial transparency to distinguish them from the proposed development features.

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Revisions

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Job: Ballydermot WF, Co. Offaly/Co. Kildare

Title: Proposed Construction Phase and Operational Phase Drainage Layout

Figure No: DI21

Drawing No: P1511-0-1026-A1-D121-00C	
Sheet Size: A1	Project No.: P1511-0
Scale: 1:2,000 (A1)	Drawn By: GA
Date: 21/10/2026	Checked By: MG

POLLUTION PREVENTION NOTES:

1. SITE MANAGEMENT AND DRAINAGE PROPOSALS ARE INTENDED TO ENSURE PROTECTION OF SURFACE WATER AND GROUNDWATER AND TO MINIMISE THE RISK OF POLLUTION, SILTATION AND EROSION.
2. APPROPRIATE DRAINAGE AND POLLUTION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO, OR IN CONJUNCTION WITH, CONSTRUCTION WORKS AND SHALL BE MAINTAINED FOR THE DURATION OF THE WORKS.
3. SILTY WATER MAY ARISE FROM EXCAVATION DEWATERING, EROSION OF EXPOSED OR DISTURBED GROUND, TEMPORARY STOCKPILES, PLANT AND WHEEL WASHING, PROPOSED INTERNAL ACCESS ROADS AND DISTURBANCE OF EXISTING FIELD DRAINS AND DITCHES.

DISCHARGES

4. WATER CONTAINING ELEVATED SUSPENDED SEDIMENT SHALL NOT BE PUMPED OR DISCHARGED DIRECTLY TO ANY NATURAL WATERCOURSE. CONSTRUCTION RUNOFF AND EXCAVATION DEWATERING SHALL BE APPROPRIATELY TREATED PRIOR TO DISCHARGE TO THE EXISTING BOG DRAINAGE NETWORK.
5. NO EXCAVATED MATERIAL OR TEMPORARY STOCKPILES SHALL BE STORED WITHIN THE PRESCRIBED SURFACE WATER BUFFER ZONES.
6. RUNOFF FROM CONSTRUCTION AREAS SHALL BE COLLECTED IN COLLECTOR DRAINS AND DIRECTED TO APPROPRIATE TREATMENT MEASURES, INCLUDING SILT TRAPS, CHECK DAMS, SETTLEMENT PONDS, VEGETATED BUFFER AREAS AND/OR OTHER SUITABLE TREATMENT SYSTEMS, PRIOR TO DISCHARGE TO EXISTING FIELD DRAINS OR MAIN DRAINS.
7. CLEAN SURFACE WATER RUNOFF SHALL, WHERE PRACTICABLE, BE INTERCEPTED UP-GRADIENT OF CONSTRUCTION AREAS USING INTERCEPTOR DRAINS AND DIRECTED AROUND THE WORKS BEFORE BEING REDISTRIBUTED TO DOWNSTREAM FIELD DRAINS. EXISTING FIELD DRAINS MAY BE UTILISED FOR THIS PURPOSE WHERE APPROPRIATE.
8. PUMPING OF CLEAN WATER FROM EXCAVATIONS, OR OVER-PUMPING OF DRAINS, DITCHES OR WATERCOURSES, SHALL BE UNDERTAKEN IN A MANNER WHICH DOES NOT CAUSE SCOUR OR EROSION AT THE POINT OF DISCHARGE. FLOW VELOCITIES SHALL BE CONTROLLED USING APPROPRIATE MEASURES SUCH AS SPLASH PLATES OR OTHER SUITABLE DISCHARGE CONTROLS.
9. EXISTING DRAINS AND DITCHES SHALL BE RETAINED AND PROTECTED WHERE PRACTICABLE. VEGETATION SHALL NOT BE REMOVED FROM EXISTING DRAINS UNLESS REQUIRED TO FACILITATE THE WORKS.
10. ALL SURFACE WATER RUNOFF FROM THE PROPOSED PROJECT SHALL ULTIMATELY PASS THROUGH THE EXISTING IPC LICENCE SETTLEMENT PONDS AT THE BOG OUTFALL LOCATIONS PRIOR TO DISCHARGE TO THE RECEIVING STREAM AND RIVER NETWORK.

EXCAVATIONS

11. WHERE EXCAVATIONS ARE PROPOSED, INTERCEPTOR/CUT-OFF DRAINS SHALL BE INSTALLED WHERE REQUIRED TO MINIMISE THE VOLUME OF CLEAN SURFACE WATER ENTERING THE EXCAVATION. THIS SHALL INCLUDE TURBINE BASE EXCAVATIONS WHERE APPROPRIATE.
12. WHERE TEMPORARY DEWATERING OF EXCAVATIONS IS REQUIRED, PUMPED WATER SHALL BE TREATED USING APPROPRIATE MEASURES SUCH AS DEWATERING SILT BAGS, SETTLEMENT PONDS OR SPECIALIST TREATMENT SYSTEMS PRIOR TO DISCHARGE TO THE EXISTING DRAINAGE NETWORK.

EXPOSED GROUND & STOCKPILES

13. THE EXTENT OF EXPOSED GROUND AND THE VOLUME AND DURATION OF TEMPORARY STOCKPILES SHALL BE MINIMISED AS FAR AS PRACTICABLE.
14. CONSTRUCTION ACTIVITIES INVOLVING SIGNIFICANT AREAS OF EXPOSED PEAT OR SOIL SHALL BE SCALED BACK OR SUSPENDED DURING PERIODS OF HEAVY RAINFALL OR WHERE HEAVY RAINFALL IS FORECAST.

PROPOSED INTERNAL ACCESS ROADS

15. COLLECTOR DRAINS SHALL BE PROVIDED ALONGSIDE PROPOSED INTERNAL ACCESS ROADS WHERE REQUIRED TO COLLECT CONSTRUCTION RUNOFF AND CONVEY IT TO APPROPRIATE TREATMENT MEASURES.
16. ON STEEPER SECTIONS OF PROPOSED INTERNAL ACCESS ROAD, TRANSVERSE DRAINS OR GRIPS SHALL BE INSTALLED WHERE APPROPRIATE TO INTERCEPT ROAD RUNOFF AND DIVERT IT TO ADJACENT ROADSIDE COLLECTOR DRAINS.
17. CHECK DAMS SHALL BE INSTALLED WITHIN COLLECTOR DRAINS WHERE APPROPRIATE TO REDUCE FLOW VELOCITIES AND PROMOTE SETTLEMENT OF SUSPENDED SEDIMENT. CHECK DAMS SHALL COMPRISE 4/40 MM NON-FRIABLE CRUSHED ROCK AND SHALL GENERALLY BE INSTALLED AT 25 M OR 50 M INTERVALS DEPENDING ON LOCAL GRADIENT.
18. SILT TRAPS, CHECK DAMS, SETTLEMENT PONDS AND OTHER DRAINAGE TREATMENT MEASURES SHALL BE REGULARLY INSPECTED AND MAINTAINED, PARTICULARLY DURING AND FOLLOWING PERIODS OF HEAVY RAINFALL.

REFUELLING

19. REFUELLING AND MAINTENANCE OF MOBILE PLANT SHALL, WHERE PRACTICABLE, BE UNDERTAKEN OFF-SITE. WHERE REQUIRED ON-SITE, REFUELLING SHALL ONLY BE UNDERTAKEN WITHIN DESIGNATED AREAS AND IN ACCORDANCE WITH THE CEMP AND APPROPRIATE POLLUTION PREVENTION PROCEDURES.
20. REFUELLING AREAS SHALL BE LOCATED AWAY FROM NATURAL WATERCOURSES AND DRAINAGE FEATURES. SPILL KITS AND DRIP TRAYS SHALL BE READILY AVAILABLE FOR USE AS REQUIRED.
21. FUEL AND OTHER POTENTIALLY POLLUTING SUBSTANCES SHALL BE STORED IN APPROPRIATELY BUNDED AREAS IN ACCORDANCE WITH THE CEMP.

CONCRETE

22. CONCRETE WORKS SHALL BE MANAGED TO PREVENT THE DISCHARGE OF CEMENTITIOUS MATERIAL OR CONCRETE-CONTAMINATED WATER TO THE SURFACE WATER DRAINAGE SYSTEM, GROUNDWATER OR NATURAL WATERCOURSES.
23. CONCRETE WASH WATER AND WASTE CONCRETE SHALL BE CONTAINED AND MANAGED IN ACCORDANCE WITH THE CEMP AND SHALL NOT BE DISCHARGED TO THE SITE DRAINAGE SYSTEM OR NATURAL WATERCOURSES.

IF WATER POLLUTION IS IDENTIFIED THE FOLLOWING ACTIONS WILL BE TAKEN:

STOP - WORKS IN THE IMMEDIATE AREA WILL BE STOPPED AND THE SOURCE OF THE POLLUTION WILL BE IDENTIFIED.

CONTAIN - THE SOURCE OF THE POLLUTION WILL BE CONTAINED USING APPROPRIATE MEASURES TO PREVENT FURTHER RELEASE. WHERE NECESSARY, DRAINAGE PATHWAYS SHALL BE TEMPORARILY ISOLATED OR DIVERTED TO PREVENT CONTAMINATED WATER REACHING DOWNSTREAM RECEPTORS.

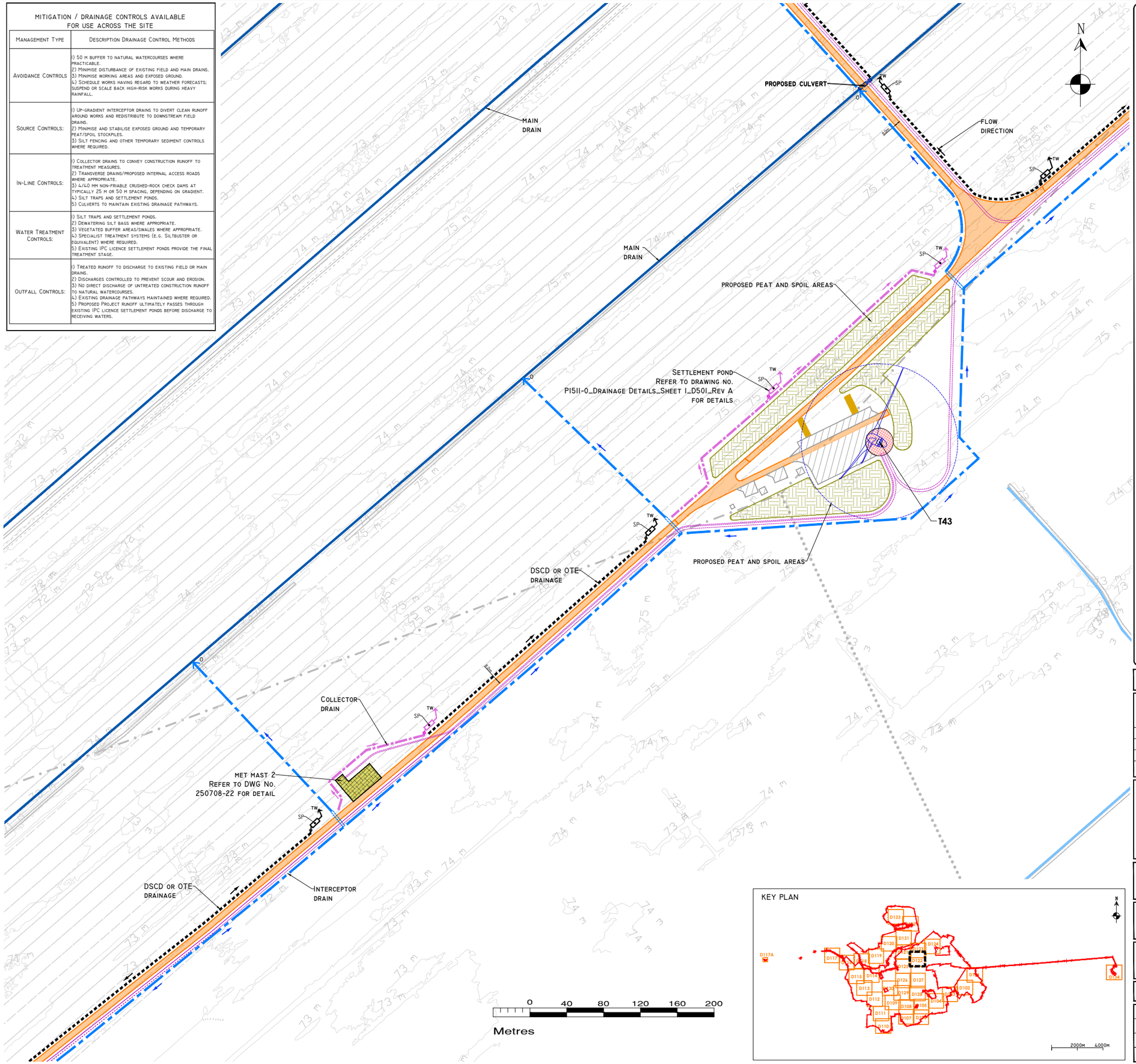
NOTIFY - THE SITE MANAGER AND ENVIRONMENTAL CLERK OF WORKS SHALL BE NOTIFIED IMMEDIATELY. RELEVANT STATUTORY AUTHORITIES AND OTHER BODIES SHALL BE NOTIFIED WHERE REQUIRED IN ACCORDANCE WITH THE CEMP AND THE PROJECT EMERGENCY RESPONSE PROCEDURE.

DRAINAGE NOTES:

1. ROADWAY SURFACING DESIGN AND CONSTRUCTION SHALL BE TO THE ENGINEER'S SPECIFICATION.
2. SPARE SILT FENCING, STRAW BALES OR SIMILAR APPROVED POLLUTION CONTROL MATERIALS SHALL BE STORED ON SITE. SUSPENDED SEDIMENT IN RUNOFF SHALL BE VISUALLY MONITORED DURING CONSTRUCTION. WHERE ELEVATED SILT LEVELS ARE OBSERVED, ADDITIONAL TEMPORARY CONTROLS SUCH AS SILT FENCES, STRAW BALES, SILT TRAPS OR CHECK DAMS SHALL BE INSTALLED AS REQUIRED. A MOBILE WATER TREATMENT SYSTEM (E.G. SILTBUSTER OR EQUIVALENT) SHALL BE AVAILABLE ON SITE FOR USE WHERE REQUIRED.
3. THE PROPOSED DRAINAGE SYSTEM SHALL BE CONSTRUCTED PRIOR TO, OR IN CONJUNCTION WITH, THE ASSOCIATED PROPOSED INTERNAL ACCESS ROADS AND OTHER INFRASTRUCTURE. TEMPORARY DRAINAGE AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED WHERE REQUIRED DURING CONSTRUCTION TO PREVENT ELEVATED SUSPENDED SEDIMENT CONCENTRATIONS IN RUNOFF.
4. APPROPRIATE DRAINAGE AND POLLUTION PREVENTION MEASURES SHALL BE MAINTAINED AT ALL TIMES TO PREVENT THE CONVEYANCE OF SIGNIFICANT VOLUMES OF SEDIMENT TO RECEIVING WATERCOURSES. REFER ALSO TO POLLUTION PREVENTION NOTES.
5. INTERCEPTOR DRAINS SHALL BE INSTALLED UP-GRADIENT OF PROPOSED INFRASTRUCTURE, WHERE REQUIRED, TO INTERCEPT CLEAN SURFACE WATER RUNOFF AND MINIMISE THE VOLUME OF RUNOFF ENTERING CONSTRUCTION AREAS. INTERCEPTED CLEAN WATER SHALL BE DIRECTED AROUND THE WORKS AND REDISTRIBUTED TO DOWNSTREAM FIELD DRAINS. EXISTING FIELD DRAINS SHALL BE UTILISED FOR THIS PURPOSE WHERE PRACTICABLE.
6. COLLECTOR DRAINS SHALL BE INSTALLED DOWNSTREAM OF PROPOSED INTERNAL ACCESS ROADS AND OTHER CONSTRUCTION AREAS, WHERE REQUIRED, TO COLLECT RUNOFF WHERE SUSPENDED SEDIMENT MAY BECOME ENTRAINED. RUNOFF SHALL BE CONVEYED TO APPROPRIATE TREATMENT MEASURES, INCLUDING SILT TRAPS, CHECK DAMS, VEGETATED AREAS AND SETTLEMENT PONDS, PRIOR TO DISCHARGE TO THE EXISTING FIELD DRAIN OR MAIN DRAIN NETWORK.
7. TRANSVERSE DRAINS ('GRIPS') SHALL BE INSTALLED ON SECTIONS OF PROPOSED INTERNAL ACCESS ROADS, WHERE APPROPRIATE, TO INTERCEPT PROPOSED INTERNAL ACCESS ROAD RUNOFF AND DIVERT IT TO ADJACENT ROADSIDE COLLECTOR DRAINS. THE LOCATIONS OF TRANSVERSE DRAINS SHALL BE DETERMINED HAVING REGARD TO LOCAL GRADIENT AND DRAINAGE CONDITIONS.
8. DIRECT DISCHARGE OF UNTREATED CONSTRUCTION RUNOFF TO NATURAL WATERCOURSES SHALL NOT BE PERMITTED. TREATED RUNOFF SHALL BE DISCHARGED TO THE EXISTING BOG DRAINAGE NETWORK IN ACCORDANCE WITH THE DRAINAGE DESIGN.
9. BATTERS OF PROPOSED DRAINS SHALL GENERALLY HAVE SIDE SLOPES APPROPRIATE TO THEIR DEPTH AND LOCAL GROUND CONDITIONS AND SHALL BE LEFT TO NATURALLY RE-VEGETATE OR SHALL BE STABILISED USING SUITABLE LOCALLY SOURCED VEGETATION WHERE REQUIRED.
10. COLLECTOR DRAINS SHALL BE SHALLOW AND CONSTRUCTED WITH MODERATE GRADIENTS WHERE PRACTICABLE TO MINIMISE SCOUR. CHECK DAMS SHALL BE INSTALLED WHERE APPROPRIATE TO REDUCE FLOW VELOCITIES AND PROMOTE SETTLEMENT OF SUSPENDED SEDIMENT.
11. SETTLEMENT PONDS SHALL BE PROVIDED DOWNSTREAM OF PROPOSED INTERNAL ACCESS ROADS SECTIONS AND AT PROPOSED TURBINE/HARDSTAND LOCATIONS WHERE REQUIRED. SETTLEMENT PONDS SHALL PROVIDE TREATMENT AND TEMPORARY ATTENUATION OF RUNOFF PRIOR TO DISCHARGE TO THE EXISTING BOG DRAINAGE NETWORK. POND SIZING SHALL BE APPROPRIATE TO THE CONTRIBUTING CATCHMENT AREA. TYPICAL POND DETAILS ARE SHOWN ON DRAWING D501.
12. SILT FENCING OR OTHER APPROPRIATE SEDIMENT CONTROL MEASURES SHALL BE INSTALLED AROUND TEMPORARY PEAT/SPOIL STOCKPILES WHERE REQUIRED TO PREVENT SEDIMENT-LADEN RUNOFF ENTERING THE DRAINAGE NETWORK. TEMPORARY CONTROLS MAY BE REMOVED ONCE THE DISTURBED AREA HAS BEEN ADEQUATELY STABILISED.
13. TEMPORARY SILT FENCING SHALL BE INSTALLED WHERE REQUIRED BETWEEN CONSTRUCTION WORKS AND EXISTING DRAINAGE FEATURES OR NATURAL WATERCOURSES, PARTICULARLY WHERE WORKS OCCUR WITHIN THE PRESCRIBED SURFACE WATER BUFFER ZONES.
14. DRAIN SLOPES AND OTHER EXPOSED SURFACES SHALL BE PROTECTED FROM EROSION UNTIL ADEQUATELY STABILISED. SUITABLE STRIPPED VEGETATIVE MATERIAL, INCLUDING PEAT SOD/SCRAW WHERE AVAILABLE, MAY BE REUSED LOCALLY TO ASSIST STABILISATION AND RE-VEGETATION.
15. THE EXTENT AND DURATION OF EXPOSED GROUND SHALL BE MINIMISED AS FAR AS PRACTICABLE.
16. CHECK DAMS SHALL COMPRISE 4/40 MM NON-FRIABLE CRUSHED ROCK AND SHALL BE INSTALLED WITHIN COLLECTOR DRAINS WHERE APPROPRIATE. CHECK DAMS SHALL GENERALLY BE INSTALLED AT 25 M OR 50 M INTERVALS, DEPENDING ON THE LOCAL LONGITUDINAL GRADIENT AND SITE CONDITIONS.
17. CHECK DAMS, SILT TRAPS AND SETTLEMENT PONDS SHALL BE VISUALLY INSPECTED AND MAINTAINED AS PART OF THE CONSTRUCTION-PHASE DRAINAGE MAINTENANCE PROGRAMME, PARTICULARLY DURING AND FOLLOWING PERIODS OF HEAVY RAINFALL. ACCUMULATED SEDIMENT SHALL BE REMOVED AND DISPOSED OF APPROPRIATELY.
18. WHERE CHECK DAMS BECOME CLOGGED WITH SEDIMENT OR VEGETATION, THEY SHALL BE CLEANED OR REPLACED AS REQUIRED TO MAINTAIN THEIR HYDRAULIC AND SEDIMENT-CONTROL FUNCTION.
19. THE CONSTRUCTION-PHASE DRAINAGE INFRASTRUCTURE WILL GENERALLY FORM THE BASIS OF THE OPERATIONAL DRAINAGE SYSTEM. COLLECTOR DRAINS, SETTLEMENT PONDS AND OTHER TREATMENT/ATTENUATION FEATURES WILL BE RETAINED AND MAINTAINED WHERE REQUIRED. LOCAL SETTLEMENT PONDS MAY BE INFILLED OR DECOMMISSIONED FOLLOWING THE CONSTRUCTION PHASE, SUBJECT TO CONFIRMATION BY THE SITE ENGINEER.
20. WHERE TEMPORARY DEWATERING OF EXCAVATIONS IS REQUIRED, SILT BAGS AND/OR OTHER APPROPRIATE TREATMENT MEASURES SHALL BE USED AS NECESSARY. DISCHARGE FROM DEWATERING SILT BAGS SHALL BE DIRECTED TO SETTLEMENT PONDS OR OTHER SUITABLE TREATMENT MEASURES PRIOR TO DISCHARGE TO EXISTING FIELD DRAINS OR MAIN DRAINS.
21. FUEL AND OTHER POTENTIALLY POLLUTING SUBSTANCES SHALL BE STORED IN APPROPRIATELY BUNDED CONTAINMENT AREAS IN ACCORDANCE WITH THE CEMP AND POLLUTION PREVENTION NOTES.
22. CULVERTS SHALL BE PROVIDED WHERE PROPOSED INTERNAL ACCESS ROADS OR HARDSTANDS CROSS EXISTING MAIN BOG DRAINAGE PATHWAYS. CULVERTS SHALL BE APPROPRIATELY SIZED AND INSTALLED TO MAINTAIN EXISTING DRAINAGE CONNECTIVITY AND SHALL BE REGULARLY INSPECTED AND MAINTAINED.
23. ALL SURFACE WATER RUNOFF FROM THE PROPOSED PROJECT SHALL ULTIMATELY PASS THROUGH THE EXISTING IPC LICENCE SETTLEMENT PONDS AT THE BOG OUTFALL LOCATIONS PRIOR TO ONWARD DISCHARGE TO THE SURROUNDING STREAM AND RIVER NETWORK.

MITIGATION / DRAINAGE CONTROLS AVAILABLE FOR USE ACROSS THE SITE

MANAGEMENT TYPE	DESCRIPTION DRAINAGE CONTROL METHODS
AVOIDANCE CONTROLS	1) 50 M BUFFER TO NATURAL WATERCOURSES WHERE PRACTICABLE. 2) MINIMISE DISTURBANCE OF EXISTING FIELD AND MAIN DRAINS. 3) MINIMISE WORKING AREAS AND EXPOSED GROUND. 4) SCHEDULE WORKS HAVING REGARD TO WEATHER FORECASTS; SUSPEND OR SCALE BACK HIGH-RISK WORKS DURING HEAVY RAINFALL.
SOURCE CONTROLS:	1) UP-GRADIENT INTERCEPTOR DRAINS TO DIVERT CLEAN RUNOFF AROUND WORKS AND REDISTRIBUTE TO DOWNSTREAM FIELD DRAINS. 2) MINIMISE AND STABILISE EXPOSED GROUND AND TEMPORARY PEAT/SPOIL STOCKPILES. 3) SILT FENCING AND OTHER TEMPORARY SEDIMENT CONTROLS WHERE REQUIRED.
IN-LINE CONTROLS:	1) COLLECTOR DRAINS TO CONVEY CONSTRUCTION RUNOFF TO TREATMENT MEASURES. 2) TRANSVERSE DRAINS/PROPOSED INTERNAL ACCESS ROADS WHERE APPROPRIATE. 3) 4/40 MM NON-FRIABLE CRUSHED-ROCK CHECK DAMS AT TYPICALLY 25 M OR 50 M SPACING, DEPENDING ON GRADIENT. 4) SILT TRAPS AND SETTLEMENT PONDS. 5) CULVERTS TO MAINTAIN EXISTING DRAINAGE PATHWAYS.
WATER TREATMENT CONTROLS:	1) SILT TRAPS AND SETTLEMENT PONDS. 2) DEWATERING SILT BAGS WHERE APPROPRIATE. 3) VEGETATED BUFFER AREAS/SWALES WHERE APPROPRIATE. 4) SPECIALIST TREATMENT SYSTEMS (E.G. SILTBUSTER OR EQUIVALENT) WHERE REQUIRED. 5) EXISTING IPC LICENCE SETTLEMENT PONDS PROVIDE THE FINAL TREATMENT STAGE.
OUTFALL CONTROLS:	1) TREATED RUNOFF TO DISCHARGE TO EXISTING FIELD OR MAIN DRAINS. 2) DISCHARGES CONTROLLED TO PREVENT SCOUR AND EROSION. 3) NO DIRECT DISCHARGE OF UNTREATED CONSTRUCTION RUNOFF TO NATURAL WATERCOURSES. 4) EXISTING DRAINAGE PATHWAYS MAINTAINED WHERE REQUIRED. 5) PROPOSED PROJECT RUNOFF ULTIMATELY PASSES THROUGH EXISTING IPC LICENCE SETTLEMENT PONDS BEFORE DISCHARGE TO RECEIVING WATERS.



DRAWING LEGEND:

EXISTING DRAINAGE
- WATERCOURSES
- WATERCOURSES 50M BUFFER
- STREAM FLOW DIRECTION
- EXISTING MAIN DRAINS
- REDIRECTED MAIN DRAINS
- EXISTING PIPED DRAINS
- EXISTING DISCHARGE DRAINS
- EXISTING BOUNDARY DRAINS
- FIELD DRAIN
- EXISTING SETTLEMENT PONDS
- EXISTING WC CROSSING/CULVERT

PROPOSED DRAINAGE
- UPSTREAM INTERCEPTOR DRAIN
- DOWNSTREAM COLLECTOR DRAIN (DSCD)
- DSCD OR OVER THE EDGE (OTE)
- DIRECTION OF FLOW
- SILT FENCES
- DOUBLE SILT FENCES
- WF SETTLEMENT POND
- LEVEL SPREADER
- PROPOSED WC CROSSING/CULVERT
- INTERCEPTOR DITCH CULVERT
- COLLECTOR DITCH CULVERT
- WATERCOURSE DRAIN PROTECTION BERM
- O OVERLAND FLOW DISCHARGE
- TW TREATED WATER DISCHARGE
- SP NEW SETTLEMENT POND

- PLANNING APPLICATION BOUNDARY
- EXISTING GROUND SURFACE MINOR CONTOUR (1 M INTERVAL)
- TURBINE 220, TURBINE FOUNDATION AND SWEPT AREA
- TURBINE 200, TURBINE FOUNDATION AND SWEPT AREA
- TURBINE FOUNDATION
- CRANE PLATFORM
- BLADE SETDOWN AREAS
- UPGRADES TO EXISTING TRACKS
- PROPOSED INTERNAL ACCESS ROADS AND TURNING BAY
- PROPOSED INTERNAL 33KV CABLING
- PROPOSED GRID CONNECTION UNDERGROUND 220KV ELECTRICAL CABLING
- PROPOSED ON-SITE SUBSTATION
- PROPOSED OFF-SITE GIS SUBSTATION
- PROPOSED MET MAST
- PROPOSED RELAY MAST
- TEMPORARY CONSTRUCTION COMPOUNDS
- PROPOSED CAR PARKING
- PROPOSED PEAT AND SPOIL AREAS
- PROPOSED PASSING BAYS
- PROPOSED DEDICATED AMENITY TRACK
- PROPOSED DEDICATED AMENITY BOARD WALK
- SCRUB MOSAIC CREATION AREA
- POLLINATOR FORAGING HABITAT ENHANCEMENT AREA
- PEATLAND ENHANCEMENT AREA
- NATIVE TREE (WOODLAND AND SCRUB) PLANTING AREA
- MARSH FRITILLARY ENHANCEMENT AREA
- LODGE BOG ENHANCEMENT AREA

BASEMAP NOTE: THESE DRAWINGS USE 1:5,000 SCALE ORDNANCE SURVEY IRELAND (OSI) BASEMAPS AS AN UNDERLAY. FOR CLARITY, THE BASEMAP FEATURES ARE NOT INCLUDED IN THE DRAWING LEGEND AND ARE DISPLAYED IN LIGHT GREY WITH PARTIAL TRANSPARENCY TO DISTINGUISH THEM FROM THE PROPOSED DEVELOPMENT FEATURES.

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Title:
PROPOSED CONSTRUCTION PHASE AND OPERATIONAL PHASE DRAINAGE LAYOUT

Figure No: D122

KEY PLAN

Drawing No: P1511-0-1026-A1-D122-00C	
Sheet Size: A1	Project No.: P1511-0
Scale: 1:2,000 (A1)	Drawn By: GA
Date: 21/10/2026	Checked By: MG

POLLUTION PREVENTION NOTES:

1. Site management and drainage proposals are intended to ensure protection of surface water and groundwater and to minimise the risk of pollution, siltation and erosion.
2. Appropriate drainage and pollution control measures shall be installed prior to, or in conjunction with, construction works and shall be maintained for the duration of the works.
3. Silty water may arise from excavation dewatering, erosion of exposed or disturbed ground, temporary stockpiles, plant and wheel washing, proposed internal access roads and disturbance of existing field drains and ditches.

Discharges

4. Water containing elevated suspended sediment shall not be pumped or discharged directly to any natural watercourse. Construction runoff and excavation dewatering shall be appropriately treated prior to discharge to the existing bog drainage network.
5. No excavated material or temporary stockpiles shall be stored within the prescribed surface water buffer zones.
6. Runoff from construction areas shall be collected in collector drains and directed to appropriate treatment measures, including silt traps, check dams, settlement ponds, vegetated buffer areas and/or other suitable treatment systems, prior to discharge to existing field drains or main drains.
7. Clean surface water runoff shall, where practicable, be intercepted up-gradient of construction areas using interceptor drains and directed around the works before being redistributed to downstream field drains. Existing field drains may be utilised for this purpose where appropriate.
8. Pumping of clean water from excavations, or over-pumping of drains, ditches or watercourses, shall be undertaken in a manner which does not cause scour or erosion at the point of discharge. Flow velocities shall be controlled using appropriate measures such as splash plates or other suitable discharge controls.
9. Existing drains and ditches shall be retained and protected where practicable. Vegetation shall not be removed from existing drains unless required to facilitate the works.
10. All surface water runoff from the Proposed Project shall ultimately pass through the existing IPC licence settlement ponds at the bog outfall locations prior to discharge to the receiving stream and river network.

Excavations

11. Where excavations are proposed, interceptor/cut-off drains shall be installed where required to minimise the volume of clean surface water entering the excavation. This shall include turbine base excavations where appropriate.
12. Where temporary dewatering of excavations is required, pumped water shall be treated using appropriate measures such as dewatering silt bags, settlement ponds or specialist treatment systems prior to discharge to the existing drainage network.

Exposed Ground & Stockpiles

13. The extent of exposed ground and the volume and duration of temporary stockpiles shall be minimised as far as practicable.
14. Construction activities involving significant areas of exposed peat or soil shall be scaled back or suspended during periods of heavy rainfall or where heavy rainfall is forecast.

Proposed Internal Access Roads

15. Collector drains shall be provided alongside proposed internal access roads where required to collect construction runoff and convey it to appropriate treatment measures.
16. On steeper sections of proposed internal access road, transverse drains or grips shall be installed where appropriate to intercept road runoff and divert it to adjacent roadside collector drains.
17. Check dams shall be installed within collector drains where appropriate to reduce flow velocities and promote settlement of suspended sediment. Check dams shall comprise 4/40 mm non-friable crushed rock and shall generally be installed at 25 m or 50 m intervals depending on local gradient.
18. Silt traps, check dams, settlement ponds and other drainage treatment measures shall be regularly inspected and maintained, particularly during and following periods of heavy rainfall.

Refuelling

19. Refuelling and maintenance of mobile plant shall, where practicable, be undertaken off-site. Where required on-site, refuelling shall only be undertaken within designated areas and in accordance with the CEMP and appropriate pollution prevention procedures.
20. Refuelling areas shall be located away from natural watercourses and drainage features. Spill kits and drip trays shall be readily available for use as required.
21. Fuel and other potentially polluting substances shall be stored in appropriately bunded areas in accordance with the CEMP.

Concrete

22. Concrete works shall be managed to prevent the discharge of cementitious material or concrete-contaminated water to the surface water drainage system, groundwater or natural watercourses.
23. Concrete wash water and waste concrete shall be contained and managed in accordance with the CEMP and shall not be discharged to the site drainage system or natural watercourses.

If water pollution is identified the following actions will be taken:

STOP - works in the immediate area will be stopped and the source of the pollution will be identified.

CONTAIN - the source of the pollution will be contained using appropriate measures to prevent further release. Where necessary, drainage pathways shall be temporarily isolated or diverted to prevent contaminated water reaching downstream receptors.

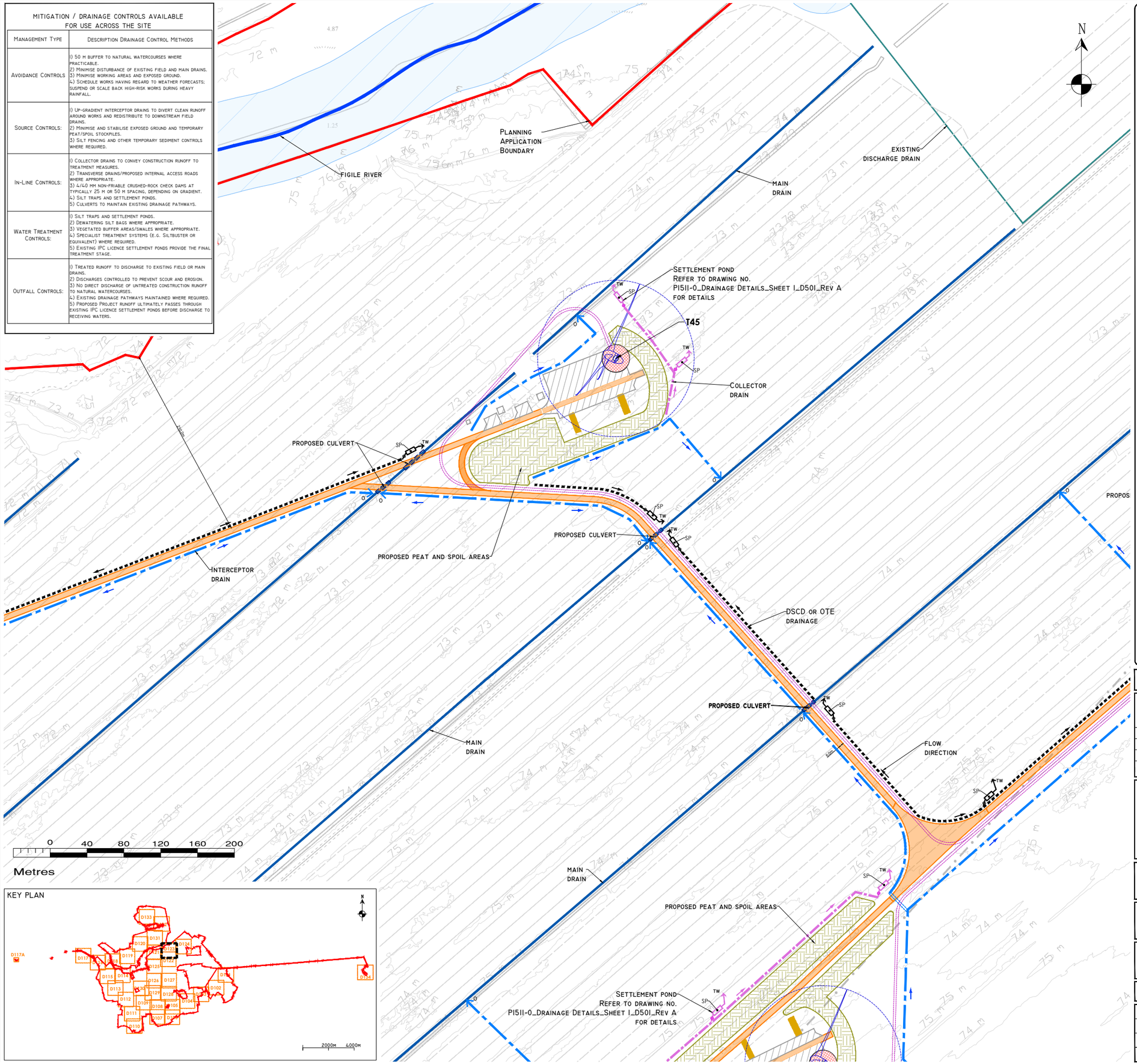
NOTIFY - The Site Manager and Environmental Clerk of Works shall be notified immediately. Relevant statutory authorities and other bodies shall be notified where required in accordance with the CEMP and the Project Emergency Response Procedure.

DRAINAGE NOTES:

1. Roadway surfacing design and construction shall be to the Engineer's Specification.
2. Spare silt fencing, straw bales or similar approved pollution control materials shall be stored on site. Suspended sediment in runoff shall be visually monitored during construction. Where elevated silt levels are observed, additional temporary controls such as silt fences, straw bales, silt traps or check dams shall be installed as required. A mobile water treatment system (e.g. Siltbuster or equivalent) shall be available on site for use where required.
3. The proposed drainage system shall be constructed prior to, or in conjunction with, the associated proposed internal access roads and other infrastructure. Temporary drainage and sediment control measures shall be installed where required during construction to prevent elevated suspended sediment concentrations in runoff.
4. Appropriate drainage and pollution prevention measures shall be maintained at all times to prevent the conveyance of significant volumes of sediment to receiving watercourses. Refer also to Pollution Prevention Notes.
5. Interceptor drains shall be installed up-gradient of proposed infrastructure, where required, to intercept clean surface water runoff and minimise the volume of runoff entering construction areas. Intercepted clean water shall be directed around the works and redistributed to downstream field drains. Existing field drains shall be utilised for this purpose where practicable.
6. Collector drains shall be installed downstream of proposed internal access roads and other construction areas, where required, to collect runoff where suspended sediment may become entrained. Runoff shall be conveyed to appropriate treatment measures, including silt traps, check dams, vegetated areas and settlement ponds, prior to discharge to the existing field drain or main drain network.
7. Transverse drains ('grips') shall be installed on sections of proposed internal access roads, where appropriate, to intercept Proposed internal access road runoff and divert it to adjacent roadside collector drains. The locations of transverse drains shall be determined having regard to local gradient and drainage conditions.
8. Direct discharge of untreated construction runoff to natural watercourses shall not be permitted. Treated runoff shall be discharged to the existing bog drainage network in accordance with the drainage design.
9. Batters of proposed drains shall generally have side slopes appropriate to their depth and local ground conditions and shall be left to naturally re-vegetate or shall be stabilised using suitable locally sourced vegetation where required.
10. Collector drains shall be shallow and constructed with moderate gradients where practicable to minimise scour. Check dams shall be installed where appropriate to reduce flow velocities and promote settlement of suspended sediment.
11. Settlement ponds shall be provided downstream of proposed internal access roads sections and at proposed turbine/hardstand locations where required. Settlement ponds shall provide treatment and temporary attenuation of runoff prior to discharge to the existing bog drainage network. Pond sizing shall be appropriate to the contributing catchment area. Typical pond details are shown on Drawing D501.
12. Silt fencing or other appropriate sediment control measures shall be installed around temporary peat/spoil stockpiles where required to prevent sediment-laden runoff entering the drainage network. Temporary controls may be removed once the disturbed area has been adequately stabilised.
13. Temporary silt fencing shall be installed where required between construction works and existing drainage features or natural watercourses, particularly where works occur within the prescribed surface water buffer zones.
14. Drain slopes and other exposed surfaces shall be protected from erosion until adequately stabilised. Suitable stripped vegetative material, including peat sod/scraw where available, may be reused locally to assist stabilisation and re-vegetation.
15. The extent and duration of exposed ground shall be minimised as far as practicable.
16. Check dams shall comprise 4/40 mm non-friable crushed rock and shall be installed within collector drains where appropriate. Check dams shall generally be installed at 25 m on 50 m intervals, depending on the local longitudinal gradient and site conditions.
17. Check dams, silt traps and settlement ponds shall be visually inspected and maintained as part of the construction-phase drainage maintenance programme, particularly during and following periods of heavy rainfall. Accumulated sediment shall be removed and disposed of appropriately.
18. Where check dams become clogged with sediment or vegetation, they shall be cleaned or replaced as required to maintain their hydraulic and sediment-control function.
19. The construction-phase drainage infrastructure will generally form the basis of the operational drainage system. Collector drains, settlement ponds and other treatment/attenuation features will be retained and maintained where required. Local settlement ponds may be infilled or decommissioned following the construction phase, subject to confirmation by the site engineer.
20. Where temporary dewatering of excavations is required, silt bags and/or other appropriate treatment measures shall be used as necessary. Discharge from dewatering silt bags shall be directed to settlement ponds or other suitable treatment measures prior to discharge to existing field drains or main drains.
21. Fuel and other potentially polluting substances shall be stored in appropriately bunded containment areas in accordance with the CEMP and Pollution Prevention Notes.
22. Culverts shall be provided where proposed internal access roads or hardstands cross existing main bog drainage pathways. Culverts shall be appropriately sized and installed to maintain existing drainage connectivity and shall be regularly inspected and maintained.
23. All surface water runoff from the Proposed Project shall ultimately pass through the existing IPC licence settlement ponds at the bog outfall locations prior to onward discharge to the surrounding stream and river network.

MITIGATION / DRAINAGE CONTROLS AVAILABLE FOR USE ACROSS THE SITE

Management Type	Description Drainage Control Methods
Avoidance Controls	1) 50 m buffer to natural watercourses where practicable. 2) Minimise disturbance of existing field and main drains. 3) Minimise working areas and exposed ground. 4) Schedule works having regard to weather forecasts; suspend or scale back high-risk works during heavy rainfall.
Source Controls:	1) Up-gradient interceptor drains to divert clean runoff around works and redistribute to downstream field drains. 2) Minimise and stabilise exposed ground and temporary peat/spoil stockpiles. 3) Silt fencing and other temporary sediment controls where required.
In-Line Controls:	1) Collector drains to convey construction runoff to treatment measures. 2) Transverse drains/proposed internal access roads where appropriate. 3) 4/40 mm non-friable crushed-rock check dams at typically 25 m or 50 m spacing, depending on gradient. 4) Silt traps and settlement ponds. 5) Culverts to maintain existing drainage pathways.
Water Treatment Controls:	1) Silt traps and settlement ponds. 2) Dewatering silt bags where appropriate. 3) Vegetated buffer areas/swales where appropriate. 4) Specialist treatment systems (e.g. Siltbuster or equivalent) where required. 5) Existing IPC licence settlement ponds provide the final treatment stage.
Outfall Controls:	1) Treated runoff to discharge to existing field or main drains. 2) Discharges controlled to prevent scour and erosion. 3) No direct discharge of untreated construction runoff to natural watercourses. 4) Existing drainage pathways maintained where required. 5) Proposed Project runoff ultimately passes through existing IPC licence settlement ponds before discharge to receiving waters.



KEY PLAN

Drawing Legend:

- Watercourses
- Watercourses 50m Buffer
- Stream Flow Direction
- Existing Main Drains
- Redirected Main Drains
- Existing Piped Drains
- Existing Discharge Drains
- Existing Boundary Drains
- Field Drain
- Existing Settlement Ponds
- Existing WC Crossing/Culvert

Existing Drainage

- Upstream Interceptor Drain
- Downstream Collector Drain (DSCD)
- DSCD or Over The Edge (OTE)
- Direction of Flow
- Silt Fences
- Double Silt Fences
- WF Settlement Pond
- Level Spreader
- Proposed WC Crossing/Culvert
- Interceptor Ditch Culvert
- Collector Ditch Culvert
- Watercourse Drain Protection Berm
- O Overland Flow Discharge
- TW Treated Water Discharge
- SP New Settlement Pond

Proposed Drainage

- Planning Application Boundary
- Existing Ground Surface Minor Contour (1 m Interval)
- Turbine 220, Turbine Foundation and Swept Area
- Turbine 200, Turbine Foundation and Swept Area
- Turbine Foundation
- Crane Platform
- Blade Setdown Areas
- Upgrades to Existing Tracks
- Proposed Internal Access Roads and Turning Bay
- Proposed Internal 33kV Cabling
- Proposed Grid Connection Underground 220kV Electrical Cabling
- Proposed On-Site Substation
- Proposed Off-Site GIS Substation
- Proposed Met Mast
- Proposed Relay Mast
- Temporary Construction Compounds
- Proposed Car Parking
- Proposed Peat and Spoil Areas
- Proposed Passing Bays
- Proposed Dedicated Amenity Track
- Proposed Dedicated Amenity Board Walk
- Scrub Mosaic Creation Area
- Pollinator Foraging Habitat Enhancement Area
- Peatland Enhancement Area
- Native Tree (Woodland and Scrub) Planting Area
- Marsh Fritillary Enhancement Area
- Lodge Bog Enhancement Area

Basemap Note: These drawings use 1:5,000 scale Ordnance Survey Ireland (OSi) basemaps as an underlay. For clarity, the basemap features are not included in the drawing legend and are displayed in light grey with partial transparency to distinguish them from the proposed development features.

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Revisions

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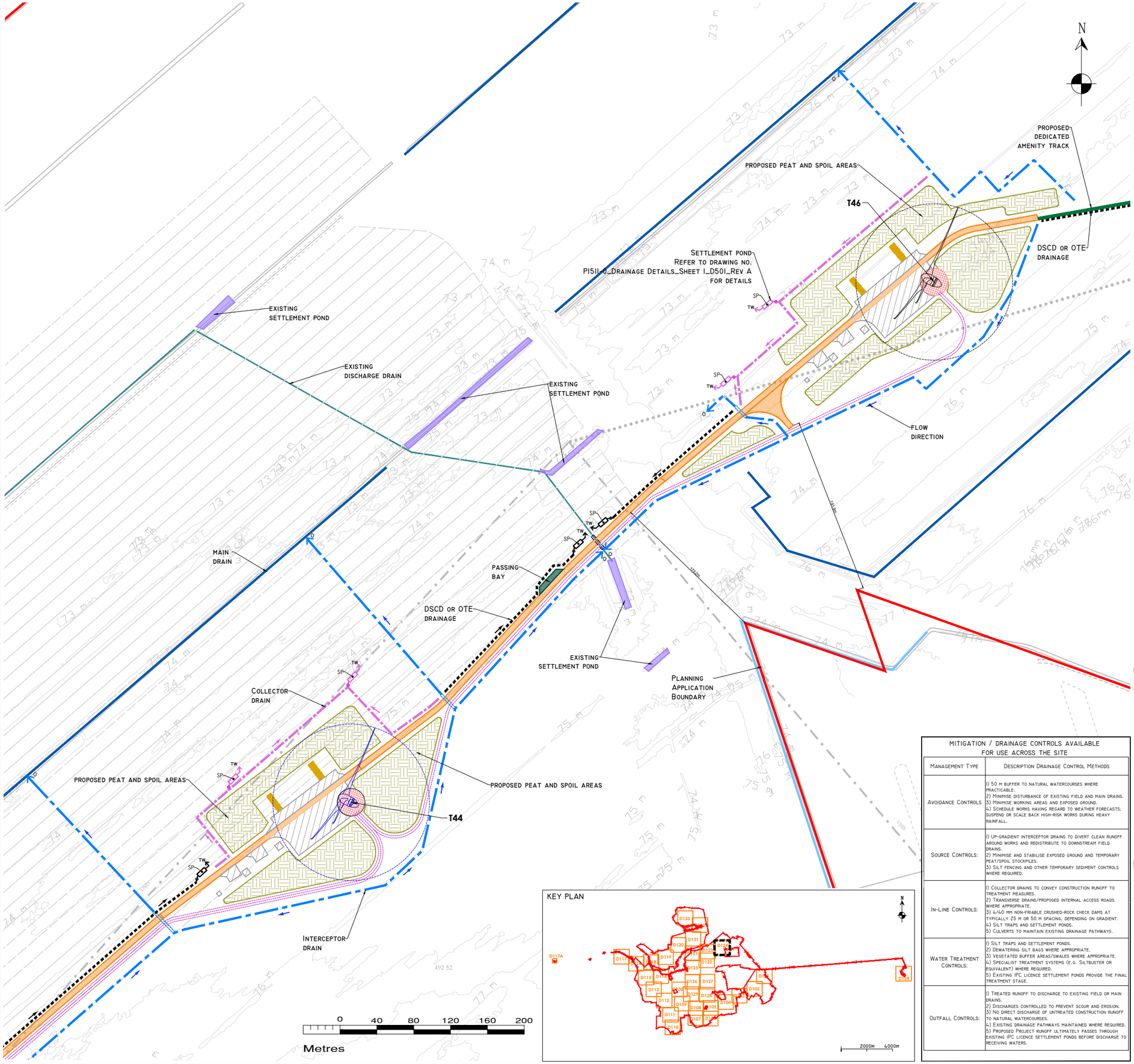
Client: Bord na Móna Powergen Ltd

Job: Ballydermot WF, Co. Offaly/Co. Kildare

Title: Proposed Construction Phase and Operational Phase Drainage Layout

Figure No: D123

Drawing No: P1511-0-1026-A1-D123-00C	
Sheet Size: A1	Project No.: P1511-0
Scale: 1:2,000 (A1)	Drawn By: GA
Date: 21/10/2026	Checked By: MG



POLLUTION PREVENTION NOTES:

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3. Silty water may arise from excavation dewatering, erosion of exposed or disturbed ground, temporary stockpiles, plant and wheel washing, proposed internal access roads and disturbance of existing field drains and ditches.

Discharges

4. Water containing elevated suspended sediment shall not be pumped or discharged directly to any natural watercourse. Construction runoff and excavation dewatering shall be appropriately treated prior to discharge to the existing bog drainage network.
5. No excavated material or temporary stockpiles shall be stored within the prescribed surface water buffer zones.
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9. Existing drains and ditches shall be retained and protected where practicable. Vegetation shall not be removed from existing drains unless required to facilitate the works.
10. All surface water runoff from the Proposed Project shall ultimately pass through the existing IPC licence settlement ponds at the bog outfall locations prior to discharge to the receiving stream and river network.

Excavations

11. Where excavations are proposed, interceptor/cut-off drains shall be installed where required to minimise the volume of clean surface water entering the excavation. This shall include turbine base excavations where appropriate.
12. Where temporary dewatering of excavations is required, pumped water shall be treated using appropriate measures such as dewatering silt bags, settlement ponds or specialist treatment systems prior to discharge to the existing drainage network.

Exposed Ground & Stockpiles

13. The extent of exposed ground and the volume and duration of temporary stockpiles shall be minimised as far as practicable.
14. Construction activities involving significant areas of exposed peat or soil shall be scaled back or suspended during periods of heavy rainfall or where heavy rainfall is forecast.

Proposed Internal Access Roads

15. Collector drains shall be provided alongside proposed internal access roads where required to collect construction runoff and convey it to appropriate treatment measures.
16. On steeper sections of proposed internal access road, transverse drains or grips shall be installed where appropriate to intercept road runoff and divert it to adjacent roadside collector drains.
17. Check dams shall be installed within collector drains where appropriate to reduce flow velocities and promote settlement of suspended sediment. Check dams shall comprise 4/40 mm non-friable crushed rock and shall generally be installed at 25 m or 50 m intervals depending on local gradient.
18. Silt traps, check dams, settlement ponds and other drainage treatment measures shall be regularly inspected and maintained, particularly during and following periods of heavy rainfall.

Refuelling

19. Refuelling and maintenance of mobile plant shall, where practicable, be undertaken off-site. Where required on-site, refuelling shall only be undertaken within designated areas and in accordance with the CEMP and appropriate pollution prevention procedures.
20. Refuelling areas shall be located away from natural watercourses and drainage features. Spill kits and drip trays shall be readily available for use as required.
21. Fuel and other potentially polluting substances shall be stored in appropriately bunded areas in accordance with the CEMP.

Concrete

22. Concrete works shall be managed to prevent the discharge of cementitious material or concrete-contaminated water to the surface water drainage system, groundwater or natural watercourses.
23. Concrete wash water and waste concrete shall be contained and managed in accordance with the CEMP and shall not be discharged to the site drainage system or natural watercourses.

If water pollution is identified the following actions will be taken:

STOP - works in the immediate area will be stopped and the source of the pollution will be identified.

CONTAIN - the source of the pollution will be contained using appropriate measures to prevent further release. Where necessary, drainage pathways shall be temporarily isolated or diverted to prevent contaminated water reaching downstream receptors.

NOTIFY - The Site Manager and Environmental Clerk of Works shall be notified immediately. Relevant statutory authorities and other bodies shall be notified where required in accordance with the CEMP and the Project Emergency Response Procedure.

DRAINAGE NOTES:

1. Roadway surfacing design and construction shall be to the Engineer's Specification.
2. Spare silt fencing, straw bales or similar approved pollution control materials shall be stored on site. Suspended sediment in runoff shall be visually monitored during construction. Where elevated silt levels are observed, additional temporary controls such as silt fences, straw bales, silt traps or check dams shall be installed as required. A mobile water treatment system (e.g. Siltbuster or equivalent) shall be available on site for use where required.
3. The proposed drainage system shall be constructed prior to, or in conjunction with, the associated proposed internal access roads and other infrastructure. Temporary drainage and sediment control measures shall be installed where required during construction to prevent elevated suspended sediment concentrations in runoff.
4. Appropriate drainage and pollution prevention measures shall be maintained at all times to prevent the conveyance of significant volumes of sediment to receiving watercourses. Refer also to Pollution Prevention Notes.
5. Interceptor drains shall be installed up-gradient of proposed infrastructure, where required, to intercept clean surface water runoff and minimise the volume of runoff entering construction areas. Intercepted clean water shall be directed around the works and redistributed to downstream field drains. Existing field drains shall be utilised for this purpose where practicable.
6. Collector drains shall be installed downstream of proposed internal access roads and other construction areas, where required, to collect runoff where suspended sediment may become entrained. Runoff shall be conveyed to appropriate treatment measures, including silt traps, check dams, vegetated areas and settlement ponds, prior to discharge to the existing field drain or main drain network.
7. Transiverse drains ('grips') shall be installed on sections of proposed internal access roads, where appropriate, to intercept Proposed internal access road runoff and divert it to adjacent roadside collector drains. The locations of transiverse drains shall be determined having regard to local gradient and drainage conditions.
8. Direct discharge of untreated construction runoff to natural watercourses shall not be permitted. Treated runoff shall be discharged to the existing bog drainage network in accordance with the drainage design.
9. Batters of proposed drains shall generally have side slopes appropriate to their depth and local ground conditions and shall be left to naturally re-vegetate or shall be stabilised using suitable locally sourced vegetation where required.
10. Collector drains shall be shallow and constructed with moderate gradients where practicable to minimise scour. Check dams shall be installed where appropriate to reduce flow velocities and promote settlement of suspended sediment.
11. Settlement ponds shall be provided downstream of proposed internal access roads sections and at proposed turbine/hardstand locations where required. Settlement ponds shall provide treatment and temporary attenuation of runoff prior to discharge to the existing bog drainage network. Pond sizing shall be appropriate to the contributing catchment area. Typical pond details are shown on Drawing D501.
12. Silt fencing or other appropriate sediment control measures shall be installed around temporary peat/spoil stockpiles where required to prevent sediment-laden runoff entering the drainage network. Temporary controls may be removed once the disturbed area has been adequately stabilised.
13. Temporary silt fencing shall be installed where required between construction works and existing drainage features or natural watercourses, particularly where works occur within the prescribed surface water buffer zones.
14. Drain slopes and other exposed surfaces shall be protected from erosion until adequately stabilised. Suitable stripped vegetative material, including peat sod/scraw where available, may be reused locally to assist stabilisation and re-vegetation.
15. The extent and duration of exposed ground shall be minimised as far as practicable.
16. Check dams shall comprise 4/40 mm non-friable crushed rock and shall be installed within collector drains where appropriate. Check dams shall generally be installed at 25 m or 50 m intervals, depending on the local longitudinal gradient and site conditions.
17. Check dams, silt traps and settlement ponds shall be visually inspected and maintained as part of the construction-phase drainage maintenance programme, particularly during and following periods of heavy rainfall. Accumulated sediment shall be removed and disposed of appropriately.
18. Where check dams become clogged with sediment or vegetation, they shall be cleaned or replaced as required to maintain their hydraulic and sediment-control function.
19. The construction-phase drainage infrastructure will generally form the basis of the operational drainage system. Collector drains, settlement ponds and other treatment/attenuation features will be retained and maintained where required. Local settlement ponds may be infilled or decommissioned following the construction phase, subject to confirmation by the site engineer.
20. Where temporary dewatering of excavations is required, silt bags and/or other appropriate treatment measures shall be used as necessary. Discharge from dewatering silt bags shall be directed to settlement ponds or other suitable treatment measures prior to discharge to existing field drains or main drains.
21. Fuel and other potentially polluting substances shall be stored in appropriately bunded containment areas in accordance with the CEMP and Pollution Prevention Notes.
22. Culverts shall be provided where proposed internal access roads or hardstands cross existing main bog drainage pathways. Culverts shall be appropriately sized and installed to maintain existing drainage connectivity and shall be regularly inspected and maintained.
23. All surface water runoff from the Proposed Project shall ultimately pass through the existing IPC licence settlement ponds at the bog outfall locations prior to onward discharge to the surrounding stream and river network.

KEY PLAN

MITIGATION / DRAINAGE CONTROLS AVAILABLE FOR USE ACROSS THE SITE

Management Type	Description Drainage Control Methods
Avoidance Controls	1) 50 m buffer to natural watercourses where practicable. 2) Minimise disturbance of existing field and main drains. 3) Minimise working areas and exposed ground. 4) Schedule works having regard to weather forecasts; suspend or scale back high-risk works during heavy rainfall.
Source Controls:	1) Up-gradient interceptor drains to divert clean runoff around works and redistribute to downstream field drains. 2) Minimise and stabilise exposed ground and temporary peat/spoil stockpiles. 3) Silt fencing and other temporary sediment controls where required.
In-Line Controls:	1) Collector drains to convey construction runoff to treatment measures. 2) Transverse drains/proposed internal access roads where appropriate. 3) 4/40 mm non-friable crushed-rock check dams at typically 25 m or 50 m spacing, depending on gradient. 4) Silt traps and settlement ponds. 5) Culverts to maintain existing drainage pathways.
Water Treatment Controls:	1) Silt traps and settlement ponds. 2) Dewatering silt bags where appropriate. 3) Vegetated buffer areas/swales where appropriate. 4) Specialist treatment systems (e.g. Siltbuster or equivalent) where required. 5) Existing IPC licence settlement ponds provide the final treatment stage.
Outfall Controls:	1) Treated runoff to discharge to existing field or main drains. 2) Discharges controlled to prevent scour and erosion. 3) No direct discharge of untreated construction runoff to natural watercourses. 4) Existing drainage pathways maintained where required. 5) Proposed Project runoff ultimately passes through existing IPC licence settlement ponds before discharge to receiving waters.

DRAWING LEGEND:

- Watercourses
- Watercourses 50m buffer
- Stream flow direction
- Existing main drains
- Redirected main drains
- Existing piped drains
- Existing discharge drains
- Existing boundary drains
- Field drain
- Existing settlement ponds
- Existing WC crossing/culvert

Existing Drainage

- Upstream interceptor drain
- Downstream collector drain (DSCD)
- DSCD or Over The Edge (OTE)
- Direction of flow
- Silt fences
- Double silt fences
- WF settlement pond
- Level spreader
- Proposed WC crossing/culvert
- Interceptor ditch culvert
- Collector ditch culvert
- Watercourse drain protection berm
- O Overland flow discharge
- TW Treated water discharge
- SP New settlement pond

Proposed Drainage

- Planning application boundary
- Existing ground surface minor contour (1 m interval)
- Turbine 220, turbine foundation and swept area
- Turbine 200, turbine foundation and swept area
- Turbine foundation
- Crane platform
- Blade setdown areas
- Upgrades to existing tracks
- Proposed internal access roads and turning bay
- Proposed internal 33kV cabling
- Proposed grid connection underground 220kV electrical cabling
- Proposed on-site substation
- Proposed off-site GIS substation
- Proposed met mast
- Proposed relay mast
- Temporary construction compounds
- Proposed car parking
- Proposed peat and spoil areas
- Proposed passing bays
- Proposed dedicated amenity track
- Proposed dedicated amenity board walk
- Scrub mosaic creation area
- Pollinator foraging habitat enhancement area
- Peatland enhancement area
- Native tree (woodland and scrub) planting area
- Marsh fritillary enhancement area
- Lodge Bog Enhancement Area

Basemap Note: These drawings use 1:5,000 scale Ordnance Survey Ireland (OSi) basemaps as an underlay. For clarity, the basemap features are not included in the drawing legend and are displayed in light grey with partial transparency to distinguish them from the proposed development features.

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Title: Proposed Construction Phase and Operational Phase Drainage Layout

Figure No: DI24

Drawing No: P1511-0-1026-A1-D124-00C

Sheet Size: A1	Project No.: P1511-0
Scale: 1:2,000 (A1)	Drawn By: GA
Date: 21/10/2026	Checked By: MG

POLLUTION PREVENTION NOTES:

1. SITE MANAGEMENT AND DRAINAGE PROPOSALS ARE INTENDED TO ENSURE PROTECTION OF SURFACE WATER AND GROUNDWATER AND TO MINIMISE THE RISK OF POLLUTION, SILTATION AND EROSION.
2. APPROPRIATE DRAINAGE AND POLLUTION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO, OR IN CONJUNCTION WITH, CONSTRUCTION WORKS AND SHALL BE MAINTAINED FOR THE DURATION OF THE WORKS.
3. SILTY WATER MAY ARISE FROM EXCAVATION DEWATERING, EROSION OF EXPOSED OR DISTURBED GROUND, TEMPORARY STOCKPILES, PLANT AND WHEEL WASHING, PROPOSED INTERNAL ACCESS ROADS AND DISTURBANCE OF EXISTING FIELD DRAINS AND DITCHES.

DISCHARGES

4. WATER CONTAINING ELEVATED SUSPENDED SEDIMENT SHALL NOT BE PUMPED OR DISCHARGED DIRECTLY TO ANY NATURAL WATERCOURSE. CONSTRUCTION RUNOFF AND EXCAVATION DEWATERING SHALL BE APPROPRIATELY TREATED PRIOR TO DISCHARGE TO THE EXISTING BOG DRAINAGE NETWORK.
5. NO EXCAVATED MATERIAL OR TEMPORARY STOCKPILES SHALL BE STORED WITHIN THE PRESCRIBED SURFACE WATER BUFFER ZONES.
6. RUNOFF FROM CONSTRUCTION AREAS SHALL BE COLLECTED IN COLLECTOR DRAINS AND DIRECTED TO APPROPRIATE TREATMENT MEASURES, INCLUDING SILT TRAPS, CHECK DAMS, SETTLEMENT PONDS, VEGETATED BUFFER AREAS AND/OR OTHER SUITABLE TREATMENT SYSTEMS, PRIOR TO DISCHARGE TO EXISTING FIELD DRAINS OR MAIN DRAINS.
7. CLEAN SURFACE WATER RUNOFF SHALL, WHERE PRACTICABLE, BE INTERCEPTED UP-GRADIENT OF CONSTRUCTION AREAS USING INTERCEPTOR DRAINS AND DIRECTED AROUND THE WORKS BEFORE BEING REDISTRIBUTED TO DOWNSTREAM FIELD DRAINS. EXISTING FIELD DRAINS MAY BE UTILISED FOR THIS PURPOSE WHERE APPROPRIATE.
8. PUMPING OF CLEAN WATER FROM EXCAVATIONS, OR OVER-PUMPING OF DRAINS, DITCHES OR WATERCOURSES, SHALL BE UNDERTAKEN IN A MANNER WHICH DOES NOT CAUSE SCOUR OR EROSION AT THE POINT OF DISCHARGE. FLOW VELOCITIES SHALL BE CONTROLLED USING APPROPRIATE MEASURES SUCH AS SPLASH PLATES OR OTHER SUITABLE DISCHARGE CONTROLS.
9. EXISTING DRAINS AND DITCHES SHALL BE RETAINED AND PROTECTED WHERE PRACTICABLE. VEGETATION SHALL NOT BE REMOVED FROM EXISTING DRAINS UNLESS REQUIRED TO FACILITATE THE WORKS.
10. ALL SURFACE WATER RUNOFF FROM THE PROPOSED PROJECT SHALL ULTIMATELY PASS THROUGH THE EXISTING IPC LICENCE SETTLEMENT PONDS AT THE BOG OUTFALL LOCATIONS PRIOR TO DISCHARGE TO THE RECEIVING STREAM AND RIVER NETWORK.

EXCAVATIONS

11. WHERE EXCAVATIONS ARE PROPOSED, INTERCEPTOR/CUT-OFF DRAINS SHALL BE INSTALLED WHERE REQUIRED TO MINIMISE THE VOLUME OF CLEAN SURFACE WATER ENTERING THE EXCAVATION. THIS SHALL INCLUDE TURBINE BASE EXCAVATIONS WHERE APPROPRIATE.
12. WHERE TEMPORARY DEWATERING OF EXCAVATIONS IS REQUIRED, PUMPED WATER SHALL BE TREATED USING APPROPRIATE MEASURES SUCH AS DEWATERING SILT BAGS, SETTLEMENT PONDS OR SPECIALIST TREATMENT SYSTEMS PRIOR TO DISCHARGE TO THE EXISTING DRAINAGE NETWORK.

EXPOSED GROUND & STOCKPILES

13. THE EXTENT OF EXPOSED GROUND AND THE VOLUME AND DURATION OF TEMPORARY STOCKPILES SHALL BE MINIMISED AS FAR AS PRACTICABLE.
14. CONSTRUCTION ACTIVITIES INVOLVING SIGNIFICANT AREAS OF EXPOSED PEAT OR SOIL SHALL BE SCALED BACK OR SUSPENDED DURING PERIODS OF HEAVY RAINFALL OR WHERE HEAVY RAINFALL IS FORECAST.

PROPOSED INTERNAL ACCESS ROADS

15. COLLECTOR DRAINS SHALL BE PROVIDED ALONGSIDE PROPOSED INTERNAL ACCESS ROADS WHERE REQUIRED TO COLLECT CONSTRUCTION RUNOFF AND CONVEY IT TO APPROPRIATE TREATMENT MEASURES.
16. ON STEEPER SECTIONS OF PROPOSED INTERNAL ACCESS ROAD, TRANSVERSE DRAINS OR GRIPS SHALL BE INSTALLED WHERE APPROPRIATE TO INTERCEPT ROAD RUNOFF AND DIVERT IT TO ADJACENT ROADSIDE COLLECTOR DRAINS.
17. CHECK DAMS SHALL BE INSTALLED WITHIN COLLECTOR DRAINS WHERE APPROPRIATE TO REDUCE FLOW VELOCITIES AND PROMOTE SETTLEMENT OF SUSPENDED SEDIMENT. CHECK DAMS SHALL COMPRISE 4/40 MM NON-FRIABLE CRUSHED ROCK AND SHALL GENERALLY BE INSTALLED AT 25 M OR 50 M INTERVALS DEPENDING ON LOCAL GRADIENT.
18. SILT TRAPS, CHECK DAMS, SETTLEMENT PONDS AND OTHER DRAINAGE TREATMENT MEASURES SHALL BE REGULARLY INSPECTED AND MAINTAINED, PARTICULARLY DURING AND FOLLOWING PERIODS OF HEAVY RAINFALL.

REFUELLING

19. REFUELLING AND MAINTENANCE OF MOBILE PLANT SHALL, WHERE PRACTICABLE, BE UNDERTAKEN OFF-SITE. WHERE REQUIRED ON-SITE, REFUELLING SHALL ONLY BE UNDERTAKEN WITHIN DESIGNATED AREAS AND IN ACCORDANCE WITH THE CEMP AND APPROPRIATE POLLUTION PREVENTION PROCEDURES.
20. REFUELLING AREAS SHALL BE LOCATED AWAY FROM NATURAL WATERCOURSES AND DRAINAGE FEATURES. SPILL KITS AND DRIP TRAYS SHALL BE READILY AVAILABLE FOR USE AS REQUIRED.
21. FUEL AND OTHER POTENTIALLY POLLUTING SUBSTANCES SHALL BE STORED IN APPROPRIATELY BUNDED AREAS IN ACCORDANCE WITH THE CEMP.

CONCRETE

22. CONCRETE WORKS SHALL BE MANAGED TO PREVENT THE DISCHARGE OF CEMENTITIOUS MATERIAL OR CONCRETE-CONTAMINATED WATER TO THE SURFACE WATER DRAINAGE SYSTEM, GROUNDWATER OR NATURAL WATERCOURSES.
23. CONCRETE WASH WATER AND WASTE CONCRETE SHALL BE CONTAINED AND MANAGED IN ACCORDANCE WITH THE CEMP AND SHALL NOT BE DISCHARGED TO THE SITE DRAINAGE SYSTEM OR NATURAL WATERCOURSES.

IF WATER POLLUTION IS IDENTIFIED THE FOLLOWING ACTIONS WILL BE TAKEN:

STOP - WORKS IN THE IMMEDIATE AREA WILL BE STOPPED AND THE SOURCE OF THE POLLUTION WILL BE IDENTIFIED.

CONTAIN - THE SOURCE OF THE POLLUTION WILL BE CONTAINED USING APPROPRIATE MEASURES TO PREVENT FURTHER RELEASE. WHERE NECESSARY, DRAINAGE PATHWAYS SHALL BE TEMPORARILY ISOLATED OR DIVERTED TO PREVENT CONTAMINATED WATER REACHING DOWNSTREAM RECEPTORS.

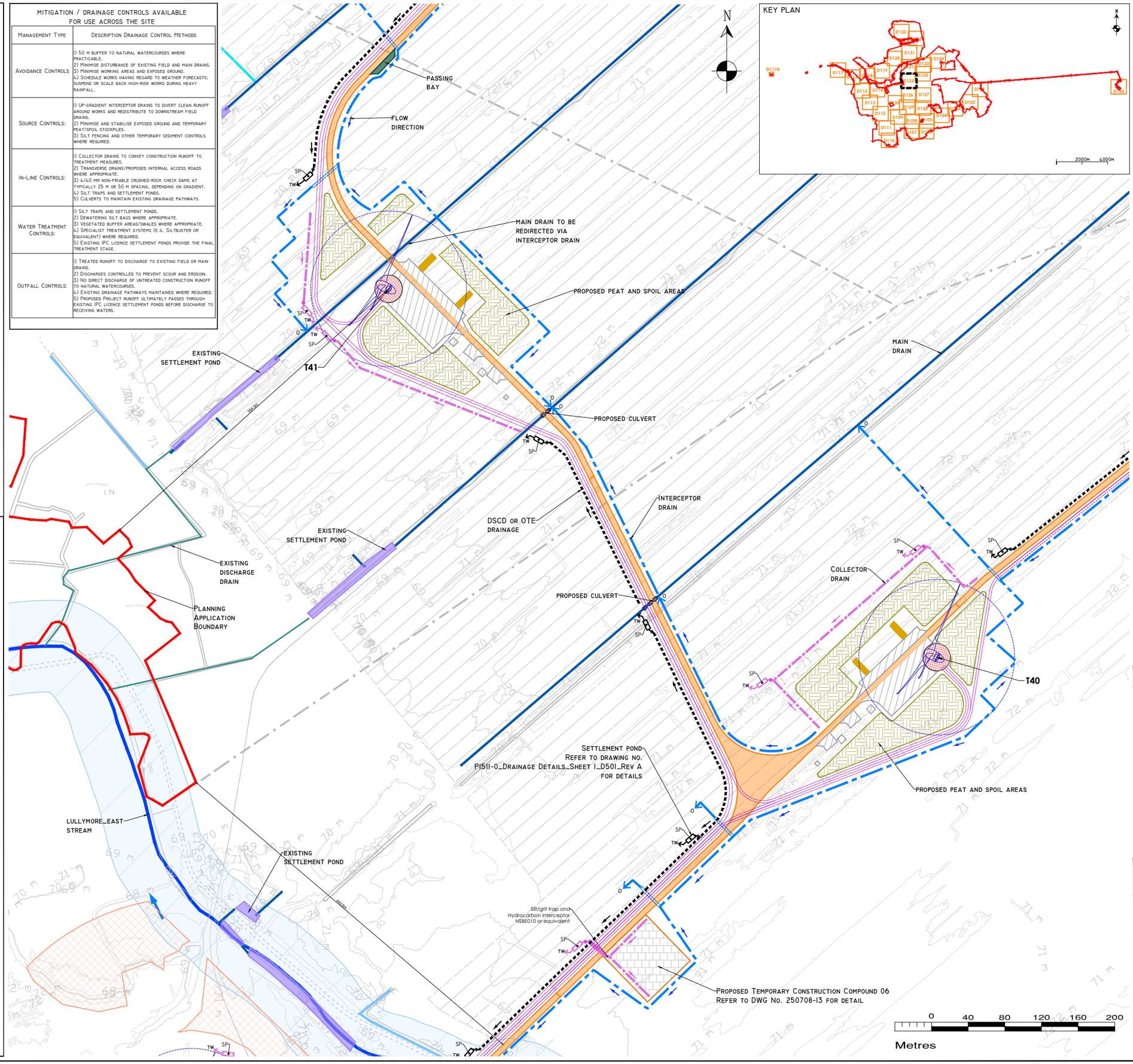
NOTIFY - THE SITE MANAGER AND ENVIRONMENTAL CLERK OF WORKS SHALL BE NOTIFIED IMMEDIATELY. RELEVANT STATUTORY AUTHORITIES AND OTHER BODIES SHALL BE NOTIFIED WHERE REQUIRED IN ACCORDANCE WITH THE CEMP AND THE PROJECT EMERGENCY RESPONSE PROCEDURE.

DRAINAGE NOTES:

1. ROADWAY SURFACING DESIGN AND CONSTRUCTION SHALL BE TO THE ENGINEER'S SPECIFICATION.
2. SPARE SILT FENCING, STRAW BALES OR SIMILAR APPROVED POLLUTION CONTROL MATERIALS SHALL BE STORED ON SITE. SUSPENDED SEDIMENT IN RUNOFF SHALL BE VISUALLY MONITORED DURING CONSTRUCTION. WHERE ELEVATED SILT LEVELS ARE OBSERVED, ADDITIONAL TEMPORARY CONTROLS SUCH AS SILT FENCES, STRAW BALES, SILT TRAPS OR CHECK DAMS SHALL BE INSTALLED AS REQUIRED. A MOBILE WATER TREATMENT SYSTEM (E.G. SILTBUSTER OR EQUIVALENT) SHALL BE AVAILABLE ON SITE FOR USE WHERE REQUIRED.
3. THE PROPOSED DRAINAGE SYSTEM SHALL BE CONSTRUCTED PRIOR TO, OR IN CONJUNCTION WITH, THE ASSOCIATED PROPOSED INTERNAL ACCESS ROADS AND OTHER INFRASTRUCTURE. TEMPORARY DRAINAGE AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED WHERE REQUIRED DURING CONSTRUCTION TO PREVENT ELEVATED SUSPENDED SEDIMENT CONCENTRATIONS IN RUNOFF.
4. APPROPRIATE DRAINAGE AND POLLUTION PREVENTION MEASURES SHALL BE MAINTAINED AT ALL TIMES TO PREVENT THE CONVEYANCE OF SIGNIFICANT VOLUMES OF SEDIMENT TO RECEIVING WATERCOURSES. REFER ALSO TO POLLUTION PREVENTION NOTES.
5. INTERCEPTOR DRAINS SHALL BE INSTALLED UP-GRADIENT OF PROPOSED INFRASTRUCTURE, WHERE REQUIRED, TO INTERCEPT CLEAN SURFACE WATER RUNOFF AND MINIMISE THE VOLUME OF RUNOFF ENTERING CONSTRUCTION AREAS. INTERCEPTED CLEAN WATER SHALL BE DIRECTED AROUND THE WORKS AND REDISTRIBUTED TO DOWNSTREAM FIELD DRAINS. EXISTING FIELD DRAINS SHALL BE UTILISED FOR THIS PURPOSE WHERE PRACTICABLE.
6. COLLECTOR DRAINS SHALL BE INSTALLED DOWNSTREAM OF PROPOSED INTERNAL ACCESS ROADS AND OTHER CONSTRUCTION AREAS, WHERE REQUIRED, TO COLLECT RUNOFF WHERE SUSPENDED SEDIMENT MAY BECOME ENTRAINED. RUNOFF SHALL BE CONVEYED TO APPROPRIATE TREATMENT MEASURES, INCLUDING SILT TRAPS, CHECK DAMS, VEGETATED AREAS AND SETTLEMENT PONDS, PRIOR TO DISCHARGE TO THE EXISTING FIELD DRAIN OR MAIN DRAIN NETWORK.
7. TRANSVERSE DRAINS ('GRIPS') SHALL BE INSTALLED ON SECTIONS OF PROPOSED INTERNAL ACCESS ROADS, WHERE APPROPRIATE, TO INTERCEPT PROPOSED INTERNAL ACCESS ROAD RUNOFF AND DIVERT IT TO ADJACENT ROADSIDE COLLECTOR DRAINS. THE LOCATIONS OF TRANSVERSE DRAINS SHALL BE DETERMINED HAVING REGARD TO LOCAL GRADIENT AND DRAINAGE CONDITIONS.
8. DIRECT DISCHARGE OF UNTREATED CONSTRUCTION RUNOFF TO NATURAL WATERCOURSES SHALL NOT BE PERMITTED. TREATED RUNOFF SHALL BE DISCHARGED TO THE EXISTING BOG DRAINAGE NETWORK IN ACCORDANCE WITH THE DRAINAGE DESIGN.
9. BATTERS OF PROPOSED DRAINS SHALL GENERALLY HAVE SIDE SLOPES APPROPRIATE TO THEIR DEPTH AND LOCAL GROUND CONDITIONS AND SHALL BE LEFT TO NATURALLY RE-VEGETATE OR SHALL BE STABILISED USING SUITABLE LOCALLY SOURCED VEGETATION WHERE REQUIRED.
10. COLLECTOR DRAINS SHALL BE SHALLOW AND CONSTRUCTED WITH MODERATE GRADIENTS WHERE PRACTICABLE TO MINIMISE SCOUR. CHECK DAMS SHALL BE INSTALLED WHERE APPROPRIATE TO REDUCE FLOW VELOCITIES AND PROMOTE SETTLEMENT OF SUSPENDED SEDIMENT.
11. SETTLEMENT PONDS SHALL BE PROVIDED DOWNSTREAM OF PROPOSED INTERNAL ACCESS ROADS SECTIONS AND AT PROPOSED TURBINE/HARDSTAND LOCATIONS WHERE REQUIRED. SETTLEMENT PONDS SHALL PROVIDE TREATMENT AND TEMPORARY ATTENUATION OF RUNOFF PRIOR TO DISCHARGE TO THE EXISTING BOG DRAINAGE NETWORK. POND SIZING SHALL BE APPROPRIATE TO THE CONTRIBUTING CATCHMENT AREA. TYPICAL POND DETAILS ARE SHOWN ON DRAWING D501.
12. SILT FENCING OR OTHER APPROPRIATE SEDIMENT CONTROL MEASURES SHALL BE INSTALLED AROUND TEMPORARY PEAT/SPOIL STOCKPILES WHERE REQUIRED TO PREVENT SEDIMENT-LADEN RUNOFF ENTERING THE DRAINAGE NETWORK. TEMPORARY CONTROLS MAY BE REMOVED ONCE THE DISTURBED AREA HAS BEEN ADEQUATELY STABILISED.
13. TEMPORARY SILT FENCING SHALL BE INSTALLED WHERE REQUIRED BETWEEN CONSTRUCTION WORKS AND EXISTING DRAINAGE FEATURES OR NATURAL WATERCOURSES, PARTICULARLY WHERE WORKS OCCUR WITHIN THE PRESCRIBED SURFACE WATER BUFFER ZONES.
14. DRAIN SLOPES AND OTHER EXPOSED SURFACES SHALL BE PROTECTED FROM EROSION UNTIL ADEQUATELY STABILISED. SUITABLE STRIPPED VEGETATIVE MATERIAL, INCLUDING PEAT SOD/SCRAW WHERE AVAILABLE, MAY BE REUSED LOCALLY TO ASSIST STABILISATION AND RE-VEGETATION.
15. THE EXTENT AND DURATION OF EXPOSED GROUND SHALL BE MINIMISED AS FAR AS PRACTICABLE.
16. CHECK DAMS SHALL COMPRISE 4/40 MM NON-FRIABLE CRUSHED ROCK AND SHALL BE INSTALLED WITHIN COLLECTOR DRAINS WHERE APPROPRIATE. CHECK DAMS SHALL GENERALLY BE INSTALLED AT 25 M OR 50 M INTERVALS, DEPENDING ON THE LOCAL LONGITUDINAL GRADIENT AND SITE CONDITIONS.
17. CHECK DAMS, SILT TRAPS AND SETTLEMENT PONDS SHALL BE VISUALLY INSPECTED AND MAINTAINED AS PART OF THE CONSTRUCTION-PHASE DRAINAGE MAINTENANCE PROGRAMME, PARTICULARLY DURING AND FOLLOWING PERIODS OF HEAVY RAINFALL. ACCUMULATED SEDIMENT SHALL BE REMOVED AND DISPOSED OF APPROPRIATELY.
18. WHERE CHECK DAMS BECOME CLOGGED WITH SEDIMENT OR VEGETATION, THEY SHALL BE CLEANED OR REPLACED AS REQUIRED TO MAINTAIN THEIR HYDRAULIC AND SEDIMENT-CONTROL FUNCTION.
19. THE CONSTRUCTION-PHASE DRAINAGE INFRASTRUCTURE WILL GENERALLY FORM THE BASIS OF THE OPERATIONAL DRAINAGE SYSTEM. COLLECTOR DRAINS, SETTLEMENT PONDS AND OTHER TREATMENT/ATTENUATION FEATURES WILL BE RETAINED AND MAINTAINED WHERE REQUIRED. LOCAL SETTLEMENT PONDS MAY BE INFILLED OR DECOMMISSIONED FOLLOWING THE CONSTRUCTION PHASE, SUBJECT TO CONFIRMATION BY THE SITE ENGINEER.
20. WHERE TEMPORARY DEWATERING OF EXCAVATIONS IS REQUIRED, SILT BAGS AND/OR OTHER APPROPRIATE TREATMENT MEASURES SHALL BE USED AS NECESSARY. DISCHARGE FROM DEWATERING SILT BAGS SHALL BE DIRECTED TO SETTLEMENT PONDS OR OTHER SUITABLE TREATMENT MEASURES PRIOR TO DISCHARGE TO EXISTING FIELD DRAINS OR MAIN DRAINS.
21. FUEL AND OTHER POTENTIALLY POLLUTING SUBSTANCES SHALL BE STORED IN APPROPRIATELY BUNDED CONTAINMENT AREAS IN ACCORDANCE WITH THE CEMP AND POLLUTION PREVENTION NOTES.
22. CULVERTS SHALL BE PROVIDED WHERE PROPOSED INTERNAL ACCESS ROADS OR HARDSTANDS CROSS EXISTING MAIN BOG DRAINAGE PATHWAYS. CULVERTS SHALL BE APPROPRIATELY SIZED AND INSTALLED TO MAINTAIN EXISTING DRAINAGE CONNECTIVITY AND SHALL BE REGULARLY INSPECTED AND MAINTAINED.
23. ALL SURFACE WATER RUNOFF FROM THE PROPOSED PROJECT SHALL ULTIMATELY PASS THROUGH THE EXISTING IPC LICENCE SETTLEMENT PONDS AT THE BOG OUTFALL LOCATIONS PRIOR TO ONWARD DISCHARGE TO THE SURROUNDING STREAM AND RIVER NETWORK.

MITIGATION / DRAINAGE CONTROLS AVAILABLE FOR USE ACROSS THE SITE

MANAGEMENT TYPE	DESCRIPTION DRAINAGE CONTROL METHODS
AVOIDANCE CONTROLS	1) 50 M BUFFER TO NATURAL WATERCOURSES WHERE PRACTICABLE. 2) MINIMISE DISTURBANCE OF EXISTING FIELD AND MAIN DRAINS. 3) MINIMISE WORKING AREAS AND EXPOSED GROUND. 4) SCHEDULE WORKS HAVING REGARD TO WEATHER FORECASTS; SUSPEND OR SCALE BACK HIGH-RISK WORKS DURING HEAVY RAINFALL.
SOURCE CONTROLS:	1) UP-GRADIENT INTERCEPTOR DRAINS TO DIVERT CLEAN RUNOFF AROUND WORKS AND REDISTRIBUTE TO DOWNSTREAM FIELD DRAINS. 2) MINIMISE AND STABILISE EXPOSED GROUND AND TEMPORARY PEAT/SPOIL STOCKPILES. 3) SILT FENCING AND OTHER TEMPORARY SEDIMENT CONTROLS WHERE REQUIRED.
IN-LINE CONTROLS:	1) COLLECTOR DRAINS TO CONVEY CONSTRUCTION RUNOFF TO TREATMENT MEASURES. 2) TRANSVERSE DRAINS/PROPOSED INTERNAL ACCESS ROADS WHERE APPROPRIATE. 3) 4/40 MM NON-FRIABLE CRUSHED-ROCK CHECK DAMS AT TYPICALLY 25 M OR 50 M SPACING, DEPENDING ON GRADIENT. 4) SILT TRAPS AND SETTLEMENT PONDS. 5) CULVERTS TO MAINTAIN EXISTING DRAINAGE PATHWAYS.
WATER TREATMENT CONTROLS:	1) SILT TRAPS AND SETTLEMENT PONDS. 2) DEWATERING SILT BAGS WHERE APPROPRIATE. 3) VEGETATED BUFFER AREAS/SWALES WHERE APPROPRIATE. 4) SPECIALIST TREATMENT SYSTEMS (E.G. SILTBUSTER OR EQUIVALENT) WHERE REQUIRED. 5) EXISTING IPC LICENCE SETTLEMENT PONDS PROVIDE THE FINAL TREATMENT STAGE.
OUTFALL CONTROLS:	1) TREATED RUNOFF TO DISCHARGE TO EXISTING FIELD OR MAIN DRAINS. 2) DISCHARGES CONTROLLED TO PREVENT SCOUR AND EROSION. 3) NO DIRECT DISCHARGE OF UNTREATED CONSTRUCTION RUNOFF TO NATURAL WATERCOURSES. 4) EXISTING DRAINAGE PATHWAYS MAINTAINED WHERE REQUIRED. 5) PROPOSED PROJECT RUNOFF ULTIMATELY PASSES THROUGH EXISTING IPC LICENCE SETTLEMENT PONDS BEFORE DISCHARGE TO RECEIVING WATERS.



KEY PLAN

DRAWING LEGEND:

EXISTING DRAINAGE
- WATERCOURSES
- WATERCOURSES 50M BUFFER
- STREAM FLOW DIRECTION
- EXISTING MAIN DRAINS
- REDIRECTED MAIN DRAINS
- EXISTING PIPED DRAINS
- EXISTING DISCHARGE DRAINS
- EXISTING BOUNDARY DRAINS
- FIELD DRAIN
- EXISTING SETTLEMENT PONDS
- EXISTING WC CROSSING/CULVERT

PROPOSED DRAINAGE
- UPSTREAM INTERCEPTOR DRAIN
- DOWNSTREAM COLLECTOR DRAIN (DSCD)
- DSCD OR OVER THE EDGE (OTE)
- DIRECTION OF FLOW
- SILT FENCES
- DOUBLE SILT FENCES
- WF SETTLEMENT POND
- LEVEL SPREADER
- PROPOSED WC CROSSING/CULVERT
- INTERCEPTOR DITCH CULVERT
- COLLECTOR DITCH CULVERT
- WATERCOURSE DRAIN PROTECTION BERM
- O OVERLAND FLOW DISCHARGE
- TW TREATED WATER DISCHARGE
- SP NEW SETTLEMENT POND

- PLANNING APPLICATION BOUNDARY
- EXISTING GROUND SURFACE MINOR CONTOUR (1 M INTERVAL)
- TURBINE 220, TURBINE FOUNDATION AND SWEPT AREA
- TURBINE 200, TURBINE FOUNDATION AND SWEPT AREA
- TURBINE FOUNDATION
- CRANE PLATFORM
- BLADE SETDOWN AREAS
- UPGRADES TO EXISTING TRACKS
- PROPOSED INTERNAL ACCESS ROADS AND TURNING BAY
- PROPOSED INTERNAL 33KV CABLING
- PROPOSED GRID CONNECTION UNDERGROUND 220KV ELECTRICAL CABLING
- PROPOSED ON-SITE SUBSTATION
- PROPOSED OFF-SITE GIS SUBSTATION
- PROPOSED MET MAST
- PROPOSED RELAY MAST
- TEMPORARY CONSTRUCTION COMPOUNDS
- PROPOSED CAR PARKING
- PROPOSED PEAT AND SPOIL AREAS
- PROPOSED PASSING BAYS
- PROPOSED DEDICATED AMENITY TRACK
- PROPOSED DEDICATED AMENITY BOARD WALK
- SCRUB MOSAIC CREATION AREA
- POLLINATOR FORAGING HABITAT ENHANCEMENT AREA
- PEATLAND ENHANCEMENT AREA
- NATIVE TREE (WOODLAND AND SCRUB) PLANTING AREA
- MARSH FRITILLARY ENHANCEMENT AREA
- LODGE BOG ENHANCEMENT AREA

BASEMAP NOTE: THESE DRAWINGS USE 1:5,000 SCALE ORDNANCE SURVEY IRELAND (OSI) BASEMAPS AS AN UNDERLAY. FOR CLARITY, THE BASEMAP FEATURES ARE NOT INCLUDED IN THE DRAWING LEGEND AND ARE DISPLAYED IN LIGHT GREY WITH PARTIAL TRANSPARENCY TO DISTINGUISH THEM FROM THE PROPOSED DEVELOPMENT FEATURES.

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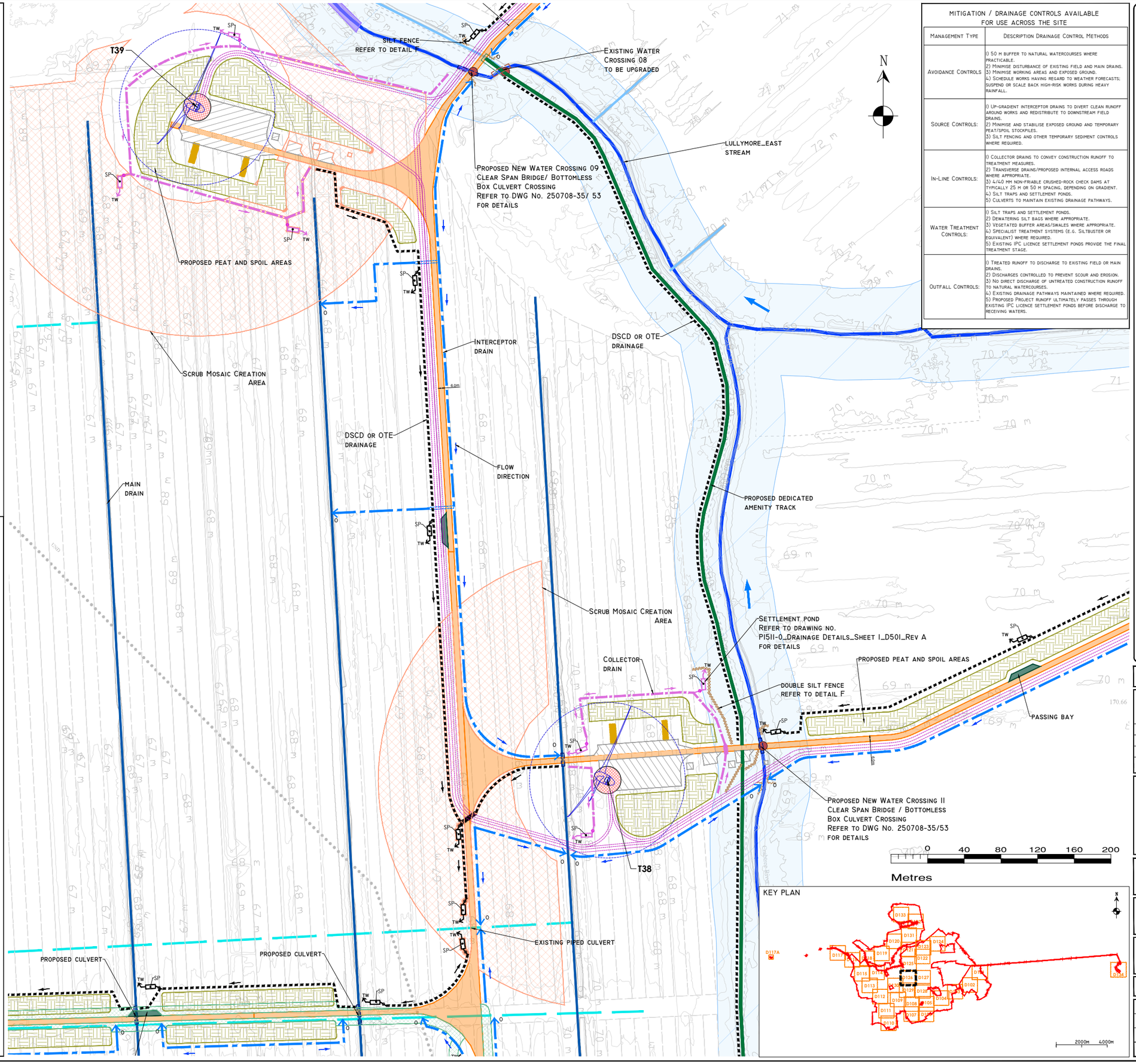
Client: BORD NA MÓNA POWERGEN LTD

Job: BALLYDERMOT WF, CO. OFFALY/CO. KILDARE

Title: PROPOSED CONSTRUCTION PHASE AND OPERATIONAL PHASE DRAINAGE LAYOUT

Figure No: DI25

Drawing No: P1511-0-1026-A1-D125-00C	
Sheet Size: A1	Project No.: P1511-0
Scale: 1:2,000 (A1)	Drawn By: GA
Date: 21/10/2026	Checked By: MG



KEY PLAN

POLLUTION PREVENTION NOTES:

1. Site management and drainage proposals are intended to ensure protection of surface water and groundwater and to minimise the risk of pollution, siltation and erosion.
2. Appropriate drainage and pollution control measures shall be installed prior to, or in conjunction with, construction works and shall be maintained for the duration of the works.
3. Silty water may arise from excavation dewatering, erosion of exposed or disturbed ground, temporary stockpiles, plant and wheel washing, proposed internal access roads and disturbance of existing field drains and ditches.

Discharges

4. Water containing elevated suspended sediment shall not be pumped or discharged directly to any natural watercourse. Construction runoff and excavation dewatering shall be appropriately treated prior to discharge to the existing bog drainage network.
5. No excavated material or temporary stockpiles shall be stored within the prescribed surface water buffer zones.
6. Runoff from construction areas shall be collected in collector drains and directed to appropriate treatment measures, including silt traps, check dams, settlement ponds, vegetated buffer areas and/or other suitable treatment systems, prior to discharge to existing field drains or main drains.
7. Clean surface water runoff shall, where practicable, be intercepted up-gradient of construction areas using interceptor drains and directed around the works before being redistributed to downstream field drains. Existing field drains may be utilised for this purpose where appropriate.
8. Pumping of clean water from excavations, or over-pumping of drains, ditches or watercourses, shall be undertaken in a manner which does not cause scour or erosion at the point of discharge. Flow velocities shall be controlled using appropriate measures such as splash plates or other suitable discharge controls.
9. Existing drains and ditches shall be retained and protected where practicable. Vegetation shall not be removed from existing drains unless required to facilitate the works.
10. All surface water runoff from the Proposed Project shall ultimately pass through the existing IPC Licence settlement ponds at the bog outfall locations prior to discharge to the receiving stream and river network.

Excavations

11. Where excavations are proposed, interceptor/cut-off drains shall be installed where required to minimise the volume of clean surface water entering the excavation. This shall include turbine base excavations where appropriate.
12. Where temporary dewatering of excavations is required, pumped water shall be treated using appropriate measures such as dewatering silt bags, settlement ponds or specialist treatment systems prior to discharge to the existing drainage network.

Exposed Ground & Stockpiles

13. The extent of exposed ground and the volume and duration of temporary stockpiles shall be minimised as far as practicable.
14. Construction activities involving significant areas of exposed peat or soil shall be scaled back or suspended during periods of heavy rainfall or where heavy rainfall is forecast.

Proposed Internal Access Roads

15. Collector drains shall be provided alongside proposed internal access roads where required to collect construction runoff and convey it to appropriate treatment measures.
16. On steeper sections of proposed internal access road, transverse drains or grips shall be installed where appropriate to intercept road runoff and divert it to adjacent roadside collector drains.
17. Check dams shall be installed within collector drains where appropriate to reduce flow velocities and promote settlement of suspended sediment. Check dams shall comprise 4/40 mm non-friable crushed rock and shall generally be installed at 25 m or 50 m intervals depending on local gradient.
18. Silt traps, check dams, settlement ponds and other drainage treatment measures shall be regularly inspected and maintained, particularly during and following periods of heavy rainfall.

Refuelling

19. Refuelling and maintenance of mobile plant shall, where practicable, be undertaken off-site. Where required on-site, refuelling shall only be undertaken within designated areas and in accordance with the CEMP and appropriate pollution prevention procedures.
20. Refuelling areas shall be located away from natural watercourses and drainage features. Spill kits and drip trays shall be readily available for use as required.
21. Fuel and other potentially polluting substances shall be stored in appropriately bunded areas in accordance with the CEMP.

Concrete

22. Concrete works shall be managed to prevent the discharge of cementitious material or concrete-contaminated water to the surface water drainage system, groundwater or natural watercourses.
23. Concrete wash water and waste concrete shall be contained and managed in accordance with the CEMP and shall not be discharged to the site drainage system or natural watercourses.

If water pollution is identified the following actions will be taken:

STOP - works in the immediate area will be stopped and the source of the pollution will be identified.

CONTAIN - the source of the pollution will be contained using appropriate measures to prevent further release. Where necessary, drainage pathways shall be temporarily isolated or diverted to prevent contaminated water reaching downstream receptors.

NOTIFY - The Site Manager and Environmental Clerk of Works shall be notified immediately. Relevant statutory authorities and other bodies shall be notified where required in accordance with the CEMP and the Project Emergency Response Procedure.

DRAINAGE NOTES:

1. Roadway surfacing design and construction shall be to the Engineer's Specification.
2. Spare silt fencing, straw bales or similar approved pollution control materials shall be stored on site. Suspended sediment in runoff shall be visually monitored during construction. Where elevated silt levels are observed, additional temporary controls such as silt fences, straw bales, silt traps or check dams shall be installed as required. A mobile water treatment system (e.g. Siltbuster or equivalent) shall be available on site for use where required.
3. The proposed drainage system shall be constructed prior to, or in conjunction with, the associated proposed internal access roads and other infrastructure. Temporary drainage and sediment control measures shall be installed where required during construction to prevent elevated suspended sediment concentrations in runoff.
4. Appropriate drainage and pollution prevention measures shall be maintained at all times to prevent the conveyance of significant volumes of sediment to receiving watercourses. Refer also to Pollution Prevention Notes.
5. Interceptor drains shall be installed up-gradient of proposed infrastructure, where required, to intercept clean surface water runoff and minimise the volume of runoff entering construction areas. Intercepted clean water shall be directed around the works and redistributed to downstream field drains. Existing field drains shall be utilised for this purpose where practicable.
6. Collector drains shall be installed downstream of proposed internal access roads and other construction areas, where required, to collect runoff where suspended sediment may become entrained. Runoff shall be conveyed to appropriate treatment measures, including silt traps, check dams, vegetated areas and settlement ponds, prior to discharge to the existing field drain or main drain network.
7. Transverse drains ('grips') shall be installed on sections of proposed internal access roads, where appropriate, to intercept proposed internal access road runoff and divert it to adjacent roadside collector drains. The locations of transverse drains shall be determined having regard to local gradient and drainage conditions.
8. Direct discharge of untreated construction runoff to natural watercourses shall not be permitted. Treated runoff shall be discharged to the existing bog drainage network in accordance with the drainage design.
9. Batters of proposed drains shall generally have side slopes appropriate to their depth and local ground conditions and shall be left to naturally re-vegetate or shall be stabilised using suitable locally sourced vegetation where required.
10. Collector drains shall be shallow and constructed with moderate gradients where practicable to minimise scour. Check dams shall be installed where appropriate to reduce flow velocities and promote settlement of suspended sediment.
11. Settlement ponds shall be provided downstream of proposed internal access roads sections and at proposed turbine/hardstand locations where required. Settlement ponds shall provide treatment and temporary attenuation of runoff prior to discharge to the existing bog drainage network. Pond sizing shall be appropriate to the contributing catchment area. Typical pond details are shown on Drawing D501.
12. Silt fencing or other appropriate sediment control measures shall be installed around temporary peat/spoil stockpiles where required to prevent sediment-laden runoff entering the drainage network. Temporary controls may be removed once the disturbed area has been adequately stabilised.
13. Temporary silt fencing shall be installed where required between construction works and existing drainage features or natural watercourses, particularly where works occur within the prescribed surface water buffer zones.
14. Drain slopes and other exposed surfaces shall be protected from erosion until adequately stabilised. Suitable stripped vegetative material, including peat sod/scraw where available, may be reused locally to assist stabilisation and re-vegetation.
15. The extent and duration of exposed ground shall be minimised as far as practicable.
16. Check dams shall comprise 4/40 mm non-friable crushed rock and shall be installed within collector drains where appropriate. Check dams shall generally be installed at 25 m or 50 m intervals, depending on the local longitudinal gradient and site conditions.
17. Check dams, silt traps and settlement ponds shall be visually inspected and maintained as part of the construction-phase drainage maintenance programme, particularly during and following periods of heavy rainfall. Accumulated sediment shall be removed and disposed of appropriately.
18. Where check dams become clogged with sediment or vegetation, they shall be cleaned or replaced as required to maintain their hydraulic and sediment-control function.
19. The construction-phase drainage infrastructure will generally form the basis of the operational drainage system. Collector drains, settlement ponds and other treatment/attenuation features will be retained and maintained where required. Local settlement ponds may be infilled or decommissioned following the construction phase, subject to confirmation by the site engineer.
20. Where temporary dewatering of excavations is required, silt bags and/or other appropriate treatment measures shall be used as necessary. Discharge from dewatering silt bags shall be directed to settlement ponds or other suitable treatment measures prior to discharge to existing field drains or main drains.
21. Fuel and other potentially polluting substances shall be stored in appropriately bunded containment areas in accordance with the CEMP and Pollution Prevention Notes.
22. Culverts shall be provided where proposed internal access roads or hardstands cross existing main bog drainage pathways. Culverts shall be appropriately sized and installed to maintain existing drainage connectivity and shall be regularly inspected and maintained.
23. All surface water runoff from the Proposed Project shall ultimately pass through the existing IPC Licence settlement ponds at the bog outfall locations prior to onward discharge to the surrounding stream and river network.

MITIGATION / DRAINAGE CONTROLS AVAILABLE FOR USE ACROSS THE SITE

Management Type	Description Drainage Control Methods
Avoidance Controls	1) 50 m buffer to natural watercourses where practicable. 2) Minimise disturbance of existing field and main drains. 3) Minimise working areas and exposed ground. 4) Schedule works having regard to weather forecasts; suspend or scale back high-risk works during heavy rainfall.
Source Controls:	1) Up-gradient interceptor drains to divert clean runoff around works and redistribute to downstream field drains. 2) Minimise and stabilise exposed ground and temporary peat/spoil stockpiles. 3) Silt fencing and other temporary sediment controls where required.
In-Line Controls:	1) Collector drains to convey construction runoff to treatment measures. 2) Transverse drains/proposed internal access roads where appropriate. 3) 4/40 mm non-friable crushed-rock check dams at typically 25 m or 50 m spacing, depending on gradient. 4) Silt traps and settlement ponds. 5) Culverts to maintain existing drainage pathways.
Water Treatment Controls:	1) Silt traps and settlement ponds. 2) Dewatering silt bags where appropriate. 3) Vegetated buffer areas/swales where appropriate. 4) Specialist treatment systems (e.g. Siltbuster or equivalent) where required. 5) Existing drainage pathways maintained where required. 5) Proposed Project runoff ultimately passes through existing IPC Licence settlement ponds before discharge to receiving waters.
Outfall Controls:	1) Treated runoff to discharge to existing field or main drains. 2) Discharges controlled to prevent scour and erosion. 3) No direct discharge of untreated construction runoff to natural watercourses. 4) Existing drainage pathways maintained where required. 5) Proposed Project runoff ultimately passes through existing IPC Licence settlement ponds before discharge to receiving waters.

Drawing Legend:

- Existing Drainage: Watercourses; Watercourses 50m buffer; Stream flow direction; Existing main drains; Redirected main drains; Existing piped drains; Existing discharge drains; Existing boundary drains; Field drain; Existing settlement ponds; Existing WC crossing/culvert
- Proposed Drainage: Upstream interceptor drain; Downstream collector drain (DSCD); DSCD or Over The Edge (OTE); Direction of flow; Silt fences; Double silt fences; WF settlement pond; Level spreader; Proposed WC crossing/culvert; Interceptor ditch culvert; Collector ditch culvert; Watercourse drain protection berm; O Overland flow discharge; TW Treated water discharge; SP New settlement pond
- Planning application boundary; Existing ground surface minor contour (1 m interval); Turbine 220, turbine foundation and swept area; Turbine 200, turbine foundation and swept area; Turbine foundation; Crane platform; Blade setdown areas; Upgrades to existing tracks; Proposed internal access roads and turning bay; Proposed internal 33kv cabling; Proposed grid connection underground 220kV electrical cabling; Proposed on-site substation; Proposed off-site GIS substation; Proposed met mast; Proposed relay mast; Temporary construction compounds; Proposed car parking; Proposed peat and spoil areas; Proposed passing bays; Proposed dedicated amenity track; Proposed dedicated amenity board walk; Scrub mosaic creation area; Pollinator foraging habitat enhancement area; Peatland enhancement area; Native tree (woodland and scrub) planting area; Marsh fritillary enhancement area; Lodge Bog Enhancement Area

Basemap Note: These drawings use 1:5,000 scale Ordnance Survey Ireland (OSi) basemaps as an underlay. For clarity, the basemap features are not included in the drawing legend and are displayed in light grey with partial transparency to distinguish them from the proposed development features.

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Revisions

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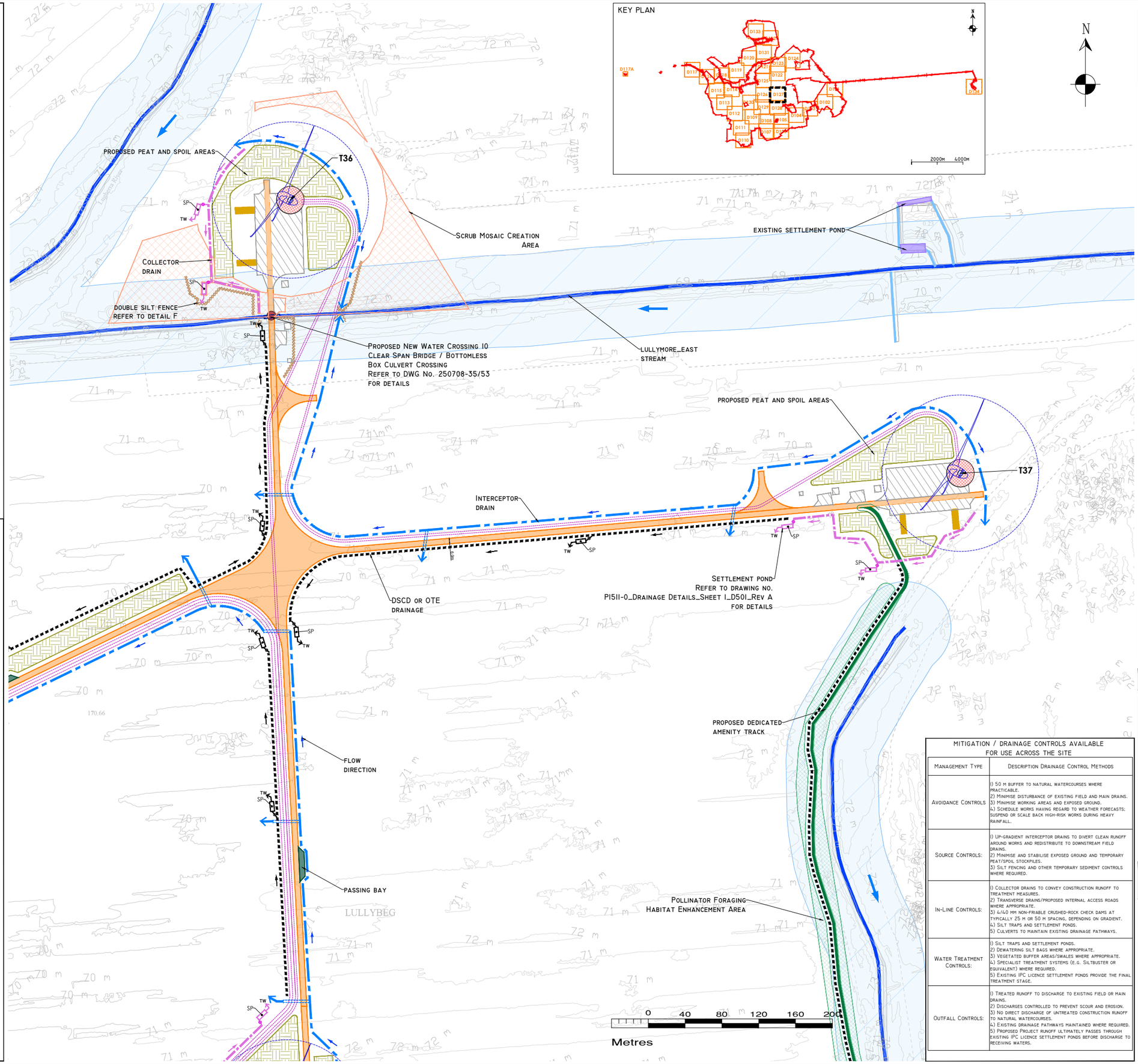
Client: Bord na Móna Powergen Ltd

Job: Ballydermot WF, Co. Offaly/Co. Kildare

Title: Proposed Construction Phase and Operational Phase Drainage Layout

Figure No: DI26

Drawing No: P1511-0-1026-A1-D126-00C	
Sheet Size: A1	Project No.: P1511-0
Scale: 1:2,000 (A1)	Drawn By: GA
Date: 21/10/2026	Checked By: MG



POLLUTION PREVENTION NOTES:

1. Site management and drainage proposals are intended to ensure protection of surface water and groundwater and to minimise the risk of pollution, siltation and erosion.
2. Appropriate drainage and pollution control measures shall be installed prior to, or in conjunction with, construction works and shall be maintained for the duration of the works.
3. Silty water may arise from excavation dewatering, erosion of exposed or disturbed ground, temporary stockpiles, plant and wheel washing, proposed internal access roads and disturbance of existing field drains and ditches.

Discharges

4. Water containing elevated suspended sediment shall not be pumped or discharged directly to any natural watercourse. Construction runoff and excavation dewatering shall be appropriately treated prior to discharge to the existing bog drainage network.
5. No excavated material or temporary stockpiles shall be stored within the prescribed surface water buffer zones.
6. Runoff from construction areas shall be collected in collector drains and directed to appropriate treatment measures, including silt traps, check dams, settlement ponds, vegetated buffer areas and/or other suitable treatment systems, prior to discharge to existing field drains or main drains.
7. Clean surface water runoff shall, where practicable, be intercepted up-gradient of construction areas using interceptor drains and directed around the works before being redistributed to downstream field drains. Existing field drains may be utilised for this purpose where appropriate.
8. Pumping of clean water from excavations, or over-pumping of drains, ditches or watercourses, shall be undertaken in a manner which does not cause scour or erosion at the point of discharge. Flow velocities shall be controlled using appropriate measures such as splash plates or other suitable discharge controls.
9. Existing drains and ditches shall be retained and protected where practicable. Vegetation shall not be removed from existing drains unless required to facilitate the works.
10. All surface water runoff from the Proposed Project shall ultimately pass through the existing IPC licence settlement ponds at the bog outfall locations prior to discharge to the receiving stream and river network.

Excavations

11. Where excavations are proposed, interceptor/cut-off drains shall be installed where required to minimise the volume of clean surface water entering the excavation. This shall include turbine base excavations where appropriate.
12. Where temporary dewatering of excavations is required, pumped water shall be treated using appropriate measures such as dewatering silt bags, settlement ponds or specialist treatment systems prior to discharge to the existing drainage network.

Exposed Ground & Stockpiles

13. The extent of exposed ground and the volume and duration of temporary stockpiles shall be minimised as far as practicable.
14. Construction activities involving significant areas of exposed peat or soil shall be scaled back or suspended during periods of heavy rainfall or where heavy rainfall is forecast.

Proposed Internal Access Roads

15. Collector drains shall be provided alongside proposed internal access roads where required to collect construction runoff and convey it to appropriate treatment measures.
16. On steeper sections of proposed internal access road, transverse drains or grips shall be installed where appropriate to intercept road runoff and divert it to adjacent roadside collector drains.
17. Check dams shall be installed within collector drains where appropriate to reduce flow velocities and promote settlement of suspended sediment. Check dams shall comprise 4/40 mm non-friable crushed rock and shall generally be installed at 25 m or 50 m intervals depending on local gradient.
18. Silt traps, check dams, settlement ponds and other drainage treatment measures shall be regularly inspected and maintained, particularly during and following periods of heavy rainfall.

Refuelling

19. Refuelling and maintenance of mobile plant shall, where practicable, be undertaken off-site. Where required on-site, refuelling shall only be undertaken within designated areas and in accordance with the CEMP and appropriate pollution prevention procedures.
20. Refuelling areas shall be located away from natural watercourses and drainage features. Spill kits and drip trays shall be readily available for use as required.
21. Fuel and other potentially polluting substances shall be stored in appropriately bunded areas in accordance with the CEMP.

Concrete

22. Concrete works shall be managed to prevent the discharge of cementitious material or concrete-contaminated water to the surface water drainage system, groundwater or natural watercourses.
23. Concrete wash water and waste concrete shall be contained and managed in accordance with the CEMP and shall not be discharged to the site drainage system or natural watercourses.

If water pollution is identified the following actions will be taken:

STOP - works in the immediate area will be stopped and the source of the pollution will be identified.

CONTAIN - the source of the pollution will be contained using appropriate measures to prevent further release. Where necessary, drainage pathways shall be temporarily isolated or diverted to prevent contaminated water reaching downstream receptors.

NOTIFY - The Site Manager and Environmental Clerk of Works shall be notified immediately. Relevant statutory authorities and other bodies shall be notified where required in accordance with the CEMP and the Project Emergency Response Procedure.

DRAINAGE NOTES:

1. Roadway surfacing design and construction shall be to the Engineer's Specification.
2. Spare silt fencing, straw bales or similar approved pollution control materials shall be stored on site. Suspended sediment in runoff shall be visually monitored during construction. Where elevated silt levels are observed, additional temporary controls such as silt fences, straw bales, silt traps or check dams shall be installed as required. A mobile water treatment system (e.g. Siltbuster or equivalent) shall be available on site for use where required.
3. The proposed drainage system shall be constructed prior to, or in conjunction with, the associated proposed internal access roads and other infrastructure. Temporary drainage and sediment control measures shall be installed where required during construction to prevent elevated suspended sediment concentrations in runoff.
4. Appropriate drainage and pollution prevention measures shall be maintained at all times to prevent the conveyance of significant volumes of sediment to receiving watercourses. Refer also to Pollution Prevention Notes.
5. Interceptor drains shall be installed up-gradient of proposed infrastructure, where required, to intercept clean surface water runoff and minimise the volume of runoff entering construction areas. Intercepted clean water shall be directed around the works and redistributed to downstream field drains. Existing field drains shall be utilised for this purpose where practicable.
6. Collector drains shall be installed downstream of proposed internal access roads and other construction areas, where required, to collect runoff where suspended sediment may become entrained. Runoff shall be conveyed to appropriate treatment measures, including silt traps, check dams, vegetated areas and settlement ponds, prior to discharge to the existing field drain or main drain network.
7. Transverse drains ('grips') shall be installed on sections of proposed internal access roads, where appropriate, to intercept Proposed internal access road runoff and divert it to adjacent roadside collector drains. The locations of transverse drains shall be determined having regard to local gradient and drainage conditions.
8. Direct discharge of untreated construction runoff to natural watercourses shall not be permitted. Treated runoff shall be discharged to the existing bog drainage network in accordance with the drainage design.
9. Batters of proposed drains shall generally have side slopes appropriate to their depth and local ground conditions and shall be left to naturally re-vegetate or shall be stabilised using suitable locally sourced vegetation where required.
10. Collector drains shall be shallow and constructed with moderate gradients where practicable to minimise scour. Check dams shall be installed where appropriate to reduce flow velocities and promote settlement of suspended sediment.
11. Settlement ponds shall be provided downstream of proposed internal access roads sections and at proposed turbine/hardstand locations where required. Settlement ponds shall provide treatment and temporary attenuation of runoff prior to discharge to the existing bog drainage network. Pond sizing shall be appropriate to the contributing catchment area. Typical pond details are shown on Drawing D501.
12. Silt fencing or other appropriate sediment control measures shall be installed around temporary peat/spoil stockpiles where required to prevent sediment-laden runoff entering the drainage network. Temporary controls may be removed once the disturbed area has been adequately stabilised.
13. Temporary silt fencing shall be installed where required between construction works and existing drainage features or natural watercourses, particularly where works occur within the prescribed surface water buffer zones.
14. Drain slopes and other exposed surfaces shall be protected from erosion until adequately stabilised. Suitable stripped vegetative material, including peat sod/scraw where available, may be reused locally to assist stabilisation and re-vegetation.
15. The extent and duration of exposed ground shall be minimised as far as practicable.
16. Check dams shall comprise 4/40 mm non-friable crushed rock and shall be installed within collector drains where appropriate. Check dams shall generally be installed at 25 m or 50 m intervals, depending on the local longitudinal gradient and site conditions.
17. Check dams, silt traps and settlement ponds shall be visually inspected and maintained as part of the construction-phase drainage maintenance programme, particularly during and following periods of heavy rainfall. Accumulated sediment shall be removed and disposed of appropriately.
18. Where check dams become clogged with sediment or vegetation, they shall be cleaned or replaced as required to maintain their hydraulic and sediment-control function.
19. The construction-phase drainage infrastructure will generally form the basis of the operational drainage system. Collector drains, settlement ponds and other treatment/attenuation features will be retained and maintained where required. Local settlement ponds may be infilled or decommissioned following the construction phase, subject to confirmation by the site engineer.
20. Where temporary dewatering of excavations is required, silt bags and/or other appropriate treatment measures shall be used as necessary. Discharge from dewatering silt bags shall be directed to settlement ponds or other suitable treatment measures prior to discharge to existing field drains or main drains.
21. Fuel and other potentially polluting substances shall be stored in appropriately bunded containment areas in accordance with the CEMP and Pollution Prevention Notes.
22. Culverts shall be provided where proposed internal access roads or hardstands cross existing main bog drainage pathways. Culverts shall be appropriately sized and installed to maintain existing drainage connectivity and shall be regularly inspected and maintained.
23. All surface water runoff from the Proposed Project shall ultimately pass through the existing IPC licence settlement ponds at the bog outfall locations prior to onward discharge to the surrounding stream and river network.

MITIGATION / DRAINAGE CONTROLS AVAILABLE FOR USE ACROSS THE SITE

Management Type	Description Drainage Control Methods
Avoidance Controls	1) 50 m buffer to natural watercourses where practicable. 2) Minimise disturbance of existing field and main drains. 3) Minimise working areas and exposed ground. 4) Schedule works having regard to weather forecasts; suspend or scale back high-risk works during heavy rainfall.
Source Controls:	1) Up-gradient interceptor drains to divert clean runoff around works and redistribute to downstream field drains. 2) Minimise and stabilise exposed ground and temporary peat/spoil stockpiles. 3) Silt fencing and other temporary sediment controls where required.
In-Line Controls:	1) Collector drains to convey construction runoff to treatment measures. 2) Transverse drains/proposed internal access roads where appropriate. 3) 4/40 mm non-friable crushed-rock check dams at typically 25 m or 50 m spacing, depending on gradient. 4) Silt traps and settlement ponds. 5) Culverts to maintain existing drainage pathways.
Water Treatment Controls:	1) Silt traps and settlement ponds. 2) Dewatering silt bags where appropriate. 3) Vegetated buffer areas/swales where appropriate. 4) Specialist treatment systems (e.g. Siltbuster or equivalent) where required. 5) Existing IPC licence settlement ponds provide the final treatment stage.
Outfall Controls:	1) Treated runoff to discharge to existing field or main drains. 2) Discharges controlled to prevent scour and erosion. 3) No direct discharge of untreated construction runoff to natural watercourses. 4) Existing drainage pathways maintained where required. 5) Proposed Project runoff ultimately passes through existing IPC licence settlement ponds before discharge to receiving waters.

DRAWING LEGEND:

Existing Drainage
- Watercourses
- Watercourses 50m Buffer
- Stream Flow Direction
- Existing Main Drains
- Redirected Main Drains
- Existing Piped Drains
- Existing Discharge Drains
- Existing Boundary Drains
- Field Drain
- Existing Settlement Ponds
- Existing WC Crossing/Culvert

Proposed Drainage
- Upstream Interceptor Drain
- Downstream Collector Drain (DSCD)
- DSCD or Over The Edge (OTE)
- Direction of Flow
- Silt Fences
- Double Silt Fences
- WF Settlement Pond
- Level Spreader
- Proposed WC Crossing/Culvert
- Interceptor Ditch Culvert
- Collector Ditch Culvert
- Watercourse Drain Protection Berm
- O Overland Flow Discharge
- TW Treated Water Discharge
- SP New Settlement Pond

- Planning Application Boundary
- Existing Ground Surface Minor Contour (1 m Interval)
- Turbine 220, Turbine Foundation and Swept Area
- Turbine 200, Turbine Foundation and Swept Area
- Turbine Foundation
- Crane Platform
- Blade Setdown Areas
- Upgrades to Existing Tracks
- Proposed Internal Access Roads and Turning Bay
- Proposed Internal 33kV Cabling
- Proposed Grid Connection Underground 220KV Electrical Cabling
- Proposed On-Site Substation
- Proposed Off-Site GIS Substation
- Proposed Met Mast
- Proposed Relay Mast
- Temporary Construction Compounds
- Proposed Car Parking
- Proposed Peat and Spoil Areas
- Proposed Passing Bays
- Proposed Dedicated Amenity Track
- Proposed Dedicated Amenity Board Walk
- Scrub Mosaic Creation Area
- Pollinator Foraging Habitat Enhancement Area
- Peatland Enhancement Area
- Native Tree (Woodland and Scrub) Planting Area
- Marsh Fritillary Enhancement Area
- Lodge Bog Enhancement Area

Basemap Note: These drawings use 1:5,000 scale Ordnance Survey Ireland (OSi) basemaps as an underlay. For clarity, the basemap features are not included in the drawing legend and are displayed in light grey with partial transparency to distinguish them from the proposed development features.

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Revisions			

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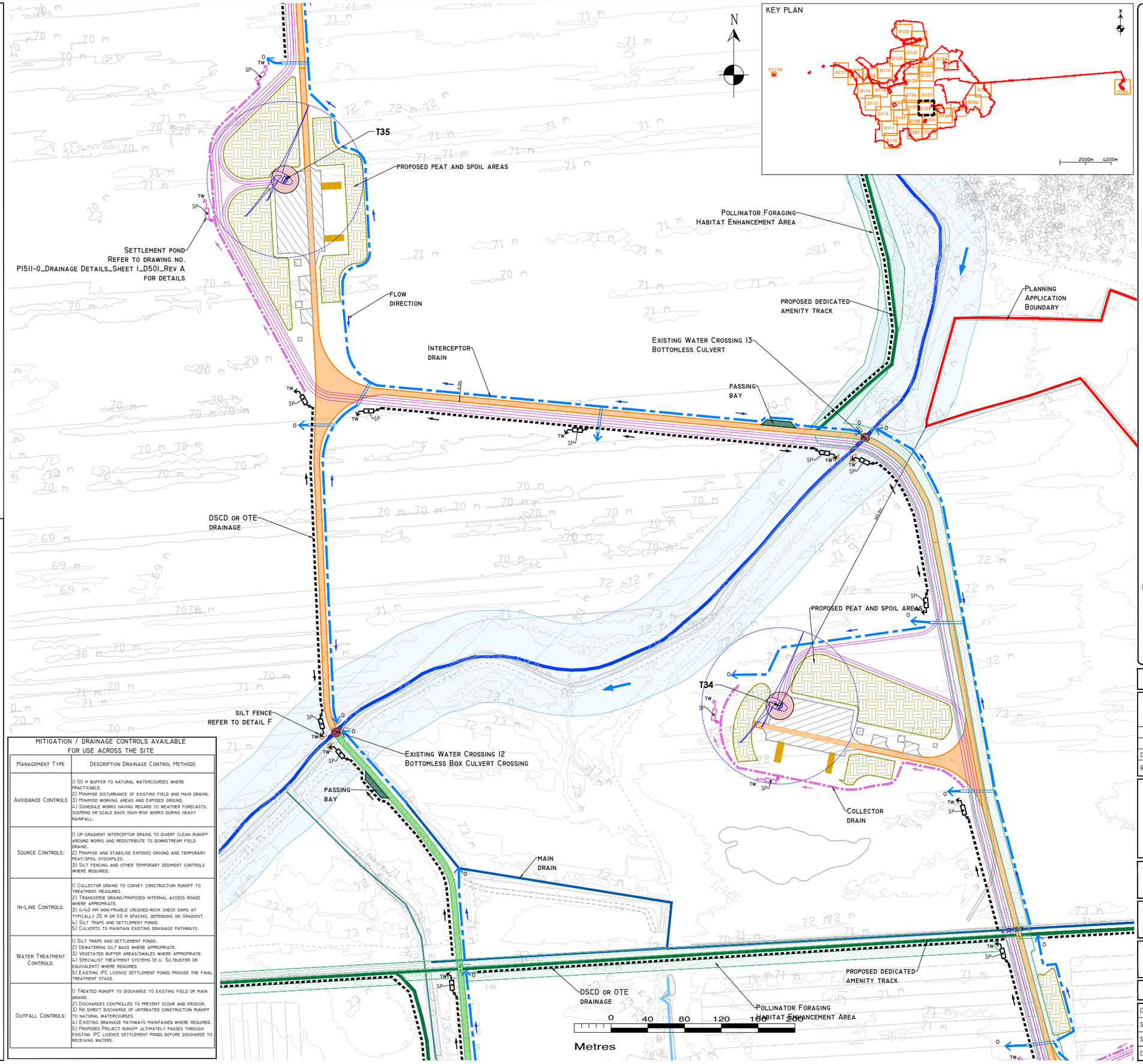
Client: Bord na Móna Powergen Ltd

Job: Ballydermot WF, Co. Offaly/Co. Kildare

Title: Proposed Construction Phase and Operational Phase Drainage Layout

Figure No: DI27

Drawing No: P1511-0-1026-A1-D127-00C	
Sheet Size: A1	Project No.: P1511-0
Scale: 1:2,000 (A1)	Drawn By: GA
Date: 21/10/2026	Checked By: MG



POLLUTION PREVENTION NOTES:

1. SITE MANAGEMENT AND DRAINAGE PROPOSALS ARE INTENDED TO ENSURE PROTECTION OF SURFACE WATER AND GROUNDWATER AND TO MINIMISE THE RISK OF POLLUTION, SILTATION AND EROSION.
2. APPROPRIATE DRAINAGE AND POLLUTION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO, OR IN CONJUNCTION WITH, CONSTRUCTION WORKS AND SHALL BE MAINTAINED FOR THE DURATION OF THE WORKS.
3. SILTY WATER MAY ARISE FROM EXCAVATION DEWATERING, EROSION OF EXPOSED OR DISTURBED GROUND, TEMPORARY STOCKPILES, PLANT AND WHEEL WASHING, PROPOSED INTERNAL ACCESS ROADS AND DISTURBANCE OF EXISTING FIELD DRAINS AND DITCHES.

DISCHARGES

4. WATER CONTAINING ELEVATED SUSPENDED SEDIMENT SHALL NOT BE PUMPED OR DISCHARGED DIRECTLY TO ANY NATURAL WATERCOURSE. CONSTRUCTION RUNOFF AND EXCAVATION DEWATERING SHALL BE APPROPRIATELY TREATED PRIOR TO DISCHARGE TO THE EXISTING BOG DRAINAGE NETWORK.
5. NO EXCAVATED MATERIAL OR TEMPORARY STOCKPILES SHALL BE STORED WITHIN THE PRESCRIBED SURFACE WATER BUFFER ZONES.
6. RUNOFF FROM CONSTRUCTION AREAS SHALL BE COLLECTED IN COLLECTOR DRAINS AND DIRECTED TO APPROPRIATE TREATMENT MEASURES, INCLUDING SILT TRAPS, CHECK DAMS, SETTLEMENT PONDS, VEGETATED BUFFER AREAS AND/OR OTHER SUITABLE TREATMENT SYSTEMS, PRIOR TO DISCHARGE TO EXISTING FIELD DRAINS OR MAIN DRAINS.
7. CLEAN SURFACE WATER RUNOFF SHALL, WHERE PRACTICABLE, BE INTERCEPTED UP-GRADIENT OF CONSTRUCTION AREAS USING INTERCEPTOR DRAINS AND DIRECTED AROUND THE WORKS BEFORE BEING REDISTRIBUTED TO DOWNSTREAM FIELD DRAINS. EXISTING FIELD DRAINS MAY BE UTILISED FOR THIS PURPOSE WHERE APPROPRIATE.
8. PUMPING OF CLEAN WATER FROM EXCAVATIONS, OR OVER-PUMPING OF DRAINS, DITCHES OR WATERCOURSES, SHALL BE UNDERTAKEN IN A MANNER WHICH DOES NOT CAUSE SCOUR OR EROSION AT THE POINT OF DISCHARGE. FLOW VELOCITIES SHALL BE CONTROLLED USING APPROPRIATE MEASURES SUCH AS SPLASH PLATES OR OTHER SUITABLE DISCHARGE CONTROLS.
9. EXISTING DRAINS AND DITCHES SHALL BE RETAINED AND PROTECTED WHERE PRACTICABLE. VEGETATION SHALL NOT BE REMOVED FROM EXISTING DRAINS UNLESS REQUIRED TO FACILITATE THE WORKS.
10. ALL SURFACE WATER RUNOFF FROM THE PROPOSED PROJECT SHALL ULTIMATELY PASS THROUGH THE EXISTING IPC LICENCE SETTLEMENT PONDS AT THE BOG OUTFALL LOCATIONS PRIOR TO DISCHARGE TO THE RECEIVING STREAM AND RIVER NETWORK.

EXCAVATIONS

11. WHERE EXCAVATIONS ARE PROPOSED, INTERCEPTOR/CUT-OFF DRAINS SHALL BE INSTALLED WHERE REQUIRED TO MINIMISE THE VOLUME OF CLEAN SURFACE WATER ENTERING THE EXCAVATION. THIS SHALL INCLUDE TURBINE BASE EXCAVATIONS WHERE APPROPRIATE.
12. WHERE TEMPORARY DEWATERING OF EXCAVATIONS IS REQUIRED, PUMPED WATER SHALL BE TREATED USING APPROPRIATE MEASURES SUCH AS DEWATERING SILT BAGS, SETTLEMENT PONDS OR SPECIALIST TREATMENT SYSTEMS PRIOR TO DISCHARGE TO THE EXISTING DRAINAGE NETWORK.

EXPOSED GROUND & STOCKPILES

13. THE EXTENT OF EXPOSED GROUND AND THE VOLUME AND DURATION OF TEMPORARY STOCKPILES SHALL BE MINIMISED AS FAR AS PRACTICABLE.
14. CONSTRUCTION ACTIVITIES INVOLVING SIGNIFICANT AREAS OF EXPOSED PEAT OR SOIL SHALL BE SCALED BACK OR SUSPENDED DURING PERIODS OF HEAVY RAINFALL OR WHERE HEAVY RAINFALL IS FORECAST.

PROPOSED INTERNAL ACCESS ROADS

15. COLLECTOR DRAINS SHALL BE PROVIDED ALONGSIDE PROPOSED INTERNAL ACCESS ROADS WHERE REQUIRED TO COLLECT CONSTRUCTION RUNOFF AND CONVEY IT TO APPROPRIATE TREATMENT MEASURES.
16. ON STEEPER SECTIONS OF PROPOSED INTERNAL ACCESS ROAD, TRANSVERSE DRAINS OR GRIPS SHALL BE INSTALLED WHERE APPROPRIATE TO INTERCEPT ROAD RUNOFF AND DIVERT IT TO ADJACENT ROADSIDE COLLECTOR DRAINS.
17. CHECK DAMS SHALL BE INSTALLED WITHIN COLLECTOR DRAINS WHERE APPROPRIATE TO REDUCE FLOW VELOCITIES AND PROMOTE SETTLEMENT OF SUSPENDED SEDIMENT. CHECK DAMS SHALL COMPRISE 4/40 MM NON-FRIABLE CRUSHED ROCK AND SHALL GENERALLY BE INSTALLED AT 25 M OR 50 M INTERVALS DEPENDING ON LOCAL GRADIENT.
18. SILT TRAPS, CHECK DAMS, SETTLEMENT PONDS AND OTHER DRAINAGE TREATMENT MEASURES SHALL BE REGULARLY INSPECTED AND MAINTAINED, PARTICULARLY DURING AND FOLLOWING PERIODS OF HEAVY RAINFALL.

REFUELLING

19. REFUELLING AND MAINTENANCE OF MOBILE PLANT SHALL, WHERE PRACTICABLE, BE UNDERTAKEN OFF-SITE. WHERE REQUIRED ON-SITE, REFUELLING SHALL ONLY BE UNDERTAKEN WITHIN DESIGNATED AREAS AND IN ACCORDANCE WITH THE CEMP AND APPROPRIATE POLLUTION PREVENTION PROCEDURES.
20. REFUELLING AREAS SHALL BE LOCATED AWAY FROM NATURAL WATERCOURSES AND DRAINAGE FEATURES. SPILL KITS AND DRIP TRAYS SHALL BE READILY AVAILABLE FOR USE AS REQUIRED.
21. FUEL AND OTHER POTENTIALLY POLLUTING SUBSTANCES SHALL BE STORED IN APPROPRIATELY BUNDED AREAS IN ACCORDANCE WITH THE CEMP.

CONCRETE

22. CONCRETE WORKS SHALL BE MANAGED TO PREVENT THE DISCHARGE OF CEMENTITIOUS MATERIAL OR CONCRETE-CONTAMINATED WATER TO THE SURFACE WATER DRAINAGE SYSTEM, GROUNDWATER OR NATURAL WATERCOURSES.
23. CONCRETE WASH WATER AND WASTE CONCRETE SHALL BE CONTAINED AND MANAGED IN ACCORDANCE WITH THE CEMP AND SHALL NOT BE DISCHARGED TO THE SITE DRAINAGE SYSTEM OR NATURAL WATERCOURSES.

IF WATER POLLUTION IS IDENTIFIED THE FOLLOWING ACTIONS WILL BE TAKEN:

STOP - WORKS IN THE IMMEDIATE AREA WILL BE STOPPED AND THE SOURCE OF THE POLLUTION WILL BE IDENTIFIED.

CONTAIN - THE SOURCE OF THE POLLUTION WILL BE CONTAINED USING APPROPRIATE MEASURES TO PREVENT FURTHER RELEASE. WHERE NECESSARY, DRAINAGE PATHWAYS SHALL BE TEMPORARILY ISOLATED OR DIVERTED TO PREVENT CONTAMINATED WATER REACHING DOWNSTREAM RECEPTORS.

NOTIFY - THE SITE MANAGER AND ENVIRONMENTAL CLERK OF WORKS SHALL BE NOTIFIED IMMEDIATELY. RELEVANT STATUTORY AUTHORITIES AND OTHER BODIES SHALL BE NOTIFIED WHERE REQUIRED IN ACCORDANCE WITH THE CEMP AND THE PROJECT EMERGENCY RESPONSE PROCEDURE.

DRAINAGE NOTES:

1. ROADWAY SURFACING DESIGN AND CONSTRUCTION SHALL BE TO THE ENGINEER'S SPECIFICATION.
2. SPARE SILT FENCING, STRAW BALES OR SIMILAR APPROVED POLLUTION CONTROL MATERIALS SHALL BE STORED ON SITE. SUSPENDED SEDIMENT IN RUNOFF SHALL BE VISUALLY MONITORED DURING CONSTRUCTION. WHERE ELEVATED SILT LEVELS ARE OBSERVED, ADDITIONAL TEMPORARY CONTROLS SUCH AS SILT FENCES, STRAW BALES, SILT TRAPS OR CHECK DAMS SHALL BE INSTALLED AS REQUIRED. A MOBILE WATER TREATMENT SYSTEM (E.G. SILTBUSTER OR EQUIVALENT) SHALL BE AVAILABLE ON SITE FOR USE WHERE REQUIRED.
3. THE PROPOSED DRAINAGE SYSTEM SHALL BE CONSTRUCTED PRIOR TO, OR IN CONJUNCTION WITH, THE ASSOCIATED PROPOSED INTERNAL ACCESS ROADS AND OTHER INFRASTRUCTURE. TEMPORARY DRAINAGE AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED WHERE REQUIRED DURING CONSTRUCTION TO PREVENT ELEVATED SUSPENDED SEDIMENT CONCENTRATIONS IN RUNOFF.
4. APPROPRIATE DRAINAGE AND POLLUTION PREVENTION MEASURES SHALL BE MAINTAINED AT ALL TIMES TO PREVENT THE CONVEYANCE OF SIGNIFICANT VOLUMES OF SEDIMENT TO RECEIVING WATERCOURSES. REFER ALSO TO POLLUTION PREVENTION NOTES.
5. INTERCEPTOR DRAINS SHALL BE INSTALLED UP-GRADIENT OF PROPOSED INFRASTRUCTURE, WHERE REQUIRED, TO INTERCEPT CLEAN SURFACE WATER RUNOFF AND MINIMISE THE VOLUME OF RUNOFF ENTERING CONSTRUCTION AREAS. INTERCEPTED CLEAN WATER SHALL BE DIRECTED AROUND THE WORKS AND REDISTRIBUTED TO DOWNSTREAM FIELD DRAINS. EXISTING FIELD DRAINS SHALL BE UTILISED FOR THIS PURPOSE WHERE PRACTICABLE.
6. COLLECTOR DRAINS SHALL BE INSTALLED DOWNSTREAM OF PROPOSED INTERNAL ACCESS ROADS AND OTHER CONSTRUCTION AREAS, WHERE REQUIRED, TO COLLECT RUNOFF WHERE SUSPENDED SEDIMENT MAY BECOME ENTRAINED. RUNOFF SHALL BE CONVEYED TO APPROPRIATE TREATMENT MEASURES, INCLUDING SILT TRAPS, CHECK DAMS, VEGETATED AREAS AND SETTLEMENT PONDS, PRIOR TO DISCHARGE TO THE EXISTING FIELD DRAIN OR MAIN DRAIN NETWORK.
7. TRANSVERSE DRAINS ('GRIPS') SHALL BE INSTALLED ON SECTIONS OF PROPOSED INTERNAL ACCESS ROADS, WHERE APPROPRIATE, TO INTERCEPT PROPOSED INTERNAL ACCESS ROAD RUNOFF AND DIVERT IT TO ADJACENT ROADSIDE COLLECTOR DRAINS. THE LOCATIONS OF TRANSVERSE DRAINS SHALL BE DETERMINED HAVING REGARD TO LOCAL GRADIENT AND DRAINAGE CONDITIONS.
8. DIRECT DISCHARGE OF UNTREATED CONSTRUCTION RUNOFF TO NATURAL WATERCOURSES SHALL NOT BE PERMITTED. TREATED RUNOFF SHALL BE DISCHARGED TO THE EXISTING BOG DRAINAGE NETWORK IN ACCORDANCE WITH THE DRAINAGE DESIGN.
9. BATTERS OF PROPOSED DRAINS SHALL GENERALLY HAVE SIDE SLOPES APPROPRIATE TO THEIR DEPTH AND LOCAL GROUND CONDITIONS AND SHALL BE LEFT TO NATURALLY RE-VEGETATE OR SHALL BE STABILISED USING SUITABLE LOCALLY SOURCED VEGETATION WHERE REQUIRED.
10. COLLECTOR DRAINS SHALL BE SHALLOW AND CONSTRUCTED WITH MODERATE GRADIENTS WHERE PRACTICABLE TO MINIMISE SCOUR. CHECK DAMS SHALL BE INSTALLED WHERE APPROPRIATE TO REDUCE FLOW VELOCITIES AND PROMOTE SETTLEMENT OF SUSPENDED SEDIMENT.
11. SETTLEMENT PONDS SHALL BE PROVIDED DOWNSTREAM OF PROPOSED INTERNAL ACCESS ROADS SECTIONS AND AT PROPOSED TURBINE/HARDSTAND LOCATIONS WHERE REQUIRED. SETTLEMENT PONDS SHALL PROVIDE TREATMENT AND TEMPORARY ATTENUATION OF RUNOFF PRIOR TO DISCHARGE TO THE EXISTING BOG DRAINAGE NETWORK. POND SIZING SHALL BE APPROPRIATE TO THE CONTRIBUTING CATCHMENT AREA. TYPICAL POND DETAILS ARE SHOWN ON DRAWING D501.
12. SILT FENCING OR OTHER APPROPRIATE SEDIMENT CONTROL MEASURES SHALL BE INSTALLED AROUND TEMPORARY PEAT/SPOIL STOCKPILES WHERE REQUIRED TO PREVENT SEDIMENT-LADEN RUNOFF ENTERING THE DRAINAGE NETWORK. TEMPORARY CONTROLS MAY BE REMOVED ONCE THE DISTURBED AREA HAS BEEN ADEQUATELY STABILISED.
13. TEMPORARY SILT FENCING SHALL BE INSTALLED WHERE REQUIRED BETWEEN CONSTRUCTION WORKS AND EXISTING DRAINAGE FEATURES OR NATURAL WATERCOURSES, PARTICULARLY WHERE WORKS OCCUR WITHIN THE PRESCRIBED SURFACE WATER BUFFER ZONES.
14. DRAIN SLOPES AND OTHER EXPOSED SURFACES SHALL BE PROTECTED FROM EROSION UNTIL ADEQUATELY STABILISED. SUITABLE STRIPPED VEGETATIVE MATERIAL, INCLUDING PEAT SOD/SCRAW WHERE AVAILABLE, MAY BE REUSED LOCALLY TO ASSIST STABILISATION AND RE-VEGETATION.
15. THE EXTENT AND DURATION OF EXPOSED GROUND SHALL BE MINIMISED AS FAR AS PRACTICABLE.
16. CHECK DAMS SHALL COMPRISE 4/40 MM NON-FRIABLE CRUSHED ROCK AND SHALL BE INSTALLED WITHIN COLLECTOR DRAINS WHERE APPROPRIATE. CHECK DAMS SHALL GENERALLY BE INSTALLED AT 25 M OR 50 M INTERVALS, DEPENDING ON THE LOCAL LONGITUDINAL GRADIENT AND SITE CONDITIONS.
17. CHECK DAMS, SILT TRAPS AND SETTLEMENT PONDS SHALL BE VISUALLY INSPECTED AND MAINTAINED AS PART OF THE CONSTRUCTION-PHASE DRAINAGE MAINTENANCE PROGRAMME, PARTICULARLY DURING AND FOLLOWING PERIODS OF HEAVY RAINFALL. ACCUMULATED SEDIMENT SHALL BE REMOVED AND DISPOSED OF APPROPRIATELY.
18. WHERE CHECK DAMS BECOME CLOGGED WITH SEDIMENT OR VEGETATION, THEY SHALL BE CLEANED OR REPLACED AS REQUIRED TO MAINTAIN THEIR HYDRAULIC AND SEDIMENT-CONTROL FUNCTION.
19. THE CONSTRUCTION-PHASE DRAINAGE INFRASTRUCTURE WILL GENERALLY FORM THE BASIS OF THE OPERATIONAL DRAINAGE SYSTEM. COLLECTOR DRAINS, SETTLEMENT PONDS AND OTHER TREATMENT/ATTENUATION FEATURES WILL BE RETAINED AND MAINTAINED WHERE REQUIRED. LOCAL SETTLEMENT PONDS MAY BE INFILLED OR DECOMMISSIONED FOLLOWING THE CONSTRUCTION PHASE, SUBJECT TO CONFIRMATION BY THE SITE ENGINEER.
20. WHERE TEMPORARY DEWATERING OF EXCAVATIONS IS REQUIRED, SILT BAGS AND/OR OTHER APPROPRIATE TREATMENT MEASURES SHALL BE USED AS NECESSARY. DISCHARGE FROM DEWATERING SILT BAGS SHALL BE DIRECTED TO SETTLEMENT PONDS OR OTHER SUITABLE TREATMENT MEASURES PRIOR TO DISCHARGE TO EXISTING FIELD DRAINS OR MAIN DRAINS.
21. FUEL AND OTHER POTENTIALLY POLLUTING SUBSTANCES SHALL BE STORED IN APPROPRIATELY BUNDED CONTAINMENT AREAS IN ACCORDANCE WITH THE CEMP AND POLLUTION PREVENTION NOTES.
22. CULVERTS SHALL BE PROVIDED WHERE PROPOSED INTERNAL ACCESS ROADS OR HARDSTANDS CROSS EXISTING MAIN BOG DRAINAGE PATHWAYS. CULVERTS SHALL BE APPROPRIATELY SIZED AND INSTALLED TO MAINTAIN EXISTING DRAINAGE CONNECTIVITY AND SHALL BE REGULARLY INSPECTED AND MAINTAINED.
23. ALL SURFACE WATER RUNOFF FROM THE PROPOSED PROJECT SHALL ULTIMATELY PASS THROUGH THE EXISTING IPC LICENCE SETTLEMENT PONDS AT THE BOG OUTFALL LOCATIONS PRIOR TO ONWARD DISCHARGE TO THE SURROUNDING STREAM AND RIVER NETWORK.

MITIGATION / DRAINAGE CONTROLS AVAILABLE FOR USE ACROSS THE SITE

MANAGEMENT TYPE	DESCRIPTION DRAINAGE CONTROL METHODS
AVOIDANCE CONTROLS	1) 50 M BUFFER TO NATURAL WATERCOURSES WHERE PRACTICABLE. 2) MINIMISE DISTURBANCE OF EXISTING FIELD AND MAIN DRAINS. 3) MINIMISE WORKING AREAS AND EXPOSED GROUND. 4) SCHEDULE WORKS HAVING REGARD TO WEATHER FORECASTS; SUSPEND OR SCALE BACK HIGH-RISK WORKS DURING HEAVY RAINFALL.
SOURCE CONTROLS:	1) UP-GRADIENT INTERCEPTOR DRAINS TO DIVERT CLEAN RUNOFF AROUND WORKS AND REDISTRIBUTE TO DOWNSTREAM FIELD DRAINS. 2) MINIMISE AND STABILISE EXPOSED GROUND AND TEMPORARY PEAT/SPOIL STOCKPILES. 3) SILT FENCING AND OTHER TEMPORARY SEDIMENT CONTROLS WHERE REQUIRED.
IN-LINE CONTROLS:	1) COLLECTOR DRAINS TO CONVEY CONSTRUCTION RUNOFF TO TREATMENT MEASURES. 2) TRANSVERSE DRAINS/PROPOSED INTERNAL ACCESS ROADS WHERE APPROPRIATE. 3) 4/40 MM NON-FRIABLE CRUSHED-ROCK CHECK DAMS AT TYPICALLY 25 M OR 50 M SPACING, DEPENDING ON GRADIENT. 4) SILT TRAPS AND SETTLEMENT PONDS. 5) CULVERTS TO MAINTAIN EXISTING DRAINAGE PATHWAYS.
WATER TREATMENT CONTROLS:	1) SILT TRAPS AND SETTLEMENT PONDS. 2) DEWATERING SILT BAGS WHERE APPROPRIATE. 3) VEGETATED BUFFER AREAS/SWALES WHERE APPROPRIATE. 4) SPECIALIST TREATMENT SYSTEMS (E.G. SILTBUSTER OR EQUIVALENT) WHERE REQUIRED. 5) EXISTING IPC LICENCE SETTLEMENT PONDS PROVIDE THE FINAL TREATMENT STAGE.
OUTFALL CONTROLS:	1) TREATED RUNOFF TO DISCHARGE TO EXISTING FIELD OR MAIN DRAINS. 2) DISCHARGES CONTROLLED TO PREVENT SCOUR AND EROSION. 3) NO DIRECT DISCHARGE OF UNTREATED CONSTRUCTION RUNOFF TO NATURAL WATERCOURSES. 4) EXISTING DRAINAGE PATHWAYS MAINTAINED WHERE REQUIRED. 5) PROPOSED PROJECT RUNOFF ULTIMATELY PASSES THROUGH EXISTING IPC LICENCE SETTLEMENT PONDS BEFORE DISCHARGE TO RECEIVING WATERS.

DRAWING LEGEND:

EXISTING DRAINAGE
- WATERCOURSES
- WATERCOURSES 50M BUFFER
- STREAM FLOW DIRECTION
- EXISTING MAIN DRAINS
- REDIRECTED MAIN DRAINS
- EXISTING PIPED DRAINS
- EXISTING DISCHARGE DRAINS
- EXISTING BOUNDARY DRAINS
- FIELD DRAIN
- EXISTING SETTLEMENT PONDS
- EXISTING WC CROSSING/CULVERT

PROPOSED DRAINAGE
- UPSTREAM INTERCEPTOR DRAIN
- DOWNSTREAM COLLECTOR DRAIN (DSCD)
- DSCD OR OVER THE EDGE (OTE)
- DIRECTION OF FLOW
- SILT FENCES
- DOUBLE SILT FENCES
- WF SETTLEMENT POND
- LEVEL SPREADER
- PROPOSED WC CROSSING/CULVERT
- INTERCEPTOR DITCH CULVERT
- COLLECTOR DITCH CULVERT
- WATERCOURSE DRAIN PROTECTION BERM
- O OVERLAND FLOW DISCHARGE
- TW TREATED WATER DISCHARGE
- SP NEW SETTLEMENT POND

- PLANNING APPLICATION BOUNDARY
- EXISTING GROUND SURFACE MINOR CONTOUR (1 M INTERVAL)
- TURBINE 220, TURBINE FOUNDATION AND SWEPT AREA
- TURBINE 200, TURBINE FOUNDATION AND SWEPT AREA
- TURBINE FOUNDATION
- CRANE PLATFORM
- BLADE SETDOWN AREAS
- UPGRADES TO EXISTING TRACKS
- PROPOSED INTERNAL ACCESS ROADS AND TURNING BAY
- PROPOSED INTERNAL 33KV CABLING
- PROPOSED GRID CONNECTION UNDERGROUND 220KV ELECTRICAL CABLING
- PROPOSED ON-SITE SUBSTATION
- PROPOSED OFF-SITE GIS SUBSTATION
- PROPOSED MET MAST
- PROPOSED RELAY MAST
- TEMPORARY CONSTRUCTION COMPOUNDS
- PROPOSED CAR PARKING
- PROPOSED PEAT AND SPOIL AREAS
- PROPOSED PASSING BAYS
- PROPOSED DEDICATED AMENITY TRACK
- PROPOSED DEDICATED AMENITY BOARD WALK
- SCRUB MOSAIC CREATION AREA
- POLLINATOR FORAGING HABITAT ENHANCEMENT AREA
- PEATLAND ENHANCEMENT AREA
- NATIVE TREE (WOODLAND AND SCRUB) PLANTING AREA
- MARSH FRITILLARY ENHANCEMENT AREA
- LODGE BOG ENHANCEMENT AREA

BASEMAP NOTE: THESE DRAWINGS USE 1:5,000 SCALE ORDNANCE SURVEY IRELAND (OSI) BASEMAPS AS AN UNDERLAY. FOR CLARITY, THE BASEMAP FEATURES ARE NOT INCLUDED IN THE DRAWING LEGEND AND ARE DISPLAYED IN LIGHT GREY WITH PARTIAL TRANSPARENCY TO DISTINGUISH THEM FROM THE PROPOSED DEVELOPMENT FEATURES.

DRAWING NOTES

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Revisions

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Title:
PROPOSED CONSTRUCTION PHASE AND OPERATIONAL PHASE DRAINAGE LAYOUT

Figure No: DI28

Drawing No: P1511-0-1026-A1-D128-00C	
Sheet Size: A1	Project No.: P1511-0
Scale: 1:2,000 (A1)	Drawn By: GA
Date: 21/10/2026	Checked By: MG

POLLUTION PREVENTION NOTES:

1. SITE MANAGEMENT AND DRAINAGE PROPOSALS ARE INTENDED TO ENSURE PROTECTION OF SURFACE WATER AND GROUNDWATER AND TO MINIMISE THE RISK OF POLLUTION, SILTATION AND EROSION.
2. APPROPRIATE DRAINAGE AND POLLUTION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO, OR IN CONJUNCTION WITH, CONSTRUCTION WORKS AND SHALL BE MAINTAINED FOR THE DURATION OF THE WORKS.
3. SILTY WATER MAY ARISE FROM EXCAVATION DEWATERING, EROSION OF EXPOSED OR DISTURBED GROUND, TEMPORARY STOCKPILES, PLANT AND WHEEL WASHING, PROPOSED INTERNAL ACCESS ROADS AND DISTURBANCE OF EXISTING FIELD DRAINS AND DITCHES.

DISCHARGES

4. WATER CONTAINING ELEVATED SUSPENDED SEDIMENT SHALL NOT BE PUMPED OR DISCHARGED DIRECTLY TO ANY NATURAL WATERCOURSE. CONSTRUCTION RUNOFF AND EXCAVATION DEWATERING SHALL BE APPROPRIATELY TREATED PRIOR TO DISCHARGE TO THE EXISTING BOG DRAINAGE NETWORK.
5. NO EXCAVATED MATERIAL OR TEMPORARY STOCKPILES SHALL BE STORED WITHIN THE PRESCRIBED SURFACE WATER BUFFER ZONES.
6. RUNOFF FROM CONSTRUCTION AREAS SHALL BE COLLECTED IN COLLECTOR DRAINS AND DIRECTED TO APPROPRIATE TREATMENT MEASURES, INCLUDING SILT TRAPS, CHECK DAMS, SETTLEMENT PONDS, VEGETATED BUFFER AREAS AND/OR OTHER SUITABLE TREATMENT SYSTEMS, PRIOR TO DISCHARGE TO EXISTING FIELD DRAINS OR MAIN DRAINS.
7. CLEAN SURFACE WATER RUNOFF SHALL, WHERE PRACTICABLE, BE INTERCEPTED UP-GRADIENT OF CONSTRUCTION AREAS USING INTERCEPTOR DRAINS AND DIRECTED AROUND THE WORKS BEFORE BEING REDISTRIBUTED TO DOWNSTREAM FIELD DRAINS. EXISTING FIELD DRAINS MAY BE UTILISED FOR THIS PURPOSE WHERE APPROPRIATE.
8. PUMPING OF CLEAN WATER FROM EXCAVATIONS, OR OVER-PUMPING OF DRAINS, DITCHES OR WATERCOURSES, SHALL BE UNDERTAKEN IN A MANNER WHICH DOES NOT CAUSE SCOUR OR EROSION AT THE POINT OF DISCHARGE. FLOW VELOCITIES SHALL BE CONTROLLED USING APPROPRIATE MEASURES SUCH AS SPLASH PLATES OR OTHER SUITABLE DISCHARGE CONTROLS.
9. EXISTING DRAINS AND DITCHES SHALL BE RETAINED AND PROTECTED WHERE PRACTICABLE. VEGETATION SHALL NOT BE REMOVED FROM EXISTING DRAINS UNLESS REQUIRED TO FACILITATE THE WORKS.
10. ALL SURFACE WATER RUNOFF FROM THE PROPOSED PROJECT SHALL ULTIMATELY PASS THROUGH THE EXISTING IPC LICENCE SETTLEMENT PONDS AT THE BOG OUTFALL LOCATIONS PRIOR TO DISCHARGE TO THE RECEIVING STREAM AND RIVER NETWORK.

EXCAVATIONS

11. WHERE EXCAVATIONS ARE PROPOSED, INTERCEPTOR/CUT-OFF DRAINS SHALL BE INSTALLED WHERE REQUIRED TO MINIMISE THE VOLUME OF CLEAN SURFACE WATER ENTERING THE EXCAVATION. THIS SHALL INCLUDE TURBINE BASE EXCAVATIONS WHERE APPROPRIATE.
12. WHERE TEMPORARY DEWATERING OF EXCAVATIONS IS REQUIRED, PUMPED WATER SHALL BE TREATED USING APPROPRIATE MEASURES SUCH AS DEWATERING SILT BAGS, SETTLEMENT PONDS OR SPECIALIST TREATMENT SYSTEMS PRIOR TO DISCHARGE TO THE EXISTING DRAINAGE NETWORK.

EXPOSED GROUND & STOCKPILES

13. THE EXTENT OF EXPOSED GROUND AND THE VOLUME AND DURATION OF TEMPORARY STOCKPILES SHALL BE MINIMISED AS FAR AS PRACTICABLE.
14. CONSTRUCTION ACTIVITIES INVOLVING SIGNIFICANT AREAS OF EXPOSED PEAT OR SOIL SHALL BE SCALED BACK OR SUSPENDED DURING PERIODS OF HEAVY RAINFALL OR WHERE HEAVY RAINFALL IS FORECAST.

PROPOSED INTERNAL ACCESS ROADS

15. COLLECTOR DRAINS SHALL BE PROVIDED ALONGSIDE PROPOSED INTERNAL ACCESS ROADS WHERE REQUIRED TO COLLECT CONSTRUCTION RUNOFF AND CONVEY IT TO APPROPRIATE TREATMENT MEASURES.
16. ON STEEPER SECTIONS OF PROPOSED INTERNAL ACCESS ROAD, TRANSVERSE DRAINS OR GRIPS SHALL BE INSTALLED WHERE APPROPRIATE TO INTERCEPT ROAD RUNOFF AND DIVERT IT TO ADJACENT ROADSIDE COLLECTOR DRAINS.
17. CHECK DAMS SHALL BE INSTALLED WITHIN COLLECTOR DRAINS WHERE APPROPRIATE TO REDUCE FLOW VELOCITIES AND PROMOTE SETTLEMENT OF SUSPENDED SEDIMENT. CHECK DAMS SHALL COMPRISE 4/40 MM NON-FRIABLE CRUSHED ROCK AND SHALL GENERALLY BE INSTALLED AT 25 M OR 50 M INTERVALS DEPENDING ON LOCAL GRADIENT.
18. SILT TRAPS, CHECK DAMS, SETTLEMENT PONDS AND OTHER DRAINAGE TREATMENT MEASURES SHALL BE REGULARLY INSPECTED AND MAINTAINED, PARTICULARLY DURING AND FOLLOWING PERIODS OF HEAVY RAINFALL.

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20. REFUELLING AREAS SHALL BE LOCATED AWAY FROM NATURAL WATERCOURSES AND DRAINAGE FEATURES. SPILL KITS AND DRIP TRAYS SHALL BE READILY AVAILABLE FOR USE AS REQUIRED.
21. FUEL AND OTHER POTENTIALLY POLLUTING SUBSTANCES SHALL BE STORED IN APPROPRIATELY BUNDED AREAS IN ACCORDANCE WITH THE CEMP.

CONCRETE

22. CONCRETE WORKS SHALL BE MANAGED TO PREVENT THE DISCHARGE OF CEMENTITIOUS MATERIAL OR CONCRETE-CONTAMINATED WATER TO THE SURFACE WATER DRAINAGE SYSTEM, GROUNDWATER OR NATURAL WATERCOURSES.
23. CONCRETE WASH WATER AND WASTE CONCRETE SHALL BE CONTAINED AND MANAGED IN ACCORDANCE WITH THE CEMP AND SHALL NOT BE DISCHARGED TO THE SITE DRAINAGE SYSTEM OR NATURAL WATERCOURSES.

IF WATER POLLUTION IS IDENTIFIED THE FOLLOWING ACTIONS WILL BE TAKEN:

STOP - WORKS IN THE IMMEDIATE AREA WILL BE STOPPED AND THE SOURCE OF THE POLLUTION WILL BE IDENTIFIED.

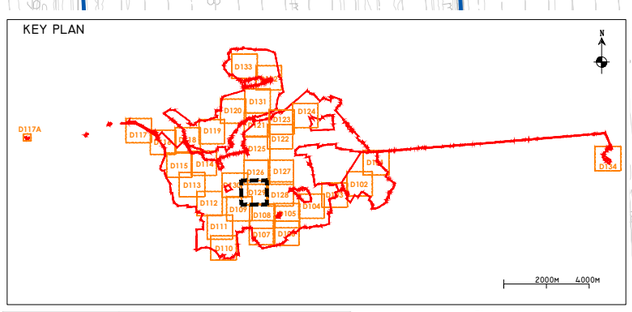
CONTAIN - THE SOURCE OF THE POLLUTION WILL BE CONTAINED USING APPROPRIATE MEASURES TO PREVENT FURTHER RELEASE. WHERE NECESSARY, DRAINAGE PATHWAYS SHALL BE TEMPORARILY ISOLATED OR DIVERTED TO PREVENT CONTAMINATED WATER REACHING DOWNSTREAM RECEPTORS.

NOTIFY - THE SITE MANAGER AND ENVIRONMENTAL CLERK OF WORKS SHALL BE NOTIFIED IMMEDIATELY. RELEVANT STATUTORY AUTHORITIES AND OTHER BODIES SHALL BE NOTIFIED WHERE REQUIRED IN ACCORDANCE WITH THE CEMP AND THE PROJECT EMERGENCY RESPONSE PROCEDURE.

DRAINAGE NOTES:

1. ROADWAY SURFACING DESIGN AND CONSTRUCTION SHALL BE TO THE ENGINEER'S SPECIFICATION.
2. SPARE SILT FENCING, STRAW BALES OR SIMILAR APPROVED POLLUTION CONTROL MATERIALS SHALL BE STORED ON SITE. SUSPENDED SEDIMENT IN RUNOFF SHALL BE VISUALLY MONITORED DURING CONSTRUCTION. WHERE ELEVATED SILT LEVELS ARE OBSERVED, ADDITIONAL TEMPORARY CONTROLS SUCH AS SILT FENCES, STRAW BALES, SILT TRAPS OR CHECK DAMS SHALL BE INSTALLED AS REQUIRED. A MOBILE WATER TREATMENT SYSTEM (E.G. SILTBUSTER OR EQUIVALENT) SHALL BE AVAILABLE ON SITE FOR USE WHERE REQUIRED.
3. THE PROPOSED DRAINAGE SYSTEM SHALL BE CONSTRUCTED PRIOR TO, OR IN CONJUNCTION WITH, THE ASSOCIATED PROPOSED INTERNAL ACCESS ROADS AND OTHER INFRASTRUCTURE. TEMPORARY DRAINAGE AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED WHERE REQUIRED DURING CONSTRUCTION TO PREVENT ELEVATED SUSPENDED SEDIMENT CONCENTRATIONS IN RUNOFF.
4. APPROPRIATE DRAINAGE AND POLLUTION PREVENTION MEASURES SHALL BE MAINTAINED AT ALL TIMES TO PREVENT THE CONVEYANCE OF SIGNIFICANT VOLUMES OF SEDIMENT TO RECEIVING WATERCOURSES. REFER ALSO TO POLLUTION PREVENTION NOTES.
5. INTERCEPTOR DRAINS SHALL BE INSTALLED UP-GRADIENT OF PROPOSED INFRASTRUCTURE, WHERE REQUIRED, TO INTERCEPT CLEAN SURFACE WATER RUNOFF AND MINIMISE THE VOLUME OF RUNOFF ENTERING CONSTRUCTION AREAS. INTERCEPTED CLEAN WATER SHALL BE DIRECTED AROUND THE WORKS AND REDISTRIBUTED TO DOWNSTREAM FIELD DRAINS. EXISTING FIELD DRAINS SHALL BE UTILISED FOR THIS PURPOSE WHERE PRACTICABLE.
6. COLLECTOR DRAINS SHALL BE INSTALLED DOWNSTREAM OF PROPOSED INTERNAL ACCESS ROADS AND OTHER CONSTRUCTION AREAS, WHERE REQUIRED, TO COLLECT RUNOFF WHERE SUSPENDED SEDIMENT MAY BECOME ENTRAINED. RUNOFF SHALL BE CONVEYED TO APPROPRIATE TREATMENT MEASURES, INCLUDING SILT TRAPS, CHECK DAMS, VEGETATED AREAS AND SETTLEMENT PONDS, PRIOR TO DISCHARGE TO THE EXISTING FIELD DRAIN OR MAIN DRAIN NETWORK.
7. TRANSVERSE DRAINS ('GRIPS') SHALL BE INSTALLED ON SECTIONS OF PROPOSED INTERNAL ACCESS ROADS, WHERE APPROPRIATE, TO INTERCEPT PROPOSED INTERNAL ACCESS ROAD RUNOFF AND DIVERT IT TO ADJACENT ROADSIDE COLLECTOR DRAINS. THE LOCATIONS OF TRANSVERSE DRAINS SHALL BE DETERMINED HAVING REGARD TO LOCAL GRADIENT AND DRAINAGE CONDITIONS.
8. DIRECT DISCHARGE OF UNTREATED CONSTRUCTION RUNOFF TO NATURAL WATERCOURSES SHALL NOT BE PERMITTED. TREATED RUNOFF SHALL BE DISCHARGED TO THE EXISTING BOG DRAINAGE NETWORK IN ACCORDANCE WITH THE DRAINAGE DESIGN.
9. BATTERS OF PROPOSED DRAINS SHALL GENERALLY HAVE SIDE SLOPES APPROPRIATE TO THEIR DEPTH AND LOCAL GROUND CONDITIONS AND SHALL BE LEFT TO NATURALLY RE-VEGETATE OR SHALL BE STABILISED USING SUITABLE LOCALLY SOURCED VEGETATION WHERE REQUIRED.
10. COLLECTOR DRAINS SHALL BE SHALLOW AND CONSTRUCTED WITH MODERATE GRADIENTS WHERE PRACTICABLE TO MINIMISE SCOUR. CHECK DAMS SHALL BE INSTALLED WHERE APPROPRIATE TO REDUCE FLOW VELOCITIES AND PROMOTE SETTLEMENT OF SUSPENDED SEDIMENT.
11. SETTLEMENT PONDS SHALL BE PROVIDED DOWNSTREAM OF PROPOSED INTERNAL ACCESS ROADS SECTIONS AND AT PROPOSED TURBINE/HARDSTAND LOCATIONS WHERE REQUIRED. SETTLEMENT PONDS SHALL PROVIDE TREATMENT AND TEMPORARY ATTENUATION OF RUNOFF PRIOR TO DISCHARGE TO THE EXISTING BOG DRAINAGE NETWORK. POND SIZING SHALL BE APPROPRIATE TO THE CONTRIBUTING CATCHMENT AREA. TYPICAL POND DETAILS ARE SHOWN ON DRAWING D501.
12. SILT FENCING OR OTHER APPROPRIATE SEDIMENT CONTROL MEASURES SHALL BE INSTALLED AROUND TEMPORARY PEAT/SPOIL STOCKPILES WHERE REQUIRED TO PREVENT SEDIMENT-LADEN RUNOFF ENTERING THE DRAINAGE NETWORK. TEMPORARY CONTROLS MAY BE REMOVED ONCE THE DISTURBED AREA HAS BEEN ADEQUATELY STABILISED.
13. TEMPORARY SILT FENCING SHALL BE INSTALLED WHERE REQUIRED BETWEEN CONSTRUCTION WORKS AND EXISTING DRAINAGE FEATURES OR NATURAL WATERCOURSES, PARTICULARLY WHERE WORKS OCCUR WITHIN THE PRESCRIBED SURFACE WATER BUFFER ZONES.
14. DRAIN SLOPES AND OTHER EXPOSED SURFACES SHALL BE PROTECTED FROM EROSION UNTIL ADEQUATELY STABILISED. SUITABLE STRIPPED VEGETATIVE MATERIAL INCLUDING PEAT SOD/SCRAW WHERE AVAILABLE, MAY BE REUSED LOCALLY TO ASSIST STABILISATION AND RE-VEGETATION.
15. THE EXTENT AND DURATION OF EXPOSED GROUND SHALL BE MINIMISED AS FAR AS PRACTICABLE.
16. CHECK DAMS SHALL COMPRISE 4/40 MM NON-FRIABLE CRUSHED ROCK AND SHALL BE INSTALLED WITHIN COLLECTOR DRAINS WHERE APPROPRIATE. CHECK DAMS SHALL GENERALLY BE INSTALLED AT 25 M OR 50 M INTERVALS, DEPENDING ON THE LOCAL LONGITUDINAL GRADIENT AND SITE CONDITIONS.
17. CHECK DAMS, SILT TRAPS AND SETTLEMENT PONDS SHALL BE VISUALLY INSPECTED AND MAINTAINED AS PART OF THE CONSTRUCTION-PHASE DRAINAGE MAINTENANCE PROGRAMME, PARTICULARLY DURING AND FOLLOWING PERIODS OF HEAVY RAINFALL. ACCUMULATED SEDIMENT SHALL BE REMOVED AND DISPOSED OF APPROPRIATELY.
18. WHERE CHECK DAMS BECOME CLOGGED WITH SEDIMENT OR VEGETATION, THEY SHALL BE CLEANED OR REPLACED AS REQUIRED TO MAINTAIN THEIR HYDRAULIC AND SEDIMENT-CONTROL FUNCTION.
19. THE CONSTRUCTION-PHASE DRAINAGE INFRASTRUCTURE WILL GENERALLY FORM THE BASIS OF THE OPERATIONAL DRAINAGE SYSTEM. COLLECTOR DRAINS, SETTLEMENT PONDS AND OTHER TREATMENT/ATTENUATION FEATURES WILL BE RETAINED AND MAINTAINED WHERE REQUIRED. LOCAL SETTLEMENT PONDS MAY BE INFILLED OR DECOMMISSIONED FOLLOWING THE CONSTRUCTION PHASE, SUBJECT TO CONFIRMATION BY THE SITE ENGINEER.
20. WHERE TEMPORARY DEWATERING OF EXCAVATIONS IS REQUIRED, SILT BAGS AND/OR OTHER APPROPRIATE TREATMENT MEASURES SHALL BE USED AS NECESSARY. DISCHARGE FROM DEWATERING SILT BAGS SHALL BE DIRECTED TO SETTLEMENT PONDS OR OTHER SUITABLE TREATMENT MEASURES PRIOR TO DISCHARGE TO EXISTING FIELD DRAINS OR MAIN DRAINS.
21. FUEL AND OTHER POTENTIALLY POLLUTING SUBSTANCES SHALL BE STORED IN APPROPRIATELY BUNDED CONTAINMENT AREAS IN ACCORDANCE WITH THE CEMP AND POLLUTION PREVENTION NOTES.
22. CULVERTS SHALL BE PROVIDED WHERE PROPOSED INTERNAL ACCESS ROADS OR HARDSTANDS CROSS EXISTING MAIN BOG DRAINAGE PATHWAYS. CULVERTS SHALL BE APPROPRIATELY SIZED AND INSTALLED TO MAINTAIN EXISTING DRAINAGE CONNECTIVITY AND SHALL BE REGULARLY INSPECTED AND MAINTAINED.
23. ALL SURFACE WATER RUNOFF FROM THE PROPOSED PROJECT SHALL ULTIMATELY PASS THROUGH THE EXISTING IPC LICENCE SETTLEMENT PONDS AT THE BOG OUTFALL LOCATIONS PRIOR TO ONWARD DISCHARGE TO THE SURROUNDING STREAM AND RIVER NETWORK.

KEY PLAN



MITIGATION / DRAINAGE CONTROLS AVAILABLE FOR USE ACROSS THE SITE

MANAGEMENT TYPE	DESCRIPTION DRAINAGE CONTROL METHODS
AVOIDANCE CONTROLS	1) 50 M BUFFER TO NATURAL WATERCOURSES WHERE PRACTICABLE. 2) MINIMISE DISTURBANCE OF EXISTING FIELD AND MAIN DRAINS. 3) MINIMISE WORKING AREAS AND EXPOSED GROUND. 4) SCHEDULE WORKS HAVING REGARD TO WEATHER FORECASTS; SUSPEND OR SCALE BACK HIGH-RISK WORKS DURING HEAVY RAINFALL.
SOURCE CONTROLS:	1) UP-GRADIENT INTERCEPTOR DRAINS TO DIVERT CLEAN RUNOFF AROUND WORKS AND REDISTRIBUTE TO DOWNSTREAM FIELD DRAINS. 2) MINIMISE AND STABILISE EXPOSED GROUND AND TEMPORARY PEAT/SPOIL STOCKPILES. 3) SILT FENCING AND OTHER TEMPORARY SEDIMENT CONTROLS WHERE REQUIRED.
IN-LINE CONTROLS:	1) COLLECTOR DRAINS TO CONVEY CONSTRUCTION RUNOFF TO TREATMENT MEASURES. 2) TRANSVERSE DRAINS/PROPOSED INTERNAL ACCESS ROADS WHERE APPROPRIATE. 3) 4/40 MM NON-FRIABLE CRUSHED-ROCK CHECK DAMS AT TYPICALLY 25 M OR 50 M SPACING, DEPENDING ON GRADIENT. 4) SILT TRAPS AND SETTLEMENT PONDS. 5) CULVERTS TO MAINTAIN EXISTING DRAINAGE PATHWAYS.
WATER TREATMENT CONTROLS:	1) SILT TRAPS AND SETTLEMENT PONDS. 2) DEWATERING SILT BAGS WHERE APPROPRIATE. 3) VEGETATED BUFFER AREAS/SWALES WHERE APPROPRIATE. 4) SPECIALIST TREATMENT SYSTEMS (E.G. SILTBUSTER OR EQUIVALENT) WHERE REQUIRED. 5) EXISTING IPC LICENCE SETTLEMENT PONDS PROVIDE THE FINAL TREATMENT STAGE.
OUTFALL CONTROLS:	1) TREATED RUNOFF TO DISCHARGE TO EXISTING FIELD OR MAIN DRAINS. 2) DISCHARGES CONTROLLED TO PREVENT SCOUR AND EROSION. 3) NO DIRECT DISCHARGE OF UNTREATED CONSTRUCTION RUNOFF TO NATURAL WATERCOURSES. 4) EXISTING DRAINAGE PATHWAYS MAINTAINED WHERE REQUIRED. 5) PROPOSED PROJECT RUNOFF ULTIMATELY PASSES THROUGH EXISTING IPC LICENCE SETTLEMENT PONDS BEFORE DISCHARGE TO RECEIVING WATERS.

DRAWING LEGEND:

- WATERCOURSES
- WATERCOURSES 50M BUFFER
- STREAM FLOW DIRECTION
- EXISTING MAIN DRAINS
- REDIRECTED MAIN DRAINS
- EXISTING PIPED DRAINS
- EXISTING DISCHARGE DRAINS
- EXISTING BOUNDARY DRAINS
- FIELD DRAIN
- EXISTING SETTLEMENT PONDS
- EXISTING WC CROSSING/CULVERT

EXISTING DRAINAGE

- UPSTREAM INTERCEPTOR DRAIN
- DOWNSTREAM COLLECTOR DRAIN (DSCD)
- DSCD OR OVER THE EDGE (OTE)
- DIRECTION OF FLOW
- SILT FENCES
- DOUBLE SILT FENCES
- WF SETTLEMENT POND
- LEVEL SPREADER
- PROPOSED WC CROSSING/CULVERT
- INTERCEPTOR DITCH CULVERT
- COLLECTOR DITCH CULVERT
- WATERCOURSE DRAIN PROTECTION BERM
- O OVERLAND FLOW DISCHARGE
- TW TREATED WATER DISCHARGE
- SP NEW SETTLEMENT POND

PROPOSED DRAINAGE

- PLANNING APPLICATION BOUNDARY
- EXISTING GROUND SURFACE MINOR CONTOUR (1 M INTERVAL)
- TURBINE 220, TURBINE FOUNDATION AND SWEPT AREA
- TURBINE 200, TURBINE FOUNDATION AND SWEPT AREA
- TURBINE FOUNDATION
- CRANE PLATFORM
- BLADE SETDOWN AREAS
- UPGRADES TO EXISTING TRACKS
- PROPOSED INTERNAL ACCESS ROADS AND TURNING BAY
- PROPOSED INTERNAL 33kV CABLING
- PROPOSED GRID CONNECTION UNDERGROUND 220KV ELECTRICAL CABLING
- PROPOSED ON-SITE SUBSTATION
- PROPOSED OFF-SITE GIS SUBSTATION
- PROPOSED MET MAST
- PROPOSED RELAY MAST
- TEMPORARY CONSTRUCTION COMPOUNDS
- PROPOSED CAR PARKING
- PROPOSED PEAT AND SPOIL AREAS
- PROPOSED PASSING BAYS
- PROPOSED DEDICATED AMENITY TRACK
- PROPOSED DEDICATED AMENITY BOARD WALK
- SCRUB MOSAIC CREATION AREA
- POLLINATOR FORAGING HABITAT ENHANCEMENT AREA
- PEATLAND ENHANCEMENT AREA
- NATIVE TREE (WOODLAND AND SCRUB) PLANTING AREA
- MARSH FRITILLARY ENHANCEMENT AREA
- LODGE BOG ENHANCEMENT AREA

BASEMAP NOTE: THESE DRAWINGS USE 1:5,000 SCALE ORDNANCE SURVEY IRELAND (OSI) BASEMAPS AS AN UNDERLAY. FOR CLARITY, THE BASEMAP FEATURES ARE NOT INCLUDED IN THE DRAWING LEGEND AND ARE DISPLAYED IN LIGHT GREY WITH PARTIAL TRANSPARENCY TO DISTINGUISH THEM FROM THE PROPOSED DEVELOPMENT FEATURES.

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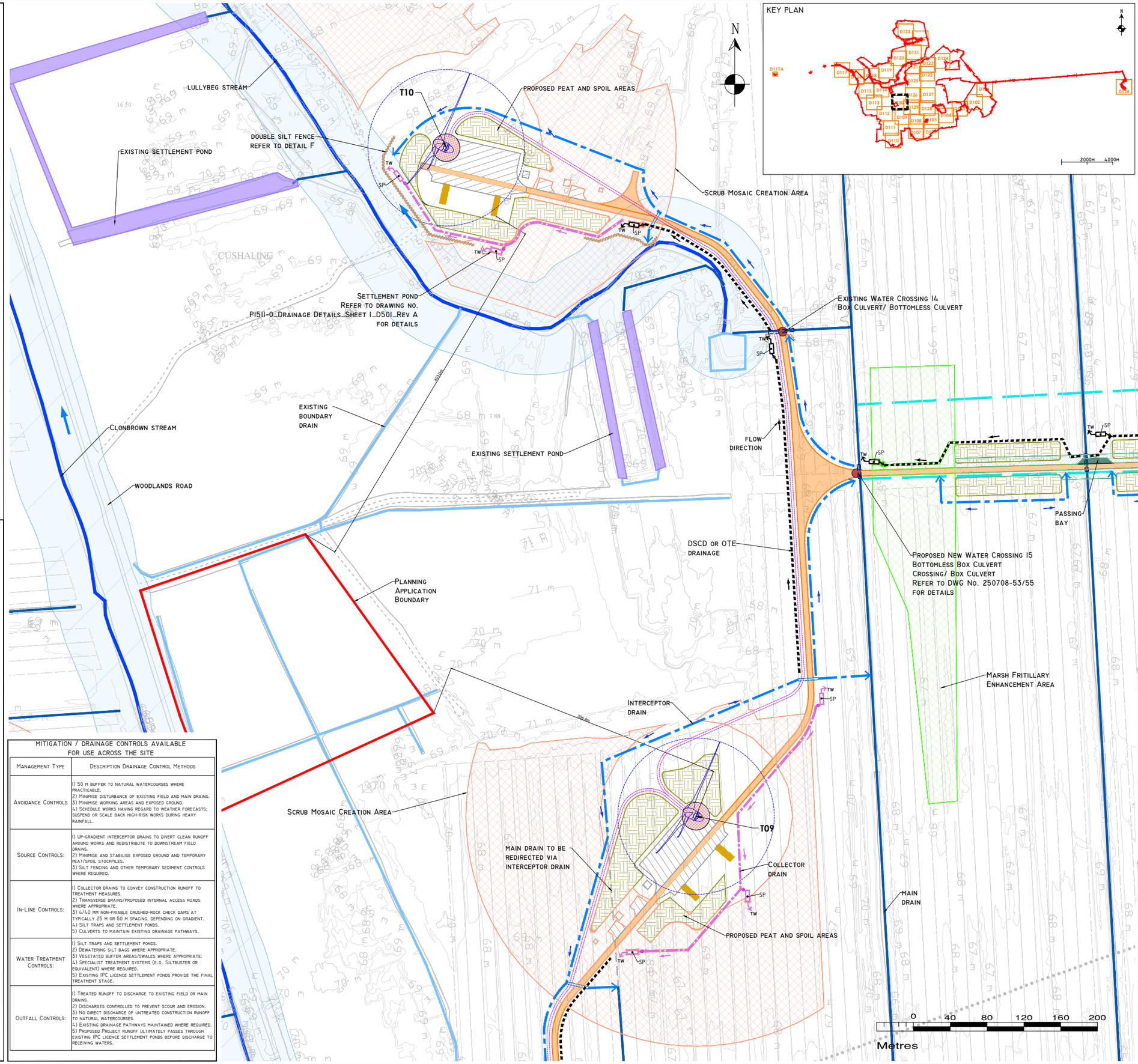
Client: BORD NA MÓNA POWERGEN LTD

Job: BALLYDERMOT WF, CO. OFFALY/CO. KILDARE

Title: PROPOSED CONSTRUCTION PHASE AND OPERATIONAL PHASE DRAINAGE LAYOUT

Figure No: DI29

Drawing No: P1511-0-1026-A1-D129-00C	
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POLLUTION PREVENTION NOTES:

1. Site management and drainage proposals are intended to ensure protection of surface water and groundwater and to minimise the risk of pollution, siltation and erosion.
2. Appropriate drainage and pollution control measures shall be installed prior to, or in conjunction with, construction works and shall be maintained for the duration of the works.
3. Silty water may arise from excavation dewatering, erosion of exposed or disturbed ground, temporary stockpiles, plant and wheel washing, proposed internal access roads and disturbance of existing field drains and ditches.

Discharges

4. Water containing elevated suspended sediment shall not be pumped or discharged directly to any natural watercourse. Construction runoff and excavation dewatering shall be appropriately treated prior to discharge to the existing bog drainage network.
5. No excavated material or temporary stockpiles shall be stored within the prescribed surface water buffer zones.
6. Runoff from construction areas shall be collected in collector drains and directed to appropriate treatment measures, including silt traps, check dams, settlement ponds, vegetated buffer areas and/or other suitable treatment systems, prior to discharge to existing field drains or main drains.
7. Clean surface water runoff shall, where practicable, be intercepted up-gradient of construction areas using interceptor drains and directed around the works before being redistributed to downstream field drains. Existing field drains may be utilised for this purpose where appropriate.
8. Pumping of clean water from excavations, or over-pumping of drains, ditches or watercourses, shall be undertaken in a manner which does not cause scour or erosion at the point of discharge. Flow velocities shall be controlled using appropriate measures such as splash plates or other suitable discharge controls.
9. Existing drains and ditches shall be retained and protected where practicable. Vegetation shall not be removed from existing drains unless required to facilitate the works.
10. All surface water runoff from the Proposed Project shall ultimately pass through the existing IPC licence settlement ponds at the bog outfall locations prior to discharge to the receiving stream and river network.

Excavations

11. Where excavations are proposed, interceptor/cut-off drains shall be installed where required to minimise the volume of clean surface water entering the excavation. This shall include turbine base excavations where appropriate.
12. Where temporary dewatering of excavations is required, pumped water shall be treated using appropriate measures such as dewatering silt bags, settlement ponds or specialist treatment systems prior to discharge to the existing drainage network.

Exposed Ground & Stockpiles

13. The extent of exposed ground and the volume and duration of temporary stockpiles shall be minimised as far as practicable.
14. Construction activities involving significant areas of exposed peat or soil shall be scaled back or suspended during periods of heavy rainfall or where heavy rainfall is forecast.

Proposed Internal Access Roads

15. Collector drains shall be provided alongside proposed internal access roads where required to collect construction runoff and convey it to appropriate treatment measures.
16. On steeper sections of proposed internal access road, transverse drains or grips shall be installed where appropriate to intercept road runoff and divert it to adjacent roadside collector drains.
17. Check dams shall be installed within collector drains where appropriate to reduce flow velocities and promote settlement of suspended sediment. Check dams shall comprise 4/40 mm non-friable crushed rock and shall generally be installed at 25 m or 50 m intervals depending on local gradient.
18. Silt traps, check dams, settlement ponds and other drainage treatment measures shall be regularly inspected and maintained, particularly during and following periods of heavy rainfall.

Refuelling

19. Refuelling and maintenance of mobile plant shall, where practicable, be undertaken off-site. Where required on-site, refuelling shall only be undertaken within designated areas and in accordance with the CEMP and appropriate pollution prevention procedures.
20. Refuelling areas shall be located away from natural watercourses and drainage features. Spill kits and drip trays shall be readily available for use as required.
21. Fuel and other potentially polluting substances shall be stored in appropriately bunded areas in accordance with the CEMP.

Concrete

22. Concrete works shall be managed to prevent the discharge of cementitious material or concrete-contaminated water to the surface water drainage system, groundwater or natural watercourses.
23. Concrete wash water and waste concrete shall be contained and managed in accordance with the CEMP and shall not be discharged to the site drainage system or natural watercourses.

If water pollution is identified the following actions will be taken:

STOP - works in the immediate area will be stopped and the source of the pollution will be identified.

CONTAIN - the source of the pollution will be contained using appropriate measures to prevent further release. Where necessary, drainage pathways shall be temporarily isolated or diverted to prevent contaminated water reaching downstream receptors.

NOTIFY - The Site Manager and Environmental Clerk of Works shall be notified immediately. Relevant statutory authorities and other bodies shall be notified where required in accordance with the CEMP and the project Emergency Response Procedure.

DRAINAGE NOTES:

1. Roadway surfacing design and construction shall be to the Engineer's Specification.
2. Spare silt fencing, straw bales or similar approved pollution control materials shall be stored on site. Suspended sediment in runoff shall be visually monitored during construction. Where elevated silt levels are observed, additional temporary controls such as silt fences, straw bales, silt traps or check dams shall be installed as required. A mobile water treatment system (e.g. Siltbuster or equivalent) shall be available on site for use where required.
3. The proposed drainage system shall be constructed prior to, or in conjunction with, the associated proposed internal access roads and other infrastructure. Temporary drainage and sediment control measures shall be installed where required during construction to prevent elevated suspended sediment concentrations in runoff.
4. Appropriate drainage and pollution prevention measures shall be maintained at all times to prevent the conveyance of significant volumes of sediment to receiving watercourses. Refer also to Pollution Prevention Notes.
5. Interceptor drains shall be installed up-gradient of proposed infrastructure, where required, to intercept clean surface water runoff and minimise the volume of runoff entering construction areas. Intercepted clean water shall be directed around the works and redistributed to downstream field drains. Existing field drains shall be utilised for this purpose where practicable.
6. Collector drains shall be installed downstream of proposed internal access roads and other construction areas, where required, to collect runoff where suspended sediment may become entrained. Runoff shall be conveyed to appropriate treatment measures, including silt traps, check dams, vegetated areas and settlement ponds, prior to discharge to the existing field drain or main drain network.
7. Transverse drains ('grips') shall be installed on sections of proposed internal access roads, where appropriate, to intercept proposed internal access road runoff and divert it to adjacent roadside collector drains. The locations of transverse drains shall be determined having regard to local gradient and drainage conditions.
8. Direct discharge of untreated construction runoff to natural watercourses shall not be permitted. Treated runoff shall be discharged to the existing bog drainage network in accordance with the drainage design.
9. Batters of proposed drains shall generally have side slopes appropriate to their depth and local ground conditions and shall be left to naturally re-vegetate or shall be stabilised using suitable locally sourced vegetation where required.
10. Collector drains shall be shallow and constructed with moderate gradients where practicable to minimise scour. Check dams shall be installed where appropriate to reduce flow velocities and promote settlement of suspended sediment.
11. Settlement ponds shall be provided downstream of proposed internal access roads sections and at proposed turbine/hardstand locations where required. Settlement ponds shall provide treatment and temporary attenuation of runoff prior to discharge to the existing bog drainage network. Pond sizing shall be appropriate to the contributing catchment area. Typical pond details are shown on Drawing D501.
12. Silt fencing or other appropriate sediment control measures shall be installed around temporary peat/spoil stockpiles where required to prevent sediment-laden runoff entering the drainage network. Temporary controls may be removed once the disturbed area has been adequately stabilised.
13. Temporary silt fencing shall be installed where required between construction works and existing drainage features or natural watercourses, particularly where works occur within the prescribed surface water buffer zones.
14. Drain slopes and other exposed surfaces shall be protected from erosion until adequately stabilised. Suitable stripped vegetative material, including peat sod/scraw where available, may be reused locally to assist stabilisation and re-vegetation.
15. The extent and duration of exposed ground shall be minimised as far as practicable.
16. Check dams shall comprise 4/40 mm non-friable crushed rock and shall be installed within collector drains where appropriate. Check dams shall generally be installed at 25 m or 50 m intervals, depending on the local longitudinal gradient and site conditions.
17. Check dams, silt traps and settlement ponds shall be visually inspected and maintained as part of the construction-phase drainage maintenance programme, particularly during and following periods of heavy rainfall. Accumulated sediment shall be removed and disposed of appropriately.
18. Where check dams become clogged with sediment or vegetation, they shall be cleaned or replaced as required to maintain their hydraulic and sediment-control function.
19. The construction-phase drainage infrastructure will generally form the basis of the operational drainage system. Collector drains, settlement ponds and other treatment/attenuation features will be retained and maintained where required. Local settlement ponds may be infilled or decommissioned following the construction phase, subject to confirmation by the site engineer.
20. Where temporary dewatering of excavations is required, silt bags and/or other appropriate treatment measures shall be used as necessary. Discharge from dewatering silt bags shall be directed to settlement ponds or other suitable treatment measures prior to discharge to existing field drains or main drains.
21. Fuel and other potentially polluting substances shall be stored in appropriately bunded containment areas in accordance with the CEMP and Pollution Prevention Notes.
22. Culverts shall be provided where proposed internal access roads or hardstands cross existing main bog drainage pathways. Culverts shall be appropriately sized and installed to maintain existing drainage connectivity and shall be regularly inspected and maintained.
23. All surface water runoff from the Proposed Project shall ultimately pass through the existing IPC licence settlement ponds at the bog outfall locations prior to onward discharge to the surrounding stream and river network.

MITIGATION / DRAINAGE CONTROLS AVAILABLE FOR USE ACROSS THE SITE

Management Type	Description Drainage Control Methods
Avoidance Controls	1) 50 m buffer to natural watercourses where practicable. 2) Minimise disturbance of existing field and main drains. 3) Minimise working areas and exposed ground. 4) Schedule works having regard to weather forecasts; suspend or scale back high-risk works during heavy rainfall.
Source Controls:	1) Up-gradient interceptor drains to divert clean runoff around works and redistribute to downstream field drains. 2) Minimise and stabilise exposed ground and temporary peat/spoil stockpiles. 3) Silt fencing and other temporary sediment controls where required.
In-Line Controls:	1) Collector drains to convey construction runoff to treatment measures. 2) Transverse drains/proposed internal access roads where appropriate. 3) 4/40 mm non-friable crushed-rock check dams at typically 25 m or 50 m spacing, depending on gradient. 4) Silt traps and settlement ponds. 5) Culverts to maintain existing drainage pathways.
Water Treatment Controls:	1) Silt traps and settlement ponds. 2) Dewatering silt bags where appropriate. 3) Vegetated buffer areas/swales where appropriate. 4) Specialist treatment systems (e.g. Siltbuster or equivalent) where required. 5) Existing IPC licence settlement ponds provide the final treatment stage.
Outfall Controls:	1) Treated runoff to discharge to existing field or main drains. 2) Discharges controlled to prevent scour and erosion. 3) No direct discharge of untreated construction runoff to natural watercourses. 4) Existing drainage pathways maintained where required. 5) Proposed Project runoff ultimately passes through existing IPC licence settlement ponds before discharge to receiving waters.

DRAWING LEGEND:

- Watercourses
- Watercourses 50m buffer
- Stream flow direction
- Existing main drains
- Redirected main drains
- Existing piped drains
- Existing discharge drains
- Existing boundary drains
- Field drain
- Existing settlement ponds
- Existing wc crossing/culvert

Existing Drainage

- Upstream interceptor drain
- Downstream collector drain (DSCD)
- DSCD or Over The Edge (OTE)
- Direction of flow
- Silt fences
- Double silt fences
- WF settlement pond
- Level spreader
- Proposed wc crossing/culvert
- Interceptor ditch culvert
- Collector ditch culvert
- Watercourse drain protection berm
- O Overland flow discharge
- TW Treated water discharge
- SP New settlement pond

Proposed Drainage

- Planning application boundary
- Existing ground surface minor contour (1 m interval)
- Turbine 220, turbine foundation and swept area
- Turbine 200, turbine foundation and swept area
- Turbine foundation
- Crane platform
- Blade setdown areas
- Upgrades to existing tracks
- Proposed internal access roads and turning bay
- Proposed internal 33kv cabling
- Proposed grid connection underground 220kv electrical cabling
- Proposed on-site substation
- Proposed off-site gis substation
- Proposed met mast
- Proposed relay mast
- Temporary construction compounds
- Proposed car parking
- Proposed peat and spoil areas
- Proposed passing bays
- Proposed dedicated amenity track
- Proposed dedicated amenity board walk
- Scrub mosaic creation area
- Pollinator foraging habitat enhancement area
- Peatland enhancement area
- Native tree (woodland and scrub) planting area
- Marsh fritillary enhancement area
- Lodge Bog Enhancement Area

Basemap Note: These drawings use 1:5,000 scale Ordnance Survey Ireland (OSi) basemaps as an underlay. For clarity, the basemap features are not included in the drawing legend and are displayed in light grey with partial transparency to distinguish them from the proposed development features.

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Title:
Proposed Construction Phase and Operational Phase Drainage Layout

Figure No: DI30

Drawing No: P1511-0-1026-A1-D130-00C	
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Scale: 1:2,000 (A1)	Drawn By: GA
Date: 21/10/2026	Checked By: MG

POLLUTION PREVENTION NOTES:

1. SITE MANAGEMENT AND DRAINAGE PROPOSALS ARE INTENDED TO ENSURE PROTECTION OF SURFACE WATER AND GROUNDWATER AND TO MINIMISE THE RISK OF POLLUTION, SILTATION AND EROSION.

2. APPROPRIATE DRAINAGE AND POLLUTION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO, OR IN CONJUNCTION WITH, CONSTRUCTION WORKS AND SHALL BE MAINTAINED FOR THE DURATION OF THE WORKS.

3. SILTY WATER MAY ARISE FROM EXCAVATION DEWATERING, EROSION OF EXPOSED OR DISTURBED GROUND, TEMPORARY STOCKPILES, PLANT AND WHEEL WASHING, PROPOSED INTERNAL ACCESS ROADS AND DISTURBANCE OF EXISTING FIELD DRAINS AND DITCHES.

DISCHARGES

4. WATER CONTAINING ELEVATED SUSPENDED SEDIMENT SHALL NOT BE PUMPED OR DISCHARGED DIRECTLY TO ANY NATURAL WATERCOURSE. CONSTRUCTION RUNOFF AND EXCAVATION DEWATERING SHALL BE APPROPRIATELY TREATED PRIOR TO DISCHARGE TO THE EXISTING BOG DRAINAGE NETWORK.
5. NO EXCAVATED MATERIAL OR TEMPORARY STOCKPILES SHALL BE STORED WITHIN THE PRESCRIBED SURFACE WATER BUFFER ZONES.
6. RUNOFF FROM CONSTRUCTION AREAS SHALL BE COLLECTED IN COLLECTOR DRAINS AND DIRECTED TO APPROPRIATE TREATMENT MEASURES, INCLUDING SILT TRAPS, CHECK DAMS, SETTLEMENT PONDS, VEGETATED BUFFER AREAS AND/OR OTHER SUITABLE TREATMENT SYSTEMS, PRIOR TO DISCHARGE TO EXISTING FIELD DRAINS OR MAIN DRAINS.
7. CLEAN SURFACE WATER RUNOFF SHALL, WHERE PRACTICABLE, BE INTERCEPTED UP-GRADIENT OF CONSTRUCTION AREAS USING INTERCEPTOR DRAINS AND DIRECTED AROUND THE WORKS BEFORE BEING REDISTRIBUTED TO DOWNSTREAM FIELD DRAINS. EXISTING FIELD DRAINS MAY BE UTILISED FOR THIS PURPOSE WHERE APPROPRIATE.
8. PUMPING OF CLEAN WATER FROM EXCAVATIONS, OR OVER-PUMPING OF DRAINS, DITCHES OR WATERCOURSES, SHALL BE UNDERTAKEN IN A MANNER WHICH DOES NOT CAUSE SCOUR OR EROSION AT THE POINT OF DISCHARGE. FLOW VELOCITIES SHALL BE CONTROLLED USING APPROPRIATE MEASURES SUCH AS SPLASH PLATES OR OTHER SUITABLE DISCHARGE CONTROLS.
9. EXISTING DRAINS AND DITCHES SHALL BE RETAINED AND PROTECTED WHERE PRACTICABLE. VEGETATION SHALL NOT BE REMOVED FROM EXISTING DRAINS UNLESS REQUIRED TO FACILITATE THE WORKS.
10. ALL SURFACE WATER RUNOFF FROM THE PROPOSED PROJECT SHALL ULTIMATELY PASS THROUGH THE EXISTING IPC LICENCE SETTLEMENT PONDS AT THE BOG OUTFALL LOCATIONS PRIOR TO DISCHARGE TO THE RECEIVING STREAM AND RIVER NETWORK.

EXCAVATIONS

11. WHERE EXCAVATIONS ARE PROPOSED, INTERCEPTOR/CUT-OFF DRAINS SHALL BE INSTALLED WHERE REQUIRED TO MINIMISE THE VOLUME OF CLEAN SURFACE WATER ENTERING THE EXCAVATION. THIS SHALL INCLUDE TURBINE BASE EXCAVATIONS WHERE APPROPRIATE.
12. WHERE TEMPORARY DEWATERING OF EXCAVATIONS IS REQUIRED, PUMPED WATER SHALL BE TREATED USING APPROPRIATE MEASURES SUCH AS DEWATERING SILT BAGS, SETTLEMENT PONDS OR SPECIALIST TREATMENT SYSTEMS PRIOR TO DISCHARGE TO THE EXISTING DRAINAGE NETWORK.

EXPOSED GROUND & STOCKPILES

13. THE EXTENT OF EXPOSED GROUND AND THE VOLUME AND DURATION OF TEMPORARY STOCKPILES SHALL BE MINIMISED AS FAR AS PRACTICABLE.
14. CONSTRUCTION ACTIVITIES INVOLVING SIGNIFICANT AREAS OF EXPOSED PEAT OR SOIL SHALL BE SCALED BACK OR SUSPENDED DURING PERIODS OF HEAVY RAINFALL OR WHERE HEAVY RAINFALL IS FORECAST.

PROPOSED INTERNAL ACCESS ROADS

15. COLLECTOR DRAINS SHALL BE PROVIDED ALONGSIDE PROPOSED INTERNAL ACCESS ROADS WHERE REQUIRED TO COLLECT CONSTRUCTION RUNOFF AND CONVEY IT TO APPROPRIATE TREATMENT MEASURES.
16. ON STEEPER SECTIONS OF PROPOSED INTERNAL ACCESS ROAD, TRANSVERSE DRAINS OR GRIPS SHALL BE INSTALLED WHERE APPROPRIATE TO INTERCEPT ROAD RUNOFF AND DIVERT IT TO ADJACENT ROADSIDE COLLECTOR DRAINS.
17. CHECK DAMS SHALL BE INSTALLED WITHIN COLLECTOR DRAINS WHERE APPROPRIATE TO REDUCE FLOW VELOCITIES AND PROMOTE SETTLEMENT OF SUSPENDED SEDIMENT. CHECK DAMS SHALL COMPRISE 6/40 MM NON-FRIABLE CRUSHED ROCK AND SHALL GENERALLY BE INSTALLED AT 25 M OR 50 M INTERVALS DEPENDING ON LOCAL GRADIENT.
18. SILT TRAPS, CHECK DAMS, SETTLEMENT PONDS AND OTHER DRAINAGE TREATMENT MEASURES SHALL BE REGULARLY INSPECTED AND MAINTAINED, PARTICULARLY DURING AND FOLLOWING PERIODS OF HEAVY RAINFALL.

REFUELLING

19. REFUELLING AND MAINTENANCE OF MOBILE PLANT SHALL, WHERE PRACTICABLE, BE UNDERTAKEN OFF-SITE. WHERE REQUIRED ON-SITE, REFUELLING SHALL ONLY BE UNDERTAKEN WITHIN DESIGNATED AREAS AND IN ACCORDANCE WITH THE CEMP AND APPROPRIATE POLLUTION PREVENTION PROCEDURES.
20. REFUELLING AREAS SHALL BE LOCATED AWAY FROM NATURAL WATERCOURSES AND DRAINAGE FEATURES. SPILL KITS AND DRIP TRAYS SHALL BE READILY AVAILABLE FOR USE AS REQUIRED.
21. FUEL AND OTHER POTENTIALLY POLLUTING SUBSTANCES SHALL BE STORED IN APPROPRIATELY BUNDED AREAS IN ACCORDANCE WITH THE CEMP.

CONCRETE

22. CONCRETE WORKS SHALL BE MANAGED TO PREVENT THE DISCHARGE OF CEMENTITIOUS MATERIAL OR CONCRETE-CONTAMINATED WATER TO THE SURFACE WATER DRAINAGE SYSTEM, GROUNDWATER OR NATURAL WATERCOURSES.
23. CONCRETE WASH WATER AND WASTE CONCRETE SHALL BE CONTAINED AND MANAGED IN ACCORDANCE WITH THE CEMP AND SHALL NOT BE DISCHARGED TO THE SITE DRAINAGE SYSTEM OR NATURAL WATERCOURSES.

IF WATER POLLUTION IS IDENTIFIED THE FOLLOWING ACTIONS WILL BE TAKEN:

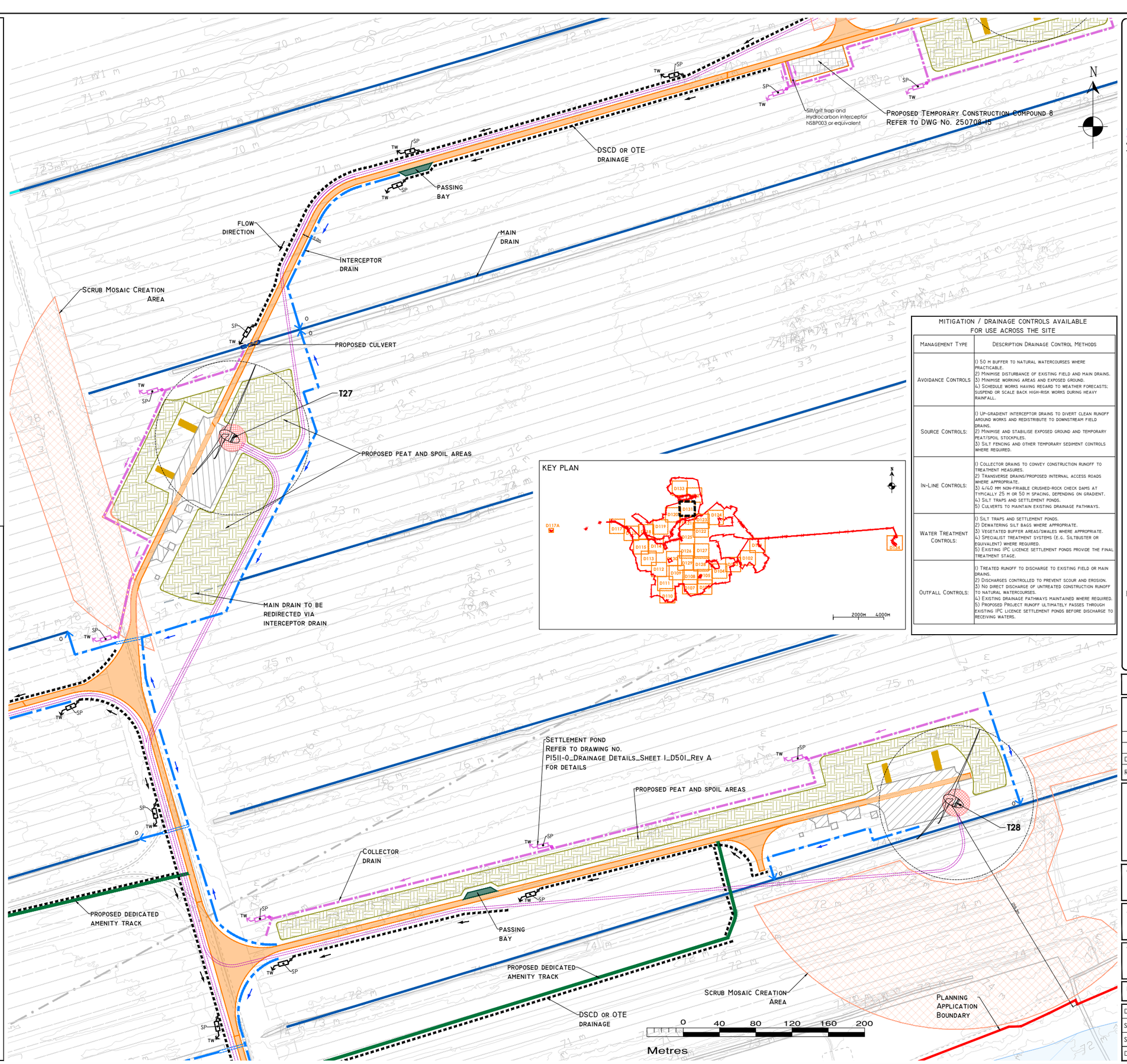
STOP - WORKS IN THE IMMEDIATE AREA WILL BE STOPPED AND THE SOURCE OF THE POLLUTION WILL BE IDENTIFIED.

CONTAIN - THE SOURCE OF THE POLLUTION WILL BE CONTAINED USING APPROPRIATE MEASURES TO PREVENT FURTHER RELEASE. WHERE NECESSARY, DRAINAGE PATHWAYS SHALL BE TEMPORARILY ISOLATED OR DIVERTED TO PREVENT CONTAMINATED WATER REACHING DOWNSTREAM RECEPTORS.

NOTIFY - THE SITE MANAGER AND ENVIRONMENTAL CLERK OF WORKS SHALL BE NOTIFIED IMMEDIATELY. RELEVANT STATUTORY AUTHORITIES AND OTHER BODIES SHALL BE NOTIFIED WHERE REQUIRED IN ACCORDANCE WITH THE CEMP AND THE PROJECT EMERGENCY RESPONSE PROCEDURE.

DRAINAGE NOTES:

1. ROADWAY SURFACING DESIGN AND CONSTRUCTION SHALL BE TO THE ENGINEER'S SPECIFICATION.
2. SPARE SILT FENCING, STRAW BALES OR SIMILAR APPROVED POLLUTION CONTROL MATERIALS SHALL BE STORED ON SITE. SUSPENDED SEDIMENT IN RUNOFF SHALL BE VISUALLY MONITORED DURING CONSTRUCTION. WHERE ELEVATED SILT LEVELS ARE OBSERVED, ADDITIONAL TEMPORARY CONTROLS SUCH AS SILT FENCES, STRAW BALES, SILT TRAPS OR CHECK DAMS SHALL BE INSTALLED AS REQUIRED. A MOBILE WATER TREATMENT SYSTEM (E.G. SILTBUSTER OR EQUIVALENT) SHALL BE AVAILABLE ON SITE FOR USE WHERE REQUIRED.
3. THE PROPOSED DRAINAGE SYSTEM SHALL BE CONSTRUCTED PRIOR TO, OR IN CONJUNCTION WITH, THE ASSOCIATED PROPOSED INTERNAL ACCESS ROADS AND OTHER INFRASTRUCTURE. TEMPORARY DRAINAGE SEDIMENT CONTROL MEASURES SHALL BE INSTALLED WHERE REQUIRED DURING CONSTRUCTION TO PREVENT ELEVATED SUSPENDED SEDIMENT CONCENTRATIONS IN RUNOFF.
4. APPROPRIATE DRAINAGE AND POLLUTION PREVENTION MEASURES SHALL BE MAINTAINED AT ALL TIMES TO PREVENT THE CONVEYANCE OF SIGNIFICANT VOLUMES OF SEDIMENT TO RECEIVING WATERCOURSES. REFER ALSO TO POLLUTION PREVENTION NOTES.
5. INTERCEPTOR DRAINS SHALL BE INSTALLED UP-GRADIENT OF PROPOSED INFRASTRUCTURE, WHERE REQUIRED, TO INTERCEPT CLEAN SURFACE WATER RUNOFF AND MINIMISE THE VOLUME OF RUNOFF ENTERING CONSTRUCTION AREAS. INTERCEPTED CLEAN WATER SHALL BE DIRECTED AROUND THE WORKS AND REDISTRIBUTED TO DOWNSTREAM FIELD DRAINS. EXISTING FIELD DRAINS SHALL BE UTILISED FOR THIS PURPOSE WHERE PRACTICABLE.
6. COLLECTOR DRAINS SHALL BE INSTALLED DOWNSTREAM OF PROPOSED INTERNAL ACCESS ROADS AND OTHER CONSTRUCTION AREAS, WHERE REQUIRED, TO COLLECT RUNOFF WHERE SUSPENDED SEDIMENT MAY BECOME ENTRAINED. RUNOFF SHALL BE CONVEYED TO APPROPRIATE TREATMENT MEASURES, INCLUDING SILT TRAPS, CHECK DAMS, VEGETATED AREAS AND SETTLEMENT PONDS, PRIOR TO DISCHARGE TO THE EXISTING FIELD DRAIN OR MAIN DRAIN NETWORK.
7. TRANSVERSE DRAINS ('GRIPS') SHALL BE INSTALLED ON SECTIONS OF PROPOSED INTERNAL ACCESS ROADS, WHERE APPROPRIATE, TO INTERCEPT PROPOSED INTERNAL ACCESS ROAD RUNOFF AND DIVERT IT TO ADJACENT ROADSIDE COLLECTOR DRAINS. THE LOCATIONS OF TRANSVERSE DRAINS SHALL BE DETERMINED HAVING REGARD TO LOCAL GRADIENT AND DRAINAGE CONDITIONS.
8. DIRECT DISCHARGE OF UNTREATED CONSTRUCTION RUNOFF TO NATURAL WATERCOURSES SHALL NOT BE PERMITTED. TREATED RUNOFF SHALL BE DISCHARGED TO THE EXISTING BOG DRAINAGE NETWORK IN ACCORDANCE WITH THE DRAINAGE DESIGN.
9. BATTERS OF PROPOSED DRAINS SHALL GENERALLY HAVE SIDE SLOPES APPROPRIATE TO THEIR DEPTH AND LOCAL GROUND CONDITIONS AND SHALL BE LEFT TO NATURALLY RE-VEGETATE OR SHALL BE STABILISED USING SUITABLE LOCALLY SOURCED VEGETATION WHERE REQUIRED.
10. COLLECTOR DRAINS SHALL BE SHALLOW AND CONSTRUCTED WITH MODERATE GRADIENTS WHERE PRACTICABLE TO MINIMISE SCOUR. CHECK DAMS SHALL BE INSTALLED WHERE APPROPRIATE TO REDUCE FLOW VELOCITIES AND PROMOTE SETTLEMENT OF SUSPENDED SEDIMENT.
11. SETTLEMENT PONDS SHALL BE PROVIDED DOWNSTREAM OF PROPOSED INTERNAL ACCESS ROADS SECTIONS AND AT PROPOSED TURBINE/HARDSTAND LOCATIONS WHERE REQUIRED. SETTLEMENT PONDS SHALL PROVIDE TREATMENT AND TEMPORARY ATTENUATION OF RUNOFF PRIOR TO DISCHARGE TO THE EXISTING BOG DRAINAGE NETWORK. POND SIZING SHALL BE APPROPRIATE TO THE CONTRIBUTING CATCHMENT AREA. TYPICAL POND DETAILS ARE SHOWN ON DRAWING D501.
12. SILT FENCING OR OTHER APPROPRIATE SEDIMENT CONTROL MEASURES SHALL BE INSTALLED AROUND TEMPORARY PEAT/SPOIL STOCKPILES WHERE REQUIRED TO PREVENT SEDIMENT-LADEN RUNOFF ENTERING THE DRAINAGE NETWORK. TEMPORARY CONTROLS MAY BE REMOVED ONCE THE DISTURBED AREA HAS BEEN ADEQUATELY STABILISED.
13. TEMPORARY SILT FENCING SHALL BE INSTALLED WHERE REQUIRED BETWEEN CONSTRUCTION WORKS AND EXISTING DRAINAGE FEATURES OR NATURAL WATERCOURSES, PARTICULARLY WHERE WORKS OCCUR WITHIN THE PRESCRIBED SURFACE WATER BUFFER ZONES.
14. DRAIN SLOPES AND OTHER EXPOSED SURFACES SHALL BE PROTECTED FROM EROSION UNTIL ADEQUATELY STABILISED. SUITABLE STRIPPED VEGETATIVE MATERIAL, INCLUDING PEAT SOD/SCRAW WHERE AVAILABLE, MAY BE REUSED LOCALLY TO ASSIST STABILISATION AND RE-VEGETATION.
15. THE EXTENT AND DURATION OF EXPOSED GROUND SHALL BE MINIMISED AS FAR AS PRACTICABLE.
16. CHECK DAMS SHALL COMPRISE 6/40 MM NON-FRIABLE CRUSHED ROCK AND SHALL BE INSTALLED WITHIN COLLECTOR DRAINS WHERE APPROPRIATE. CHECK DAMS SHALL GENERALLY BE INSTALLED AT 25 M OR 50 M INTERVALS, DEPENDING ON THE LOCAL LONGITUDINAL GRADIENT AND SITE CONDITIONS.
17. CHECK DAMS, SILT TRAPS AND SETTLEMENT PONDS SHALL BE VISUALLY INSPECTED AND MAINTAINED AS PART OF THE CONSTRUCTION-PHASE DRAINAGE MAINTENANCE PROGRAMME, PARTICULARLY DURING AND FOLLOWING PERIODS OF HEAVY RAINFALL. ACCUMULATED SEDIMENT SHALL BE REMOVED AND DISPOSED OF APPROPRIATELY.
18. WHERE CHECK DAMS BECOME CLOGGED WITH SEDIMENT OR VEGETATION, THEY SHALL BE CLEANED OR REPLACED AS REQUIRED TO MAINTAIN THEIR HYDRAULIC AND SEDIMENT-CONTROL FUNCTION.
19. THE CONSTRUCTION-PHASE DRAINAGE INFRASTRUCTURE WILL GENERALLY FORM THE BASIS OF THE OPERATIONAL DRAINAGE SYSTEM. COLLECTOR DRAINS, SETTLEMENT PONDS AND OTHER TREATMENT/ATTENUATION FEATURES WILL BE RETAINED AND MAINTAINED WHERE REQUIRED. LOCAL SETTLEMENT PONDS MAY BE INFILLED OR DECOMMISSIONED FOLLOWING THE CONSTRUCTION PHASE, SUBJECT TO CONFIRMATION BY THE SITE ENGINEER.
20. WHERE TEMPORARY DEWATERING OF EXCAVATIONS IS REQUIRED, SILT BAGS AND/OR OTHER APPROPRIATE TREATMENT MEASURES SHALL BE USED AS NECESSARY. DISCHARGE FROM DEWATERING SILT BAGS SHALL BE DIRECTED TO SETTLEMENT PONDS OR OTHER SUITABLE TREATMENT MEASURES PRIOR TO DISCHARGE TO EXISTING FIELD DRAINS OR MAIN DRAINS.
21. FUEL AND OTHER POTENTIALLY POLLUTING SUBSTANCES SHALL BE STORED IN APPROPRIATELY BUNDED CONTAINMENT AREAS IN ACCORDANCE WITH THE CEMP AND POLLUTION PREVENTION NOTES.
22. CULVERTS SHALL BE PROVIDED WHERE PROPOSED INTERNAL ACCESS ROADS OR HARDSTANDS CROSS EXISTING MAIN BOG DRAINAGE PATHWAYS. CULVERTS SHALL BE APPROPRIATELY SIZED AND INSTALLED TO MAINTAIN EXISTING DRAINAGE CONNECTIVITY AND SHALL BE REGULARLY INSPECTED AND MAINTAINED.
23. ALL SURFACE WATER RUNOFF FROM THE PROPOSED PROJECT SHALL ULTIMATELY PASS THROUGH THE EXISTING IPC LICENCE SETTLEMENT PONDS AT THE BOG OUTFALL LOCATIONS PRIOR TO ONWARD DISCHARGE TO THE SURROUNDING STREAM AND RIVER NETWORK.



MITIGATION / DRAINAGE CONTROLS AVAILABLE FOR USE ACROSS THE SITE

MANAGEMENT TYPE	DESCRIPTION DRAINAGE CONTROL METHODS
AVOIDANCE CONTROLS	1) 50 M BUFFER TO NATURAL WATERCOURSES WHERE PRACTICABLE. 2) MINIMISE DISTURBANCE OF EXISTING FIELD AND MAIN DRAINS. 3) MINIMISE WORKING AREAS AND EXPOSED GROUND. 4) SCHEDULE WORKS HAVING REGARD TO WEATHER FORECASTS; SUSPEND OR SCALE BACK HIGH-RISK WORKS DURING HEAVY RAINFALL.
SOURCE CONTROLS:	1) UP-GRADIENT INTERCEPTOR DRAINS TO DIVERT CLEAN RUNOFF AROUND WORKS AND REDISTRIBUTE TO DOWNSTREAM FIELD DRAINS. 2) MINIMISE AND STABILISE EXPOSED GROUND AND TEMPORARY PEAT/SPOIL STOCKPILES. 3) SILT FENCING AND OTHER TEMPORARY SEDIMENT CONTROLS WHERE REQUIRED.
IN-LINE CONTROLS:	1) COLLECTOR DRAINS TO CONVEY CONSTRUCTION RUNOFF TO TREATMENT MEASURES. 2) TRANSVERSE DRAINS/PROPOSED INTERNAL ACCESS ROADS WHERE APPROPRIATE. 3) 6/40 MM NON-FRIABLE CRUSHED-ROCK CHECK DAMS AT TYPICALLY 25 M OR 50 M SPACING, DEPENDING ON GRADIENT. 4) SILT TRAPS AND SETTLEMENT PONDS. 5) CULVERTS TO MAINTAIN EXISTING DRAINAGE PATHWAYS.
WATER TREATMENT CONTROLS:	1) SILT TRAPS AND SETTLEMENT PONDS. 2) DEWATERING SILT BAGS WHERE APPROPRIATE. 3) VEGETATED BUFFER AREAS/SWALES WHERE APPROPRIATE. 4) SPECIALIST TREATMENT SYSTEMS (E.G. SILTBUSTER OR EQUIVALENT) WHERE REQUIRED. 5) EXISTING IPC LICENCE SETTLEMENT PONDS PROVIDE THE FINAL TREATMENT STAGE.
OUTFALL CONTROLS:	1) TREATED RUNOFF TO DISCHARGE TO EXISTING FIELD OR MAIN DRAINS. 2) DISCHARGES CONTROLLED TO PREVENT SCOUR AND EROSION. 3) NO DIRECT DISCHARGE OF UNTREATED CONSTRUCTION RUNOFF TO NATURAL WATERCOURSES. 4) EXISTING DRAINAGE PATHWAYS MAINTAINED WHERE REQUIRED. 5) PROPOSED PROJECT RUNOFF ULTIMATELY PASSES THROUGH EXISTING IPC LICENCE SETTLEMENT PONDS BEFORE DISCHARGE TO RECEIVING WATERS.

DRAWING LEGEND:

EXISTING DRAINAGE:
- WATERCOURSES
- WATERCOURSES 50M BUFFER
- STREAM FLOW DIRECTION
- EXISTING MAIN DRAINS
- REDIRECTED MAIN DRAINS
- EXISTING PIPED DRAINS
- EXISTING DISCHARGE DRAINS
- EXISTING BOUNDARY DRAINS
- FIELD DRAIN
- EXISTING SETTLEMENT PONDS
- EXISTING WC CROSSING/CULVERT

PROPOSED DRAINAGE:
- UPSTREAM INTERCEPTOR DRAIN
- DOWNSTREAM COLLECTOR DRAIN (DSCD)
- DSCD OR OVER THE EDGE (OTE)
- DIRECTION OF FLOW
- SILT FENCES
- DOUBLE SILT FENCES
- WF SETTLEMENT POND
- LEVEL SPREADER
- PROPOSED WC CROSSING/CULVERT
- INTERCEPTOR DITCH CULVERT
- COLLECTOR DITCH CULVERT
- WATERCOURSE DRAIN PROTECTION BERM
- O OVERLAND FLOW DISCHARGE
- TW TREATED WATER DISCHARGE
- SP NEW SETTLEMENT POND

- PLANNING APPLICATION BOUNDARY
- EXISTING GROUND SURFACE MINOR CONTOUR (1 M INTERVAL)
- TURBINE 220, TURBINE FOUNDATION AND SWEPT AREA
- TURBINE 200, TURBINE FOUNDATION AND SWEPT AREA
- TURBINE FOUNDATION
- CRANE PLATFORM
- BLADE SETDOWN AREAS
- UPGRADES TO EXISTING TRACKS
- PROPOSED INTERNAL ACCESS ROADS AND TURNING BAY
- PROPOSED INTERNAL 33kV CABLING
- PROPOSED GRID CONNECTION UNDERGROUND 220KV ELECTRICAL CABLING
- PROPOSED ON-SITE SUBSTATION
- PROPOSED OFF-SITE GIS SUBSTATION
- PROPOSED MET MAST
- PROPOSED RELAY MAST
- TEMPORARY CONSTRUCTION COMPOUNDS
- PROPOSED CAR PARKING
- PROPOSED PEAT AND SPOIL AREAS
- PROPOSED PASSING BAYS
- PROPOSED DEDICATED AMENITY TRACK
- PROPOSED DEDICATED AMENITY BOARD WALK
- SCRUB MOSAIC CREATION AREA
- POLLINATOR FORAGING HABITAT ENHANCEMENT AREA
- PEATLAND ENHANCEMENT AREA
- NATIVE TREE (WOODLAND AND SCRUB) PLANTING AREA
- MARSH FRITILLARY ENHANCEMENT AREA
- LODGE BOG ENHANCEMENT AREA

BASEMAP NOTE: THESE DRAWINGS USE 1:5,000 SCALE ORDNANCE SURVEY IRELAND (OSI) BASEMAPS AS AN UNDERLAY. FOR CLARITY, THE BASEMAP FEATURES ARE NOT INCLUDED IN THE DRAWING LEGEND AND ARE DISPLAYED IN LIGHT GREY WITH PARTIAL TRANSPARENCY TO DISTINGUISH THEM FROM THE PROPOSED DEVELOPMENT FEATURES.

DRAWING NOTES

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4. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE STATED.

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Revisions

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Title:
PROPOSED CONSTRUCTION PHASE AND OPERATIONAL PHASE DRAINAGE LAYOUT

Figure No: D131

Drawing No: P1511-0-1026-A1-D131-00C	
Sheet Size: A1	Project No.: P1511-0
Scale: 1:2,000 (A1)	Drawn By: GA
Date: 21/10/2026	Checked By: MG

POLLUTION PREVENTION NOTES:

1. SITE MANAGEMENT AND DRAINAGE PROPOSALS ARE INTENDED TO ENSURE PROTECTION OF SURFACE WATER AND GROUNDWATER AND TO MINIMISE THE RISK OF POLLUTION, SILTATION AND EROSION.
2. APPROPRIATE DRAINAGE AND POLLUTION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO, OR IN CONJUNCTION WITH, CONSTRUCTION WORKS AND SHALL BE MAINTAINED FOR THE DURATION OF THE WORKS.
3. SILTY WATER MAY ARISE FROM EXCAVATION DEWATERING, EROSION OF EXPOSED OR DISTURBED GROUND, TEMPORARY STOCKPILES, PLANT AND WHEEL WASHING, PROPOSED INTERNAL ACCESS ROADS AND DISTURBANCE OF EXISTING FIELD DRAINS AND DITCHES.

DISCHARGES

4. WATER CONTAINING ELEVATED SUSPENDED SEDIMENT SHALL NOT BE PUMPED OR DISCHARGED DIRECTLY TO ANY NATURAL WATERCOURSE. CONSTRUCTION RUNOFF AND EXCAVATION DEWATERING SHALL BE APPROPRIATELY TREATED PRIOR TO DISCHARGE TO THE EXISTING BOG DRAINAGE NETWORK.
5. NO EXCAVATED MATERIAL OR TEMPORARY STOCKPILES SHALL BE STORED WITHIN THE PRESCRIBED SURFACE WATER BUFFER ZONES.
6. RUNOFF FROM CONSTRUCTION AREAS SHALL BE COLLECTED IN COLLECTOR DRAINS AND DIRECTED TO APPROPRIATE TREATMENT MEASURES, INCLUDING SILT TRAPS, CHECK DAMS, SETTLEMENT PONDS, VEGETATED BUFFER AREAS AND/OR OTHER SUITABLE TREATMENT SYSTEMS, PRIOR TO DISCHARGE TO EXISTING FIELD DRAINS OR MAIN DRAINS.
7. CLEAN SURFACE WATER RUNOFF SHALL, WHERE PRACTICABLE, BE INTERCEPTED UP-GRADIENT OF CONSTRUCTION AREAS USING INTERCEPTOR DRAINS AND DIRECTED AROUND THE WORKS BEFORE BEING REDISTRIBUTED TO DOWNSTREAM FIELD DRAINS. EXISTING FIELD DRAINS MAY BE UTILISED FOR THIS PURPOSE WHERE APPROPRIATE.
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12. WHERE TEMPORARY DEWATERING OF EXCAVATIONS IS REQUIRED, PUMPED WATER SHALL BE TREATED USING APPROPRIATE MEASURES SUCH AS DEWATERING SILT BAGS, SETTLEMENT PONDS OR SPECIALIST TREATMENT SYSTEMS PRIOR TO DISCHARGE TO THE EXISTING DRAINAGE NETWORK.

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17. CHECK DAMS SHALL BE INSTALLED WITHIN COLLECTOR DRAINS WHERE APPROPRIATE TO REDUCE FLOW VELOCITIES AND PROMOTE SETTLEMENT OF SUSPENDED SEDIMENT. CHECK DAMS SHALL COMPRISE 4/40 MM NON-FRIABLE CRUSHED ROCK AND SHALL GENERALLY BE INSTALLED AT 25 M OR 50 M INTERVALS DEPENDING ON LOCAL GRADIENT.
18. SILT TRAPS, CHECK DAMS, SETTLEMENT PONDS AND OTHER DRAINAGE TREATMENT MEASURES SHALL BE REGULARLY INSPECTED AND MAINTAINED, PARTICULARLY DURING AND FOLLOWING PERIODS OF HEAVY RAINFALL.

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20. REFUELLING AREAS SHALL BE LOCATED AWAY FROM NATURAL WATERCOURSES AND DRAINAGE FEATURES. SPILL KITS AND DRIP TRAYS SHALL BE READILY AVAILABLE FOR USE AS REQUIRED.
21. FUEL AND OTHER POTENTIALLY POLLUTING SUBSTANCES SHALL BE STORED IN APPROPRIATELY BUNDED AREAS IN ACCORDANCE WITH THE CEMP.

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STOP - WORKS IN THE IMMEDIATE AREA WILL BE STOPPED AND THE SOURCE OF THE POLLUTION WILL BE IDENTIFIED.

CONTAIN - THE SOURCE OF THE POLLUTION WILL BE CONTAINED USING APPROPRIATE MEASURES TO PREVENT FURTHER RELEASE. WHERE NECESSARY, DRAINAGE PATHWAYS SHALL BE TEMPORARILY ISOLATED OR DIVERTED TO PREVENT CONTAMINATED WATER REACHING DOWNSTREAM RECEPTORS.

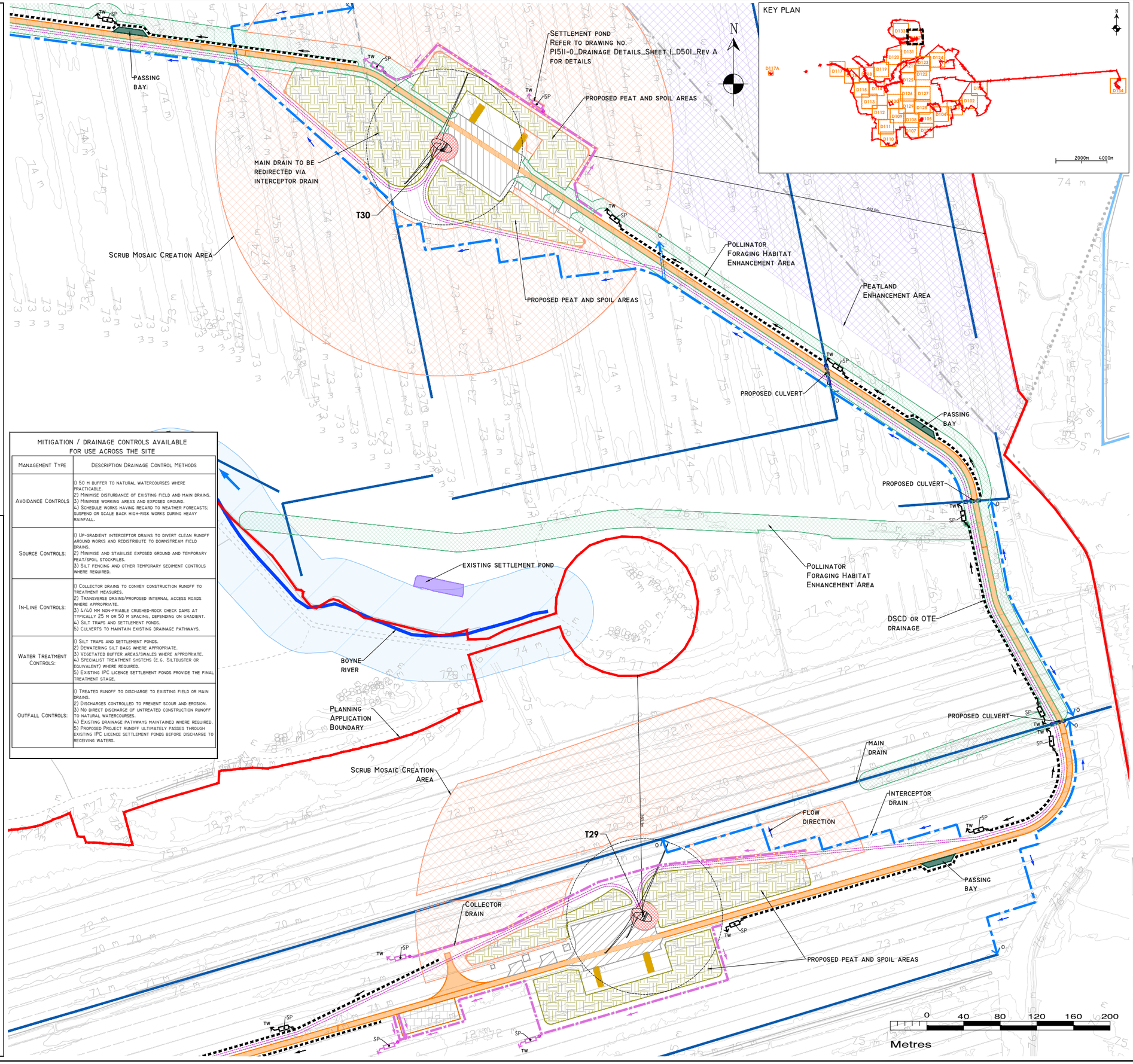
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2. SPARE SILT FENCING, STRAW BALES OR SIMILAR APPROVED POLLUTION CONTROL MATERIALS SHALL BE STORED ON SITE. SUSPENDED SEDIMENT IN RUNOFF SHALL BE VISUALLY MONITORED DURING CONSTRUCTION. WHERE ELEVATED SILT LEVELS ARE OBSERVED, ADDITIONAL TEMPORARY CONTROLS SUCH AS SILT FENCES, STRAW BALES, SILT TRAPS OR CHECK DAMS SHALL BE INSTALLED AS REQUIRED. A MOBILE WATER TREATMENT SYSTEM (E.G. SILTBUSTER OR EQUIVALENT) SHALL BE AVAILABLE ON SITE FOR USE WHERE REQUIRED.
3. THE PROPOSED DRAINAGE SYSTEM SHALL BE CONSTRUCTED PRIOR TO, OR IN CONJUNCTION WITH, THE ASSOCIATED PROPOSED INTERNAL ACCESS ROADS AND OTHER INFRASTRUCTURE. TEMPORARY DRAINAGE AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED WHERE REQUIRED DURING CONSTRUCTION TO PREVENT ELEVATED SUSPENDED SEDIMENT CONCENTRATIONS IN RUNOFF.
4. APPROPRIATE DRAINAGE AND POLLUTION PREVENTION MEASURES SHALL BE MAINTAINED AT ALL TIMES TO PREVENT THE CONVEYANCE OF SIGNIFICANT VOLUMES OF SEDIMENT TO RECEIVING WATERCOURSES. REFER ALSO TO POLLUTION PREVENTION NOTES.
5. INTERCEPTOR DRAINS SHALL BE INSTALLED UP-GRADIENT OF PROPOSED INFRASTRUCTURE, WHERE REQUIRED, TO INTERCEPT CLEAN SURFACE WATER RUNOFF AND MINIMISE THE VOLUME OF RUNOFF ENTERING CONSTRUCTION AREAS. INTERCEPTED CLEAN WATER SHALL BE DIRECTED AROUND THE WORKS AND REDISTRIBUTED TO DOWNSTREAM FIELD DRAINS. EXISTING FIELD DRAINS SHALL BE UTILISED FOR THIS PURPOSE WHERE PRACTICABLE.
6. COLLECTOR DRAINS SHALL BE INSTALLED DOWNSTREAM OF PROPOSED INTERNAL ACCESS ROADS AND OTHER CONSTRUCTION AREAS, WHERE REQUIRED, TO COLLECT RUNOFF WHERE SUSPENDED SEDIMENT MAY BECOME ENTRAINED. RUNOFF SHALL BE CONVEYED TO APPROPRIATE TREATMENT MEASURES, INCLUDING SILT TRAPS, CHECK DAMS, VEGETATED AREAS AND SETTLEMENT PONDS, PRIOR TO DISCHARGE TO THE EXISTING FIELD DRAIN OR MAIN DRAIN NETWORK.
7. TRANSVERSE DRAINS ('GRIPS') SHALL BE INSTALLED ON SECTIONS OF PROPOSED INTERNAL ACCESS ROADS, WHERE APPROPRIATE, TO INTERCEPT PROPOSED INTERNAL ACCESS ROAD RUNOFF AND DIVERT IT TO ADJACENT ROADSIDE COLLECTOR DRAINS. THE LOCATIONS OF TRANSVERSE DRAINS SHALL BE DETERMINED HAVING REGARD TO LOCAL GRADIENT AND DRAINAGE CONDITIONS.
8. DIRECT DISCHARGE OF UNTREATED CONSTRUCTION RUNOFF TO NATURAL WATERCOURSES SHALL NOT BE PERMITTED. TREATED RUNOFF SHALL BE DISCHARGED TO THE EXISTING BOG DRAINAGE NETWORK IN ACCORDANCE WITH THE DRAINAGE DESIGN.
9. BATTERS OF PROPOSED DRAINS SHALL GENERALLY HAVE SIDE SLOPES APPROPRIATE TO THEIR DEPTH AND LOCAL GROUND CONDITIONS AND SHALL BE LEFT TO NATURALLY RE-VEGETATE OR SHALL BE STABILISED USING SUITABLE LOCALLY SOURCED VEGETATION WHERE REQUIRED.
10. COLLECTOR DRAINS SHALL BE SHALLOW AND CONSTRUCTED WITH MODERATE GRADIENTS WHERE PRACTICABLE TO MINIMISE SCOUR. CHECK DAMS SHALL BE INSTALLED WHERE APPROPRIATE TO REDUCE FLOW VELOCITIES AND PROMOTE SETTLEMENT OF SUSPENDED SEDIMENT.
11. SETTLEMENT PONDS SHALL BE PROVIDED DOWNSTREAM OF PROPOSED INTERNAL ACCESS ROADS SECTIONS AND AT PROPOSED TURBINE/HARDSTAND LOCATIONS WHERE REQUIRED. SETTLEMENT PONDS SHALL PROVIDE TREATMENT AND TEMPORARY ATTENUATION OF RUNOFF PRIOR TO DISCHARGE TO THE EXISTING BOG DRAINAGE NETWORK. POND SIZING SHALL BE APPROPRIATE TO THE CONTRIBUTING CATCHMENT AREA. TYPICAL POND DETAILS ARE SHOWN ON DRAWING D501.
12. SILT FENCING OR OTHER APPROPRIATE SEDIMENT CONTROL MEASURES SHALL BE INSTALLED AROUND TEMPORARY PEAT/SPOIL STOCKPILES WHERE REQUIRED TO PREVENT SEDIMENT-LADEN RUNOFF ENTERING THE DRAINAGE NETWORK. TEMPORARY CONTROLS MAY BE REMOVED ONCE THE DISTURBED AREA HAS BEEN ADEQUATELY STABILISED.
13. TEMPORARY SILT FENCING SHALL BE INSTALLED WHERE REQUIRED BETWEEN CONSTRUCTION WORKS AND EXISTING DRAINAGE FEATURES OR NATURAL WATERCOURSES, PARTICULARLY WHERE WORKS OCCUR WITHIN THE PRESCRIBED SURFACE WATER BUFFER ZONES.
14. DRAIN SLOPES AND OTHER EXPOSED SURFACES SHALL BE PROTECTED FROM EROSION UNTIL ADEQUATELY STABILISED. SUITABLE STRIPPED VEGETATIVE MATERIAL, INCLUDING PEAT SOD/SCRAW WHERE AVAILABLE, MAY BE REUSED LOCALLY TO ASSIST STABILISATION AND RE-VEGETATION.
15. THE EXTENT AND DURATION OF EXPOSED GROUND SHALL BE MINIMISED AS FAR AS PRACTICABLE.
16. CHECK DAMS SHALL COMPRISE 4/40 MM NON-FRIABLE CRUSHED ROCK AND SHALL BE INSTALLED WITHIN COLLECTOR DRAINS WHERE APPROPRIATE. CHECK DAMS SHALL GENERALLY BE INSTALLED AT 25 M OR 50 M INTERVALS, DEPENDING ON THE LOCAL LONGITUDINAL GRADIENT AND SITE CONDITIONS.
17. CHECK DAMS, SILT TRAPS AND SETTLEMENT PONDS SHALL BE VISUALLY INSPECTED AND MAINTAINED AS PART OF THE CONSTRUCTION-PHASE DRAINAGE MAINTENANCE PROGRAMME, PARTICULARLY DURING AND FOLLOWING PERIODS OF HEAVY RAINFALL. ACCUMULATED SEDIMENT SHALL BE REMOVED AND DISPOSED OF APPROPRIATELY.
18. WHERE CHECK DAMS BECOME CLOGGED WITH SEDIMENT OR VEGETATION, THEY SHALL BE CLEANED OR REPLACED AS REQUIRED TO MAINTAIN THEIR HYDRAULIC AND SEDIMENT-CONTROL FUNCTION.
19. THE CONSTRUCTION-PHASE DRAINAGE INFRASTRUCTURE WILL GENERALLY FORM THE BASIS OF THE OPERATIONAL DRAINAGE SYSTEM. COLLECTOR DRAINS, SETTLEMENT PONDS AND OTHER TREATMENT/ATTENUATION FEATURES WILL BE RETAINED AND MAINTAINED WHERE REQUIRED. LOCAL SETTLEMENT PONDS MAY BE INFILLED OR DECOMMISSIONED FOLLOWING THE CONSTRUCTION PHASE, SUBJECT TO CONFIRMATION BY THE SITE ENGINEER.
20. WHERE TEMPORARY DEWATERING OF EXCAVATIONS IS REQUIRED, SILT BAGS AND/OR OTHER APPROPRIATE TREATMENT MEASURES SHALL BE USED AS NECESSARY. DISCHARGE FROM DEWATERING SILT BAGS SHALL BE DIRECTED TO SETTLEMENT PONDS OR OTHER SUITABLE TREATMENT MEASURES PRIOR TO DISCHARGE TO EXISTING FIELD DRAINS OR MAIN DRAINS.
21. FUEL AND OTHER POTENTIALLY POLLUTING SUBSTANCES SHALL BE STORED IN APPROPRIATELY BUNDED CONTAINMENT AREAS IN ACCORDANCE WITH THE CEMP AND POLLUTION PREVENTION NOTES.
22. CULVERTS SHALL BE PROVIDED WHERE PROPOSED INTERNAL ACCESS ROADS OR HARDSTANDS CROSS EXISTING MAIN BOG DRAINAGE PATHWAYS. CULVERTS SHALL BE APPROPRIATELY SIZED AND INSTALLED TO MAINTAIN EXISTING DRAINAGE CONNECTIVITY AND SHALL BE REGULARLY INSPECTED AND MAINTAINED.
23. ALL SURFACE WATER RUNOFF FROM THE PROPOSED PROJECT SHALL ULTIMATELY PASS THROUGH THE EXISTING IPC LICENCE SETTLEMENT PONDS AT THE BOG OUTFALL LOCATIONS PRIOR TO ONWARD DISCHARGE TO THE SURROUNDING STREAM AND RIVER NETWORK.

MITIGATION / DRAINAGE CONTROLS AVAILABLE FOR USE ACROSS THE SITE

MANAGEMENT TYPE	DESCRIPTION DRAINAGE CONTROL METHODS
AVOIDANCE CONTROLS	1) 50 M BUFFER TO NATURAL WATERCOURSES WHERE PRACTICABLE. 2) MINIMISE DISTURBANCE OF EXISTING FIELD AND MAIN DRAINS. 3) MINIMISE WORKING AREAS AND EXPOSED GROUND. 4) SCHEDULE WORKS HAVING REGARD TO WEATHER FORECASTS; SUSPEND OR SCALE BACK HIGH-RISK WORKS DURING HEAVY RAINFALL.
SOURCE CONTROLS:	1) UP-GRADIENT INTERCEPTOR DRAINS TO DIVERT CLEAN RUNOFF AROUND WORKS AND REDISTRIBUTE TO DOWNSTREAM FIELD DRAINS. 2) MINIMISE AND STABILISE EXPOSED GROUND AND TEMPORARY PEAT/SPOIL STOCKPILES. 3) SILT FENCING AND OTHER TEMPORARY SEDIMENT CONTROLS WHERE REQUIRED.
IN-LINE CONTROLS:	1) COLLECTOR DRAINS TO CONVEY CONSTRUCTION RUNOFF TO TREATMENT MEASURES. 2) TRANSVERSE DRAINS/PROPOSED INTERNAL ACCESS ROADS WHERE APPROPRIATE. 3) 4/40 MM NON-FRIABLE CRUSHED-ROCK CHECK DAMS AT TYPICALLY 25 M OR 50 M SPACING, DEPENDING ON GRADIENT. 4) SILT TRAPS AND SETTLEMENT PONDS. 5) CULVERTS TO MAINTAIN EXISTING DRAINAGE PATHWAYS.
WATER TREATMENT CONTROLS:	1) SILT TRAPS AND SETTLEMENT PONDS. 2) DEWATERING SILT BAGS WHERE APPROPRIATE. 3) VEGETATED BUFFER AREAS/SWALES WHERE APPROPRIATE. 4) SPECIALIST TREATMENT SYSTEMS (E.G. SILTBUSTER OR EQUIVALENT) WHERE REQUIRED. 5) EXISTING IPC LICENCE SETTLEMENT PONDS PROVIDE THE FINAL TREATMENT STAGE.
OUTFALL CONTROLS:	1) TREATED RUNOFF TO DISCHARGE TO EXISTING FIELD OR MAIN DRAINS. 2) DISCHARGES CONTROLLED TO PREVENT SCOUR AND EROSION. 3) NO DIRECT DISCHARGE OF UNTREATED CONSTRUCTION RUNOFF TO NATURAL WATERCOURSES. 4) EXISTING DRAINAGE PATHWAYS MAINTAINED WHERE REQUIRED. 5) PROPOSED PROJECT RUNOFF ULTIMATELY PASSES THROUGH EXISTING IPC LICENCE SETTLEMENT PONDS BEFORE DISCHARGE TO RECEIVING WATERS.



DRAWING LEGEND:

- WATERCOURSES
- WATERCOURSES 50M BUFFER
- STREAM FLOW DIRECTION
- EXISTING MAIN DRAINS
- REDIRECTED MAIN DRAINS
- EXISTING PIPED DRAINS
- EXISTING DISCHARGE DRAINS
- EXISTING BOUNDARY DRAINS
- FIELD DRAIN
- EXISTING SETTLEMENT PONDS
- EXISTING WC CROSSING/CULVERT

(EXISTING DRAINAGE)

- UPSTREAM INTERCEPTOR DRAIN
- DOWNSTREAM COLLECTOR DRAIN (DSCD)
- DSCD OR OVER THE EDGE (OTE)
- DIRECTION OF FLOW
- SILT FENCES
- DOUBLE SILT FENCES
- WF SETTLEMENT POND
- LEVEL SPREADER
- PROPOSED WC CROSSING/CULVERT
- INTERCEPTOR DITCH CULVERT
- COLLECTOR DITCH CULVERT
- WATERCOURSE DRAIN PROTECTION BERM
- O OVERLAND FLOW DISCHARGE
- TW TREATED WATER DISCHARGE
- SP NEW SETTLEMENT POND

(PROPOSED DRAINAGE)

- PLANNING APPLICATION BOUNDARY
- EXISTING GROUND SURFACE MINOR CONTOUR (1 M INTERVAL)
- TURBINE 220, TURBINE FOUNDATION AND SWEPT AREA
- TURBINE 200, TURBINE FOUNDATION AND SWEPT AREA
- TURBINE FOUNDATION
- CRANE PLATFORM
- BLADE SETDOWN AREAS
- UPGRADES TO EXISTING TRACKS
- PROPOSED INTERNAL ACCESS ROADS AND TURNING BAY
- PROPOSED INTERNAL 33kV CABLING
- PROPOSED GRID CONNECTION UNDERGROUND 220KV ELECTRICAL CABLING
- PROPOSED ON-SITE SUBSTATION
- PROPOSED OFF-SITE GIS SUBSTATION
- PROPOSED MET MAST
- PROPOSED RELAY MAST
- TEMPORARY CONSTRUCTION COMPOUNDS
- PROPOSED CAR PARKING
- PROPOSED PEAT AND SPOIL AREAS
- PROPOSED PASSING BAYS
- PROPOSED DEDICATED AMENITY TRACK
- PROPOSED DEDICATED AMENITY BOARD WALK
- SCRUB MOSAIC CREATION AREA
- POLLINATOR FORAGING HABITAT ENHANCEMENT AREA
- PEATLAND ENHANCEMENT AREA
- NATIVE TREE (WOODLAND AND SCRUB) PLANTING AREA
- MARSH FRITILLARY ENHANCEMENT AREA
- LOUGE BOG ENHANCEMENT AREA

BASEMAP NOTE: THESE DRAWINGS USE 1:5,000 SCALE ORDNANCE SURVEY IRELAND (OSI) BASEMAPS AS AN UNDERLAY. FOR CLARITY, THE BASEMAP FEATURES ARE NOT INCLUDED IN THE DRAWING LEGEND AND ARE DISPLAYED IN LIGHT GREY WITH PARTIAL TRANSPARENCY TO DISTINGUISH THEM FROM THE PROPOSED DEVELOPMENT FEATURES.

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Revisions

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Job: BALLYDERMOT WF, CO. OFFALY/CO. KILDARE

Title: PROPOSED CONSTRUCTION PHASE AND OPERATIONAL PHASE DRAINAGE LAYOUT

Figure No: DI32

Drawing No: P1511-0-1026-A1-D132-00C	
Sheet Size: A1	Project No.: P1511-0
Scale: 1:2,000 (A1)	Drawn By: GA
Date: 21/10/2026	Checked By: MG

POLLUTION PREVENTION NOTES:

1. SITE MANAGEMENT AND DRAINAGE PROPOSALS ARE INTENDED TO ENSURE PROTECTION OF SURFACE WATER AND GROUNDWATER AND TO MINIMISE THE RISK OF POLLUTION, SILTATION AND EROSION.
2. APPROPRIATE DRAINAGE AND POLLUTION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO, OR IN CONJUNCTION WITH, CONSTRUCTION WORKS AND SHALL BE MAINTAINED FOR THE DURATION OF THE WORKS.
3. SILTY WATER MAY ARISE FROM EXCAVATION DEWATERING, EROSION OF EXPOSED OR DISTURBED GROUND, TEMPORARY STOCKPILES, PLANT AND WHEEL WASHING, PROPOSED INTERNAL ACCESS ROADS AND DISTURBANCE OF EXISTING FIELD DRAINS AND DITCHES.

DISCHARGES

4. WATER CONTAINING ELEVATED SUSPENDED SEDIMENT SHALL NOT BE PUMPED OR DISCHARGED DIRECTLY TO ANY NATURAL WATERCOURSE. CONSTRUCTION RUNOFF AND EXCAVATION DEWATERING SHALL BE APPROPRIATELY TREATED PRIOR TO DISCHARGE TO THE EXISTING BOG DRAINAGE NETWORK.
5. NO EXCAVATED MATERIAL OR TEMPORARY STOCKPILES SHALL BE STORED WITHIN THE PRESCRIBED SURFACE WATER BUFFER ZONES.
6. RUNOFF FROM CONSTRUCTION AREAS SHALL BE COLLECTED IN COLLECTOR DRAINS AND DIRECTED TO APPROPRIATE TREATMENT MEASURES, INCLUDING SILT TRAPS, CHECK DAMS, SETTLEMENT PONDS, VEGETATED BUFFER AREAS AND/OR OTHER SUITABLE TREATMENT SYSTEMS, PRIOR TO DISCHARGE TO EXISTING FIELD DRAINS OR MAIN DRAINS.
7. CLEAN SURFACE WATER RUNOFF SHALL, WHERE PRACTICABLE, BE INTERCEPTED UP-GRADIENT OF CONSTRUCTION AREAS USING INTERCEPTOR DRAINS AND DIRECTED AROUND THE WORKS BEFORE BEING REDISTRIBUTED TO DOWNSTREAM FIELD DRAINS. EXISTING FIELD DRAINS MAY BE UTILISED FOR THIS PURPOSE WHERE APPROPRIATE.
8. PUMPING OF CLEAN WATER FROM EXCAVATIONS, OR OVER-PUMPING OF DRAINS, DITCHES OR WATERCOURSES, SHALL BE UNDERTAKEN IN A MANNER WHICH DOES NOT CAUSE SCOUR OR EROSION AT THE POINT OF DISCHARGE. FLOW VELOCITIES SHALL BE CONTROLLED USING APPROPRIATE MEASURES SUCH AS SPLASH PLATES OR OTHER SUITABLE DISCHARGE CONTROLS.
9. EXISTING DRAINS AND DITCHES SHALL BE RETAINED AND PROTECTED WHERE PRACTICABLE. VEGETATION SHALL NOT BE REMOVED FROM EXISTING DRAINS UNLESS REQUIRED TO FACILITATE THE WORKS.
10. ALL SURFACE WATER RUNOFF FROM THE PROPOSED PROJECT SHALL ULTIMATELY PASS THROUGH THE EXISTING IPC LICENCE SETTLEMENT PONDS AT THE BOG OUTFALL LOCATIONS PRIOR TO DISCHARGE TO THE RECEIVING STREAM AND RIVER NETWORK.

EXCAVATIONS

11. WHERE EXCAVATIONS ARE PROPOSED, INTERCEPTOR/CUT-OFF DRAINS SHALL BE INSTALLED WHERE REQUIRED TO MINIMISE THE VOLUME OF CLEAN SURFACE WATER ENTERING THE EXCAVATION. THIS SHALL INCLUDE TURBINE BASE EXCAVATIONS WHERE APPROPRIATE.
12. WHERE TEMPORARY DEWATERING OF EXCAVATIONS IS REQUIRED, PUMPED WATER SHALL BE TREATED USING APPROPRIATE MEASURES SUCH AS DEWATERING SILT BAGS, SETTLEMENT PONDS OR SPECIALIST TREATMENT SYSTEMS PRIOR TO DISCHARGE TO THE EXISTING DRAINAGE NETWORK.

EXPOSED GROUND & STOCKPILES

13. THE EXTENT OF EXPOSED GROUND AND THE VOLUME AND DURATION OF TEMPORARY STOCKPILES SHALL BE MINIMISED AS FAR AS PRACTICABLE.
14. CONSTRUCTION ACTIVITIES INVOLVING SIGNIFICANT AREAS OF EXPOSED PEAT OR SOIL SHALL BE SCALED BACK OR SUSPENDED DURING PERIODS OF HEAVY RAINFALL OR WHERE HEAVY RAINFALL IS FORECAST.

PROPOSED INTERNAL ACCESS ROADS

15. COLLECTOR DRAINS SHALL BE PROVIDED ALONGSIDE PROPOSED INTERNAL ACCESS ROADS WHERE REQUIRED TO COLLECT CONSTRUCTION RUNOFF AND CONVEY IT TO APPROPRIATE TREATMENT MEASURES.
16. ON STEEPER SECTIONS OF PROPOSED INTERNAL ACCESS ROAD, TRANSVERSE DRAINS OR GRIPS SHALL BE INSTALLED WHERE APPROPRIATE TO INTERCEPT ROAD RUNOFF AND DIVERT IT TO ADJACENT ROADSIDE COLLECTOR DRAINS.
17. CHECK DAMS SHALL BE INSTALLED WITHIN COLLECTOR DRAINS WHERE APPROPRIATE TO REDUCE FLOW VELOCITIES AND PROMOTE SETTLEMENT OF SUSPENDED SEDIMENT. CHECK DAMS SHALL COMPRISE 4/40 MM NON-FRIABLE CRUSHED ROCK AND SHALL GENERALLY BE INSTALLED AT 25 M OR 50 M INTERVALS DEPENDING ON LOCAL GRADIENT.
18. SILT TRAPS, CHECK DAMS, SETTLEMENT PONDS AND OTHER DRAINAGE TREATMENT MEASURES SHALL BE REGULARLY INSPECTED AND MAINTAINED, PARTICULARLY DURING AND FOLLOWING PERIODS OF HEAVY RAINFALL.

REFUELLING

19. REFUELLING AND MAINTENANCE OF MOBILE PLANT SHALL, WHERE PRACTICABLE, BE UNDERTAKEN OFF-SITE. WHERE REQUIRED ON-SITE, REFUELLING SHALL ONLY BE UNDERTAKEN WITHIN DESIGNATED AREAS AND IN ACCORDANCE WITH THE CEMP AND APPROPRIATE POLLUTION PREVENTION PROCEDURES.
20. REFUELLING AREAS SHALL BE LOCATED AWAY FROM NATURAL WATERCOURSES AND DRAINAGE FEATURES. SPILL KITS AND DRIP TRAYS SHALL BE READILY AVAILABLE FOR USE AS REQUIRED.
21. FUEL AND OTHER POTENTIALLY POLLUTING SUBSTANCES SHALL BE STORED IN APPROPRIATELY BUNDED AREAS IN ACCORDANCE WITH THE CEMP.

CONCRETE

22. CONCRETE WORKS SHALL BE MANAGED TO PREVENT THE DISCHARGE OF CEMENTITIOUS MATERIAL OR CONCRETE-CONTAMINATED WATER TO THE SURFACE WATER DRAINAGE SYSTEM, GROUNDWATER OR NATURAL WATERCOURSES.
23. CONCRETE WASH WATER AND WASTE CONCRETE SHALL BE CONTAINED AND MANAGED IN ACCORDANCE WITH THE CEMP AND SHALL NOT BE DISCHARGED TO THE SITE DRAINAGE SYSTEM OR NATURAL WATERCOURSES.

IF WATER POLLUTION IS IDENTIFIED THE FOLLOWING ACTIONS WILL BE TAKEN:

STOP - WORKS IN THE IMMEDIATE AREA WILL BE STOPPED AND THE SOURCE OF THE POLLUTION WILL BE IDENTIFIED.

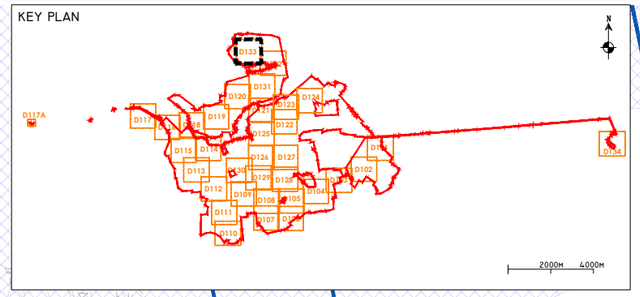
CONTAIN - THE SOURCE OF THE POLLUTION WILL BE CONTAINED USING APPROPRIATE MEASURES TO PREVENT FURTHER RELEASE. WHERE NECESSARY, DRAINAGE PATHWAYS SHALL BE TEMPORARILY ISOLATED OR DIVERTED TO PREVENT CONTAMINATED WATER REACHING DOWNSTREAM RECEPTORS.

NOTIFY - THE SITE MANAGER AND ENVIRONMENTAL CLERK OF WORKS SHALL BE NOTIFIED IMMEDIATELY. RELEVANT STATUTORY AUTHORITIES AND OTHER BODIES SHALL BE NOTIFIED WHERE REQUIRED IN ACCORDANCE WITH THE CEMP AND THE PROJECT EMERGENCY RESPONSE PROCEDURE.

DRAINAGE NOTES:

1. ROADWAY SURFACING DESIGN AND CONSTRUCTION SHALL BE TO THE ENGINEER'S SPECIFICATION.
2. SPARE SILT FENCING, STRAW BALES OR SIMILAR APPROVED POLLUTION CONTROL MATERIALS SHALL BE STORED ON SITE. SUSPENDED SEDIMENT IN RUNOFF SHALL BE VISUALLY MONITORED DURING CONSTRUCTION. WHERE ELEVATED SILT LEVELS ARE OBSERVED, ADDITIONAL TEMPORARY CONTROLS SUCH AS SILT FENCES, STRAW BALES, SILT TRAPS OR CHECK DAMS SHALL BE INSTALLED AS REQUIRED. A MOBILE WATER TREATMENT SYSTEM (E.G. SILTBUSTER OR EQUIVALENT) SHALL BE AVAILABLE ON SITE FOR USE WHERE REQUIRED.
3. THE PROPOSED DRAINAGE SYSTEM SHALL BE CONSTRUCTED PRIOR TO, OR IN CONJUNCTION WITH, THE ASSOCIATED PROPOSED INTERNAL ACCESS ROADS AND OTHER INFRASTRUCTURE. TEMPORARY DRAINAGE AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED WHERE REQUIRED DURING CONSTRUCTION TO PREVENT ELEVATED SUSPENDED SEDIMENT CONCENTRATIONS IN RUNOFF.
4. APPROPRIATE DRAINAGE AND POLLUTION PREVENTION MEASURES SHALL BE MAINTAINED AT ALL TIMES TO PREVENT THE CONVEYANCE OF SIGNIFICANT VOLUMES OF SEDIMENT TO RECEIVING WATERCOURSES. REFER ALSO TO POLLUTION PREVENTION NOTES.
5. INTERCEPTOR DRAINS SHALL BE INSTALLED UP-GRADIENT OF PROPOSED INFRASTRUCTURE, WHERE REQUIRED, TO INTERCEPT CLEAN SURFACE WATER RUNOFF AND MINIMISE THE VOLUME OF RUNOFF ENTERING CONSTRUCTION AREAS. INTERCEPTED CLEAN WATER SHALL BE DIRECTED AROUND THE WORKS AND REDISTRIBUTED TO DOWNSTREAM FIELD DRAINS. EXISTING FIELD DRAINS SHALL BE UTILISED FOR THIS PURPOSE WHERE PRACTICABLE.
6. COLLECTOR DRAINS SHALL BE INSTALLED DOWNSTREAM OF PROPOSED INTERNAL ACCESS ROADS AND OTHER CONSTRUCTION AREAS, WHERE REQUIRED, TO COLLECT RUNOFF WHERE SUSPENDED SEDIMENT MAY BECOME ENTRAINED. RUNOFF SHALL BE CONVEYED TO APPROPRIATE TREATMENT MEASURES, INCLUDING SILT TRAPS, CHECK DAMS, VEGETATED AREAS AND SETTLEMENT PONDS, PRIOR TO DISCHARGE TO THE EXISTING FIELD DRAIN OR MAIN DRAIN NETWORK.
7. TRANSVERSE DRAINS ('GRIPS') SHALL BE INSTALLED ON SECTIONS OF PROPOSED INTERNAL ACCESS ROADS, WHERE APPROPRIATE, TO INTERCEPT PROPOSED INTERNAL ACCESS ROAD RUNOFF AND DIVERT IT TO ADJACENT ROADSIDE COLLECTOR DRAINS. THE LOCATIONS OF TRANSVERSE DRAINS SHALL BE DETERMINED HAVING REGARD TO LOCAL GRADIENT AND DRAINAGE CONDITIONS.
8. DIRECT DISCHARGE OF UNTREATED CONSTRUCTION RUNOFF TO NATURAL WATERCOURSES SHALL NOT BE PERMITTED. TREATED RUNOFF SHALL BE DISCHARGED TO THE EXISTING BOG DRAINAGE NETWORK IN ACCORDANCE WITH THE DRAINAGE DESIGN.
9. BATTERS OF PROPOSED DRAINS SHALL GENERALLY HAVE SIDE SLOPES APPROPRIATE TO THEIR DEPTH AND LOCAL GROUND CONDITIONS AND SHALL BE LEFT TO NATURALLY RE-VEGETATE OR SHALL BE STABILISED USING SUITABLE LOCALLY SOURCED VEGETATION WHERE REQUIRED.
10. COLLECTOR DRAINS SHALL BE SHALLOW AND CONSTRUCTED WITH MODERATE GRADIENTS WHERE PRACTICABLE TO MINIMISE SCOUR. CHECK DAMS SHALL BE INSTALLED WHERE APPROPRIATE TO REDUCE FLOW VELOCITIES AND PROMOTE SETTLEMENT OF SUSPENDED SEDIMENT.
11. SETTLEMENT PONDS SHALL BE PROVIDED DOWNSTREAM OF PROPOSED INTERNAL ACCESS ROADS SECTIONS AND AT PROPOSED TURBINE/HARDSTAND LOCATIONS WHERE REQUIRED. SETTLEMENT PONDS SHALL PROVIDE TREATMENT AND TEMPORARY ATTENUATION OF RUNOFF PRIOR TO DISCHARGE TO THE EXISTING BOG DRAINAGE NETWORK. POND SIZING SHALL BE APPROPRIATE TO THE CONTRIBUTING CATCHMENT AREA. TYPICAL POND DETAILS ARE SHOWN ON DRAWING D501.
12. SILT FENCING OR OTHER APPROPRIATE SEDIMENT CONTROL MEASURES SHALL BE INSTALLED AROUND TEMPORARY PEAT/SPOIL STOCKPILES WHERE REQUIRED TO PREVENT SEDIMENT-LADEN RUNOFF ENTERING THE DRAINAGE NETWORK. TEMPORARY CONTROLS MAY BE REMOVED ONCE THE DISTURBED AREA HAS BEEN ADEQUATELY STABILISED.
13. TEMPORARY SILT FENCING SHALL BE INSTALLED WHERE REQUIRED BETWEEN CONSTRUCTION WORKS AND EXISTING DRAINAGE FEATURES OR NATURAL WATERCOURSES, PARTICULARLY WHERE WORKS OCCUR WITHIN THE PRESCRIBED SURFACE WATER BUFFER ZONES.
14. DRAIN SLOPES AND OTHER EXPOSED SURFACES SHALL BE PROTECTED FROM EROSION UNTIL ADEQUATELY STABILISED. SUITABLE STRIPPED VEGETATIVE MATERIAL, INCLUDING PEAT SOD/SCRAW WHERE AVAILABLE, MAY BE REUSED LOCALLY TO ASSIST STABILISATION AND RE-VEGETATION.
15. THE EXTENT AND DURATION OF EXPOSED GROUND SHALL BE MINIMISED AS FAR AS PRACTICABLE.
16. CHECK DAMS SHALL COMPRISE 4/40 MM NON-FRIABLE CRUSHED ROCK AND SHALL BE INSTALLED WITHIN COLLECTOR DRAINS WHERE APPROPRIATE. CHECK DAMS SHALL GENERALLY BE INSTALLED AT 25 M OR 50 M INTERVALS, DEPENDING ON THE LOCAL LONGITUDINAL GRADIENT AND SITE CONDITIONS.
17. CHECK DAMS, SILT TRAPS AND SETTLEMENT PONDS SHALL BE VISUALLY INSPECTED AND MAINTAINED AS PART OF THE CONSTRUCTION-PHASE DRAINAGE MAINTENANCE PROGRAMME, PARTICULARLY DURING AND FOLLOWING PERIODS OF HEAVY RAINFALL. ACCUMULATED SEDIMENT SHALL BE REMOVED AND DISPOSED OF APPROPRIATELY.
18. WHERE CHECK DAMS BECOME CLOGGED WITH SEDIMENT OR VEGETATION, THEY SHALL BE CLEANED OR REPLACED AS REQUIRED TO MAINTAIN THEIR HYDRAULIC AND SEDIMENT-CONTROL FUNCTION.
19. THE CONSTRUCTION-PHASE DRAINAGE INFRASTRUCTURE WILL GENERALLY FORM THE BASIS OF THE OPERATIONAL DRAINAGE SYSTEM. COLLECTOR DRAINS, SETTLEMENT PONDS AND OTHER TREATMENT/ATTENUATION FEATURES WILL BE RETAINED AND MAINTAINED WHERE REQUIRED. LOCAL SETTLEMENT PONDS MAY BE INFILLED OR DECOMMISSIONED FOLLOWING THE CONSTRUCTION PHASE, SUBJECT TO CONFIRMATION BY THE SITE ENGINEER.
20. WHERE TEMPORARY DEWATERING OF EXCAVATIONS IS REQUIRED, SILT BAGS AND/OR OTHER APPROPRIATE TREATMENT MEASURES SHALL BE USED AS NECESSARY. DISCHARGE FROM DEWATERING SILT BAGS SHALL BE DIRECTED TO SETTLEMENT PONDS OR OTHER SUITABLE TREATMENT MEASURES PRIOR TO DISCHARGE TO EXISTING FIELD DRAINS OR MAIN DRAINS.
21. FUEL AND OTHER POTENTIALLY POLLUTING SUBSTANCES SHALL BE STORED IN APPROPRIATELY BUNDED CONTAINMENT AREAS IN ACCORDANCE WITH THE CEMP AND POLLUTION PREVENTION NOTES.
22. CULVERTS SHALL BE PROVIDED WHERE PROPOSED INTERNAL ACCESS ROADS OR HARDSTANDS CROSS EXISTING MAIN BOG DRAINAGE PATHWAYS. CULVERTS SHALL BE APPROPRIATELY SIZED AND INSTALLED TO MAINTAIN EXISTING DRAINAGE CONNECTIVITY AND SHALL BE REGULARLY INSPECTED AND MAINTAINED.
23. ALL SURFACE WATER RUNOFF FROM THE PROPOSED PROJECT SHALL ULTIMATELY PASS THROUGH THE EXISTING IPC LICENCE SETTLEMENT PONDS AT THE BOG OUTFALL LOCATIONS PRIOR TO ONWARD DISCHARGE TO THE SURROUNDING STREAM AND RIVER NETWORK.

KEY PLAN



MITIGATION / DRAINAGE CONTROLS AVAILABLE FOR USE ACROSS THE SITE

MANAGEMENT TYPE	DESCRIPTION DRAINAGE CONTROL METHODS
AVOIDANCE CONTROLS	1) 50 M BUFFER TO NATURAL WATERCOURSES WHERE PRACTICABLE. 2) MINIMISE DISTURBANCE OF EXISTING FIELD AND MAIN DRAINS. 3) MINIMISE WORKING AREAS AND EXPOSED GROUND. 4) SCHEDULE WORKS HAVING REGARD TO WEATHER FORECASTS; SUSPEND OR SCALE BACK HIGH-RISK WORKS DURING HEAVY RAINFALL.
SOURCE CONTROLS:	1) UP-GRADIENT INTERCEPTOR DRAINS TO DIVERT CLEAN RUNOFF AROUND WORKS AND REDISTRIBUTE TO DOWNSTREAM FIELD DRAINS. 2) MINIMISE AND STABILISE EXPOSED GROUND AND TEMPORARY PEAT/SPOIL STOCKPILES. 3) SILT FENCING AND OTHER TEMPORARY SEDIMENT CONTROLS WHERE REQUIRED.
IN-LINE CONTROLS:	1) COLLECTOR DRAINS TO CONVEY CONSTRUCTION RUNOFF TO TREATMENT MEASURES. 2) TRANSVERSE DRAINS/PROPOSED INTERNAL ACCESS ROADS WHERE APPROPRIATE. 3) 4/40 MM NON-FRIABLE CRUSHED-ROCK CHECK DAMS AT TYPICALLY 25 M OR 50 M SPACING, DEPENDING ON GRADIENT. 4) SILT TRAPS AND SETTLEMENT PONDS. 5) CULVERTS TO MAINTAIN EXISTING DRAINAGE PATHWAYS.
WATER TREATMENT CONTROLS:	1) SILT TRAPS AND SETTLEMENT PONDS. 2) DEWATERING SILT BAGS WHERE APPROPRIATE. 3) VEGETATED BUFFER AREAS/SWALES WHERE APPROPRIATE. 4) SPECIALIST TREATMENT SYSTEMS (E.G. SILTBUSTER OR EQUIVALENT) WHERE REQUIRED. 5) EXISTING IPC LICENCE SETTLEMENT PONDS PROVIDE THE FINAL TREATMENT STAGE.
OUTFALL CONTROLS:	1) TREATED RUNOFF TO DISCHARGE TO EXISTING FIELD OR MAIN DRAINS. 2) DISCHARGES CONTROLLED TO PREVENT SCOUR AND EROSION. 3) NO DIRECT DISCHARGE OF UNTREATED CONSTRUCTION RUNOFF TO NATURAL WATERCOURSES. 4) EXISTING DRAINAGE PATHWAYS MAINTAINED WHERE REQUIRED. 5) PROPOSED PROJECT RUNOFF ULTIMATELY PASSES THROUGH EXISTING IPC LICENCE SETTLEMENT PONDS BEFORE DISCHARGE TO RECEIVING WATERS.

DRAWING LEGEND:

EXISTING DRAINAGE
- WATERCOURSES
- WATERCOURSES 50M BUFFER
- STREAM FLOW DIRECTION
- EXISTING MAIN DRAINS
- REDIRECTED MAIN DRAINS
- EXISTING PIPED DRAINS
- EXISTING DISCHARGE DRAINS
- EXISTING BOUNDARY DRAINS
- FIELD DRAIN
- EXISTING SETTLEMENT PONDS
- EXISTING WC CROSSING/CULVERT

PROPOSED DRAINAGE
- UPSTREAM INTERCEPTOR DRAIN
- DOWNSTREAM COLLECTOR DRAIN (DSCD)
- DSCD OR OVER THE EDGE (OTE)
- DIRECTION OF FLOW
- SILT FENCES
- DOUBLE SILT FENCES
- WF SETTLEMENT POND
- LEVEL SPREADER
- PROPOSED WC CROSSING/CULVERT
- INTERCEPTOR DITCH CULVERT
- COLLECTOR DITCH CULVERT
- WATERCOURSE DRAIN PROTECTION BERM
- O OVERLAND FLOW DISCHARGE
- TW TREATED WATER DISCHARGE
- SP NEW SETTLEMENT POND

- PLANNING APPLICATION BOUNDARY
- EXISTING GROUND SURFACE MINOR CONTOUR (1 M INTERVAL)
- TURBINE 220, TURBINE FOUNDATION AND SWEPT AREA
- TURBINE 200, TURBINE FOUNDATION AND SWEPT AREA
- TURBINE FOUNDATION
- CRANE PLATFORM
- BLADE SETDOWN AREAS
- UPGRADES TO EXISTING TRACKS
- PROPOSED INTERNAL ACCESS ROADS AND TURNING BAY
- PROPOSED INTERNAL 33kV CABLING
- PROPOSED GRID CONNECTION UNDERGROUND 220KV ELECTRICAL CABLING
- PROPOSED ON-SITE SUBSTATION
- PROPOSED OFF-SITE GIS SUBSTATION
- PROPOSED MET MAST
- PROPOSED RELAY MAST
- TEMPORARY CONSTRUCTION COMPOUNDS
- PROPOSED CAR PARKING
- PROPOSED PEAT AND SPOIL AREAS
- PROPOSED PASSING BAYS
- PROPOSED DEDICATED AMENITY TRACK
- PROPOSED DEDICATED AMENITY BOARD WALK
- SCRUB MOSAIC CREATION AREA
- POLLINATOR FORAGING HABITAT ENHANCEMENT AREA
- PEATLAND ENHANCEMENT AREA
- NATIVE TREE (WOODLAND AND SCRUB) PLANTING AREA
- MARSH FRITILLARY ENHANCEMENT AREA
- LODGE BOG ENHANCEMENT AREA

BASEMAP NOTE: THESE DRAWINGS USE 1:5,000 SCALE ORDNANCE SURVEY IRELAND (OSI) BASEMAPS AS AN UNDERLAY. FOR CLARITY, THE BASEMAP FEATURES ARE NOT INCLUDED IN THE DRAWING LEGEND AND ARE DISPLAYED IN LIGHT GREY WITH PARTIAL TRANSPARENCY TO DISTINGUISH THEM FROM THE PROPOSED DEVELOPMENT FEATURES.

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Title:
PROPOSED CONSTRUCTION PHASE AND OPERATIONAL PHASE DRAINAGE LAYOUT

Figure No: DI33

Drawing No: P1511-0-1026-A1-D133-00C	
Sheet Size: A1	Project No.: P1511-0
Scale: 1:2,000 (A1)	Drawn By: GA
Date: 21/10/2026	Checked By: MG

POLLUTION PREVENTION NOTES:

1. Site management and drainage proposals are intended to ensure protection of surface water and groundwater and to minimise the risk of pollution, siltation and erosion.
2. Appropriate drainage and pollution control measures shall be installed prior to, or in conjunction with, construction works and shall be maintained for the duration of the works.
3. Silty water may arise from excavation dewatering, erosion of exposed or disturbed ground, temporary stockpiles, plant and wheel washing, proposed internal access roads and disturbance of existing field drains and ditches.

Discharges

4. Water containing elevated suspended sediment shall not be pumped or discharged directly to any natural watercourse. Construction runoff and excavation dewatering shall be appropriately treated prior to discharge to the existing bog drainage network.
5. No excavated material or temporary stockpiles shall be stored within the prescribed surface water buffer zones.
6. Runoff from construction areas shall be collected in collector drains and directed to appropriate treatment measures, including silt traps, check dams, settlement ponds, vegetated buffer areas and/or other suitable treatment systems, prior to discharge to existing field drains or main drains.
7. Clean surface water runoff shall, where practicable, be intercepted up-gradient of construction areas using interceptor drains and directed around the works before being redistributed to downstream field drains. Existing field drains may be utilised for this purpose where appropriate.
8. Pumping of clean water from excavations, or over-pumping of drains, ditches or watercourses, shall be undertaken in a manner which does not cause scour or erosion at the point of discharge. Flow velocities shall be controlled using appropriate measures such as splash plates or other suitable discharge controls.
9. Existing drains and ditches shall be retained and protected where practicable. Vegetation shall not be removed from existing drains unless required to facilitate the works.
10. All surface water runoff from the Proposed Project shall ultimately pass through the existing IPC licence settlement ponds at the bog outfall locations prior to discharge to the receiving stream and river network.

Excavations

11. Where excavations are proposed, interceptor/cut-off drains shall be installed where required to minimise the volume of clean surface water entering the excavation. This shall include turbine base excavations where appropriate.
12. Where temporary dewatering of excavations is required, pumped water shall be treated using appropriate measures such as dewatering silt bags, settlement ponds or specialist treatment systems prior to discharge to the existing drainage network.

Exposed Ground & Stockpiles

13. The extent of exposed ground and the volume and duration of temporary stockpiles shall be minimised as far as practicable.
14. Construction activities involving significant areas of exposed peat or soil shall be scaled back or suspended during periods of heavy rainfall or where heavy rainfall is forecast.

Proposed Internal Access Roads

15. Collector drains shall be provided alongside proposed internal access roads where required to collect construction runoff and convey it to appropriate treatment measures.
16. On steeper sections of proposed internal access road, transverse drains or grips shall be installed where appropriate to intercept road runoff and divert it to adjacent roadside collector drains.
17. Check dams shall be installed within collector drains where appropriate to reduce flow velocities and promote settlement of suspended sediment. Check dams shall comprise 4/40 mm non-friable crushed rock and shall generally be installed at 25 m or 50 m intervals depending on local gradient.
18. Silt traps, check dams, settlement ponds and other drainage treatment measures shall be regularly inspected and maintained, particularly during and following periods of heavy rainfall.

Refuelling

19. Refuelling and maintenance of mobile plant shall, where practicable, be undertaken off-site. Where required on-site, refuelling shall only be undertaken within designated areas and in accordance with the CEMP and appropriate pollution prevention procedures.
20. Refuelling areas shall be located away from natural watercourses and drainage features. Spill kits and drip trays shall be readily available for use as required.
21. Fuel and other potentially polluting substances shall be stored in appropriately bunded areas in accordance with the CEMP.

Concrete

22. Concrete works shall be managed to prevent the discharge of cementitious material or concrete-contaminated water to the surface water drainage system, groundwater or natural watercourses.
23. Concrete wash water and waste concrete shall be contained and managed in accordance with the CEMP and shall not be discharged to the site drainage system or natural watercourses.

If water pollution is identified the following actions will be taken:

STOP - works in the immediate area will be stopped and the source of the pollution will be identified.

CONTAIN - the source of the pollution will be contained using appropriate measures to prevent further release. Where necessary, drainage pathways shall be temporarily isolated or diverted to prevent contaminated water reaching downstream receptors.

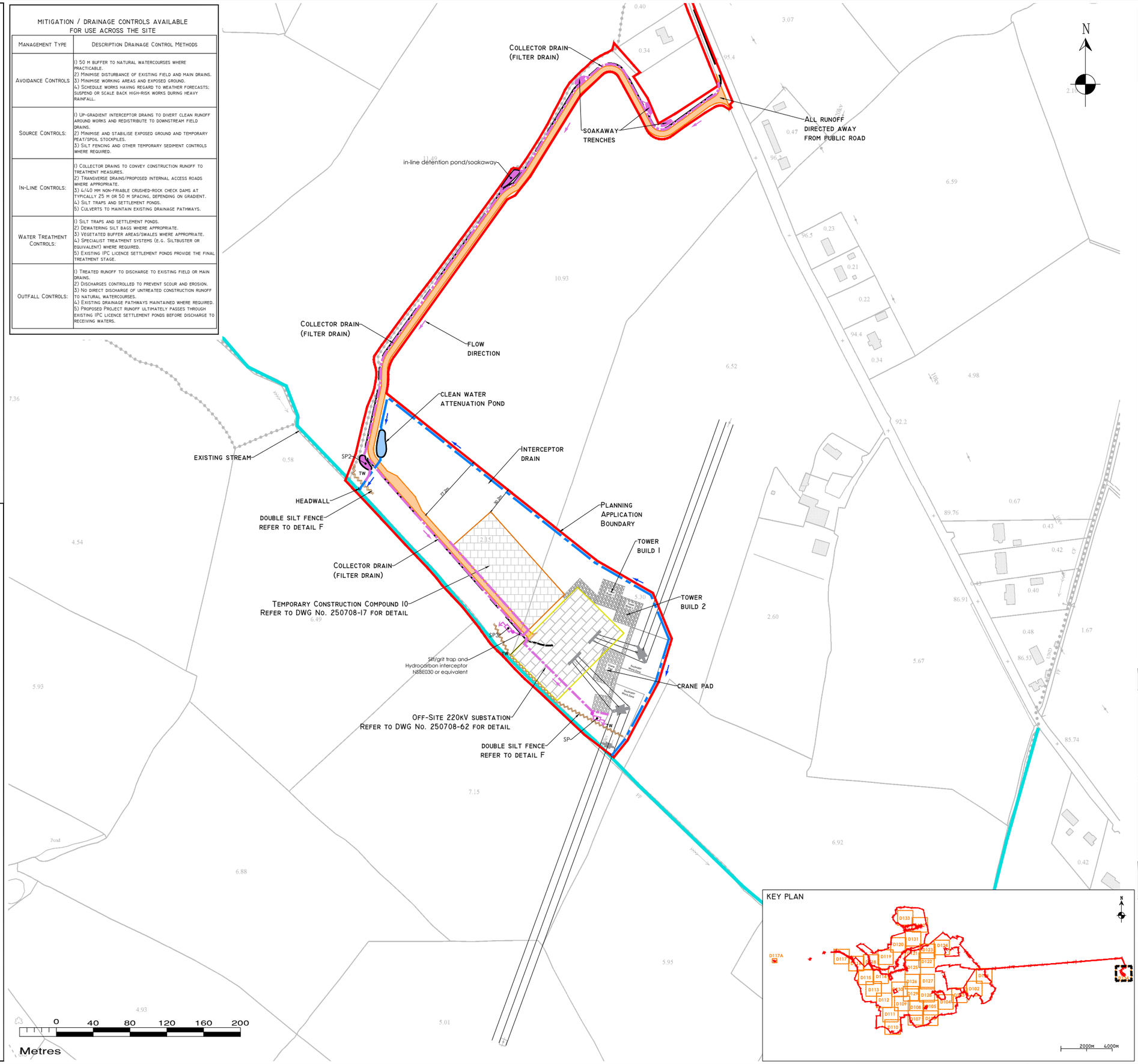
NOTIFY - the Site Manager and Environmental Clerk of Works shall be notified

DRAINAGE NOTES:

1. Roadway surfacing design and construction shall be to the Engineer's Specification.
2. Spare silt fencing, straw bales or similar approved pollution control materials shall be stored on site. Suspended sediment in runoff shall be visually monitored during construction. Where elevated silt levels are observed, additional temporary controls such as silt fences, straw bales, silt traps or check dams shall be installed as required. A mobile water treatment system (e.g. Siltbuster or equivalent) shall be available on site for use where required.
3. The proposed drainage system shall be constructed prior to, or in conjunction with, the associated proposed internal access roads and other infrastructure. Temporary drainage and sediment control measures shall be installed where required during construction to prevent elevated suspended sediment concentrations in runoff.
4. Appropriate drainage and pollution prevention measures shall be maintained at all times to prevent the conveyance of significant volumes of sediment to receiving watercourses. Refer also to Pollution Prevention Notes.
5. Interceptor drains shall be installed up-gradient of proposed infrastructure, where required, to intercept clean surface water runoff and minimise the volume of runoff entering construction areas. Intercepted clean water shall be directed around the works and redistributed to downstream field drains. Existing field drains shall be utilised for this purpose where practicable.
6. Collector drains shall be installed downstream of proposed internal access roads and other construction areas, where required, to collect runoff where suspended sediment may become entrained. Runoff shall be conveyed to appropriate treatment measures, including silt traps, check dams, vegetated areas and settlement ponds, prior to discharge to the existing field drain or main drain network.
7. Transverse drains ('grips') shall be installed on sections of proposed internal access roads, where appropriate, to intercept Proposed internal access road runoff and divert it to adjacent roadside collector drains. The locations of transverse drains shall be determined having regard to local gradient and drainage conditions.
8. Direct discharge of untreated construction runoff to natural watercourses shall not be permitted. Treated runoff shall be discharged to the existing bog drainage network in accordance with the drainage design.
9. Batters of proposed drains shall generally have side slopes appropriate to their depth and local ground conditions and shall be left to naturally re-vegetate or shall be stabilised using suitable locally sourced vegetation where required.
10. Collector drains shall be shallow and constructed with moderate gradients where practicable to minimise scour. Check dams shall be installed where appropriate to reduce flow velocities and promote settlement of suspended sediment.
11. Settlement ponds shall be provided downstream of proposed internal access roads sections and at proposed turbine/hardstand locations where required. Settlement ponds shall provide treatment and temporary attenuation of runoff prior to discharge to the existing bog drainage network. Pond sizing shall be appropriate to the contributing catchment area. Typical pond details are shown on Drawing D501.
12. Silt fencing or other appropriate sediment control measures shall be installed around temporary peat/spoil stockpiles where required to prevent sediment-laden runoff entering the drainage network. Temporary controls may be removed once the disturbed area has been adequately stabilised.
13. Temporary silt fencing shall be installed where required between construction works and existing drainage features or natural watercourses, particularly where works occur within the prescribed surface water buffer zones.
14. Drain slopes and other exposed surfaces shall be protected from erosion until adequately stabilised. Suitable stripped vegetative material, including peat sod/scraw where available, may be reused locally to assist stabilisation and re-vegetation.
15. The extent and duration of exposed ground shall be minimised as far as practicable.
16. Check dams shall comprise 4/40 mm non-friable crushed rock and shall be installed within collector drains where appropriate. Check dams shall generally be installed at 25 m or 50 m intervals, depending on the local longitudinal gradient and site conditions.
17. Check dams, silt traps and settlement ponds shall be visually inspected and maintained as part of the construction-phase drainage maintenance programme, particularly during and following periods of heavy rainfall. Accumulated sediment shall be removed and disposed of appropriately.
18. Where check dams become clogged with sediment or vegetation, they shall be cleaned or replaced as required to maintain their hydraulic and sediment-control function.
19. The construction-phase drainage infrastructure will generally form the basis of the operational drainage system. Collector drains, settlement ponds and other treatment/attenuation features will be retained and maintained where required. Local settlement ponds may be infilled or decommissioned following the construction phase, subject to confirmation by the site engineer.
20. Where temporary dewatering of excavations is required, silt bags and/or other appropriate treatment measures shall be used as necessary. Discharge from dewatering silt bags shall be directed to settlement ponds or other suitable treatment measures prior to discharge to existing field drains or main drains.
21. Fuel and other potentially polluting substances shall be stored in appropriately bunded containment areas in accordance with the CEMP and Pollution Prevention Notes.
22. Culverts shall be provided where proposed internal access roads or hardstands cross existing main bog drainage pathways. Culverts shall be appropriately sized and installed to maintain existing drainage connectivity and shall be regularly inspected and maintained.
23. All surface water runoff from the Proposed Project shall ultimately pass through the existing IPC licence settlement ponds at the bog outfall locations prior to onward discharge to the surrounding stream and river network.

MITIGATION / DRAINAGE CONTROLS AVAILABLE FOR USE ACROSS THE SITE

Management Type	Description Drainage Control Methods
Avoidance Controls	1) 50 m buffer to natural watercourses where practicable. 2) Minimise disturbance of existing field and main drains. 3) Minimise working areas and exposed ground. 4) Schedule works having regard to weather forecasts; suspend or scale back high-risk works during heavy rainfall.
Source Controls:	1) Up-gradient interceptor drains to divert clean runoff around works and redistribute to downstream field drains. 2) Minimise and stabilise exposed ground and temporary peat/spoil stockpiles. 3) Silt fencing and other temporary sediment controls where required.
In-Line Controls:	1) Collector drains to convey construction runoff to treatment measures. 2) Transverse drains/proposed internal access roads where appropriate. 3) 4/40 mm non-friable crushed-rock check dams at typically 25 m or 50 m spacing, depending on gradient. 4) Silt traps and settlement ponds. 5) Culverts to maintain existing drainage pathways.
Water Treatment Controls:	1) Silt traps and settlement ponds. 2) Dewatering silt bags where appropriate. 3) Vegetated buffer areas/swales where appropriate. 4) Specialist treatment systems (e.g. Siltbuster or equivalent) where required. 5) Existing IPC licence settlement ponds provide the final treatment stage.
Outfall Controls:	1) Treated runoff to discharge to existing field or main drains. 2) Discharges controlled to prevent scour and erosion. 3) No direct discharge of untreated construction runoff to natural watercourses. 4) Existing drainage pathways maintained where required. 5) Proposed Project runoff ultimately passes through existing IPC licence settlement ponds before discharge to receiving waters.



Drawing Legend:

- Watercourses
- Watercourses 50m buffer
- Stream flow direction
- Existing main drains
- Redirected main drains
- Existing piped drains
- Existing discharge drains
- Existing boundary drains
- Field drain
- Existing settlement ponds
- Existing WC crossing/culvert

(Existing Drainage)

- Upstream interceptor drain
- Downstream collector drain (DSCD)
- DSCD or Over The Edge (OTE)
- Direction of flow
- Silt fences
- Double silt fences
- WF settlement pond
- Level spreader
- Proposed WC crossing/culvert
- Interceptor ditch culvert
- Collector ditch culvert
- Watercourse drain protection berm
- O Overland flow discharge
- TW Treated water discharge
- SP New settlement pond

(Proposed Drainage)

- Planning application boundary
- Existing ground surface minor contour (1 m interval)
- Turbine 220, turbine foundation and swept area
- Turbine 200, turbine foundation and swept area
- Turbine foundation
- Crane platform
- Blade setdown areas
- Upgrades to existing tracks
- Proposed internal access roads and turning bay
- Proposed internal 33kv cabling
- Proposed grid connection underground 220kV electrical cabling
- Proposed on-site substation
- Proposed off-site GIS substation
- Proposed met mast
- Proposed relay mast
- Temporary construction compounds
- Proposed car parking
- Proposed peat and spoil areas
- Proposed passing bays
- Proposed dedicated amenity track
- Proposed dedicated amenity board walk
- Scrub mosaic creation area
- Pollinator foraging habitat enhancement area
- Peatland enhancement area
- Native tree (woodland and scrub) planting area
- Marsh fritillary enhancement area
- Lodge Bog Enhancement Area

Basemap Note: These drawings use 1:5,000 scale Ordnance Survey Ireland (OSi) basemaps as an underlay. For clarity, the basemap features are not included in the drawing legend and are displayed in light grey with partial transparency to distinguish them from the proposed development features.

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Revisions

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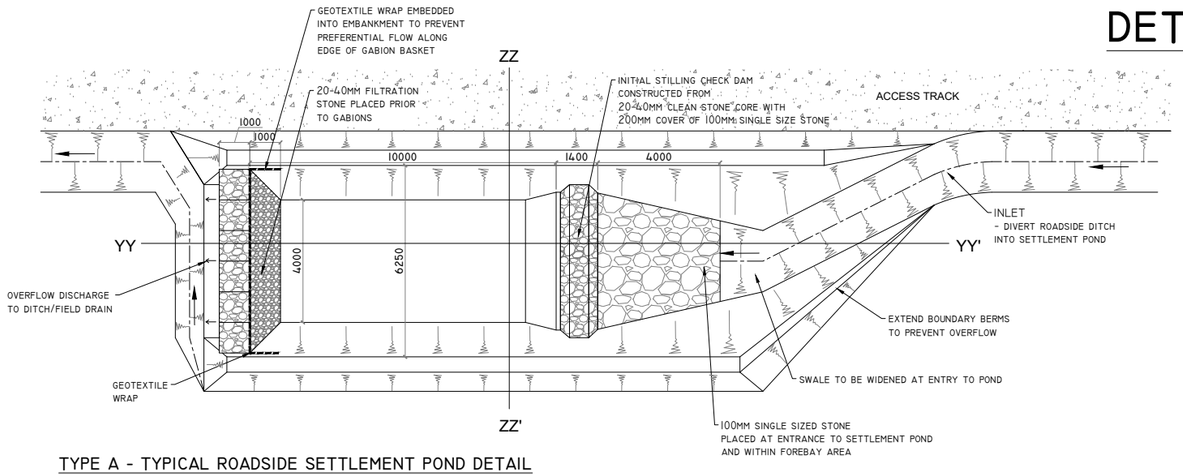
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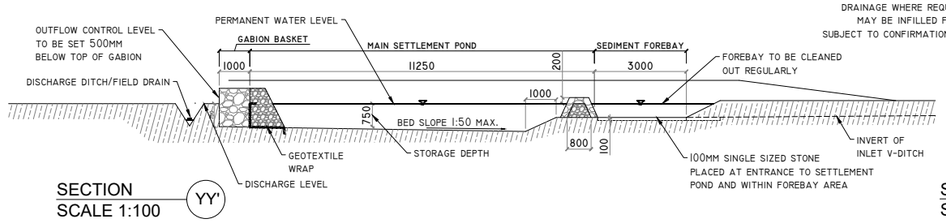
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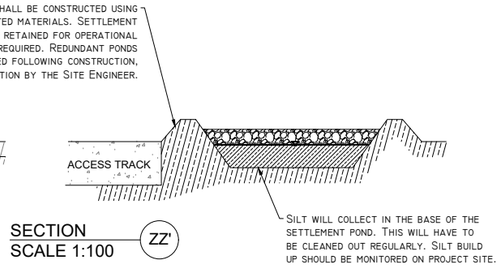
DETAIL AI



TYPE A - TYPICAL ROADSIDE SETTLEMENT POND DETAIL
SCALE 1:100 (NOTE DIMENSIONS VARY DEPENDING ON CATCHMENT SIZE - SEE ATTACHED TABLE)

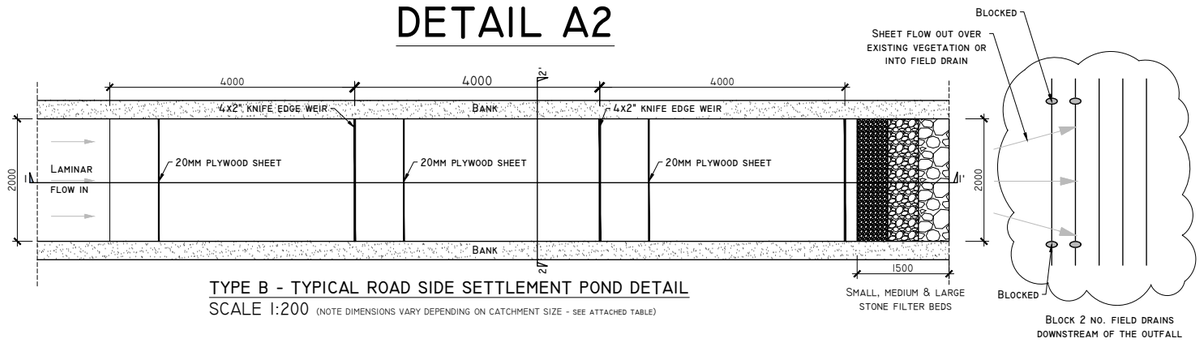


SECTION YY'
SCALE 1:100

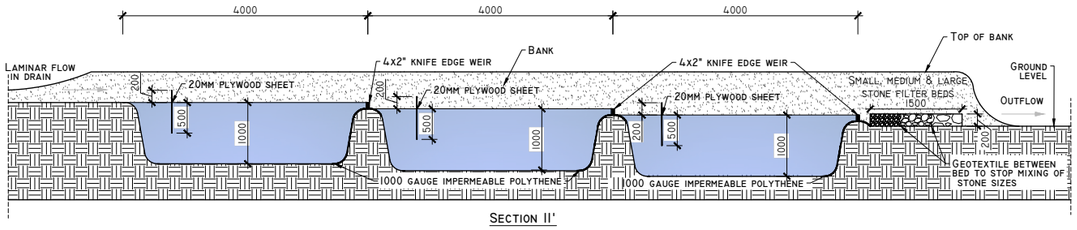


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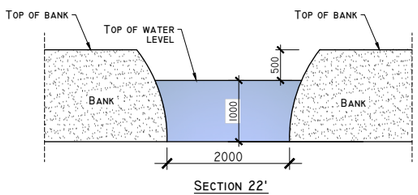
DETAIL A2



TYPE B - TYPICAL ROAD SIDE SETTLEMENT POND DETAIL
SCALE 1:200 (NOTE DIMENSIONS VARY DEPENDING ON CATCHMENT SIZE - SEE ATTACHED TABLE)

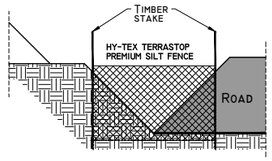


SECTION 11'



SECTION 22'

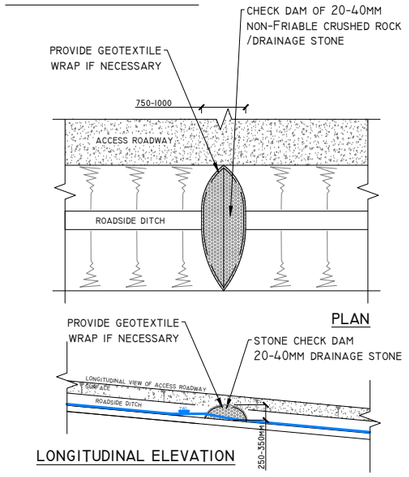
SEDIMENT FENCE/CHECK DAM DETAIL



POND SIZE W [M] x L [M] x D [M]			CONTRIBUTING CATCHMENT AREA (M²)		
RETURN PERIOD	10 YRS	STORM DURATION	500	1000	2000
6HR RETENTION FOR COARSE SILT		6 HRS	2.4 x 7.4 x 1 M	3.5 x 11.3 x 1 M	5.5 x 19.2 x 1 M
11HR RETENTION FOR MEDIUM SILT		11 HRS	3.5 x 10.5 x 1 M	5.0 x 16.0 x 1 M	9.0 x 24.0 x 1 M
24HR RETENTION FOR FINE SILT		24 HRS	4.8 x 14.0 x 1 M	7.5 x 21.0 x 1 M	12.0 x 36.0 x 1 M

SETTLEMENT POND DESIGN NOTES:
1. POND DIMENSIONS ARE INDICATIVE AND SHALL BE CONFIRMED BASED ON FINAL CONTRIBUTING CATCHMENT AREAS.
2. POND SIZING SHALL PROVIDE APPROPRIATE SEDIMENT SETTLEMENT AND TEMPORARY RUNOFF ATTENUATION PRIOR TO DISCHARGE TO THE EXISTING BOG DRAINAGE NETWORK.
3. ACTUAL POND DIMENSIONS AND CONFIGURATIONS MAY VARY TO ACCOMMODATE LOCAL TOPOGRAPHY, GROUND CONDITIONS, AVAILABLE SPACE AND DRAINAGE CONNECTIVITY.
4. ADDITIONAL OR ALTERNATIVE TREATMENT MEASURES MAY BE REQUIRED WHERE ELEVATED SUSPENDED SEDIMENT CONCENTRATIONS ARE ENCOUNTERED.
5. SETTLEMENT PONDS REQUIRED FOR OPERATIONAL DRAINAGE SHALL BE RETAINED AND MAINTAINED. REDUNDANT CONSTRUCTION-PHASE PONDS MAY BE DECOMMISSIONED SUBJECT TO CONFIRMATION THAT THEY ARE NO LONGER REQUIRED.

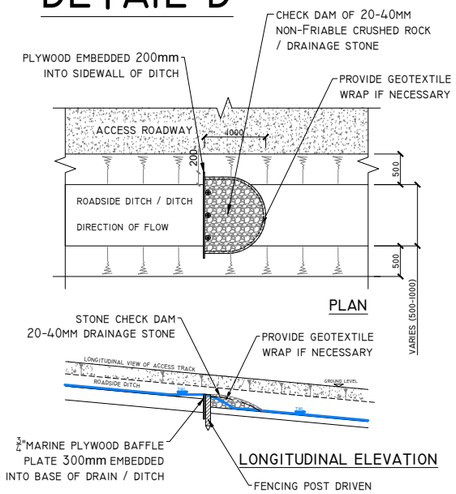
DETAIL C



LONGITUDINAL ELEVATION

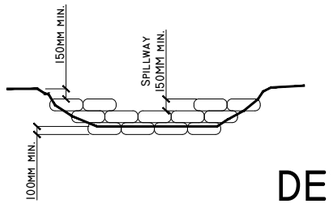
TYPE X - CHECK DAM DETAIL
SCALE 1:50

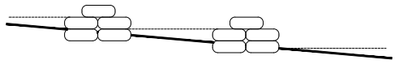
DETAIL D



LONGITUDINAL ELEVATION

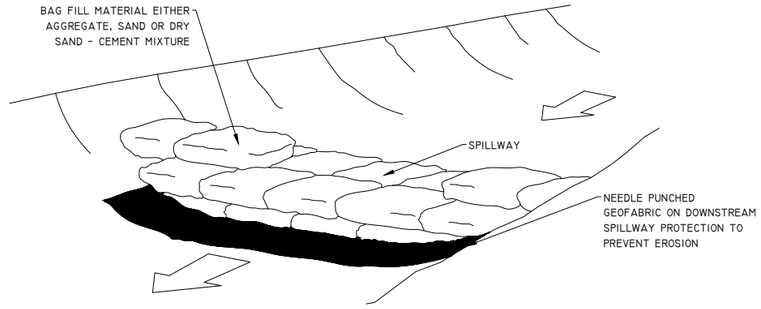
TYPE Y - CHECK DAM DETAIL
SCALE 1:50





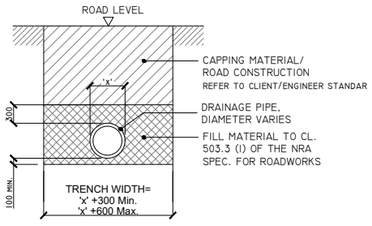
NOTE: SPACING OF CHECK DAMS ALONG CENTRELINE AND SCOUR PROTECTION BELOW EACH CHECK DAM

DETAIL CI



TEMPORARY CHECK DAM / SETTLEMENT POND OVERFLOW
SAND FILLED BAG CONSTRUCTION
SCHEMATIC - NOT TO SCALE

DETAIL B



'TYPE B' CULVERT - DRAINAGE CROSSING BENEATH EXCAVATED ROAD

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Job: BALLYDERMOT WF, CO. OFFALY/CO. KILDARE

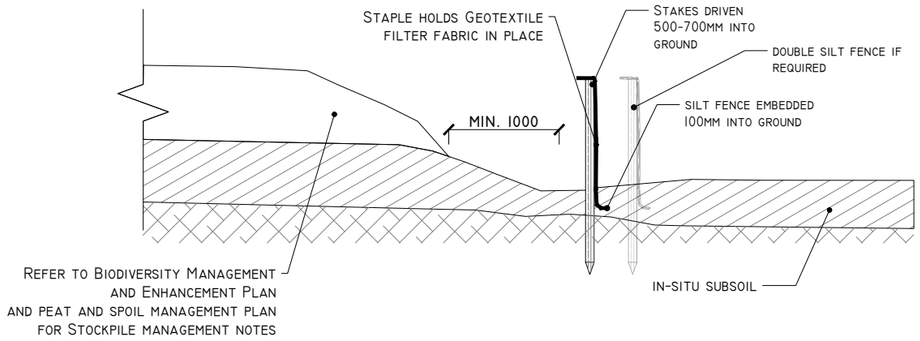
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Figure No: D501

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	Checked By: M.G.

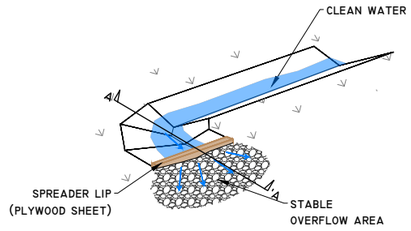
DETAIL F1

SILT FENCE
SCALE 1:25

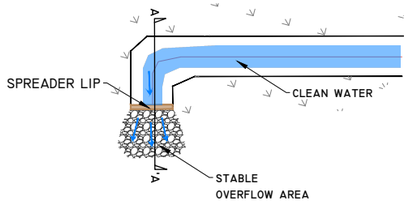


DETAIL G1

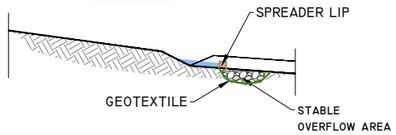
LEVEL SPREADER DETAIL
SCHEMATIC - NOT TO SCALE



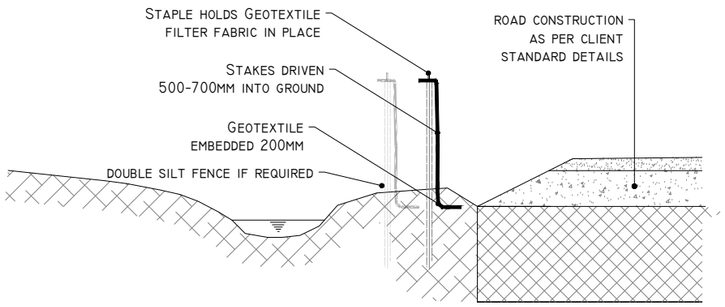
PLAN



SECTION AA'



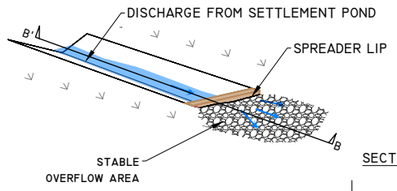
DETAIL F2



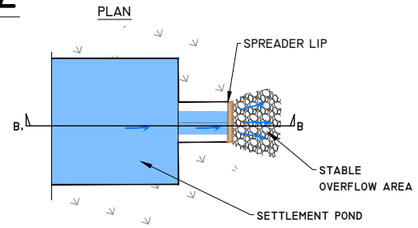
SILT FENCE FOR WATERCOURSE PROTECTION
SCALE 1:25

DETAIL G2

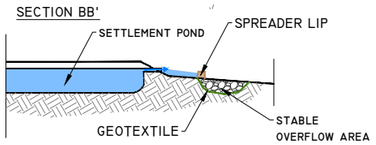
LEVEL SPREADER DETAIL
SCHEMATIC - NOT TO SCALE



PLAN

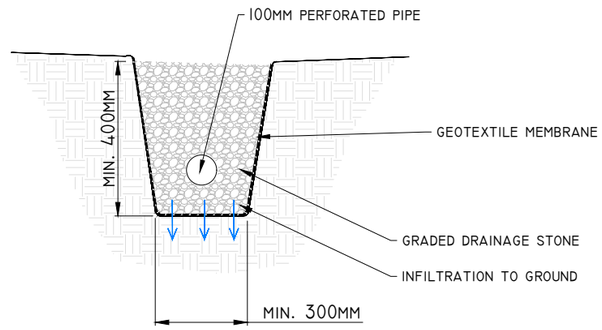


SECTION BB'



DETAIL H

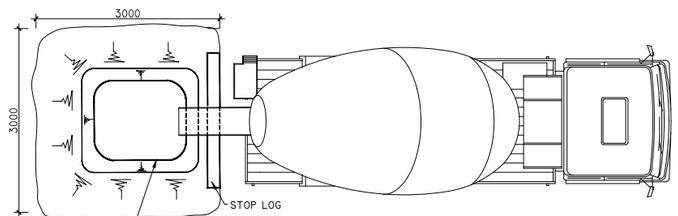
FILTER DRAIN DETAIL
SCALE 1:50



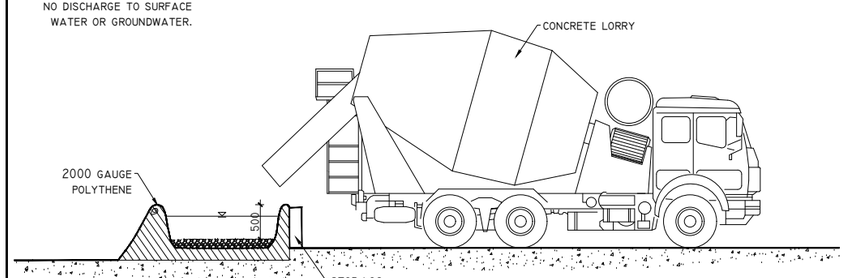
DETAIL E

TEMPORARY CONCRETE WASH-OUT PIT
SCALE 1:50

PLAN

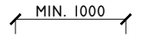


ELEVATION

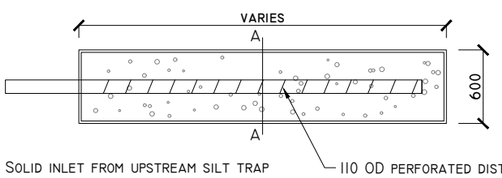


DETAIL I

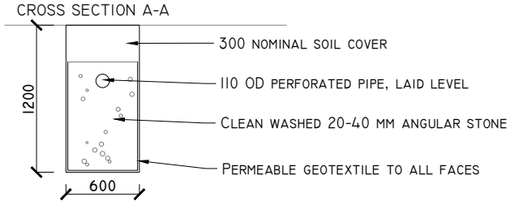
SOAKAWAY TRENCH DETAIL
SCALE 1:25



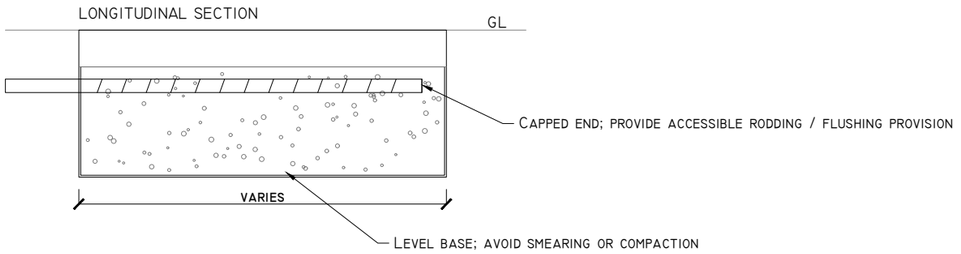
PLAN



CROSS SECTION A-A



LONGITUDINAL SECTION



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Client:

Job: Ballydermot WF, Co. Offaly/Co. Kildare

Title: Drainage Details 2

Figure No: D502

Drawing No: P1511-0-1026-A1-D502-Rev C	
Sheet Size: A1	Project No.: P1511-0
Scale: as shown (A1)	Drawn By: GA
	Checked By: M.G.

APPENDIX B

SCHEDULE OF WORKS OPERATING RECORD (SOWOR)

Work Item No.	Description	Estimated Duration of Works	Risk Schedule 1: very high risk Schedule 2: high risk Schedule 3: intermediate risk	Pre-commencement Triggers all four triggers should be met				Works Abandonment Triggers If any four triggers are met			
				Trigger 1 Drainage treatment infrastructure installed prior to works commencing. All in good working order	Trigger 2 River/ watercourse turbidity	Trigger 3 Daily Visual Inspection procedure in place by ECoW	Trigger 4 Weather forecast: (a) during planned works period (b) observed on site	Trigger 1 Damage to silt fence/other drainage measure or drainage point close to capacity	Trigger 2 River/ Watercourse turbidity	Trigger 3 Deterioration of SW quality as reported by ECoW	Trigger 4: Weather forecast (a) during the planned works period and (b) observed on site
1	Enabling works including felling, site compound establishment welfare facilities, site office and fencing	2 months	Schedule 2	Drainage measures to be installed as per EIAR & drainage management plan	Turbidity at baseline levels	Procedure for inspection must be in place with ECoW reporting satisfactory Surface Water (SW) quality before works commence	Schedule 2 rainfall figures (see below) utilising reliable forecasting source	Works cease and emergency response procedure activated including the use and installation of additional pumping equipment, sedimats, siltbags and silt fencing	Turbidity 20 % above baseline conditions or >15 Nephelometr-ic Turbidity Units (ntu) – subject to baseline data analysis	Works cease and investigation conducted.	Schedule 2 rainfall figures (see below)
2	Preliminary enabling works and peat excavation operations	6 months	Schedule 1	Drainage measures to be installed as per EIAR & drainage management plan	Turbidity at baseline levels	Procedure for inspection must be in place with ECoW reporting satisfactory SW quality before works commence	Schedule 1 rainfall figures (see below) utilising reliable forecasting source	Works cease and emergency response procedure activated including the use and installation of additional	Turbidity 20% above baseline conditions or >15ntu – subject to baseline data analysis	Works cease and investigation conducted.	Schedule 1 rainfall figures (see below)

								pumping equipment, sedimats, siltbags and silt fencing			
3	Roads Excavation Excavate new road alignment, upgrade/widen existing carriageway	3-4 months	Schedule 1	Drainage measures to be installed as per EIAR & drainage management plan	Turbidity at baseline levels	Procedure for inspection must be in place with ECoW reporting satisfactory SW quality before works commence	Schedule 1 rainfall figures (see below) utilising reliable forecasting source	Works cease and emergency response procedure activated including the use and installation of additional pumping equipment, sedimats, siltbags and silt fencing	Turbidity 20% above baseline conditions or >15ntu – subject to baseline data analysis	Works cease and investigation conducted.	Schedule 1 rainfall figures (see below)
4	Culvert Upgrade or replacement works	4 months	Schedule 1	Drainage measures to be installed as per EIAR & drainage management plan	Turbidity at baseline levels	Procedure for inspection must be in place with ECoW reporting satisfactory SW quality before works commence	Schedule 1 rainfall figures (see below) utilising reliable forecasting source	Works cease and emergency response procedure activated including the use and installation of additional pumping equipment, sedimats, siltbags and silt fencing	Turbidity 20% above baseline conditions or >15ntu – subject to baseline data analysis	Works cease and investigation conducted.	Schedule 1 rainfall figures (see below)
5	Carriage way resurfacing	1 month	Schedule 3	Activity not dependent on drainage treatment infrastructure	Activity not anticipated to effect turbidity	Activity not dependent on visual inspection of SW quality	Activity not weather dependent	Activity not dependent on drainage treatment infrastructure	Activity not anticipated to effect turbidity	Activity not dependent on visual inspection of SW quality	Activity not weather dependent

6	Commissioning and snagging	2 months	Schedule 3	Activity not dependent on drainage treatment infrastructure	Activity not anticipated to effect turbidity	Activity not dependent on visual inspection of SW quality	Activity not weather dependent	Activity not dependent on drainage treatment infrastructure	Activity not anticipated to effect turbidity	Activity not dependent on visual inspection of SW quality	Activity not weather dependent

Schedule 1 – Very high-risk activities	>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.
	No overland flow or pathway for water movement
	Conditions on the ground match the forecast
Schedule 2 – High risk activities	>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.
	Conditions on the ground match the forecast
Schedule 3 – Intermediate risk	>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.
	Conditions on the ground match the forecast

APPENDIX C

DAILY VISUAL CHECK SHEET TEMPLATE

	Daily Visual Inspections	Project	250708 - Ballydermot	Draft Date	09/10/2026
		Client	Bord na Móna Powergent Ltd.	Version	1
		File Name	250708– Daily Visual Inspection – 2026.10.09 - D1		

Date:	
Weather:	
Rainfall previous 24hr (mm):	
Completed by:	

Surface Water Sampling Locations			
SW Ref	**Visual Inspection Result**	**Action Required**	**Photographs**
SW1			
SW2			
SW3			
SW4			
SW5			
SW6			
SW7			
SW8			
SW9			
SW10			

Visual Inspection Locations			
VC Ref	**Visual Inspection Result**	**Action Required**	**Photographs**
VI1			
VI2			
VI3			
VI4			
VI5			
VI6			
VI7			
VI8			
VI9			
VI10			

Visual Inspection Results:

1. Water clear – no issues.
2. Water turbid with a peaty tinge.
3. Water silty as a result of works NOT associated with the Ballydermot Wind Farm.
4. Water silty as a result of works associated with the Ballydermot Wind Farm works. ACTION REQUIRED.

	Daily Visual Inspections	Project	250708 - Ballydermot	Draft Date	09/10/2026
		Client	Bord na Móna Powergent Ltd.	Version	1
		File Name	250708– Daily Visual Inspection – 2026.10.09 - D1		

Action Items / Notes / Comments:

Visual Inspection Results:

1. Water clear – no issues.
2. Water turbid with a peaty tinge.
3. Water silty as a result of works NOT associated with the Ballydermot Wind Farm.
4. Water silty as a result of works associated with the Ballydermot Wind Farm works. ACTION REQUIRED.